

КАТАЛОГ 2019г.

Baumer в Беларуси

купить, продажа в Минске, Беларусь

ЭЛЕКТРОННЫЕ КОМПОНЕНТЫ

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Компания **Baumer** была основана в 1952 году, инженером университета ETH в Цюрихе Гербертом Баумером. Фирма занималась производством устройств точной механики, и сначала производила микро выключатели. Через десять лет к компании присоединился Гельмут Витц. Он перенял управление фирмой через два года после смерти Герберта. Позже Витц зарегистрировал Baumer Electric AG, и создал свой первый контролируемый переключатель, что положило начало ко всем его будущим успехам. Тогда это были самые точные переключатели в мире, и производились они в Швейцарии, город Фраунфельд. Датчики Mu-Com производятся и сегодня, именно они обеспечили успех компании во всем мире.

Фирма развивалась, и для дальнейшего расширения требовалось больше производственной территории. Появилась потребность в строительстве собственных зданий. В 1972 году была проведена официальная церемония запуска нового завода и административного здания в Фрауэнфельде. К тому времени в производстве были заняты 28 человек, работа которых создавала оборот продаж в 1,5 млн. швейцарских франков. За год производились 250 тысяч микро-выключателей, 45% из которых отправлялись на экспорт.

В начале 90-х годов компания расширила сферу деятельности — помимо механических выключателей стали выпускать бесконтактные датчики и энкодеры. Продукция Baumer нашла применение в строительной, авиационной, производственной и даже в космической сфере.

Сегодня слово «Baumer» ассоциируют с брендом качества, под которым выпускаются надежные и точные приборы. Штат компании насчитывает более 2300 человек по всему миру. Производственные мощности расположены в 37 городах 19 стран. За последние 20 лет фирма зарекомендовала себя как крупнейший производитель датчиков для автоматизации промышленных процессов. Благодаря длительному времени работы и тесному общению с покупателями по всему миру, компания проектирует высокотехнологичные решения с явными преимуществами как в эффективности, так и в цене.

Успешная стратегия и упорный труд создали репутацию надежного глобального партнера для заказчиков. 27 мая 2014 года холдинг был награжден сертификатом Dun & Bradstreet Rating. Он свидетельствует о том, что Baumer Group имеет самую высокую международную рейтинговую оценку. Данный знак отличия высоко ценится во всем мире и подтверждает надежную репутацию компании как делового партнера.

Преимущества:

Долговечные датчики, отличающиеся высокой точностью, энкодеры, измерительные приборы, сенсорные устройства, камеры промышленного зрения — все это продукция компании Baumer. Приборы находят применение в различных

промышленных отраслях, позволяют контролировать практически все производственные процессы. Устройства Baumer отличаются высокой виброустойчивостью, сопротивлением к нагрузкам. Детали размещены в прочном корпусе, что позволяет их использование в тяжелой индустрии, металлообработке. Диапазон температур, в котором приборы могут исправно функционировать колеблется в пределе от -30 до +100 С. Это позволяет применять их на производствах, сопряженных с высокими температурами – сталелитейных цехах, металлургических заводах, на предприятиях по производству холодильного оборудования и т.д.

Принадлежность предприятия:

Hubner Group, Baumer Holding AG, Baumer Group и др

КАТАЛОГ



ДАТЧИКИ ПРИСУТСТВИЯ



ДАТЧИКИ РАССТОЯНИЯ



ИЗМЕРИТЕЛЬНОЕ ОБОРУДОВАНИЕ



МАШИННОЕ ЗРЕНИЕ



ОГРАНИЧИТЕЛИ СКОРОСТИ



ПРИВОДЫ



ТАХОГЕНЕРАТОРЫ



ЭНКОДЕРЫ (ДАТЧИКИ УГЛА)

Каталог датчиков измерения расстояния, движения и присутствия

Датчики — измерительные приборы, предназначенные для генерации сигнала измеренных данных в форме, удобной для дальнейшего преобразования, хранения или обработки. Устройства, имеющие в основе электронные детали, называются электронными датчиками.

Датчик состоит из преобразовательных и чувствительных элементов. Основными параметрами приборов являются погрешность и чувствительность.

Устройства находят широкое применение в контроле качества, системах автоматизированного управления, в промышленности, на производственных предприятиях, в автомобилестроении. Везде, где нужно получение измерительной информации.

Основные типы датчиков присутствия и расстояния:

- Оптические датчики- фотоэлектрические, лазерные
- Ультразвуковые
- Индуктивные
- Магнитные
- Емкостные
- Механические — концевые выключатели

Каталог датчиков абсолютного и относительного давления

Датчики давления — приборы, в которых происходит замер давления внешней среды. Такие устройства часто представлены следующими вариациями: реле давления, вакуумметры, манометры, напорометры и другие.

Каталог измерительного оборудования

Контрольно-измерительное оборудование – комплекс приборов, которые предназначены для замеров некоторых параметров. Их основная функция заключается в постоянном контроле работоспособности агрегатов. Операторы на основе полученной информации могут своевременно проводить обслуживание и ремонтные.

Каталог счетчиков — электронных и механических

Каталог видеодатчиков машинного зрения

С камерами Вауегер вам не придется опасаться за своё производство. Компания производит надёжные цифровые камеры, применимые в промышленности. Вауегер решают различные задачи в массе областей: производственная автоматизация, медицина, биологические науки, самообучающиеся транспортные системы (ИТС), ритейл и многие другие.

Каталог энкодеров — абсолютных и инкрементальных

Энкодеры – специализированные устройства, позволяющие определять угол поворота вращающейся детали (вала) и фиксировать скорость ее движения. Энкодеры Вауегер считается эталоном качества, так как их разработку и проверку работоспособности проводили лучшие немецкие инженеры.

Вауегер продукция:

Датчики присутствия

- Абсолютные энкодеры
- Инкрементальные энкодеры
- Кодеры
- Инclinаторы
- Акселерометры

Датчики расстояния

- Индуктивные датчики
- Лазерные датчики
- Датчики сканирования
- Краевые датчики
- Ультразвуковые датчики

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Датчики угла

- Абсолютные энкодеры
- Инкрементальные энкодеры
- Кодеры
- Инclinаторы
- Акселерометры

Обработка идентификации / изображений

- Промышленные камеры
- Видео датчики
- Программное обеспечение
- Аксессуары
- Стартовые наборы

продукция компании вауегер:

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131281-fzdk 10p5101/s35a
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131282-fsdk 10d9601/s35a

131283-fpdk 10p5101/s35a

131284-fedk 10p5101/s35a

131371-mlfk 08g2101

131406-oadm 20i4560/s14c

131625-ringmagnet 32-пол

131709-азия 36a2211

131769-fzdm 12n5101

131788-mlfk 08t7101

132110-ohdk 10p5101

132111-ohdk 10n5101

132112-ohdk 10p5101/s35a

132113-ohdk 10n5101/s35a

132118-mdfk 08t8101

132204-mdrm 18u9501

132218-opdm 12p5101

132219-opdm 12n5101

132220-opdm 12p5101/s35a

132221-opdm 12n5101/s35a

132390-fhdk 10n5101/s35a

132391-fzdk 10n5101/s35a

132392-fpdk 10n5101/s35a

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132540-esg 34ah0200

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132549-esg 34ah1000

132816-esw 31ah0500

132983-kabeldose 8-пол

133509-ozdm 16n1001/s14

133827-esw 31ah0200

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134536-montagebã ¼ гель fã ¼ т м4

134538-montagebã ¼ гель fã ¼ т м6

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134541-linsenaufsatz/erhã ¶ hte reichweite

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134599-fokussierlinse â ¨ â ª 0.1мм в 4,6 мм

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229673-fse 050а2006

229677-fse 050b1007

229678-fse 025b4006

229679-fse 025b1007

229680-fse 025b2006

229681-fse 050b2006

229682-ffak 17ntd1002 / л

229683-ffak 17ptd1002 / л

229684-ffak 17ntl1001

229696-ifrm 06р1713 / л

229697-ifrm 06р3713 / л

229698-ifrm 06n1713 / л

229699-ifrm 06n3713 / л

229700-ifrm 12р3702 / л

229701-ifrm 12n1702 / л

229702-ifrm 12n3702 / л

229703-ifrm 12р3703/s14l

229704-ifrm 12n1703/s14l

229705-ifrm 12n3703/s14l

229706-ifrm 18р3701/s35l

229707-ifrm 18n3701/s35l

229709-iffm 08р3701/01/l

229710-iffm 08n1701/01/l

229711-iffm 08n3701/01/l

229768-ifrm 30р3501/s14l

229770-ifrm 30р3101/s14l

229811-fhdk 26r7201/s27

230007-fhdk 26r7001/s27

230046-иувр 18i9511

230286-ifrm 08n1713 / л

230287-ifrm 08n3713 / л

230289-ifrm 08p3713 / л

230318-ifrm 12n1707

230611-ффс 050а3020

231373-ifrk 12p1102 / л

231715-fhdm 16p5001/s14

231716-fpdm 16p5101/s14

232117-fhdm 16p5001

232173-undk 30p1712

232174-undk 30p1812

232257-fhdm 16n5001/s14

232258-fpdm 16p5101

232266-fpdm 16n5101

232272-fpdm 16n5101/s14

232716-fpdk 26r7103

232717-fpdk 26r7303

232742-fedk 26r7103

232743-fedk 26r7303

232750-fsdk 26a9003

232763-undk 30p1703/s14

232772-undk 30p1712/s14

232774-undk 30p3712/s14

232775-undk 30n3712/s14

232776-undk 30p1812/s14

232777-undk 30n1812/s14

232778-undk 30p3812/s14

232779-undk 30n3812/s14

232784-undk 30p3703/s14

232785-undk 30n3703/s14

232786-undk 30p1803/s14

232788-undk 30p3803/s14

232789-undk 30n3803/s14

232991-fpdk 26n5103/s14

232997-fpdk 26p5103/s14

233436-undk 30p1703

233439-undk 30n3703

233440-undk 30p1803

233441-undk 30p3803

233442-undk 30n3803

233485-fsdm 08d9001/s35

233487-iffm 22p3501/s35l

233561-iffm 18n1702 / л

233661-undk 30n3712

233662-undk 30p3712

233663-undk 30p3812

233665-undk 30n3812

234165-fhdm 12n5001

234166-fhdm 12p5001

234167-fhdm 12p5001/s35a

234189-fpdm 12n5101

258789-фру 100a2004

258790-фру 100a2003

258791-фру 100a2002

258792-фру 100a2001

258793-фру 050a2004

258794-фру 050a2003

258795-фру 050a2002

258796-фру 050a2001

258808-фру 050b1002

258810-ффс 100a1001

258811-ффс 050a1001

258813-fse 100a1003

258814-fse 100a1001

258816-fse 050a1003

258817-fse 050a1001

258818-ффс 100a2001

258819-ффс 050a2001

258820-fse 100a2003

258821-fse 100a2002

258822-fse 100a2001

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234248-fedm 12p5101

234249-fedm 12n5101/s35/a

234250-fedm 12p5101/s35/a

234253-fedm 12n3401

234254-fedm 12p3401

234257-fedm 12n3401/s35/a

234258-fedm 12p3401/s35/a

234519-fvdm 15p5130

234520-fvdm 15p5103

234625-fzam 12n1104

234626-fzam 12n3104

234627-fzam 12p1104

234628-fzam 12p3104

234639-fvdm 15n5103

234640-fvdm 15n5103/s13

234641-fvdm 15p5103/s13

234651-fvdm 15p5130/s13

234670-fsdk 10d9001/ks35

234805-fzam 12n1104/s14

234806-fzam 12n3104/s14

234807-fzam 12p1104/s14

234808-fzam 12p3104/s14

234869-ifrm 06x9503

235234-fedm 08p3001/s35l

235253-ifrm 18x9103

235254-ifrm 18x9503

235292-ifrm 08x9103

235293-ifrm 08x9503

235296-ifrm 12x9103

артикул	наименование	примечание
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10141584	adapter us-ind-ext-tea. m12	
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10163299	alu-profilbefestigung f04	
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10126550	asia 154a4401	
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10136152	asia 36a0411	
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10131709 asia 36a2211

10148300 asia 36a2221

10137021 bef.zu init. m 5* 0.75 d=3

10163196 befestigungsstift f04

11124807 befestigungswink. o300 retrofit serie 20

11102423 befestigungswinkel o300

10161695 befestigungswinkel serie 13

11078173 bx 20-1200-1 velcro strip for cfdk 25; 20x1200 mm

11089348 bx 20-2000-1 velcro strip for cfdk 25; 20x2000 mm

11078172 bx 20-360-1 velcro strip for cfdk 25; 20x360 mm

11089349 bx 20-4000-1 velcro strip for cfdk 25; 20x4000 mm

10164642 cfak 12n1103

11039126 cfak 12n1140/ks35l

11039124 cfak 12n1140/l

11001685 cfak 12n3103

11045948 cfak 12n3140/ks35l

11045947 cfak 12n3140/l

10129050 cfak 12p1103

11017112 cfak 12p1140/ks35l

11017111 cfak 12p1140/l

10164795 cfak 12p3103

11045946 cfak 12p3140/ks35l

11045945 cfak 12p3140/l

11001673 cfak 18n1100

11001668 cfak 18n1200

11001674 cfak 18n3100

11001669 cfak 18n3200

10165163 cfak 18p1100

11001670 cfak 18p1200

11001672 cfak 18p3100

11001671 cfak 18p3200

11149600 cfak 22u9500/amp

11001683 cfak 30n1100

11001678 cfak 30n1200

11001684 cfak 30n3100
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11001680 cfak 30n3200

11001681 cfak 30p1100

11001676 cfak 30p1200

11001682 cfak 30p3100

11001677 cfak 30p3200

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10119679 cfam 12n1600

10119689 cfam 12n1600/s14

10119682 cfam 12n3600

10119688 cfam 12n3600/s14

10236343 cfam 12p1600

10236345 cfam 12p1600/s14

10238060 cfam 12p3600

10119690 cfam 12p3600/s14

10119685 cfam 18n1600

10119696 cfam 18n1600/s14

10119686 cfam 18n3600

10119695 cfam 18n3600/s14

10236458 cfam 18p1600

10236459 cfam 18p1600/s14

10119693 cfam 18p3600

10119694 cfam 18p3600/s14

10119708 cfam 30n1600

10119711 cfam 30n1600/s14

10119707 cfam 30n3600

10119710 cfam 30n3600/s14

10119341 cfam 30p1600

10119342 cfam 30p1600/s14

10119706 cfam 30p3600

10119709 cfam 30p3600/s14

10119699 cfbm 20n1600

10119698 cfbm 20n3600

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10242153 cfbm 20p1600
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10119697 cfbm 20p3600

11076113 cfdk 25g1125/ks35ln1

11076114 cfdk 25g1125/ks35ln3

11076813 cfdk 25g1125/ks35ln4

11076117 cfdk 25g1125/ks35ln5

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11076115 cfdk 25g1125/ks35ln6

11050682 cfdk 25g1125/ln1

11050683 cfdk 25g1125/ln3

11076814 cfdk 25g1125/ln4

11050685 cfdk 25g1125/ln5

11050684 cfdk 25g1125/ln6

11050686 cfdk 25g1155/ln2

11093422 cfdk 25g3125/ln1

11092584 cfdk 25g3125/ln3

11093423 cfdk 25g3125/ln4

11093424 cfdk 25g3125/ln5

11092585 cfdk 25g3125/ln6

10119716 cfdk 30n1600

10119714 cfdk 30n1600/s14

10119715 cfdk 30n3600

10119713 cfdk 30n3600/s14

10236451 cfdk 30p1600

10238893 cfdk 30p1600/s14

10241218 cfdk 30p3600

10119712 cfdk 30p3600/s14

10119702 cfdm 20n1500/s35l

10119701 cfdm 20n3500/s35l

10112672 cfdm 20p1500/s35l

10119700 cfdm 20p3500/s35l

11098620 demo kit inductive factor 1

10153094 dose 6-pol abgew. scatec

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10153202 dose 8-pol gerade scatec

10154574 esg 05sp0200 def. drehrichtung

11104511 esg 09ah0200

11115190 esg 09ah0500

10256125 esg 09sh0200 8mm socket, push-on, straight, 3 pins, cable length 2m

10257812 esg 09sh0500 8mm socket, push-on, straight, 3 pins, cable length 5m

10220978 esg 09sh1000 8mm socket, push-on, straight, 3 pins, cable length 10m

10167131 esg 16eh0100g on request

10167132 esg 16eh0200g

10167134 esg 16eh0500g

11083473 esg 16ev0350g/j1&2

10160122 esg 16fr0300g/dp

10153033 esg 16fr0500g/dp

11136134 esg 32a/ksg32ah0030g

11088882 esg 32a/ksg32ah0150g

10119184 esg 32a/ksg34ah0100 m8 socket, straight, m12 plug, straight, 4pins, cable length 1m es 32a/ks 34ap1

10119185 esg 32a/ksg34ah0200 m8 socket, straight, m12 plug, straight, 4pins, cable length 2m es 32a/ks 34ap2

10150336 esg 32a/ksg35ah0020 m8 socket, straight, m8 plug, straight, 4pins, cable length 0,2m

10142157 esg 32a/ksg35ah0100 m8 socket, straight, m8 plug, straight, 4pins, cable length 1m esg 32a/ksg32ah0100

10149631 esg 32a/ksg35ah0200 m8 socket, straight, m8 plug, straight, 4pins, cable length 2m esg 32a/ksg32ah0200

10164504 esg 32a/ksg35ah0250/t m8 socket, straight, m8 plug, straight, 4pins, cable length 2,5m esg 32a/ksg32ah0250

10142162 esg 32a/ksg35ah0500 m8 socket, straight, m8 plug, straight, 4pins, cable length 5m

10150337 esg 32a/ksg35ah1000 m8 socket, straight, m8 plug, straight, 4pins, cable length 10m

10150338 esg 32a/ksg35ah1500 m8 socket, straight, m8 plug, straight, 4pins, cable length 15m

10150325 esg 32ah0100 m8 socket, straight, 4 pins, cable length 1m

10127800 esg 32ah0200 m8 socket, straight, 4 pins, cable length 2m

10163693 esg 32ah0200g m8 socket, straight, 4 pins, screened, cable length 2m esg 32ap0200g

10149633 esg 32ah0300 m8 socket, straight, 4 pins, cable length 3m

10127801 esg 32ah0500 m8 socket, straight, 4 pins, cable length 5m

10148326 esg 32ah0500g m8 socket, straight, 4 pins, screened, cable length 5m esg 32ap0500g

10127802 esg 32ah1000 m8 socket, straight, 4 pins, cable length 10m

11003568 esg 32ah1000g m8 socket, straight, 4 pins, screened, cable length 10m

10150327 esg 32ah1500 m8 socket, straight, 4 pins, cable length 15m

11166415 esg 32ay0200 m8 socket, straight, 4 pins, cable length 2m (f&b)

11166419 esg 32ay0500 m8 socket, straight, 4 pins, cable length 5m (f&b)
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11166440 esg 32ay1000 m8 socket, straight, 4 pins, cable length 10m (f&b)

11004523 esg 32fh0500

10127638 esg 32s/ksg32sh0025 m8 socket, straight, m8 plug, straight, 3pins, cable length 0,25m es 32/ks 35p0,25

11078990 esg 32s/ksg32sh0050/t

11078991 esg 32s/ksg32sh0100/t

10146111 esg 32s/ksg32sh0150 m8 socket, straight, m8 plug, straight, 3pins, cable length 1,5m

10147666 esg 32s/ksg32sh0200 m8 socket, straight, m8 plug, straight, 3pins, cable length 2m

11078992 esg 32s/ksg32sh0250/t

11078993 esg 32s/ksg32sh0500/t

10119182 esg 32s/ksg34sh0100 m8 socket, straight, m12 plug, straight, 3pins, cable length 1m es 32/ks 34p1

10119183 esg 32s/ksg34sh0200 m8 socket, straight, m12 plug, straight, 3pins, cable length 2m es 32/ks 34p2

11046754 esg 32sf1000

10127785 esg 32sh0200 m8 socket, straight, 3 pins, cable length 2m

10148618 esg 32sh0300 m8 socket, straight, 3 pins, cable length 3m

10127787 esg 32sh0500 m8 socket, straight, 3 pins, cable length 15m

10125607 esg 32sh0500g m8 socket, straight, 3 pins, screened, cable length 5m es 32.5pb

10127789 esg 32sh1000

10164266 esg 32sh1000/t

11092754 esg 32sh1000g/t

10119189 esg 34a/ksg34ah0200 m12 socket, straight, m12 plug, straight, 4pins, cable length 2m es 34a/ks 34ap2

10159388 esg 34a/ksg34ap0030g/c

10161398 esg 34a/ksg34ap0200g/c

10161399 esg 34a/ksg34ap0500g/c

10133020 esg 34a/ksg34au0005/s

11164785 esg 34ab0200g

11163204 esg 34ab0500g

11164786 esg 34ab1000g

11039118 esg 34af0200 m12 socket, straight, 4 pins, cable length 2m (f&b)

10160954 esg 34af0500 m12 socket, straight, 4 pins, cable length 5m (f&b)

11078006 esg 34af1000 m12 socket, straight, 4 pins, cable length 10m (f&b)

11001824 esg 34ah0010g

10132540 esg 34ah0200 m12 socket, straight, 4 pins, cable length 2m

11046262 esg 34ah0200g m12 socket, straight (screened) 4 pins, cable length 2m es 34ap2b

10132548 esg 34ah0500 m12 socket, straight, 4 pins, cable length 5m

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10132549 esg 34ah1000 m12 socket, straight, 4 pins, cable length 10m

10125473 esg 34ah1000g m12 socket, straight, 4 pins, screened, cable length 10m es 34ap10b

11166444 esg 34ay0200 m12 socket, straight, 4 pins, cable length 2m (f&b)

11166445 esg 34ay0500 m12 socket, straight, 4 pins, cable length 5m (f&b)

11166446 esg 34ay1000 m12 socket, straight, 4 pins, cable length 10m (f&b)

11166447 esg 34ay2500 m12 socket, straight, 4 pins, cable length 25m (f&b)

11078684 esg 34bp1000gb

11165662 esg 34c/ksg 62a0500g

10119929 esg 34ch0200 m12 socket, straight, 5 pins, cable length 2m es 34cp2

11046264 esg 34ch0200g m12 socket, straight, 5 pins, screened, cable length 2m es 34cp2b

10126562 esg 34ch0500 m12 socket, straight, 5 pins, cable length 5m es 34cp5

11046266 esg 34ch0500g m12 socket, straight, 5 pins, screened, cable length 5m es 34cp5b

10155587 esg 34ch1000g m12 socket, straight, 5 pins, screened, cable length 10m es 34cp10b

11147130 esg 34f/ksg34ch0030g/c

11141539 esg 34f/ksg34fu0005g/c/s

10127844 esg 34fh0200g m12 socket, straight, 8 pins, screened, cable length 5m esg 34fp0200b

10129332 esg 34fh0500g m12 socket, straight, 8 pins, screened, cable length 5m esg 34fp0500b

10129333 esg 34fh1000g m12 socket, straight, 8 pins, screened, cable length 10m esg 34fp1000b

11048452 esg 34jp0200g m12 socket, straight, 12 pins, screened, cable length 2m

11043780 esg 34jp0500g m12 socket, straight, 12 pins, screened, cable length 5m

11048455 esg 34jp1000g

10133852 esg 34sh0200 m12 socket, straight, 3 pins, cable length 2m

10133853 esg 34sh0500 m12 socket, straight, 3 pins, cable length 5m

10135247 esg 34sh1000 m12 socket, straight, 3 pins, cable length 10m

11094664 esg 62fp0200g

10164870 esg d2gh0500g

11127028 esg d2gh1000g

11004192 esw 05a/ksw33ap0100g

11092482 esw 07a ventildose

11016140 esw 07s/ksg32sh0050/l

11016129 esw 07s/ksg32sh0200/l

10258092 esw 08sh0200 8mm socket, push-on, angular, 3 pins, cable length 2m

10257811 esw 08sh0500 8mm socket, push-on, angular, 3 pins, cable length 5m

10149650 esw 11s/ksg32sh0050/l

10150344 esw 11s/ksg32sh0200/l
11000640 esw 16fr0300g/dp
11000641 esw 16fr0500g/dp
11002580 esw 16fr1000g/dp
10144591 esw 31a/ksg32ah0025m8 socket, angular, m8 plug, straight, 4pins, cable length 0,25m es 31a/ks 32a0.25
10149636 esw 31a/ksg32sh0100 m8 socket, angular, 4 pins / m8 plug, straight, 3pins, cable length 1m
10149637 esw 31a/ksg32sh0200 m8 socket, angular, 4 pins / m8 plug, straight, 3pins, cable length 2m
10149639 esw 31a/ksg32sh0500 m8 socket, angular, 4 pins / m8 plug, straight, 3pins, cable length 5m
10133827 esw 31ah0200 m8 socket, angular, 4 pins, cable length 2m
11010528 esw 31ah0200g m8 socket, angular, 4 pins, screened, cable length 2m female, angular, 4 pins
10132816 esw 31ah0500 m8 socket, angular, 4 pins, cable length 4m
10148328 esw 31ah0500g m8 socket, angular, 4 pins, screened, cable length 5m esw 31ap0500g
10132435 esw 31ah1000 m8 socket, angular, 4 pins, cable length 10m
10134059 esw 31ah1000g m8 socket, angular, 4 pins, screened, cable length 10m es 31ap10b
10137312 esw 31ap0500/x
11166441 esw 31ay0200 m8 socket, angular, 4 pins, cable length 2m (f&b)
11166442 esw 31ay0500 m8 socket, angular, 4 pins, cable length 5m (f&b)
11166443 esw 31ay1000 m8 socket, angular, 4 pins, cable length 10m (f&b)
10127637 esw 31s/ksg32sh0025 m8 socket, angular, m8 plug, straight, 3pins, cable length 0,25m es 31/ks 35p0,25
10237784 esw 31s/ksg32sh0060 m8 socket, angular, m8 plug, straight, 3pins, cable length 0,6m es 31/ks 35p0,6
10125773 esw 31s/ksg32sh0100 m8 socket, angular, m8 plug, straight, 3pins, cable length 1m es 31/ks 35p1
10129616 esw 31s/ksg32sh0200 m8 socket, angular, m8 plug, straight, 3pins, cable length 2m es 31/ks 35p2
10118566 esw 31s/ksg32sh0300 m8 socket, angular, m8 plug, straight, 3pins, cable length 3m es 31/ks 35p3
10145599 esw 31s/ksg32sh0500 m8 socket, angular, m8 plug, straight, 3pins, cable length 5m
10119106 esw 31s/ksg34sh0100 m8 socket, angular, m12 plug, straight, 3pins, cable length 1m es 31/ks 34p1
10119107 esw 31s/ksg34sh0200 m8 socket, angular, m12 plug, straight, 3pins, cable length 2m es 31/ks 34p2
10127794 esw 31sh0200 m8 socket, angular, 3 pins, cable length 2m
11010527 esw 31sh0200g m8 socket, angular, 3 pins, screened, cable length 2m female, angular, 3 pins
10127795 esw 31sh0500 m8 socket, angular, 3 pins, cable length 5m
10158775 esw 31sh0500/pl m8 socket, angular, 3 pins, cable length 5m, led
10128456 esw 31sh0500g m8 socket, angular, 3 pins, screened, cable length 5m es 31.5pb
10127796 esw 31sh1000 m8 socket, angular, 3 pins, cable length 10m
10156898 esw 33a/ksw33ap0100g/c
10158249 esw 33a/ksw33ap0200g/c

10156842	esw 33a/ksw33ap0500g/c	
11164783	esw 33ab0200g	
11164782	esw 33ab0500g	
11164784	esw 33ab1000g	
11039117	esw 33af0200	m12 socket, angular, 4 pins, cable length 2m (f&b)
10160956	esw 33af0500	m12 socket, angular, 4 pins, cable length 5m (f&b)
11082359	esw 33af1000	m12 socket, angular, 4 pins, cable length 10m (f&b)
11051314	esw 33af2500	m12 socket, angular, 4 pins, cable length 25m (f&b)
10127803	esw 33ah0200	m12 socket, angular, 4 pins, cable length 2m
11046259	esw 33ah0200g	m12 socket, angular, 4 pins, screened, cable length 2m es 33ap2b
10127804	esw 33ah0500	m12 socket, angular, 4 pins, cable length 5m
11046260	esw 33ah0500g	m12 socket, angular, 4 pins, screened, cable length 5m es 33ap5b
10251520	esw 33ah0500pl	m12 socket, angular, 4 pins, cable length 5m, led es 4ap5l
10127805	esw 33ah1000	m12 socket, angular, 4 pins, cable length 10m
10126464	esw 33ah1000g	m12 socket, angular, 4 pins, screened, cable length 10m es 33ap10b
10131621	esw 33ah1500	m12 socket, angular, 4 pins, cable length 15m es 33ap15
10125687	esw 33ah2000	m12 socket, angular, 4 pins, cable length 20m es 33ap20
11166448	esw 33ay0200	m12 socket, angular, 4 pins, cable length 2m (f&b)
11166449	esw 33ay0500	m12 socket, angular, 4 pins, cable length 5m (f&b)
11166450	esw 33ay1000	m12 socket, angular, 4 pins, cable length 10m (f&b)
11166451	esw 33ay2500	m12 socket, angular, 4 pins, cable length 25m (f&b)
10119930	esw 33ch0200	m12 socket, angular, 5 pins, cable length 2m es 33cp2
10126563	esw 33ch0500	m12 socket, angular, 5 pins, cable length 5m es 33cp5
11046261	esw 33ch0500g	m12 plug, angular, 5 pins, screened, cable length 5m es 33cp5b
11053961	esw 33fh0200g	m12 socket, angular, 8 pins, screened, cable length 2m
11053962	esw 33fh0500g	m12 socket, angular, 8 pins, screened, cable length 5m
10170054	esw 33fh1000g	m12 socket, angular, 8 pins, screened, cable length 10m
11048456	esw 33jp0200g	m12 plug, angular, 12 pins, screened, cable length 2m
11043785	esw 33jp0500g	m12 plug, angular, 12 pins, screened, cable length 5m
11048458	esw 33jp1000g	
10149649	esw 33s/ksg32sh0100	m12 socket, angular, m8 plug, straight, 3pins, cable length 1m
10137529	esw 33s/ksg32sh0200	m12 socket, angular, m8 plug, straight, 3pins, cable length 2m
10127797	esw 33sh0200	m12 socket, angular, 3 pins, cable length 2m
10127798	esw 33sh0500	m12 socket, angular, 3 pins, cable length 5m

11094250 esw 61cp0200g
11094249 esw 61cp1000g
11096630 fadh 14i4470/io
11096631 fadh 14i4470/ks34a/io
11096632 fadh 14u4470/io
11096633 fadh 14u4470/ks34a/io
11014494 fadk 14i4470/io
11003912 fadk 14i4470/s14
11014496 fadk 14i4470/s14/io
11014495 fadk 14i4470/s35a/io
11014497 fadk 14u4470/io
11014499 fadk 14u4470/s14/io
11014498 fadk 14u4470/s35a/io
11096628 fadr 14i4470/s14/io
11096629 fadr 14u4470/s14/io
10114594 faser kst d=0.5 d=1.0 duplex
10114158 faser kst d=0.5 d=1.0 simplex
10114595 faser kst d=1.0 d=2.2 duplex
10114157 faser kst d=1.0 d=2.2 simplex
10123729 faser kst d=1.5 d=2.2 simplex
10135305 fce 050c1y10
10151368 fce 200c1y00
10143979 fce 200c1y01
10151369 fce 200d1y00
10160423 fce 200d1y01
10135308 fce 200e1y00
10219153 feam 08p1002
10238056 feam 08p1002/s35l
10218468 feam 08p3002
10238057 feam 08p3002/s35l
10152095 feck 07n6901
10152097 feck 07n6901/ks35a
10151068 feck 07p6901
10151070 feck 07p6901/ks35a

10152098 fedk 07n6901/ks35a

10151069 fedk 07p6901

10151071 fedk 07p6901/ks35a

10139968 fedk 10n5101

10132393 fedk 10n5101/s35a

10146078 fedk 10p1101/ks35

10146079 fedk 10p3101/ks35

10139963 fedk 10p5101

10131284 fedk 10p5101/s35a

11001011 fedk 14n5101

11001010 fedk 14n5101/s35a

11001031 fedk 14p5101

11003495 fedk 14p5101/s14

11001030 fedk 14p5101/s35a

10236651 fedm 08p1001

10236650 fedm 08p1001/s35l

10218691 fedm 08p1002

10236653 fedm 08p1002/s35l

10236644 fedm 08p3001

10235234 fedm 08p3001/s35l

10218467 fedm 08p3002

10228467 fedm 08p3002/s35l

10234248 fedm 12p5101

10234250 fedm 12p5101/s35a

10129609 fedm 16p5105/s14

10221255 ffak 16ntd1001/l

10219642 ffak 16ptd1001/l

10222883 ffak 17ntd1001/l

10229682 ffak 17ntd1002/l

10222419 ffak 17ptd1001/l

10229683 ffak 17ptd1002/l

10119128 ffam 16ptd1002/l

10125918 ffam 17ptd1002/l

11085236 ffdk 16n50y5

11004231 ffdk 16p50y5
10149554 fglm 050p8001/s35l
10149555 fglm 080p8001/s35l
10149556 fglm 120p8001/s35l
10159713 fgum 020p8001/s35l
10162163 fgum 030p6901/s35a
10149156 fgum 030p8001/s35l
10162164 fgum 050p6901/s35a
10149155 fgum 050p8001/s35l
11000772 fgum 080n6901/s35a
10162165 fgum 080p6901/s35a
10149154 fgum 080p8001/s35l
10149153 fgum 120p8001/s35l
11192273 fgum 170p8001/s35l
10152083 fhck 07n6901
10152085 fhck 07n6901/ks35a
10148791 fhck 07p6901
10149511 fhck 07p6901/ks35a
11096607 fhdh 14g6901
11096625 fhdh 14g6901/io
11096608 fhdh 14g6901/ks34a
11096609 fhdh 14g6901/ks34a/io
10162790 fhdk 04g6101
10162791 fhdk 04g6101/ks35a
11104401 fhdk 04g6101/ks35ad
10162786 fhdk 04g6102
10162787 fhdk 04g6102/ks35a
11104403 fhdk 04g6102/ks35ad
10162792 fhdk 04g6111
10162793 fhdk 04g6111/ks35a
10162788 fhdk 04g6112
10162789 fhdk 04g6112/ks35a
10152084 fhdk 07n6901
10152086 fhdk 07n6901/ks35a

10149512 fhdk 07p6901/ks35a

11104404 fhdk 07p6901/ks35ad

10160915 fhdk 10g5120

10160914 fhdk 10g5120/s35a

10160689 fhdk 10g5121

10160688 fhdk 10g5121/s35a

10160917 fhdk 10g5122

10160916 fhdk 10g5122/s35a

10147575 fhdk 10n1101/ks35

10139965 fhdk 10n5101

10132390 fhdk 10n5101/s35a

10159973 fhdk 10n5110

10159971 fhdk 10n5110/s35a

10163203 fhdk 10n5150

10162950 fhdk 10n5150/s35a

11003342 fhdk 10n5160/s35a

10146073 fhdk 10p1101/ks35

10139960 fhdk 10p5101

10131270 fhdk 10p5101/s35a

10159972 fhdk 10p5110

10159970 fhdk 10p5110/s35a

10163202 fhdk 10p5150

10162949 fhdk 10p5150/s35a

10151937 fhdk 10p5160/s35a

11001033 fhdk 14n5101

11001034 fhdk 14n5101/s14

11001032 fhdk 14n5101/s35a

11001036 fhdk 14n5104

11001037 fhdk 14n5104/s14

11001035 fhdk 14n5104/s35a

11001039 fhdk 14n6901

11001040 fhdk 14n6901/s14

11001038 fhdk 14n6901/s35a

11001166 fhdk 14p5101

11001165 fhdk 14p5101/s35a
11001172 fhdk 14p5104
11001173 fhdk 14p5104/s14
11001171 fhdk 14p5104/s35a
11001178 fhdk 14p6901
11001179 fhdk 14p6901/s14
11001177 fhdk 14p6901/s35a
10234165 fhdm 12n5001
10234168 fhdm 12n5001/s35a
10234166 fhdm 12p5001
10234167 fhdm 12p5001/s35a
10232255 fhdm 16n5001
10232257 fhdm 16n5001/s14
10161126 fhdm 16n5004
10161125 fhdm 16n5004/s14
10232117 fhdm 16p5001
10231715 fhdm 16p5001/s14
10161127 fhdm 16p5004
10161124 fhdm 16p5004/s14
11096605 fhdr 14g6901/s14
11096606 fhdr 14g6901/s14/io
11096635 fkdh 14g6901
11096636 fkdh 14g6901/ks34a
11040789 fkdk 14g6901
11075386 fkdk 14g6901/ks35a
11040801 fkdk 14g6901/s14
11040800 fkdk 14g6901/s35a
10130986 fkdm 22n1901/s14f
10130987 fkdm 22n1902/s14f
10130984 fkdm 22p1901/s14f
10130985 fkdm 22p1902/s14f
10138001 fkdm 22p1911/s14f
10145928 fkdm 22p3902/s14f
11096634 fkdr 14g6901/s14

10143982 flc 200d2y00

10152352 fldk 110c1003/s42

10164169 fldk 110c1003/s42 demogerät rental price, cash-back when sent undamaged back, including cable, software, usb-converter

11100809 fldk 110c1005/s42 replacement type for denex edge detector ii

10151988 fldk 110g1003/s14

10160703 fldk 110g1003/s14 demogerät rental price, cash-back when sent undamaged back, including cable, software, usb-converter

10152351 fldk 110g1003/s42

10164310 fldk 110g1005/s14

10166712 fldk 110g1005/s14 demogerät rental price, cash-back when sent undamaged back, including cable, software, usb-converter

11040147 fldk 110g1006/s14

11045245 fldk 110g1006/s14 demogerät rental price, cash-back when sent undamaged back, including cable, software, usb-converter

10149866 fldk 110g1010/s14

10160749 fldk 110g1010/s14 demogerät rental price, cash-back when sent undamaged back, including cable, software, usb-converter

11099669 fldk 110g1303/s14 scatec-box with 40mm opt. sensing distance

10153178 fldm 170c1011/s42

10164172 fldm 170c1011/s42 demogerät rental price, cash-back when sent undamaged back, including cable, software, usb-converter

10153179 fldm 170c1030/s42 replacement type for denex micro

10153175 fldm 170g1011/s42

10160445 fldm 170g1011/s42 demogerät rental price, cash-back when sent undamaged back, including cable, software, usb-converter

10149139 fldm 170g1030/s42

10161947 fldm 170g1030/s42 demogerät rental price, cash-back when sent undamaged back, including cable, software, usb-converter

10135294 fle 200c1y00

10151370 fle 200d1y00

11079281 fnck 07n6910

11079282 fnck 07n6910/ks35a

11079283 fnck 07p6910

11079284 fnck 07p6910/ks35a

11081176 fndh 14 demo bracket

11096612 fndh 14g6901

11096627 fndh 14g6901/io

11115641 fndh 14g6901/io/0600

11096613 fndh 14g6901/ks34a

11096615 fndh 14g6901/ks34a/io

11096637 fndh 14g6902

11096639 fndh 14g6902/ks34a

11096640 fndh 14g6902/ks34a/io

11096643 fndh 14g6903

11096644 fndh 14g6903/io

11096645 fndh 14g6903/ks34a

11096646 fndh 14g6903/ks34a/io

11079285 fndk 07n6910

11079286 fndk 07n6910/ks35a

11079287 fndk 07p6910

11079288 fndk 07p6910/ks35a

11084065 fndk 14g6902/io

11084066 fndk 14g6902/s14/io

11084322 fndk 14g6902/s35a/io

11084067 fndk 14g6903/io

11084068 fndk 14g6903/s14/io

11084323 fndk 14g6903/s35a/io

11084069 fndk 14g6904/io

11084080 fndk 14g6904/s14/io

11084325 fndk 14g6904/s35a/io

11084063 fndk 14p6910/s14

11079269 fndk 14p6910/s35a

11096610 fndr 14g6901/s14

11096611 fndr 14g6901/s14/io

11096641 fndr 14g6902/s14

11096642 fndr 14g6902/s14/io

11096647 fndr 14g6903/s14

11096648 fndr 14g6903/s14/io

10146139 foc 500c6y00

10146555 fodk 23p90y0

11008381 fodk 23p90y0/0500

11002190 fodk 23p90y5

10129024 fpam 18n3151

10129025 fpam 18n3151/s14

10128110 fpam 18p3151

10129978 fpam 18p5151/s14

10152091 fpck 07n6901

10152093 fpck 07n6901/ks35a

10151060 fpck 07p6901

10151062 fpck 07p6901/ks35a

11096621 fpdh 14n5101

11096623 fpdh 14n5101/ks34a

11096620 fpdh 14p5101

11096622 fpdh 14p5101/ks34a

10152092 fpdk 07n6901

10152094 fpdk 07n6901/ks35a

10151061 fpdk 07p6901

10151063 fpdk 07p6901/ks35a

11000892 fpdk 10n5130

11000893 fpdk 10n5130/s35a

11000896 fpdk 10n5135

11000897 fpdk 10n5135/s35a

10164851 fpdk 10p1601/s35a

11000890 fpdk 10p5130

11000891 fpdk 10p5130/s35a

11000894 fpdk 10p5135

11000895 fpdk 10p5135/s35a

11001184 fpdk 14n5101

11001185 fpdk 14n5101/s14

11001183 fpdk 14n5101/s35a

11001187 fpdk 14n5111

11001188 fpdk 14n5111/s14

11001186 fpdk 14n5111/s35a

11001139 fpdk 14p5101

11001200 fpdk 14p5101/s14

11001138 fpdk 14p5101/s35a

11001202 fpdk 14p5111

11001203 fpdk 14p5111/s14

11001201 fpdk 14p5111/s35a

10150008 fpdk 20p5101/s35a
10234199 fpdm 12n3401/s35a
10234189 fpdm 12n5101
10234191 fpdm 12n5101/s35a
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10234200 fpdm 12p3401/s35a
10162380 fpdm 12p3411/s35a
10234190 fpdm 12p5101
10234192 fpdm 12p5101/s35a
10232266 fpdm 16n5101
10232272 fpdm 16n5101/s14
10122958 fpdm 16p3921/s14
10232258 fpdm 16p5101
10231716 fpdm 16p5101/s14
10119197 fpdm 16p5105
10123414 fpdm 16p5105/s14
11096617 fpdr 14n5101/s14
11096616 fpdr 14p5101/s14
10135350 fpe 200c1y00
10135352 fpe 200c4y00
10135351 fpe 200d1y00
11011379 frdk 14n6901
11011381 frdk 14n6901/s14
11011380 frdk 14n6901/s35a
11006566 frdk 14p6901
11011378 frdk 14p6901/s14
11003933 frdk 14p6901/s35a
10135339 fsa 200c1y00
10218475 fsam 08d9002
10238037 fsam 08d9002/s35
10128112 fsam 18d9651
10127831 fsam 18d9651/s14
10151374 fsb 200c1y00
10135349 fsc 200c4y00

10151066 fsck 07d9601/ks35a

10151065 fsdk 07d9601

10151067 fsdk 07d9601/ks35a

10146077 fsdk 10d9001/ks35

10139964 fsdk 10d9601

10131282 fsdk 10d9601/s35a

11001223 fsdk 14d9601

11003496 fsdk 14d9601/s14

11001222 fsdk 14d9601/s35a

10236652 fsdm 08d9001

10233485 fsdm 08d9001/s35

10218471 fsdm 08d9002

10224995 fsdm 08d9002/s35

10234245 fsdm 12d9601

10234246 fsdm 12d9601/s35a

10128984 fsdm 16d9601

10129606 fsdm 16d9601/s14

10258998 fse 025b1001

10258997 fse 025b1003

10258994 fse 025b2001

10258993 fse 025b2002

10258817 fse 050a1001

10258816 fse 050a1003

10258825 fse 050a2001

10258824 fse 050a2002

10258823 fse 050a2003

10210299 fse 050a4003

10210297 fse 050a4004

10219609 fse 050a4006

10258996 fse 050b1001

10258995 fse 050b1003

10229677 fse 050b1007

10258991 fse 050b2001

10258990 fse 050b2002

10229681 fse 050b2006

10210357 fse 050b4003

10210411 fse 050b4004

10222199 fse 050b4006

10258814 fse 100a1001

10258813 fse 100a1003

10221039 fse 100a1006

10258822 fse 100a2001

10258821 fse 100a2002

10224041 fse 100a2006

10210298 fse 100a4003

10210300 fse 100a4004

10219607 fse 100a4006

10147826 fse 100f6y01

10123468 fse 200c1002

10123466 fse 200c1004

10125038 fse 200c1013

10151372 fse 200c1y00

10123469 fse 200c2002

10123467 fse 200c2004

10135343 fse 200c2y00

10123471 fse 200c4001

10123472 fse 200c4002

10151548 fse 200c6y01

10151549 fse 200c6y02

10151547 fse 200c6y15

10151373 fse 200d1y50

10135346 fse 200d2y00

10135347 fse 200d2y50

10135344 fse 200d4y00

10135338 fse 200e1y00

10143980 fse 200e2y00

10135341 fse 200f1y00

10135345 fse 200f4y00

10214745 fsf 025b1001

10217053 fsf 025b1005

11004134 fsf 025b1007

10210140 fsf 025b2001

10215047 fsf 025b2002

10218383 fsf 025b4002

10217050 fsf 025b4003

10217048 fsf 025b4004

10258811 fsf 050a1001

10210319 fsf 050a1002

10221808 fsf 050a1005

10258819 fsf 050a2001

10210323 fsf 050a2002

10215117 fsf 050a2004

10217991 fsf 050a2005

10230611 fsf 050a3020

10223279 fsf 050a3021

10222804 fsf 050a3022

10210294 fsf 050a4002

10217314 fsf 050a4003

10217234 fsf 050a4004

10214642 fsf 050b1001

10217052 fsf 050b1005

10217595 fsf 050b1007

10210139 fsf 050b2001

10213336 fsf 050b2002

10215728 fsf 050b2005

10218389 fsf 050b2006

10214023 fsf 050b4002

10214647 fsf 050b4003

10217049 fsf 050b4004

10258810 fsf 100a1001

10210320 fsf 100a1002

10224976 fsf 100a1005

10210324 fsf 100a2002

10220490 fsf 100a2004

10217990 fsf 100a2005

10223281 fsf 100a3020

10225634 fsf 100a3021

10221749 fsf 100a3022

10210293 fsf 100a4002

10217315 fsf 100a4003

10217227 fsf 100a4004

10135367 fsg 200c1y00

10146556 fsl 500c6y00

10145963 ftar 013a000

11006510 ftar 014a000

11107543 ftar 019a000

10138929 ftar 020a000

11006511 ftar 029a000

11006499 ftar 038a000

10137624 ftdf 005i040

10160223 ftdf 012m050

10128299 ftdf 020f020

10137625 ftdf 020i175

10156653 ftdf 025f025

10137626 ftdf 035i395

11007742 ftdf 035m050

10155783 ftdf 050m234

10131245 ftdr 005i040

10160344 ftdr 008m030/01

10160345 ftdr 008m030/21

10123622 ftdr 010a014

10119414 ftdr 010d020

10128191 ftdr 015a038

10145962 ftdr 017a027

11045419 ftdr 017w035

10114003 ftdr 018a054

10125741 ftdr 029a046

11126834 ftdr 030a030

10131247 ftdr 035i395

11113040 ftdr 040a060

10145961 ftdr 047a048

11149760 ftdr 047w047

11045417 ftdr 050r060

11046320 ftdr 051e051

11101254 ftdr 084a084

10135298 fua 200c1y00

10135299 fub 200c1y00

10135312 fuc 200c2y00

10258988 fue 025b1001

10258987 fue 025b1002

10258986 fue 025b1003

10259011 fue 025b2001

10259010 fue 025b2002

10259009 fue 025b2003

10258641 fue 025b2004

10210362 fue 025b4004

10258780 fue 050a1001

10258779 fue 050a1002

10258778 fue 050a1003

10225840 fue 050a1008

10221743 fue 050a1011

10258796 fue 050a2001

10258795 fue 050a2002

10258794 fue 050a2003

10258793 fue 050a2004

10258785 fue 050a3001

10210290 fue 050a4003

10210292 fue 050a4004

10218387 fue 050a4005

10259013 fue 050b1001

10258985 fue 050b1003

10217592 fue 050b1008

10217073 fue 050b1011

10259012 fue 050b2001

10259018 fue 050b2002

10259017 fue 050b2003

10259016 fue 050b2004

10217591 fue 050b2008

10217069 fue 050b2011

10259000 fue 050b3001

10210359 fue 050b4003

10210363 fue 050b4004

10217066 fue 050b4005

10135364 fue 050c2y10

10258776 fue 100a1001

10224107 fue 100a1008

10229669 fue 100a1011

10229672 fue 100a2008

10258784 fue 100a3001

10144392 fue 100e2y00

10240061 fue 200c1003

10123457 fue 200c1004

10124815 fue 200c1012

10123465 fue 200c2003

10123463 fue 200c2004

10135311 fue 200c2y00

10135310 fue 200c4y00

10135333 fue 200c6y00

10151367 fue 200d1y00

10135309 fue 200d2y00

10135297 fue 200e1y00

10144391 fue 200f1y00

10210373 fuf 025b1002

10217015 fuf 025b1003

10217076 fuf 025b1011

10210370 fuf 025b2002

10215049 fuf 025b2004

10217055 fuf 025b2005

10210367 fuf 025b4002

10217064 fuf 025b4006

10217067 fuf 025b4008

10258772 fuf 050a1001

10210849 fuf 050a1003

10219528 fuf 050a1007

10220489 fuf 050a1011

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10210846 fuf 050a2003

10217044 fuf 050a2004

10217043 fuf 050a2005

10229240 fuf 050a2011

10258783 fuf 050a3001

10210286 fuf 050a4002

10218385 fuf 050a4004

10258983 fuf 050b1001

10210372 fuf 050b1002

10217001 fuf 050b1003

10213828 fuf 050b1005

10217075 fuf 050b1011

10259014 fuf 050b2001

10210371 fuf 050b2002

10217017 fuf 050b2003

10215048 fuf 050b2004

10217054 fuf 050b2005

10217072 fuf 050b2011

10258999 fuf 050b3001

10210366 fuf 050b4002

10217065 fuf 050b4006

10217068 fuf 050b4008

10258770 fuf 100a1001
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10210848 fuf 100a1003

10219608 fuf 100a1007

10220439 fuf 100a1011

10258787 fuf 100a2001

10210847 fuf 100a2003

10217045 fuf 100a2004

10217042 fuf 100a2005

10220094 fuf 100a2007

10229670 fuf 100a2011

10210285 fuf 100a4002

10218386 fuf 100a4004

10258838 fuh 010a2002

10258693 fuh 010b2001

10258981 fuh 010b2002

10135334 ful 200d2y00

10162867 fvdк 10n5101

10162865 fvdк 10n5101/s35a

11045446 fvdк 10n66y0 replacement for 10134858 fvdк 10n82y0

11045448 fvdк 10n66y0/s35a

11045462 fvdк 10n66ym

11045460 fvdк 10n66yr

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11045464 fvdк 10n66ys

10162167 fvdк 10n67y0

10162168 fvdк 10n67y0/s35a

10162495 fvdк 10n67y2

10162170 fvdк 10n67ym

10162169 fvdк 10n67yr

10162171 fvdк 10n67ys

10134856 fvdк 10n81y0

10134860 fvdк 10n83y0

10162866 fvdк 10p5101

10162864 fvdк 10p5101/s35a

11045445 fvdк 10p66y0

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11045447 fvdk 10p66y0/s35a
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11045461 fvdk 10p66ym

11045449 fvdk 10p66yr

11045463 fvdk 10p66ys

10158634 fvdk 10p67y0

10159579 fvdk 10p67y0/s35a

11006373 fvdk 10p67y2/s35a

10160156 fvdk 10p67ym

10160155 fvdk 10p67yr

10160158 fvdk 10p67ys

10134852 fvdk 10p81y0

10143359 fvdk 10p81y0/ks35a

10134859 fvdk 10p83y0

10145960 fvdk 10p83y0/ks35a

10119663 fvdk 12p6101

10119662 fvdk 12p6101/s35a

10119664 fvdk 12p6401

10119661 fvdk 12p6401/s35a

10126147 fvdk 12p6410/s35a

10119665 fvdk 12p6501/s35a

10119652 fvdk 22p6101

10119651 fvdk 22p6101/s14c

10119653 fvdk 22p6401

10119650 fvdk 22p6401/s14c

10119655 fvdk 22p6501/s14c

10234639 fvdм 15n5103

10122368 fvdм 15n5103/s14

10234520 fvdм 15p5103

10239451 fvdм 15p5103/s14

10234519 fvdм 15p5130

10124952 fvdм 15p5130/s14

10134865 fvdк 10u84y0

10135336 fwe 200c1y00

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10135342 fwe 200c2y00

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10235364 fzam 08p1001/s35l

10218694 fzam 08p1002

10238052 fzam 08p1002/s35l

10219003 fzam 08p3001

10237708 fzam 08p3001/s35l

10219149 fzam 08p3002

10238053 fzam 08p3002/s35l

10234805 fzam 12n1104/s14

10234626 fzam 12n3104

10234806 fzam 12n3104/s14

10234627 fzam 12p1104

10234807 fzam 12p1104/s14

10234628 fzam 12p3104

10234808 fzam 12p3104/s14

10129020 fzam 18n1150

10129021 fzam 18n1150/s14

10129023 fzam 18n1155

10128874 fzam 18n6460

10128875 fzam 18n6460/s14

10127712 fzam 18p1150

10128111 fzam 18p1150/s14

10127711 fzam 18p1155

10128118 fzam 18p6460

10127710 fzam 18p6460/s14

10214415 fzam 30n5002

10215060 fzam 30n5004

10214166 fzam 30p5001

10215003 fzam 30p5002

10215059 fzam 30p5003

10215057 fzam 30p5004

10152087 fzck 07n6901

10152089 fzck 07n6901/ks35a

10151056 fzck 07p6901

10151058 fzck 07p6901/ks35a

10152090 fzdk 07n6901/ks35a

10151057 fzdk 07p6901

10151059 fzdk 07p6901/ks35a

10147577 fzdk 10n1101/ks35

10139966 fzdk 10n5101

10132391 fzdk 10n5101/s35a

10146075 fzdk 10p1101/ks35

10139961 fzdk 10p5101

10131281 fzdk 10p5101/s35a

11001226 fzdk 14n5101

11001224 fzdk 14n5101/s35a

11001230 fzdk 14p5101

11001231 fzdk 14p5101/s14

11001229 fzdk 14p5101/s35a

10150011 fzdk 20n5101/s35a

10150010 fzdk 20p5101/s35a

10218479 fzdm 08p1001

10238049 fzdm 08p1001/s35l

10218693 fzdm 08p1002

10238047 fzdm 08p1002/s35l

10219185 fzdm 08p3001

10238044 fzdm 08p3001/s35l

10219186 fzdm 08p3002

10238042 fzdm 08p3002/s35l

10122416 fzdm 16n5101

10101694 fzdm 16n5101/s14

10238502 fzdm 16p5101

10238426 fzdm 16p5101/s14

11053652 hc25-1 mounting kit for cfdk 25

11084461 hc25-2 set of 20 pcs mounting frame for cfdk 25

11039551 hi06-1h

11039552 hi11-1h

11039553 hi17-1h

10228687 iarm 08p1503/s35l

11081447 iarm 12p15a3/s35l

11173270 if08.d02s-f16.ua1z.7wcu

11173193 if08.d02s-f16.ua1z.7wcv

11173266 if08.d02s-f16.ua1z.7wlv

11014578 ifbr 06n13t1/s14l-9

11014579 ifbr 06n33t1/s14l-9

11014574 ifbr 06p13t1/s14l-9

11014576 ifbr 06p33t1/s14l-9

11014614 ifbr 11n13t1/l-9

11014598 ifbr 11n13t1/s14l-9

11014610 ifbr 11n17t1/l-9

11014593 ifbr 11n17t1/s14l-9

11014615 ifbr 11n33t1/l-9

11014599 ifbr 11n33t1/s14l-9

11014611 ifbr 11n37t1/l-9

11014594 ifbr 11n37t1/s14l-9

11014612 ifbr 11p13t1/l-9

11014595 ifbr 11p13t1/s14l-9

11014608 ifbr 11p17t1/l-9

11014590 ifbr 11p17t1/s14l-9

11014613 ifbr 11p33t1/l-9

11014597 ifbr 11p33t1/s14l-9

11014609 ifbr 11p37t1/l-9

11014592 ifbr 11p37t1/s14l-9

11014623 ifbr 17n13t1/l-9

11014606 ifbr 17n13t1/s14l-9

11014618 ifbr 17n17t1/l-9

11014602 ifbr 17n17t1/s14l-9

11014625 ifbr 17n33t1/l-9

11014607 ifbr 17n33t1/s14l-9

11014619 ifbr 17n37t1/l-9

11014603 ifbr 17n37t1/s14l-9

11014620 ifbr 17p13t1/l-9

11014604 ifbr 17p13t1/s14l-9

11014600 ifbr 17p17t1/s14l-9

11014622 ifbr 17p33t1/l-9

11014605 ifbr 17p33t1/s14l-9

11014617 ifbr 17p37t1/l-9

11014601 ifbr 17p37t1/s14l-9

10250306 iff 08.82.05

10140876 iffk 10e9101

10143458 iffm 04n1501/o1ks35l

10140708 iffm 04n1501/o1l

10142682 iffm 04n3501/o1l

10143457 iffm 04p1501/o1ks35l

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10142681 iffm 04p3501/o1l

10146224 iffm 06n15a1/o1l

10146220 iffm 06n15a3/o1l

10146216 iffm 06n15a3/o1s05l

10146225 iffm 06n35a1/o1l

10146221 iffm 06n35a3/o1l

10146217 iffm 06n35a3/o1s05l

10146222 iffm 06p15a1/o1l

10146218 iffm 06p15a3/o1l

10146214 iffm 06p15a3/o1s05l

10146223 iffm 06p35a1/o1l

10146219 iffm 06p35a3/o1l

10146215 iffm 06p35a3/o1s05l

10229710 iffm 08n1701/o1l

10224260 iffm 08n1701/o1s35l

10124010 iffm 08n1702/o1l

10216613 iffm 08n1703/o1l

10227201 iffm 08n1703/o2s35l

10160242 iffm 08n17a1/o1s35l

10160243 iffm 08n17a3/o1s35l

10160245 iffm 08n17a5/o1s35l

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10229711 iffм 08n3701/o1l
10240396 iffм 08n3701/o1s35l
10160356 iffм 08n3702/o1l
10228207 iffм 08n3703/o1l
10229457 iffм 08n3703/o2s35l
10159800 iffм 08n37a1/o1s35l
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10160246 iffм 08n37a5/o1s35l
10143589 iffм 08n37a6/ks35l
10142951 iffм 08n37a6/l
10212310 iffм 08p1701/o1l
10224048 iffм 08p1701/o1s35l
11054739 iffм 08p1702/o1ks05l
10124009 iffм 08p1702/o1l
10216132 iffм 08p1703/o1l
10224047 iffм 08p1703/o2s35l
10157209 iffм 08p17a1/o1s35l
10157206 iffм 08p17a3/o1s35l
10158669 iffм 08p17a5/o1s35l
10143586 iffм 08p17a6/ks35l
10142377 iffм 08p17a6/l
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10240160 iffм 08p3701/o1s35l
10139480 iffм 08p3702/o1l
10229452 iffм 08p3703/o1l
10229458 iffм 08p3703/o2s35l
10158112 iffм 08p37a1/o1s35l
10158111 iffм 08p37a3/o1s35l
10158671 iffм 08p37a5/o1s35l
10143587 iffм 08p37a6/ks35l
10142952 iffм 08p37a6/l
10150242 iffм 12n17a3/s05l
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10144944 iffм 12p17a3/s05l

10224528 iffm 20n1501/s35l

10150205 iffm 20n17a3/s35l

10229598 iffm 20n3501/s35l

10150206 iffm 20n37a3/s35l

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10224524 iffm 20p3501/s35l

10148743 iffm 20p37a3/s35l

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10250002 ifr 05.82.05

10250036 ifr 10.82.01

10250037 ifr 10.82.05

11138020 ifr 10.82e05

10154702 ifrd 06n17a1/s35l

10154706 ifrd 06n17t1/s35

10154703 ifrd 06n37a1/s35l

10154707 ifrd 06n37t1/s35

10154700 ifrd 06p17a1/s35l

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10154701 ifrd 06p37a1/s35l

10154705 ifrd 06p37t1/s35

10150429 ifrd 08n17a1/s35l

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10150430 ifrd 08n37a1/s35l

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10149559 ifrd 08p17a1/s35l

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10149560 ifrd 08p37a1/s35l

10149271 ifrd 08p37t1/s35

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10149269 ifrd 12n17t3/s14

10149567 ifrd 12n37a3/s14l

10149270 ifrd 12n37t3/s14

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10149569 ifrd 12p37a3/s14l

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10150608 ifrd 18p37a3/s14l

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10164659 ifrh 08p1501/l

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10139768 ifrh 12p1501/l

10143039 ifrh 12p3501/l

10143354 ifrh 18p1501/l

10153535 ifrh 18p3501/l

10139543 ifrm 03n1501/ks35l

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11082467 ifrm 05p37a3/s35l

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10229698 ifrm 06n1713/l

10160301 ifrm 06n17a1/ks35l

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10160296 ifrm 06n3713/ks35l

10229699 ifrm 06n3713/l

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10225155 ifrm 12n1701/s35l

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10229704 ifrm 12n1703/s14l

10160258 ifrm 12n1704/l

10160259 ifrm 12n1704/s14l

10230318 ifrm 12n1707

11096374 ifrm 12n17x1/l
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11096378 ifrm 12n17x2/l

11016682 ifrm 12n33t1/pl

11016678 ifrm 12n33t1/s14l

10213208 ifrm 12n3701/l

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11051240 ifrm 12n3701/s35l

10229702 ifrm 12n3702/l

10229705 ifrm 12n3703/s14l

10160260 ifrm 12n3704/l

10160261 ifrm 12n3704/s14l

11096375 ifrm 12n37x1/l

11096379 ifrm 12n37x2/l

11016679 ifrm 12p13t1/pl

11016675 ifrm 12p13t1/s14l

10212187 ifrm 12p1701/l

10214930 ifrm 12p1701/s14l

10224126 ifrm 12p1701/s35l

10214390 ifrm 12p1702/l

10228612 ifrm 12p1703/s14l

10139248 ifrm 12p1704/l

10155366 ifrm 12p1704/s14l

10220243 ifrm 12p1707

11096371 ifrm 12p17x1/l

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11096376 ifrm 12p17x2/l

11016680 ifrm 12p33t1/pl

11016676 ifrm 12p33t1/s14l

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10225153 ifrm 12p3701/s35l

10229700 ifrm 12p3702/l

10229703 ifrm 12p3703/s14l

10160350 ifrm 12p3704/l

10156226 ifrm 12p3704/s14l

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10235296 ifrm 12x9103

10235297 ifrm 12x9503

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10166130 ifrm 18n13g3/s14l

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11016655 ifrm 18n13t1/s14l

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11078657 ifrm 18n17a3/s14l

11111666 ifrm 18n17a4/l

11111669 ifrm 18n17a4/s14l

11078679 ifrm 18n17a5/l

11078675 ifrm 18n17a5/s14l

11013679 ifrm 18n17m1/pl

11013675 ifrm 18n17m1/s14l

10166137 ifrm 18n33g1/l

10166136 ifrm 18n33g1/s14l

10166139 ifrm 18n33g3/l

10166138 ifrm 18n33g3/s14l

11016660 ifrm 18n33t1/pl

11016656 ifrm 18n33t1/s14l

10229707 ifrm 18n3701/s35l

11078672 ifrm 18n37a3/l

11078658 ifrm 18n37a3/s14l

11111672 ifrm 18n37a4/l

11111674 ifrm 18n37a4/s14l

11078680 ifrm 18n37a5/l

11078676 ifrm 18n37a5/s14l

11013680 ifrm 18n37m1/pl

11013676 ifrm 18n37m1/s14l

10129249 ifrm 18p1301/l

10166144 ifrm 18p13g1/l

10157742 ifrm 18p13g1/s14l

10166146 ifrm 18p13g3/l

10166145 ifrm 18p13g3/s14l

11016657 ifrm 18p13t1/pl

11016653 ifrm 18p13t1/s14l

10226588 ifrm 18p1701/s35l

11078659 ifrm 18p17a3/l

11078655 ifrm 18p17a3/s14l

11111676 ifrm 18p17a4/l

11111677 ifrm 18p17a4/s14l

11078677 ifrm 18p17a5/l

11078673 ifrm 18p17a5/s14l

11013677 ifrm 18p17m1/pl

11013673 ifrm 18p17m1/s14l

10166151 ifrm 18p33g1/l

10166150 ifrm 18p33g1/s14l

10166153 ifrm 18p33g3/l

10166152 ifrm 18p33g3/s14l

11016658 ifrm 18p33t1/pl

11016654 ifrm 18p33t1/s14l

10229706 ifrm 18p3701/s35l

11078670 ifrm 18p37a3/l

11078656 ifrm 18p37a3/s14l

11111679 ifrm 18p37a4/l

11111680 ifrm 18p37a4/s14l

11078678 ifrm 18p37a5/l

11078674 ifrm 18p37a5/s14l

11013678 ifrm 18p37m1/pl

11013674 ifrm 18p37m1/s14l

10235253 ifrm 18x9103

10235254 ifrm 18x9503

10216368 ifrm 30p1101/s14l

10123251 ifrm 30p1201/l

10119324 ifrm 30p1601/l
10229770 ifrm 30p3101/s14l
10123253 ifrm 30p3201/l
10229768 ifrm 30p3501/s14l
10123252 ifrm 30p3601/l
10119595 ifrp 12p1501/s14
10143254 ifrp 12p1504/s14
10119436 ifrp 16p1501/s14
10118745 ifrp 18p1501/s14
11016168 ifrr 08n13t1/s14l-9
11016170 ifrr 08n33t1/s14l-9
11016166 ifrr 08p13t1/s14l-9
11016167 ifrr 08p33t1/s14l-9
11016093 ifrr 12n13t1/l-9
11013655 ifrr 12n13t1/pl-9
11016089 ifrr 12n13t1/s14l-9
11016190 ifrr 12n17t1/l-9
11016185 ifrr 12n17t1/s14l-9
11016094 ifrr 12n33t1/l-9
11013656 ifrr 12n33t1/pl-9
11016090 ifrr 12n33t1/s14l-9
11016191 ifrr 12n37t1/l-9
11016186 ifrr 12n37t1/s14l-9
11016091 ifrr 12p13t1/l-9
11013653 ifrr 12p13t1/pl-9
11016087 ifrr 12p13t1/s14l-9
11016187 ifrr 12p17t1/l-9
11016183 ifrr 12p17t1/s14l-9
11016092 ifrr 12p33t1/l-9
11013654 ifrr 12p33t1/pl-9
11016088 ifrr 12p33t1/s14l-9
11016189 ifrr 12p37t1/l-9
11016184 ifrr 12p37t1/s14l-9
11016050 ifrr 18n13t1/l-9

11013664 ifrr 18n13t1/pl-9

11013671 ifrr 18n17t1/l-9

11013637 ifrr 18n17t1/s14l-9

11016051 ifrr 18n33t1/l-9

11013665 ifrr 18n33t1/pl-9

11016017 ifrr 18n33t1/s14l-9

11013672 ifrr 18n37t1/l-9

11013638 ifrr 18n37t1/s14l-9

11016018 ifrr 18p13t1/l-9

11013662 ifrr 18p13t1/pl-9

11016014 ifrr 18p13t1/s14l-9

11013639 ifrr 18p17t1/l-9

11013635 ifrr 18p17t1/s14l-9

11016019 ifrr 18p33t1/l-9

11013663 ifrr 18p33t1/pl-9

11016015 ifrr 18p33t1/s14l-9

11013670 ifrr 18p37t1/l-9

11013636 ifrr 18p37t1/s14l-9

10236111 ifrw 12p1501/s14l

10236112 ifrw 18p1501/s14l

10123731 ihrm 12p1501

10132023 ihrm 12p1501/ks34p

10222808 ilfk 12p1101/i03

10211799 ilfk 12p1101/i06

10219692 ilfk 12p1501/i03

10211800 ilfk 12p1501/i06

11017454 iprm 12i9504/s14

10128566 iprm 12i9505/s14

11017453 iprm 12i9506/s14

11174154 ir06.d03l-q40.ua1z.7scv

11174153 ir06.d03l-q46.ua1z.7sl

11144078 ir06.d03s-q22.ua1z.7scv

11144090 ir06.d03s-q30.ua1z.7scv

11141032 ir06.d03s-q46.ia1z.7sl

11137807 ir06.d03s-q46.ua1z.7sl
11119425 ir06.p02f-f40.nc1z.7scv
11119423 ir06.p02f-f40.no1z.7scv
11119424 ir06.p02f-f40.pc1z.7scv
11119422 ir06.p02f-f40.po1z.7scv
11119421 ir06.p02f-f46.nc1z.7sl
11117732 ir06.p02f-f46.no1z.7sl
11119408 ir06.p02f-f46.pc1z.7sl
11117730 ir06.p02f-f46.po1z.7sl
11148708 ir06.p03s-f40.nc1z.7scv
11148685 ir06.p03s-f40.no1z.7scv
11148739 ir06.p03s-f40.pc1z.7scv
11148719 ir06.p03s-f40.po1z.7scv
11148711 ir06.p03s-f46.nc1z.7sl
11148689 ir06.p03s-f46.no1z.7sl
11148740 ir06.p03s-f46.pc1z.7sl
11148736 ir06.p03s-f46.po1z.7sl
11148702 ir06.p06s-n40.nc1z.7scv
11148683 ir06.p06s-n40.no1z.7scv
11148737 ir06.p06s-n40.pc1z.7scv
11148714 ir06.p06s-n40.po1z.7scv
11148705 ir06.p06s-n46.nc1z.7sl
11148684 ir06.p06s-n46.no1z.7sl
11148738 ir06.p06s-n46.pc1z.7sl
11148717 ir06.p06s-n46.po1z.7sl
11130472 ir08.d02s-f40.ua1z.7scv
11123872 ir08.d02s-f46.ua1z.7sl
11141038 ir08.d03l-q46.ua1z.7sl
11141036 ir08.d03s-q22.ua1z.7scv
11141037 ir08.d03s-q30.ua1z.7scv
11130473 ir08.d03s-q40.ua1z.7scv
11141034 ir08.d03s-q46.ia1z.7sl
11123873 ir08.d03s-q46.ua1z.7sl
11119431 ir08.p02f-f40.nc1z.7scv
11119429 ir08.p02f-f40.no1z.7scv

11119428 ir08.p02f-f40.po1z.7scv

11119427 ir08.p02f-f46.nc1z.7sl

11116607 ir08.p02f-f46.no1z.7sl

11119426 ir08.p02f-f46.pc1z.7sl

11111235 ir08.p02f-f46.po1z.7sl

11148764 ir08.p03s-f40.nc1z.7scv

11148749 ir08.p03s-f40.no1z.7scv

11148790 ir08.p03s-f40.pc1z.7scv

11148775 ir08.p03s-f40.po1z.7scv

11148766 ir08.p03s-f46.nc1z.7sl

11148760 ir08.p03s-f46.no1z.7sl

11148791 ir08.p03s-f46.pc1z.7sl

11148757 ir08.p03s-f46.po1z.7sl

11148761 ir08.p06s-n40.nc1z.7scv

11148741 ir08.p06s-n40.no1z.7scv

11148758 ir08.p06s-n40.pc1z.7scv

11148768 ir08.p06s-n40.po1z.7scv

11148763 ir08.p06s-n46.nc1z.7sl

11148744 ir08.p06s-n46.no1z.7sl

11148759 ir08.p06s-n46.pc1z.7sl

11148770 ir08.p06s-n46.po1z.7sl

11158152 ir12.d03k-f60.ia1e.7fo/b015

11158153 ir12.d03k-f60.ua1e.7fo/b015

11130474 ir12.d04l-f60.uame.7bo

11130475 ir12.d04s-f40.ua1z.7bcv

11123876 ir12.d04s-f50.ua1z.7bo

11157693 ir12.d06l-q60.ia1e.7bo

11141090 ir12.d06l-q60.ua1e.7bo

11135332 ir12.d06l-q60.uame.7bo

11130476 ir12.d06s-q40.ua1z.7bcv

11141039 ir12.d06s-q50.ia1z.7bo

11123877 ir12.d06s-q50.ua1z.7bo

11119439 ir12.p04f-f40.nc1z.7bcv

11119438 ir12.p04f-f40.no1z.7bcv

11119436 ir12.p04f-f40.pc1z.7bcv
11119435 ir12.p04f-f50.nc1z.7bo
11116610 ir12.p04f-f50.no1z.7bo
11119433 ir12.p04f-f50.pc1z.7bo
11111236 ir12.p04f-f50.po1z.7bo
11159797 ir12.p04s-f50.pv1z.7bo
11159790 ir12.p04s-f85.pv1z.7bo
11148447 ir12.p06s-f40.nc1z.7bcv
11148363 ir12.p06s-f40.no1z.7bcv
11148657 ir12.p06s-f40.pc1z.7bcv
11148580 ir12.p06s-f40.po1z.7bcv
11148441 ir12.p06s-f50.nc1z.7bcv
11148466 ir12.p06s-f50.nc1z.7bo
11148360 ir12.p06s-f50.no1z.7bcv
11148364 ir12.p06s-f50.no1z.7bo
11148655 ir12.p06s-f50.pc1z.7bcv
11148659 ir12.p06s-f50.pc1z.7bo
11148575 ir12.p06s-f50.po1z.7bcv
11148587 ir12.p06s-f50.po1z.7bo
11148446 ir12.p06s-f60.nc1z.7bo
11148362 ir12.p06s-f60.no1z.7bo
11148656 ir12.p06s-f60.pc1z.7bo
11148578 ir12.p06s-f60.po1z.7bo
11148436 ir12.p10s-n40.nc1z.7bcv
11148327 ir12.p10s-n40.no1z.7bcv
11148590 ir12.p10s-n40.pc1z.7bcv
11148573 ir12.p10s-n40.po1z.7bcv
11148366 ir12.p10s-n50.nc1z.7bcv
11148439 ir12.p10s-n50.nc1z.7bo
11148324 ir12.p10s-n50.no1z.7bcv
11148328 ir12.p10s-n50.no1z.7bo
11148588 ir12.p10s-n50.pc1z.7bcv
11148654 ir12.p10s-n50.pc1z.7bo
11148566 ir12.p10s-n50.po1z.7bcv

11148574 ir12.p10s-n50.po1z.7bo
11148367 ir12.p10s-n60.nc1z.7bo
11148325 ir12.p10s-n60.no1z.7bo
11148589 ir12.p10s-n60.pc1z.7bo
11148572 ir12.p10s-n60.po1z.7bo
11158154 ir18.d03k-f60.ia1e.7fo/b015
11158155 ir18.d03k-f60.ua1e.7fo/b015
11140166 ir18.d05s-f60.ua1z.7bo/b007
11170540 ir18.d08f-f60.ua1e.7bo
11164789 ir18.d08l-q60.ia1e.7bo
11141092 ir18.d08l-q60.ua1e.7bo
11130478 ir18.d08l-q60.uame.7bo
11141093 ir18.d08m-f60.ua1e.7bo/b016 replaced with ir18.d08f-f60.ua1e.7bo
11130479 ir18.d08s-q50.ua1z.7bcv
11163468 ir18.d08s-q60.ia1z.7bo
11123879 ir18.d08s-q60.ua1z.7bo
11119473 ir18.p06f-f50.nc1z.7bcv
11119459 ir18.p06f-f50.no1z.7bcv
11119472 ir18.p06f-f50.pc1z.7bcv
11119458 ir18.p06f-f50.po1z.7bcv
11119457 ir18.p06f-f60.nc1z.7bo
11117735 ir18.p06f-f60.no1z.7bo
11119456 ir18.p06f-f60.pc1z.7bo
11117733 ir18.p06f-f60.po1z.7bo
11119479 ir18.p08f-q50.nc1z.7bcv
11119477 ir18.p08f-q50.no1z.7bcv
11119478 ir18.p08f-q50.pc1z.7bcv
11119476 ir18.p08f-q50.po1z.7bcv
11119475 ir18.p08f-q60.nc1z.7bo
11116612 ir18.p08f-q60.no1z.7bo
11119474 ir18.p08f-q60.pc1z.7bo
11111237 ir18.p08f-q60.po1z.7bo
11184279 ir18.p08s-f50.pv1z.7bcv
11184278 ir18.p08s-f60.pv1z.7bo
11149099 ir18.p12s-f35.nc1z.7bcv

11148846 ir18.p12s-f35.no1z.7bcv

11149146 ir18.p12s-f35.po1z.7bcv

11149112 ir18.p12s-f45.nc1z.7bo

11148847 ir18.p12s-f45.no1z.7bo

11149169 ir18.p12s-f45.pc1z.7bo

11149149 ir18.p12s-f45.po1z.7bo

11148902 ir18.p12s-f50.nc1z.7bcv

11148844 ir18.p12s-f50.no1z.7bcv

11149166 ir18.p12s-f50.pc1z.7bcv

11149142 ir18.p12s-f50.po1z.7bcv

11149098 ir18.p12s-f60.nc1z.7bo

11148845 ir18.p12s-f60.no1z.7bo

11149167 ir18.p12s-f60.pc1z.7bo

11148329 ir18.p12s-f60.po1z.7bo

11148900 ir18.p15s-n35.nc1z.7bcv

11148809 ir18.p15s-n35.no1z.7bcv

11149164 ir18.p15s-n35.pc1z.7bcv

11149138 ir18.p15s-n35.po1z.7bcv

11148901 ir18.p15s-n45.nc1z.7bo

11148820 ir18.p15s-n45.no1z.7bo

11149165 ir18.p15s-n45.pc1z.7bo

11149140 ir18.p15s-n45.po1z.7bo

11148848 ir18.p15s-n50.nc1z.7bcv

11148796 ir18.p15s-n50.no1z.7bcv

11149161 ir18.p15s-n50.pc1z.7bcv

11149115 ir18.p15s-n50.po1z.7bcv

11148849 ir18.p15s-n60.nc1z.7bo

11148813 ir18.p15s-n60.no1z.7bo

11149163 ir18.p15s-n60.pc1z.7bo

11149133 ir18.p15s-n60.po1z.7bo

11179029 ir30.d18l-f60.ia1e.7bo

11179028 ir30.d18l-f60.ua1e.7bo

11179024 ir30.d18s-f60.ia1z.7bo

11179023 ir30.d18s-f60.ua1z.7bo

11179050 ir30.d24l-n60.ua1e.7bo

11179026 ir30.d24s-n60.ia1z.7bo

11179025 ir30.d24s-n60.ua1z.7bo

11174004 ir30.p18s-f35.nv1z.7bcv

11174005 ir30.p18s-f35.pv1z.7bcv

11174008 ir30.p18s-f45.nv1z.7bo

11174009 ir30.p18s-f45.pv1z.7bo

11174003 ir30.p18s-f50.nv1z.7bcv

11171575 ir30.p18s-f50.pv1z.7bcv

11174006 ir30.p18s-f60.nv1z.7bo

11174007 ir30.p18s-f60.pv1z.7bo

11174032 ir30.p24s-n35.nv1z.7bcv

11174033 ir30.p24s-n35.pv1z.7bcv

11174036 ir30.p24s-n45.nv1z.7bo

11174037 ir30.p24s-n45.pv1z.7bo

11174030 ir30.p24s-n50.nv1z.7bcv

11174031 ir30.p24s-n50.pv1z.7bcv

11174034 ir30.p24s-n60.nv1z.7bo

11174035 ir30.p24s-n60.pv1z.7bo

10155694 iwfk 20z8704/s35a

11098718 iwfm 05u9701/s05

10166815 iwfm 08u9501

11001601 iwfm 08u9501/ks35

10144961 iwfm 12l9504/s35a

10147166 iwfm 12l9505/s35a

10237474 iwfm 12u9501/o1

10147042 iwfm 18l9504/s35a

10147285 iwfm 18l9505/s35a

10146855 iwfm 18u7504/s35a

10123624 iwfm 20i9501/s35

10123625 iwfm 20i9503/s35

10242449 iwfm 20u9501/s35

10241153 iwfm 20u9503/s35

10155925 iwfm 20u9509/ks35ap

10146515 iwrm 06i9501

10144017 iwrm 06i9501/s35

10146142 iwrm 06u9501

10145393 iwrm 06u9501/s35

10145758 iwrm 08i9501

10145391 iwrm 08i9501/s35

10146516 iwrm 08u9501

10159490 iwrm 08u9501/p

10144548 iwrm 08u9501/s35

10144285 iwrm 12i9704/s14

11092893 iwrm 12i9704/s14x

10148903 iwrm 12i9705/s14

10237278 iwrm 12u9501

10118831 iwrm 12u9502

10145778 iwrm 12u9704/s14

10146391 iwrm 12u9705/s14

10144963 iwrm 12z8704/s14c

10216779 iwrm 18i9501

10217599 iwrm 18i9502

10230046 iwrm 18i9511

10153222 iwrm 18i9704/s14

11014720 iwrm 18i9714/s14

10242814 iwrm 18u9501

10243276 iwrm 18u9502

10112896 iwrm 18u9511

10112901 iwrm 18u9512

10151329 iwrm 18u9704/s14

10156471 iwrm 18z8704/s14c

10216777 iwrm 30i9501

10160781 iwrm 30i9704/s14

10243232 iwrm 30u9501

10243233 iwrm 30u9502

10160782 iwrm 30u9704/s14

10161182 iwrm 30z8704/s14c

10143377 klemmblock d=20

10118829 ks 33c pg7 5pol

10118830 ks 34c rundstecker 5pol

10165683 ksg 16hh0300

10166584 ksg 16hh0500

10149652 ksg 32sh0150 m8 connector, straight, 3 pins, cable length 1.5m

10149653 ksg 32sh0300 m8 connector, straight, 3 pins, cable length 3m

10149655 ksg 32sh0500 m8 connector, straight, 3 pins, cable length 5m

10150342 ksg 32sh1000 m8 connector, straight, 3 pins, cable length 10m

11077917 ksg 34a/ksg34ab0100g/e

11077942 ksg 34a/ksg34ab0300g/e

11077943 ksg 34a/ksg34ab0500g/e

11077944 ksg 34a/ksg34ab0800g/e

11078371 ksg 34ab0800g/e

11040410 ksg 34af0037

11084844 ksg 34cp0200g/c

11004018 ksg 34fp0200g/z

10160602 ksg 62cp0200g

11001825 ksg 78av0200

11048502 ksg 34a/ksg45ap0200g/e m12 plug, straight/rj45 plug, straight, 4pins, screened, cable length 2m

10165276 ksg 34a/ksg45ap0500g/e m12 plug, straight/rj45 plug, straight, 4pins, screened, cable length 5m

11051929 ksg 34a/ksg45ap1000g/e m12 plug, straight/rj45 plug, straight, 4pins, screened, cable length 10m

11048592 ksw 33a/ksg45ap0200g/e

11048594 ksw 33a/ksg45ap0500g/e

11051950 ksw 33a/ksg45ap1000g/e

11046278 l-bracket wash-down

10145523 lichtleiteradapter l=5000

10156738 lichtleiterverlängerung 2m

10158142 lichtleiterverlängerung 5m

11077517 l-winkel serie 25

10166028 mdfm 20i9424/a270

10166038 mdfm 20i9424/c270

10166027 mdfm 20i9424/ks35pa270

10166037 mdfm 20i9424/ks35pc270

10166026 mdfm 20u9404/ks35pa360

10166023 mdfm 20u9405/c360

10166034 mdfm 20u9405/ks35pc360

10141746 mdrm 18i9524

10163170 mdrm 18i9524/a270

10166036 mdrm 18i9524/c270

10165542 mdrm 18i9524/ks34p

10166227 mdrm 18i9524/s14a270

10166035 mdrm 18i9524/s14c270

10132204 mdrm 18u9501

10162055 mdrm 18u9501/ks35p

10166031 mdrm 18u9504/a360

10166030 mdrm 18u9504/s14a360

10166033 mdrm 18u9505/c360

10166032 mdrm 18u9505/s14c360

10134310 mdrm 18u9524

11050340 mffm 08n1424/pl

11050341 mffm 08n3424/pl

10133613 mffm 08p1424/pl

11050339 mffm 08p3424/pl

11050345 mfrm 08n1524/pl

11050346 mfrm 08n3524/pl

11003474 mfrm 08p1524/pl

11050344 mfrm 08p3524/pl

11050336 mfvm 08n1424/pl

11050337 mfvm 08n3424/pl

11050334 mfvm 08p1424/pl

11050335 mfvm 08p3424/pl

10136428 mhrm 12g2501

10147184 mhrm 12g5501

10146622 mhrm 12g5501/s14

10153149 mhrm 18p5524

10150844 minofix serie 07

11052885 mmfn aa01x06 permanent magnet set, 10 pcs.

11053959 mmrh ba31x15 set, 5 pcs.
11052883 mmmn aa06x05 permanent magnet set, 10 pcs.
11052882 mmrs aa02x02 permanent magnet set, 10 pcs.
10162083 montageplatte uxdk 10
11092246 mounting bracket o500 / u500
11002450 mounting frame series 14
11120705 mounting kit opto x7
11126836 mounting kit opto x7 30° horizontal
11126837 mounting kit opto x7 30° vertical
11052887 msfn aa01x06
11016706 msfs aa03x08
11045438 mtrm 16g2524/m100
11045441 mtrm 16g2524/m150
11006814 mtrm 16g2524/m200
11045442 mtrm 16g2524/m250
11045443 mtrm 16g2524/m300
10221367 my-com a100/200
10223780 my-com a100/300
10251051 my-com a100/80
10222047 my-com a100/80/k527
10240394 my-com a100/s35
10251048 my-com a30/80
10241610 my-com a30/s35
10223784 my-com a50/200
10251049 my-com a50/80
10239957 my-com a50/s35
10221000 my-com a75/200
10221366 my-com a75/200/k501
10221055 my-com a75/250
10251050 my-com a75/80
10223774 my-com a75/80/1f
10238652 my-com a75/s35
10223758 my-com b100/200
10243092 my-com b100/300/k517

10251047 my-com b100/80

10223760 my-com b30/200

10251044 my-com b30/80

10221060 my-com b50/200

10223799 my-com b50/500

10251105 my-com b50/80

10223759 my-com b75/200

10221772 my-com b75/300

10221388 my-com b75/350

10251046 my-com b75/80

10211160 my-com bs100

10118631 my-com bs150

10210530 my-com bs30

10212637 my-com bs50

10211484 my-com bs75

10221004 my-com c100/200

10251040 my-com c100/80

10118664 my-com c100/s35

10251043 my-com c30/80

11079452 my-com c30/s35

10251042 my-com c50/80

10239958 my-com c50/s35

10215325 my-com c75/200

10223793 my-com c75/250

10251041 my-com c75/80

10238653 my-com c75/s35

10124835 my-com c75p/508027

10221009 my-com d250/200

10223717 my-com d250/300

10251036 my-com d250/80

10221001 my-com d250/g75p/200

10223718 my-com d250/g75p/500

10240302 my-com d250/g75ps35l

10238646 my-com d250/s35

10223723 my-com e100/500

10220912 my-com e100/80

10232957 my-com e100p/200/l

10223720 my-com e75/200

10130998 my-com e75/500

10211158 my-com e75/80

10222682 my-com e75n80/l

10241446 my-com e75p/200/l

10233995 my-com e75p/500/l

10216205 my-com e75p80

10211843 my-com e75p80/l

10223725 my-com f100/200

10220913 my-com f100/80

10241609 my-com f100/s35

10221050 my-com f30/200

10235648 my-com f30/500

10210109 my-com f30/80

10240974 my-com f30/s35

10221278 my-com f50/200

10259841 my-com f50/80

10240898 my-com f50/s35

10227547 my-com f75/200

10211605 my-com f75/80

10238642 my-com f75/s35

10119084 my-com g150p/s35l

10124557 my-com g150p80l

10145273 my-com g30p/s35l

10222701 my-com g75n/200/l

10227287 my-com g75n/400

10223716 my-com g75n/500

10239283 my-com g75n/s35l

10251039 my-com g75n80

10258550 my-com g75n80/l

10227621 my-com g75p/100/l

10221003 my-com g75p/200/l
10223866 my-com g75p/250/k517
10221057 my-com g75p/300
10228788 my-com g75p/400/l
10221058 my-com g75p/500
10221387 my-com g75p/500/l
10238397 my-com g75p/s35l
10251038 my-com g75p80
10210252 my-com g75p80/l
10225528 my-com h150/200/bl
10126010 my-com h150/300/bl
10221010 my-com h75/200
10221012 my-com h75/200/k501
10223724 my-com h75/300
10227963 my-com h75/500
10251037 my-com h75/80
10238645 my-com h75/s35
10129753 my-com l150p/s35l
10236069 my-com l150p/s8l
10123243 my-com l75n/500/l
10239878 my-com l75n/s35l
10224031 my-com l75n200l/k501
10222700 my-com l75n80/l
10222699 my-com l75p/200/l
10228876 my-com l75p/500/l
10238477 my-com l75p/s35l
10224032 my-com l75p300l/k501
10118862 my-com l75p500l/k501
10210006 my-com l75p80
10222703 my-com l75p80/l
10229251 my-com m100p/80
10229685 my-com m75/80
10238800 my-com m75/s35
10242627 my-com m75n/s35

10124556 my-com m75p/s35

10119393 my-com m75p/s35l

10143034 my-com m75p500

10229687 my-com m75p80

10235305 my-com m75p80/l

11018079 mzck 03n1011

11018081 mzck 03n1011/ks35d

11018086 mzck 03n1012

11018087 mzck 03n1012/ks35d

11018073 mzck 03p1011

11049795 mzck 03p1011/0500

11018077 mzck 03p1011/ks35d

11018083 mzck 03p1012

11018084 mzck 03p1012/ks35d

11018091 mztk 06n1011

11018092 mztk 06n1011/ks35d

11018097 mztk 06n1012

11018098 mztk 06n1012/ks35d

11018101 mztk 06n1013

11018102 mztk 06n1013/ks35d

11018089 mztk 06p1011

11054535 mztk 06p1011/0500

11018090 mztk 06p1011/ks35d

11018095 mztk 06p1012

11018096 mztk 06p1012/ks35d

11018099 mztk 06p1013

11054536 mztk 06p1013/0500

11018100 mztk 06p1013/ks35d

11001915 mzza 01

11001917 mzza 02

11001919 mzzb 01/008

11001932 mzzb 01/010

11001934 mzzb 01/012

11001935 mzzb 01/016

11001937 mzzb 01/025

11001947 mzzb 02/011

11001951 mzzb 02/012

11001952 mzzb 02/013

11001953 mzzb 02/014

11001954 mzzb 02/016

11001955 mzzb 02/017

11001956 mzzb 02/018

11001957 mzzb 02/020

11001958 mzzb 02/021

11001959 mzzb 02/022

11001970 mzzb 02/024

11001971 mzzb 02/026

11001972 mzzb 02/027

11001973 mzzb 02/029

11001974 mzzb 02/030

11001975 mzzb 02/033

11001976 mzzb 02/036

11001977 mzzb 02/041

11001979 mzzb 02/045

11001980 mzzb 02/052

11001981 mzzb 02/065

11001938 mzzc 01/005

11001940 mzzc 01/032

11001941 mzzc 01/050

11001942 mzzc 01/082

11001943 mzzc 01/125

11176842 o300.el-gw1b.72cu

11176843 o300.el-gw1b.72n

11181069 o300.el-nv1t.72cu

11181080 o300.el-nv1t.72n

11181081 o300.el-pv1t.72cu

11181082 o300.el-pv1t.72n

11167265 o300.er-gw1b.72cu

11167266 o300.er-nv1t.72cu

11128055 o300.er-nv1t.72n

11167267 o300.er-pv1t.72cu

11128047 o300.er-pv1t.72n

11128081 o300.gi-gw1b.72cu

11121712 o300.gi-gw1b.72n

11171740 o300.gl-gw1j.72cu

11171741 o300.gl-gw1j.72n

11171745 o300.gl-nv1t.72cu

11171742 o300.gl-nv1t.72n

11171747 o300.gl-pv1t.72cu

11171748 o300.gl-pv1t.72n

11120101 o300.gp-gw1b.72cu

11110415 o300.gp-gw1b.72n

11143644 o300.gp-gw1b.72nu

11140382 o300.gp-gw1b.72ou

11125058 o300.gp-gw1j.72cu

11125023 o300.gp-gw1j.72n

11120103 o300.gp-nv1t.72cu

11135827 o300.gp-nv1t.72cu/t003

11110442 o300.gp-nv1t.72n

11135828 o300.gp-nv1t.72n/t003

11120104 o300.gp-pv1t.72cu

11135829 o300.gp-pv1t.72cu/t003

11110441 o300.gp-pv1t.72n

11135850 o300.gp-pv1t.72n/t003

11147416 o300.gp-pv1t.72ou

11120106 o300.gr-gw1t.72cu

11110414 o300.gr-gw1t.72n

11141209 o300.gr-gw1t.72nu

11135876 o300.gr-nv1t.72cu

11135882 o300.gr-nv1t.72cu/t003

11135879 o300.gr-nv1t.72n

11128552 o300.gr-nv1t.72n/t003

11135883 o300.gr-pv1t.72cu/t003

11135881 o300.gr-pv1t.72n

11135885 o300.gr-pv1t.72n/t003

11128196 o300.qr-nv1z.72cu

11128194 o300.qr-nv1z.72n

11128195 o300.qr-pv1z.72cu

11128193 o300.qr-pv1z.72n

11172767 o300.rl-gw1j.72cu

11172769 o300.rl-gw1j.72n

11172800 o300.rl-nv1t.72cu

11172801 o300.rl-nv1t.72n

11172802 o300.rl-pv1t.72cu

11172803 o300.rl-pv1t.72n

11157331 o300.rp.t-gw1j.72cu

11157334 o300.rp.t-gw1j.72n

11120107 o300.rp-gw1b.72cu

11110449 o300.rp-gw1b.72n

11143019 o300.rp-gw1b.72nu

11120110 o300.rp-nv1t.72cu

11110447 o300.rp-nv1t.72n

11120112 o300.rp-nw2t.72cu

11120120 o300.rp-pv1t.72cu

11110445 o300.rp-pv1t.72n

11139319 o300.rp-pv1t.72ou

11120121 o300.rp-pw2t.72cu

11120118 o300.rr-gd1z.72cu

11110444 o300.rr-gd1z.72n

11120114 o300.rr-gl1z.72cu

11110443 o300.rr-gl1z.72n

11176826 o300.sl-gw1j.72cu

11176827 o300.sl-gw1j.72n

11179003 o300.sl-nv1t.72cu

11179004 o300.sl-nv1t.72n

11179005 o300.sl-pv1t.72cu

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11179006 o300.sl-pv1t.72n

11136906 o300.sp.t-gw1j.72n

11120122 o300.sp-gw1b.72cu

11110450 o300.sp-gw1b.72n

11140097 o300.sp-gw1b.72nu

11139109 o300.sp-gw1b.72ou

11125077 o300.sp-gw1j.72cu

11125057 o300.sp-gw1j.72n

11120126 o300.sp-nv1t.72cu

11135851 o300.sp-nv1t.72cu/t003

11110453 o300.sp-nv1t.72n

11135852 o300.sp-nv1t.72n/t003

11120123 o300.sp-pv1t.72cu

11135854 o300.sp-pv1t.72cu/t003

11110451 o300.sp-pv1t.72n

11135855 o300.sp-pv1t.72n/t003

11176844 o300.tl-zzzz.72cu

11176845 o300.tl-zzzz.72n

11167264 o300.tr-zzzz.72cu

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11128022 o300.tr-zzzz.72n

11176829 o300.zl-gw1j.72cu

11176840 o300.zl-gw1j.72n

11181086 o300.zl-nv1t.72cu

11181087 o300.zl-nv1t.72n

11181088 o300.zl-pv1t.72cu

11181089 o300.zl-pv1t.72n

11128017 o300.zr-gw1t.72cu

11128014 o300.zr-gw1t.72n

11181083 o300h.el-gw1b.pvcv

11181084 o300h.el-gw1b.pvnn

11167293 o300h.er-gw1b.pvcv

11167294 o300h.er-gw1b.pvnn

11171768 o300h.gl-gw1j.pvcv

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11171769 o300h.gl-gw1j.pvnt
11157157 o300h.gp-gw1j.pvnt
11172813 o300h.rl-gw1j.pvnt
11172814 o300h.rl-gw1j.pvnt
11157335 o300h.rp.t-gw1j.pvnt
11157337 o300h.rp.t-gw1j.pvnt
11127716 o300h.rp-gw1b.pvnt
11157327 o300h.rp-gw1b.pvnt
11179007 o300h.sl-gw1j.pvnt
11179008 o300h.sl-gw1j.pvnt
11136925 o300h.sp.t-gw1j.pvnt
11136926 o300h.sp.t-gw1j.pvnt
11127754 o300h.sp-gw1j.pvnt
11136904 o300h.sp-gw1j.pvnt
11181225 o300h.tl-zzzz.pvnt
11181227 o300h.tl-zzzz.pvnt
11167291 o300h.tr-zzzz.pvnt
11167292 o300h.tr-zzzz.pvnt
11181085 o300w.el-gw1b.pvn
11167301 o300w.er-gw1b.pvn
11171770 o300w.gl-gw1j.pvn

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11127755 o300w.gp-gw1j.pvn
11172815 o300w.rl-gw1j.pvn
11157338 o300w.rp.t-gw1j.pvn
11127720 o300w.rp-gw1b.pvn
11179009 o300w.sl-gw1j.pvn
11136922 o300w.sp.t-gw1j.pvn
11127758 o300w.sp-gw1j.pvn
11181228 o300w.tl-zzzz.pvn
11167300 o300w.tr-zzzz.pvn
11167280 o500.er-gw1b.72cu
11128072 o500.er-gw1b.72o

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11128078 o500.er-nv1t.72o

11167282 o500.er-pv1t.72cu

11128075 o500.er-pv1t.72o

11128082 o500.gi-gw1b.72cu

11120203 o500.gi-gw1b.72o

11096067 o500.gp-gw1b.72cu

11096064 o500.gp-gw1b.72o

11125084 o500.gp-gw1j.72cu

11125079 o500.gp-gw1j.72o

11096069 o500.gp-nv1t.72cu

11135857 o500.gp-nv1t.72cu/t003

11096066 o500.gp-nv1t.72o

11135859 o500.gp-nv1t.72o/t003

11096068 o500.gp-pv1t.72cu

11135861 o500.gp-pv1t.72cu/t003

11096065 o500.gp-pv1t.72o

11135862 o500.gp-pv1t.72o/t003

11096063 o500.gr-gw1t.72cu

11096062 o500.gr-gw1t.72o

11135886 o500.gr-nv1t.72cu

11135889 o500.gr-nv1t.72cu/t003

11123121 o500.gr-nv1t.72o

11135863 o500.gr-nv1t.72o/t003

11135888 o500.gr-pv1t.72cu

11135891 o500.gr-pv1t.72cu/t003

11123131 o500.gr-pv1t.72o

11135864 o500.gr-pv1t.72o/t003

11128191 o500.qr-nv1z.72cu

11128159 o500.qr-nv1z.72o

11128190 o500.qr-pv1z.72cu

11128158 o500.qr-pv1z.72o

11157339 o500.rp.t-gw1j.72cu

11157351 o500.rp.t-gw1j.72o

11096103 o500.rp-gw1b.72cu

11096098 o500.rp-gw1b.72o
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11096101 o500.rp-nv1t.72cu

11096096 o500.rp-nv1t.72o

11096099 o500.rp-pv1t.72cu

11096094 o500.rp-pv1t.72o

11096093 o500.rr-gd1z.72cu

11096091 o500.rr-gd1z.72o

11096092 o500.rr-gl1z.72cu

11096090 o500.rr-gl1z.72o

11117815 o500.rr-pv1z.72o

11136920 o500.sp-t-gw1j.72cu/b005

11136921 o500.sp-t-gw1j.72o/b005

11096085 o500.sp-gw1b.72cu

11096080 o500.sp-gw1b.72o

11125089 o500.sp-gw1j.72cu

11136931 o500.sp-gw1j.72cu/b005

11125082 o500.sp-gw1j.72o

11136932 o500.sp-gw1j.72o/b005

11096088 o500.sp-nv1t.72cu

11135865 o500.sp-nv1t.72cu/t003

11096083 o500.sp-nv1t.72o

11135866 o500.sp-nv1t.72o/t003

11096086 o500.sp-pv1t.72cu

11135867 o500.sp-pv1t.72cu/t003

11096081 o500.sp-pv1t.72o

11135869 o500.sp-pv1t.72o/t003

11167269 o500.tr-zzzz.72cu

11128041 o500.tr-zzzz.72o

11128020 o500.zr-gw1t.72cu

11128018 o500.zr-gw1t.72o

11167297 o500h.er-gw1b.pvcv

11167299 o500h.er-gw1b.pvov

11125101 o500h.gp-gw1j.pvcv

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11125102 o500h.gp-gw1j.pvov

11157356 o500h.rp.t-gw1j.pvov

11107831 o500h.rp-gw1b.pvcv

11107832 o500h.rp-gw1b.pvov

11136929 o500h.sp.t-gw1j.pvcv/b005

11136930 o500h.sp.t-gw1j.pvov/b005

11125106 o500h.sp-gw1j.pvcv

11141394 o500h.sp-gw1j.pvcv/b005

11125107 o500h.sp-gw1j.pvov

11141395 o500h.sp-gw1j.pvov/b005

11167295 o500h.tr-zzzz.pvcv

11167296 o500h.tr-zzzz.pvov

11167303 o500w.er-gw1b.pvo

11125092 o500w.gp-gw1j.pvo

11137000 o500w.gp-gw1j.pvo/h002

11157357 o500w.rp.t-gw1j.pvo

11107745 o500w.rp-gw1b.pvo

11125066 o500w.rp-gw1b.pvo/h002

11136924 o500w.sp.t-gw1j.pvo/b005

11125098 o500w.sp-gw1j.pvo

11141396 o500w.sp-gw1j.pvo/b005

11137002 o500w.sp-gw1j.pvo/h002

11137003 o500w.sp-gw1j.pvo/h002_b005

11167302 o500w.tr-zzzz.pvn

11080140 oadk 25i7480

11080142 oadk 25i7480/s14c

11080141 oadk 25u7480

11080143 oadk 25u7480/s14c

10147121 oadm 12i6430/s35a

10147122 oadm 12i6460/s35a

11136815 oadm 12i7430/s35a laser class 1

11090598 oadm 12i7460/s35a laser class 1

11147975 oadm 12s7430/s35a laser class 1 & rs485

11177259 oadm 12s7440/s35a laser class 1 & rs485

10152993 oadm 12u6430/s35a

10152994 oadm 12u6460/s35a

11136813 oadm 12u7430/s35a laser class 1

11090596 oadm 12u7460/s35a laser class 1

10155373 oadm 13i6475/s35a

10157485 oadm 13i6575/s35a

11017093 oadm 13i7480/s35a

11017094 oadm 13i7580/s35a

11017045 oadm 13i7730/s35a

11017068 oadm 13i7745/s35a

11017069 oadm 13i7760/s35a

11002550 oadm 13s6475/s35a

11003203 oadm 13s6575/s35a

11043128 oadm 13s7480/s35a

11043129 oadm 13s7580/s35a

11003205 oadm 13t6475/s35a

11003208 oadm 13t6575/s35a

11043072 oadm 13t7480/s35a

11043127 oadm 13t7580/s35a

10159643 oadm 13u6475/s35a

10159644 oadm 13u6575/s35a

11017095 oadm 13u7480/s35a

11017096 oadm 13u7580/s35a

11017090 oadm 13u7730/s35a

11017091 oadm 13u7745/s35a

11017092 oadm 13u7760/s35a

11077730 oadm 20i2441/s14c

11077731 oadm 20i2460/s14c

11077732 oadm 20i2472/s14c

11077733 oadm 20i2480/s14c

10144598 oadm 20i6441/s14f geg. 2000 serie zusätzliche funktionen syn, alarm

10144599 oadm 20i6460/s14f geg. 2000 serie zusätzliche funktionen syn, alarm

10144600 oadm 20i6472/s14f geg. 2000 serie zusätzliche funktionen syn, alarm

10144601 oadm 20i6480/s14f geg. 2000 serie zusätzliche funktionen syn, alarm

11128140 oadm 20i6491

10144603 oadm 20i6541/s14f geg. 2000 serie zusätzliche funktionen syn, alarm, laser line variante

10144604 oadm 20i6560/s14f geg. 2000 serie zusätzliche funktionen syn, alarm, laser line variante

10144605 oadm 20i6572/s14f geg. 2000 serie zusätzliche funktionen syn, alarm, laser line variante

10144077 oadm 20i6580/s14f geg. 2000 serie zusätzliche funktionen syn, alarm, laser line variante

10144606 oadm 20i6581/s14f geg. 2000 serie zusätzliche funktionen syn, alarm, laser line variante

10165976 oadm 20i6591

10165977 oadm 20i6592

11012177 oadm 20i6593

11077734 oadm 20u2441/s14c

11077735 oadm 20u2460/s14c

11077736 oadm 20u2472/s14c

11077737 oadm 20u2480/s14c

10165289 oadm 21i6480/s14f

11003837 oadm 21i6481/s14f

10166224 oadm 21i6580/s14f

11003833 oadm 21i6581/s14f

11007211 oadm 250i1101/s14c

11007212 oadm 250u1101/s14c

11044710 oadm 260i1101/s14c

11040826 oadr 20i6465/s14f

11017788 oadr 20i6475/s14f

11121781 oadr 20i6477/s14f with plug down

11040827 oadr 20i6485/s14f

11040828 oadr 20i6565/s14f

11040829 oadr 20i6575/s14f

11040830 oadr 20i6585/s14f

10158753 obdm 12n6910/s35a

10158754 obdm 12n6920/s35a

10158755 obdm 12n6930/s35a

10158756 obdm 12n6940/s35a

10158757 obdm 12n6950/s35a

10158748 obdm 12p6910/s35a

10158749 obdm 12p6920/s35a

10158750 obdm 12p6930/s35a
10158751 obdm 12p6940/s35a
10158752 obdm 12p6950/s35a
10165137 oedk 10n5105
10165139 oedk 10n5105/s35a
10165140 oedk 10p5105
10165141 oedk 10p5105/s35a
11001250 oedk 14p5101
11003291 oedk 14p5101/s14
11001236 oedk 14p5101/s35a
10149557 ogum 030p8001/s35l
11158869 ogum 030p8002/s35l
10149562 ogum 050p8001/s35l
11158870 ogum 050p8002/s35l
10149558 ogum 080p8001/s35l
11158871 ogum 080p8002/s35l
10149561 ogum 120p8001/s35l
11158872 ogum 120p8002/s35l
10132111 ohdk 10n5101
10132113 ohdk 10n5101/s35a
10164119 ohdk 10n5150/s35a
10132110 ohdk 10p5101
10132112 ohdk 10p5101/s35a
11000226 ohdk 10p5110
10164118 ohdk 10p5150/s35a
11001252 ohdk 14n5101
11001253 ohdk 14n5101/s14
11001251 ohdk 14n5101/s35a
11001255 ohdk 14p5101
11001256 ohdk 14p5101/s14
11001254 ohdk 14p5101/s35a
11079949 ohdk 25g6911
11079990 ohdk 25g6911/s14
11079991 ohdk 25g6912
11079992 ohdk 25g6912/s14c

11079948 ohdk 25g6921/s14

10158758 ohdm 12n6901/s35a

10151381 ohdm 12p6901/s35a

10162724 ohdm 13n6901/s35a

10162723 ohdm 13p6901/s35a

10165323 ohdm 13p6951/s35a

10119524 ohdm 16n5001

10241873 ohdm 16n5001/s14

10159135 ohdm 16n5651

10236804 ohdm 16p5001

10236806 ohdm 16p5001/s14

10238243 ohdm 16p5002/s14

10124936 ohdm 16p5012

10242042 ohdm 16p5012/s14

10159134 ohdm 16p5651

10153490 ohdm 20p6990/s14c

11155463 om70-x0150.hi0720.vi mesax multi-spot, 150mm

11112069 om70-x0500.hi0660.vi mesax multi-spot, 500mm

11079993 ondk 25g6911

11079994 ondk 25g6911/s14

11001264 opdk 14n1901/s35a

11001270 opdk 14n3901

11001271 opdk 14n3901/s14

11001269 opdk 14n3901/s35a

11001246 opdk 14p1901/s35a

11001300 opdk 14p1902

11001301 opdk 14p1902/s14

11001249 opdk 14p1902/s35a

11001303 opdk 14p1903

11001304 opdk 14p1903/s14

11001302 opdk 14p1903/s35a

11000232 opdk 14p1910/s35a opdk 14p19/000232

11001306 opdk 14p3901

11001307 opdk 14p3901/s14

11001309 opdk 14p3902

11001310 opdk 14p3902/s14

11001308 opdk 14p3902/s35a

11001312 opdk 14p3903

11001313 opdk 14p3903/s14

11001311 opdk 14p3903/s35a

11002375 opdk 14p3910/s35a

11001316 opdk 14p5901

11001317 opdk 14p5901/s14

11001315 opdk 14p5901/s35a

10132221 opdm 12n5101/s35a

10132218 opdm 12p5101

10132220 opdm 12p5101/s35a

10136881 opdm 12p5102/s35a

10137861 opdm 12p5103/s35a

10142512 opdm 12p5104/s35a

10239621 opdm 16p5102

10239618 opdm 16p5102/s14

10123359 opdm 16p5103

10119195 opdm 16p5103/s14

11157814 or18.ei-nw1p.71o

11157815 or18.ei-nw1z.71cv

11157816 or18.ei-nw1z.71ov/0010

11157811 or18.ei-pw1p.71o

11157812 or18.ei-pw1z.71cv

11157813 or18.ei-pw1z.71ov/0010

11157820 or18.el-nv1p.7bcv

11157819 or18.el-nv1p.7bo

11157818 or18.el-pv1p.7bcv

11157817 or18.el-pv1p.7bo

11128094 or18.gp-gw1b.7bo

11129327 or18.gp-nv1t.7bo

11129323 or18.gp-pv1t.7bo

11157809 or18.gr.f-nw1z.71cv

11157807 or18.gr.f-pw1z.71cv
11157808 or18.gr.f-pw1z.71ov/0010
11157842 or18.gr-nw1p.71o
11157841 or18.gr-pw1p.71o
11157787 or18.rl-nv1p.7bcv
11157786 or18.rl-nv1p.7bo
11157785 or18.rl-pv1p.7bcv
11157784 or18.rl-pv1p.7bo
11157789 or18.rr.t-nw1p.71o
11157788 or18.rr.t-pw1p.71o
11157781 or18.rr-nw1p.71o
11157782 or18.rr-nw1z.71cv
11157783 or18.rr-nw1z.71ov/0010
11157680 or18.rr-pw1p.71o
11157768 or18.rr-pw1z.71cv
11157780 or18.rr-pw1z.71ov/0010
11128095 or18.sp-gw1b.7bo
11129342 or18.sp-nv1t.7bo
11129340 or18.sp-pv1t.7bo
11157821 or18.ti-zzzp.71o
11157823 or18.ti-zzzz.71cv
11157825 or18.ti-zzzz.71ov/0010
11157840 or18.tl-zzzp.7bcv
11157829 or18.tl-zzzp.7bo
11157801 or18.zi-nw1p.71o/b005
11157797 or18.zi-nw1p.71o/b013
11157792 or18.zi-nw1z.71cv/b012
11157798 or18.zi-nw1z.71cv/b013
11157793 or18.zi-nw1z.71ov/0010_b012
11157799 or18.zi-nw1z.71ov/0010_b013
11157800 or18.zi-pw1p.71o/b005
11157794 or18.zi-pw1p.71o/b013
11157790 or18.zi-pw1z.71cv/b012
11157795 or18.zi-pw1z.71cv/b013

11157791 or18.zi-pw1z.71ov/0010_b012

11157806 or18.zl-nv1p.7bcv/b013

11157805 or18.zl-nv1p.7bo/b013

11157803 or18.zl-pv1p.7bcv/b013

11157802 or18.zl-pv1p.7bo/b013

11157851 or18w.ei-11157851

11157854 or18w.ei-11157854

11157857 or18w.gr-nw1p.9vo

11157856 or18w.gr-pw1p.9vo

11157846 or18w.rr.t-nw1p.9vo

11157845 or18w.rr.t-pw1p.9vo

11157844 or18w.rr-nw1p.9vo

11157843 or18w.rr-pw1p.9vo

11157855 or18w.ti-zzp.9vo

11157850 or18w.zi-nw1p.9vo/b005

11157848 or18w.zi-nw1p.9vo/b013

11157849 or18w.zi-pw1p.9vo/b005

11157847 or18w.zi-pw1p.9vo/b013

10165142 osdk 10d9005

10165143 osdk 10d9005/s35a

11001320 osdk 14d9001

11003293 osdk 14d9001/s14

11001329 osdk 14d9001/s35a

11170024 oxc7-x0250.ii1250.ti poscon cm

11177353 oxe7.e15t-l82c.simd.7ai poscon 3d, stronger laser diode, small fov, for extra precise measurings, for very dark objects

11148276 oxe7.e15t-l82e.simd.7ai poscon 3d, stronger laser diode, small fov, for extra precise measurings

11174280 oxe7.e25t-lb3c.simd.7ai poscon 3d, stronger laser diode, for very dark objects

11111452 oxe7.e25t-lb3e.simd.7ai poscon 3d

11159406 oxh7-z0150.hi0720.vi poscon hm

11161809 oxh7-z0500.hi0660.vi poscon hm

10136502 ozdk 10n5101

10136504 ozdk 10n5101/s35a

10163205 ozdk 10n5150

10162952 ozdk 10n5150/s35a

10136501 ozdk 10p5101
10136503 ozdk 10p5101/s35a
10163204 ozdk 10p5150
10162951 ozdk 10p5150/s35a
11001323 ozdk 14n1901/s14
11001325 ozdk 14p1901
11001328 ozdk 14p1901/s14
11001324 ozdk 14p1901/s35a
10130603 ozdm 16n1001
10133599 ozdm 16n1001/s14
10123268 ozdm 16p1001
10119729 ozdm 16p1001/s14
10123266 ozdm 16p1901
10119432 ozdm 16p1901/s14
10140412 ozdm 16p3001
10124714 ozdm 16p3001/s14
10161959 p/n-converter/esg 32s
10161958 p/n-converter/esg 34s
11163236 pulse converter esg 32/ksg 32
11163237 pulse converter esg 34/ksg 34
10140260 reduktion d 4.3/2.0 *21
11111164 retrofit mounting bracket for undk 30
10156490 scadiag-kit scatec-10
11014542 scadiag-kit scatec-15
10156479 scadiag-kit scatec-2/s14
10156489 scadiag-kit scatec-2/s42
10144075 schlitzblende 27*0.05 / 10.5mm
10156878 schutzscheibe oadm 20
10149010 sensofix basic
11104963 sensofix o300
11099942 sensofix o500 / u500
10151719 sensofix serie 08 rd
10150326 sensofix serie 10/20
10150328 sensofix serie 12
10151720 sensofix serie 12 rd

10149011 sensofix serie 14

10151721 sensofix serie 16

10151658 sensofix serie 18 rd

10152385 sensofix serie 18/20 prox

10152386 sensofix serie 30 prox

11046279 sensofix series 14 wash-down

11084376 sortester analog

11084377 sortester digital

11111163 sonic beam deflector u500

11166452 starterkit mesax multi-spot

11127853 starterkit poscon 3d poscon 3d starterkit

11156856 starterkit poscon hm poscon hm

10250981 svp 220.24.2

11137318 teach pen teach pen for nextgen sensors in hygienic design (not available for usa, can, jp)

11141124 teach pen teach pen for nextgen sensors in hygienic design (usa, can, jp)

11127346 u500.da0-aa1b.72cu

11110575 u500.da0-aa1b.72o

11135757 u500.da0-ia1b.72cu

11135756 u500.da0-ia1b.72o

11135772 u500.da0-ua1b.72cu

11126857 u500.da0-ua1b.72o

11120936 u500.pa0-gp1b.72cu

11110577 u500.pa0-gp1b.72o

11127347 u500.ra0-gp1b.72cu

11110579 u500.ra0-gp1b.72o

10154484 uedk 20p6103/s35a

10130406 uedk 30n5103

10130585 uedk 30n5103/s14

10243461 uedk 30p5103

10234440 uedk 30p5103/s14

10153290 umlenkblech u20 40*50*1,5

10162091 umlenkwinkel l uxdk 10

10162092 umlenkwinkel r uxdk 10

10162376 umlenkwinkel set uxdk 10

10156815 unam 12i9912/s14
10157522 unam 12n1912/s14
10143099 unam 12n1914/s14
10158649 unam 12n1914/s14d
10158528 unam 12n3912/s14
10150259 unam 12n3914/s14
10158648 unam 12n3914/s14d
11053881 unam 12n8910/s14o
11053883 unam 12n8910/s14od
10156843 unam 12p1912/s14
10140060 unam 12p1914/s14
10145833 unam 12p1914/s14d
10158527 unam 12p3912/s14
10142521 unam 12p3914/s14
11053880 unam 12p8910/s14o
11053882 unam 12p8910/s14od
10156844 unam 12u9912/s14
10147642 unam 12u9914/s14
10151802 unam 12u9914/s14d
10148822 unam 18i6903/s14
10123551 unam 18n1703
10123679 unam 18n3703
10154250 unam 18n6903/s14
10233682 unam 18p1703
10123678 unam 18p3703
10150467 unam 18p6903/s14
10151366 unam 18p7903/s14
10149127 unam 18u6903/s14
10130385 unam 30i6103
10130000 unam 30i6103/s14
10130475 unam 30i6803/s14
10224448 unam 30n1104
10233669 unam 30n1104/s14
10224451 unam 30n3104

10233670 unam 30n3104/s14
10224444 unam 30p1104
10233667 unam 30p1104/s14
10224447 unam 30p3104
10233668 unam 30p3104/s14
10125523 unam 30u6103
10129076 unam 30u6103/s14
10118782 unam 30u9103
10119391 unam 30u9103/s14
10134142 unam 50i6121
10129530 unam 50i6121/s14
10130405 unam 50n1721
10232792 unam 50n1721/s14
10233674 unam 50n3721
10232794 unam 50n3721/s14
10233672 unam 50p1721
10232549 unam 50p1721/s14
10233675 unam 50p3721
10232793 unam 50p3721/s14
10156679 unam 50u6121
10131880 unam 50u6121/s14
10119241 unam 50u9121/s14
11099364 unam 70i6131/s14
11099363 unam 70u6131/s14
10158870 unar 18i6903/s14g
10162125 unar 18i6912/s14g
10161023 unar 18n6903/s14g
10162126 unar 18n6912/s14g
10161024 unar 18n7903/s14g
10162127 unar 18n7912/s14g
10161025 unar 18p6903/s14g
10162128 unar 18p6912/s14g
10161026 unar 18p7903/s14g
10162129 unar 18p7912/s14g
11098174 unar 18u6803/s14g

10160414 unar 18u6903/s14g
11011507 unck 09g8914
11007884 unck 09g8914/d1
11013758 unck 09g8914/io
11011509 unck 09g8914/ks35a
11013759 unck 09g8914/ks35a/io
11007885 unck 09g8914/ks35ad1
11011512 unck 09t9114
11004100 unck 09t9114/d1
11011514 unck 09t9114/ks35a
11004101 unck 09t9114/ks35ad1
11011510 unck 09u6914
11004067 unck 09u6914/d1
11011511 unck 09u6914/ks35a
11004068 unck 09u6914/ks35ad1
11011515 undk 09g8914
11007886 undk 09g8914/d1
11011521 undk 09g8914/io
11011516 undk 09g8914/ks35a
11013770 undk 09g8914/ks35a/io
11007888 undk 09g8914/ks35ad1
11011519 undk 09t9114
11007903 undk 09t9114/d1
11011520 undk 09t9114/ks35a
11007904 undk 09t9114/ks35ad1
11011517 undk 09u6914
11007901 undk 09u6914/d1
11011518 undk 09u6914/ks35a
11007902 undk 09u6914/ks35ad1
10161455 undk 10n8914
10161456 undk 10n8914/ks35a
10161446 undk 10n8914/s35a
10161451 undk 10p8914
10161452 undk 10p8914/ks35a

10159081 undk 10p8914/s35a
10161449 undk 10u6914
10161450 undk 10u6914/ks35a
10161448 undk 10u6914/s35a
10159512 undk 20i6903/s35a
10155042 undk 20i6912/s35a
10147619 undk 20i6914/s35a
10159515 undk 20n6903/s35a
10157539 undk 20n6912/s35a
10144966 undk 20n6914/s35a
10159516 undk 20n7903/s35a
10158526 undk 20n7912/s35a
10150076 undk 20n7914/s35a
10159513 undk 20p6903/s35a
10155032 undk 20p6912/s35a
10141538 undk 20p6914/s35a
10166946 undk 20p7803/s35a
10156743 undk 20p7912/s35a
10142491 undk 20p7914/s35a
10158275 undk 20u6903/s35a
10154281 undk 20u6912/s35a
10146711 undk 20u6914/s35a
10130826 undk 30i6103
10129046 undk 30i6103/s14
10150852 undk 30i6104/s14
10139575 undk 30i6112
10129045 undk 30i6112/s14
10139589 undk 30i6113
10128238 undk 30i6113/s14
10233438 undk 30n1703
10232783 undk 30n1703/s14
10233660 undk 30n1712
10232773 undk 30n1712/s14
10123577 undk 30n1713
10124954 undk 30n1713/s14

10232785 undk 30n3703/s14

10233661 undk 30n3712

10232775 undk 30n3712/s14

10125158 undk 30n3713

10124955 undk 30n3713/s14

10233436 undk 30p1703

10232763 undk 30p1703/s14

10232173 undk 30p1712

10232772 undk 30p1712/s14

10118625 undk 30p1713

10118626 undk 30p1713/s14

10233437 undk 30p3703

10232784 undk 30p3703/s14

10233662 undk 30p3712

10232774 undk 30p3712/s14

10124957 undk 30p3713

10123379 undk 30p3713/s14

10127059 undk 30u6103

10125521 undk 30u6103/s14

10154252 undk 30u6104

10150851 undk 30u6104/s14

10136785 undk 30u6112

10125522 undk 30u6112/s14

10130203 undk 30u6113

10126903 undk 30u6113/s14

10118991 undk 30u9103

10243473 undk 30u9103/s14

10235227 undk 30u9112

10233767 undk 30u9112/s14

10125254 undk 30u9113

10119437 undk 30u9113/s14

11135775 ur18.da0-ia1b.7bo

11119994 ur18.da0-ua1b.7bo

11120038 ur18.pa0-gp1b.7bo

11053885 uram 12n8910/s14o
11053887 uram 12n8910/s14od
11053884 uram 12p8910/s14o
11053886 uram 12p8910/s14od
10124968 uram 50n1721
10126205 uram 50n1721/s14
10142526 uram 50p6121
10160351 uram 50p6121/s14
10142555 uram 50p7121
10160352 uram 50p7121/s14
11050151 urar 18n6912/s14g
11050152 urar 18n7912/s14g
11049841 urar 18p6912/s14g
11050150 urar 18p7912/s14g
11011522 urck 09g8914
11011523 urck 09g8914/ks35a
11011524 urdk 09g8914
11011525 urdk 09g8914/ks35a
10161457 urdk 10n8914
10161458 urdk 10n8914/ks35a
10161447 urdk 10n8914/s35a
10161453 urdk 10p8914
10161454 urdk 10p8914/ks35a
10161445 urdk 10p8914/s35a
11013740 urdk 20n6903/s35a
11013746 urdk 20n6912/s35a
10160230 urdk 20n6914/s35a
11013745 urdk 20n7903/s35a
11013747 urdk 20n7912/s35a
11013751 urdk 20n7914/s35a
10159517 urdk 20p6903/s35a
10155031 urdk 20p6912/s35a
10158955 urdk 20p6914/s35a
10160235 urdk 20p7903/s35a

10160232 urdk 20p7914/s35a
10243096 urdk 30n1703/s14
10125165 urdk 30n3703/s14
10241501 urdk 30p1703
10238743 urdk 30p1703/s14
10241651 urdk 30p3703/s14
10159815 urdk 30p6104/s14
10160518 urdk 30p7104/s14
11048016 usb io-link master
10154485 usdk 20d9003/s35a
10243462 usdk 30d9003
10234439 usdk 30d9003/s14
10131012 uzam 30n6103/s14
10126631 uzam 30p6103
10128565 uzam 30p6103/s14
10128224 uzam 30p6803/s14c
10131013 uzam 50n6121
10129063 uzam 50n6121/s14
10128562 uzam 50p6121
10128563 uzam 50p6121/s14
11099366 uzam 70n8131/s14c
11099365 uzam 70p8131/s14c
10131958 uzdk 30n6112/s14
10130587 uzdk 30p6103
10126627 uzdk 30p6103/s14
10160226 uzdk 30p6104
10159712 uzdk 30p6104/s14
10126626 uzdk 30p6112/s14
10160354 uzdk 30p6113
10126628 uzdk 30p6113/s14
10145702 winkel 13 *35 * 8.8
10134964 winkel 36 *26 *55
11010227 winkel 76 *18 *51
10159806 winkel 10 *35 * 7.6

11172095 zadap-m18.long
11171584 zadap-m18.short
11172096 zadap-m18.standard
11172110 zadap-m18.swing
10158593 zadm 023h151.0001
10158595 zadm 023h151.0002
10158594 zadm 023h151.0011
10158596 zadm 023h151.0012
10158589 zadm 023h300.0001
10158591 zadm 023h300.0002
10158590 zadm 023h300.0011
10158592 zadm 023h300.0012
10158597 zadm 023h351.0001
10158599 zadm 023h351.0002
10158598 zadm 023h351.0011
10158600 zadm 023h351.0012
10158768 zadm 023h871.0001
10165336 zadm 023h871.0002
11002205 zadm 023h871.0011
11004221 zadm 034i220.0021
11007447 zadm 034i220.0022
10159115 zadm 034i240.0001
11046751 zadm 034i240.0002
10159116 zadm 034i240.0021
11181845 zadm 034i240.0023
10159113 zadm 034p240.6901
10159114 zadm 034p240.6921
11175166 zconv-all.rs485usb easy-to-use usb to rs485 converter, 3mbit/s
11120319 z-ftdf 005i0100 pre-cutted, 0.1m
11120320 z-ftdf 005i0500 pre-cutted, 0.5m
11120322 z-ftdf 005i1000 pre-cutted, 1.0m
11120323 z-ftdf 005i1600 pre-cutted, 1.6m
11120324 z-ftdf 020i0100 pre-cutted, 0.1m
11120326 z-ftdf 020i0180 pre-cutted, 0.18m

11120327 z-ftdf 020i0500 pre-cutted, 0.5m
11120330 z-ftdf 020i1600 pre-cutted, 1.6m
11120333 z-ftdf 035i0100 pre-cutted, 0.1m
11120334 z-ftdf 035i0500 pre-cutted, 0.5m
11120335 z-ftdf 035i1000 pre-cutted, 1.0m
11120336 z-ftdf 035i1600 pre-cutted, 1.6m
11120337 z-ftdf 050i0100 pre-cutted, 0.1m
11120339 z-ftdf 050i0500 pre-cutted, 0.5m
11120351 z-ftdf 050i1000 pre-cutted, 1.0m
11120352 z-ftdf 050i1600 pre-cutted, 1.6m
11120355 z-ftdf 050k0100 pre-cutted, 0.1m
11120357 z-ftdf 050k0500 pre-cutted, 0.5m
11120358 z-ftdf 050k1000 pre-cutted, 1.0m
11120359 z-ftdf 050k9999 pre-cutted, 10m
11120305 z-ftdf 610i0100 pre-cutted, 0.1m
11120308 z-ftdf 610i0500 pre-cutted, 0.5m
11120309 z-ftdf 610i1000 pre-cutted, 1.0m
11120310 z-ftdf 610i1600 pre-cutted, 1.6m

10220077 zkr 118

11172111 zpart-m18.nut

2202-0001, baumer: датчик: преобразователь температуры, 8 - 35vdc, вход: pt100 baumer, датчик: преобразователь температуры, 8 - 35vdc, вход: pt100

2211-0001, baumer: датчик: преобразователь температуры, 6,5 - 35vdc baumer, датчик: преобразователь температуры, 6,5 - 35vdc

2221-0001, baumer: датчик: преобразователь температуры, 8 - 35vdc baumer, датчик: преобразователь температуры, 8 - 35vdc

2301-0001, baumer: датчик: преобразователь температуры, 8 - 35vdc, вход: pt100 baumer, датчик: преобразователь температуры, 8 - 35vdc, вход: pt100

2311-0001, baumer: датчик: преобразователь температуры, 6,5 - 35vdc, монтаж: din baumer, датчик: преобразователь температуры, 6,5 - 35vdc, монтаж: din

2321-0001, baumer: датчик: преобразователь температуры, 8 - 35vdc, монтаж: din baumer, датчик: преобразователь температуры, 8 - 35vdc, монтаж: din

9701-0001, baumer: программатор baumer, программатор

cfak12n1103, baumer: датчик: емкостный, дальность: 0 - 0,5мм, конф. выхода: pnp / no baumer, датчик: емкостный, дальность: 0 - 0,5мм, конф. выхода: pnp / no

cfak12n1140/ks35l, baumer: датчик: емкостный, дальность: 0 - 0,1мм, конф. выхода: pnp / no baumer, датчик: емкостный, дальность: 0 - 0,1мм, конф. выхода: pnp / no

cfak12n1140/l, baumer: датчик: емкостный, дальность: 0 - 0,1мм, конф. выхода: pnp / no baumer, датчик: емкостный, дальность: 0 - 0,1мм, конф. выхода: pnp / no

cfak12p1103, baumer: датчик: емкостный, дальность: 0 - 0,5мм, конф. выхода: pnp / no baumer, датчик: емкостный, дальность: 0 - 0,5мм, конф. выхода: pnp / no

cfak12p1140/ks35l, baumer: датчик: емкостный, дальность: 0 - 0,1мм, конф. выхода: pnp / no baumer, датчик: емкостный, дальность: 0 - 0,1мм, конф. выхода: pnp / no

cfak12p1140/l, baumer: датчик: емкостный, дальность: 0 - 0,1мм, конф. выхода: pnp / no baumer, датчик: емкостный, дальность: 0 - 0,1мм, конф. выхода: pnp / no

cfak18n1100, baumer: датчик: емкостный, дальность: 0 - 5мм, конф. выхода: pnp / no baumer, датчик: емкостный, дальность: 0 - 5мм, конф. выхода: pnp / no

lbfs1131, baumer: датчик: уровня жидкости, pnp / no and - 43; nc, упит: 12 - 30vdc, pin: 4baumer, датчик: уровня жидкости, pnp / no and - 43; nc, упит: 12 - 30vdc, pin: 4

lbfs1151, baumer: датчик: уровня жидкости, pnp / no and - 43; nc, упит: 12 - 30vdc, pin: 4baumer, датчик: уровня жидкости, pnp / no and - 43; nc, упит: 12 - 30vdc, pin: 4

lffs011, baumer: датчик:уровня жидкости, хар.особенности:программируемый, ip67 baumer, датчик:уровня жидкости, хар.особенности:программируемый, ip67

lffs014, baumer: датчик:уровня жидкости, хар.особенности:программируемый, ip67 baumer, датчик:уровня жидкости, хар.особенности:программируемый, ip67

lffs111, baumer: датчик:уровня жидкости, хар.особенности:программируемый, ip67 baumer, датчик:уровня жидкости, хар.особенности:программируемый, ip67

lffs113, baumer: датчик:уровня жидкости, хар.особенности:программируемый, ip67 baumer, датчик:уровня жидкости, хар.особенности:программируемый, ip67

lffs114, baumer: датчик:уровня жидкости, хар.особенности:программируемый, ip67 baumer, датчик:уровня жидкости, хар.особенности:программируемый, ip67

mdfk08g2101/s35a, baumer: датчик:холла, упит:8 - 30vdc, икоммут:30ма, ipаб:35ма baumer, датчик:холла, упит:8 - 30vdc, икоммут:30ма, ipаб:35ма

ohdk10p5101/s35a, baumer: датчик:оптоэлектронный baumer, датчик:оптоэлектронный

ohdk14p5101/s35a, baumer: датчик: оптоэлектронный, дальность: 20 - 350мм, pnp, упит: 10 - 30vdc baumer, датчик: оптоэлектронный, дальность: 20 - 350мм, pnp, упит: 10 - 30vdc

unam12n1912/s14, baumer: датчик:ультразвуковой,прямой,дальность:40 - 400мм,pnp / no baumer, датчик:ультразвуковой,прямой,дальность:40 - 400мм,pnp / no

unam12n1914/s14, baumer: датчик:ультразвуковой,прямой,дальность:10 - 200мм,pnp / no baumer, датчик:ультразвуковой,прямой,дальность:10 - 200мм,pnp / no

unam12n1914/s14d, baumer: датчик:ультразвуковой,прямой,дальность:5 - 70мм,pnp / no,pin:4 no,pin:4 baumer, датчик:ультразвуковой,прямой,дальность:5 - 70мм,pnp / no

unam12n8910/s14o, baumer: датчик:ультразвуковой,прямой,дальность:10 - 70мм,pnp / no / nc nc baumer, датчик:ультразвуковой,прямой,дальность:10 - 70мм,pnp / no / nc

unam12n8910/s14od, baumer: датчик:ультразвуковой,прямой,дальность:0 - 40мм,pnp / no / nc nc baumer, датчик:ультразвуковой,прямой,дальность:0 - 40мм,pnp / no / nc

unam12p1912/s14, baumer: датчик:ультразвуковой,прямой,дальность:40 - 400мм,pnp / no baumer, датчик:ультразвуковой,прямой,дальность:40 - 400мм,pnp / no

unam12p1914/s14, baumer: датчик:ультразвуковой,прямой,дальность:10 - 200мм,pnp / no baumer, датчик:ультразвуковой,прямой,дальность:10 - 200мм,pnp / no

unam12p1914/s14d, baumer: датчик:ультразвуковой, дальность:5 - 70мм, pnp / no, корпус: - 15 15 baumer, датчик:ультразвуковой, дальность:5 - 70мм, pnp / no, корпус: - 15

unam12p8910/s14o, baumer: датчик:ультразвуковой,прямой,дальность:10 - 70мм,pnp / no / nc nc baumer, датчик:ультразвуковой,прямой,дальность:10 - 70мм,pnp / no / nc

unam12p8910/s14od, baumer: датчик:ультразвуковой,прямой,дальность:0 - 40мм,pnp / no / nc nc baumer, датчик:ультразвуковой,прямой,дальность:0 - 40мм,pnp / no / nc

unam18n1703, baumer: датчик:ультразвуковой,прямой,дальность:100 - 700мм,pnp / no baumer, датчик:ультразвуковой,прямой,дальность:100 - 700мм,pnp / no

unam18n6903/s14, baumer: датчик:ультразвуковой,прямой,дальность:100 - 1000мм,pnp / no no baumer, датчик:ультразвуковой,прямой,дальность:100 - 1000мм,pnp / no

unam18p1703, baumer: датчик:ультразвуковой, дальность:5 - 70мм, pnp / no, корпус: - 15 15 baumer, датчик:ультразвуковой, дальность:5 - 70мм, pnp / no, корпус: - 15

unam18p6903/s14, baumer: датчик:ультразвуковой,прямой,дальность:100 - 1000мм,pnp / no no baumer, датчик:ультразвуковой,прямой,дальность:100 - 1000мм,pnp / no

unam30n1104, baumer: датчик:ультразвуковой,прямой,дальность:200 - 1500мм,pnp / no no baumer, датчик:ультразвуковой,прямой,дальность:200 - 1500мм,pnp / no

unam30n1104/s14, baumer: датчик:ультразвуковой,прямой,дальность:200 - 1500мм,pnp / no no baumer, датчик:ультразвуковой,прямой,дальность:200 - 1500мм,pnp / no

unam30p1104, baumer: датчик:ультразвуковой,прямой,дальность:200 - 1500мм,pnp / no no baumer, датчик:ультразвуковой,прямой,дальность:200 - 1500мм,pnp / no

unam30p1104/s14, baumer: датчик:ультразвуковой,прямой,дальность:200 - 1500мм,pnp / no no baumer, датчик:ультразвуковой,прямой,дальность:200 - 1500мм,pnp / no

upam50n1721, baumer: датчик:ультразвуковой,прямой,дальность:350 - 2500мм,пnp / no

baumer, датчик:ультразвуковой,прямой,дальность:350 - 2500мм,пnp /

upam50p1721, baumer: датчик:ультразвуковой,прямой,дальность:350 - 2500мм,пnp / no

baumer, датчик:ультразвуковой,прямой,дальность:350 - 2500мм,пnp /

upam50p1721/s14, baumer: датчик:ультразвуковой,прямой,дальность:350 - 2500мм,пnp / no

baumer, датчик:ультразвуковой,прямой,дальность:350 - 2500мм,пnp /

uzam70n8131/s14c, baumer: датчик:ультразвуковой,прямой,дальность:600 - 6000мм,-10 - 60с

baumer, датчик:ультразвуковой,прямой,дальность:600 - 6000мм,-10 -

uzam70p8131/s14c, baumer: датчик:ультразвуковой,прямой,дальность:600 - 6000мм,-10 - 60с

baumer, датчик:ультразвуковой,прямой,дальность:600 - 6000мм,-10 -

ch-8500 (svp220.24.2) baumer, 1-2 дня на заказ

2202 0001 /baumer/ moq>1 baumer

2211 0001 /baumer/ moq>1 baumer

2301 0001 /baumer/ moq>1 baumer

9701-0001 /baumer/ moq>1 baumer

cfak 12p1103 /baumer/ moq>1 baumer

cfak 12p1140/l /baumer/ moq>1 baumer

cfak 18n1100 /baumer/ moq>1 baumer

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bhf-16.05a1000-l2-a датчик	baumer unknown

9701-8011 baumer 9701-8011 кабель с зажимом крокодил baumer
baumer_vlg_02c ivo [baumer ivo gmbh & co. kg], gigabit ethernet, vga, colo
baumer_vlg_02m ivo [baumer ivo gmbh & co. kg], gigabit ethernet, vga, monochrom
baumer_vlg_12c ivo [baumer ivo gmbh & co. kg], gigabit ethernet, 1,2 megapixels, colo
baumer_vlg_12m ivo [baumer ivo gmbh & co. kg], gigabit ethernet, 1,2 megapixel, monochrom
baumer_vlg_20c ivo [baumer ivo gmbh & co. kg], gigabit ethernet, 2,0 megapixel, colo
baumer_vlg_20m ivo [baumer ivo gmbh & co. kg], gigabit ethernet, 2,0 megapixel, monochrom
baumer_vlg_22c ivo [baumer ivo gmbh & co. kg], gigabit ethernet, 2,0 megapixel, colo
baumer_vlg_22m ivo [baumer ivo gmbh & co. kg], gigabit ethernet, 2,0 megapixel, monochrom
baumer_vlg_40c ivo [baumer ivo gmbh & co. kg], gigabit ethernet, 4,0 megapixel, colo
baumer_vlg_40m ivo [baumer ivo gmbh & co. kg], gigabit ethernet, 4,0 megapixel, monochrom
baumer_vlu_02m ivo [baumer ivo gmbh & co. kg], usb 3.0, vga, monochrom
baumer_vlu_12c ivo [baumer ivo gmbh & co. kg], usb 3.0, 1,2 megapixel, colo
baumer_vlu_12m ivo [baumer ivo gmbh & co. kg], usb 3.0, 1,2 megapixel, monochrom

baumer

датчик баумер

энкодер баумер

baumer electric

баумер сайт

баумер Беларусь

baumer hubner

баумер сайт на русском

баумер купить

marie baumer

baumer hog 10

baumer com

baumer ivo

baumer ch 8501

baumer gmbh

абсолютный энкодер баумер

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baumer ga243 z01

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манометры baumer

albrecht baumer

baumer lbfs

ультразвуковой датчик перемещения baumer

baumer flex top 2204 0001

энкодер baumer bmmh 42s1n24b1

baumer ch8500 iff 40p51

baumer pdre e002 s14 c440de

baumer gm400 e16

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Incremental encoders

Size 24...58 mm

Size (ø)	Precise optical sensing	Robust magnetic sensing	Solid shaft	Blind hollow shaft	Through hollow shaft	TTL / RS422	HTL / push-pull	Pulses per revolution	Product family	Page
24 mm	■	■	■	■	■	■	■	≤ 5000	ITD 01 B14	6
24 mm	■	■	■	■	■	■	■	> 5000	ITD 01 A4	6
30 mm	■	■	■	■	■	■	■		BDK 16	6
40 mm	■	■	■	■	■	■	■		BHK 16	6
30 mm	■	■	■	■	■	■	■		BRIV 30	7
30 mm	■	■	■	■	■	■	■		BRIV 30R	7
40 mm	■	■	■	■	■	■	■		BRIH 40	7
58 mm	■	■	■	■	■	■	■		EIL580-SC	8
58 mm	■	■	■	■	■	■	■		EIL580-SY	8
58 mm	■	■	■	■	■	■	■		EIL580-B	8
58 mm	■	■	■	■	■	■	■		EIL580-T	8
58 mm	■	■	■	■	■	■	■		BRIV 58K	9
58 mm	■	■	■	■	■	■	■		BRIV 58S	9
58 mm	■	■	■	■	■	■	■		BRIH 58S	9
58 mm	■	■	■	■	■	■	■		BRID 58S	9
58 mm	■	■	■	■	■	■	■		GI355 / GI356	10
58 mm	■	■	■	■	■	■	■		G0355 / G0356	10
58 mm	■	■	■	■	■	■	■		BDH - HighRes	10
58 mm	■	■	■	■	■	■	■		BDT - HighRes	10
58 mm	■	■	■	■	■	■	■		G0333	11
58 mm	■	■	■	■	■	■	■		ITD21H00	11
58 mm	■	■	■	■	■	■	■		BHF - HighRes	11
58 mm	■	■	■	■	■	■	■		BHG - HighRes	11



Large hollow shaft

Size (ø max.)	Blind hollow shaft	Through hollow shaft	TTL / RS422	HTL / push-pull	Pulses per revolution	Product family	Page
25 mm	■	■	■	■	≤ 5000	ITD 40	12
27 mm	■	■	■	■	> 5000	ITD 41	12
25.4 mm	■	■	■	■		G110H	12
25 mm	■	■	■	■		G110S	12
25.4 mm	■	■	■	■		HS35F	12
50 mm	■	■	■	■		ITD 61	13
65 mm	■	■	■	■		ITD 70	13
85 mm	■	■	■	■		ITD 75	13



Programmable

Size (ø)	Solid shaft	Blind hollow shaft	Through hollow shaft	Configurable parameters	Pulses per revolution	Output signal level	Zero pulse	TTL / RS422	HTL / push-pull	Pulses per revolution	Product family	Page
40 mm	■	■	■	■	■	■	■	■	■	≤ 5000	BNIV	14
58 mm	■	■	■	■	■	■	■	■	■	> 5000	BHG HighRes	14
58 mm	■	■	■	■	■	■	■	■	■		BHF HighRes	14
58 mm	■	■	■	■	■	■	■	■	■		ITD2PH00	14
80 mm	■	■	■	■	■	■	■	■	■		HS35P	15
58 mm	■	■	■	■	■	■	■	■	■		EIL580P	15



Incremental encoders

Sine/Cosine 1 Vpp

Size (ø)	Solid shaft	Blind hollow shaft	Through hollow shaft	Sine waves per revolution	Option: S1L2	Product family	Page
58 mm	■			≥2048		BDT Sine	16
58 mm		■		>2048		BHF Sine	16
58 mm			■			BHG Sine	16
58 mm		■				BHT Sine	16
58 mm			■			ITD22H00	17
80 mm			■			HS35S	17
80 mm			■			ITD 42 A4 Y79	17



Inch size & other designs

Size (ø)	Inch size	EURO flange B10	Measuring wheel encoder	Solid shaft	Blind hollow shaft	Through hollow shaft	TTL/RS422	HTL/push-pull	Product family	Page
2.5"	■		■			■	■		G25	18
2.5"	■		■			■	■		EIL580-SQ	18
2.28"	■			■		■	■		EIL580-B	18
2.28"	■				■	■	■		EIL580-T	18
3.15"	■			■	■	■	■		HS35	18
58 mm		■	■			■	■		EIL580-S1	19
82 mm		■	■			■	■		ITD 40 B10	19
82 mm		■	■			■	■		ITD 41 B10	19
40 mm			■			■	■		MA20	19



Absolute encoders

Robust magnetic sensing

Size (ø)	Solid shaft	Blind hollow shaft	Singleturn	Multiturn	Integrated interface	Modular bus cover	SSI	Analog/redundant	CANopen	DeviceNet	Profibus-DP	SAE J1939	EtherCAT/EtherNet/IP	Profinet	Powerlink	Corrosion protection C5-M	Product family	Page
28 mm	■							■	■								EAM280	22
36 mm	■							■	■								EAM360	22
36 mm	■							■	■								EAM360R	22
36 mm		■						■	■								EAM360	22
36 mm		■						■	■								EAM360R	23
58 mm	■							■	■								EAM580	24
58 mm	■							■	■								EAM580R	24
58 mm		■						■	■								EAM580	24
58 mm		■						■	■								EAM580R	24
58 mm	■							■	■	■	■	■	■	■	■		BMMV 58 flexible	25
58 mm	■							■	■	■	■	■	■	■	■		BMSV 58 flexible	25
58 mm		■						■	■	■	■	■	■	■	■		BMMH 58 flexible	25
58 mm		■						■	■	■	■	■	■	■	■		BMSH 58 flexible	25
58 mm	■							■	■	■	■	■	■	■	■		BMMV 58 hermetic	25
58 mm	■							■	■	■	■	■	■	■	■		BMMV 58 hermetic flexible	25



Absolute encoders

Precise optical sensing – integrated interface – resolution up to 16 bit

Size (ø)	Solid shaft	Blind hollow shaft	Through hollow shaft	Multiturn	Singleturn	SSI / SSI + Incremental	RS485	Analog	Parallel	CANopen™	DeviceNet™	Profinet	Product family	Page
58 mm	■	■	■	■									EAL580	26
58 mm	■			■	■								GM400 / GM401	26
58 mm	■			■	■			■					GA240 / GA241	26
58 mm		■		■	■								GXM2S	26
58 mm		■		■	■								GXA2S	26
58 mm			■	■	■								GOM2H	26
58 mm			■	■	■								G0A2H	26
58 mm	■			■		■							GXM7W	26
58 mm	■			■		■							GXA7W	26
58 mm		■		■		■							GXM7S	26
58 mm	■			■		■							ATD 2A B14	26
58 mm			■	■		■							ATD2AH00	26
58 mm			■	■		■							ATD 2A A4	26
58 mm	■			■		■			■				GXP1W	26
58 mm			■	■		■				■			G0P5H	26
58 mm	■			■		■				■			GXP5W	26
58 mm	■			■		■				■			GXU5W	26
58 mm		■		■		■				■			GXP5S	26
58 mm	■			■		■				■			GXP8W	26



Precise optical sensing – modular bus cover

Size (ø)	Solid shaft	Blind hollow shaft	Through hollow shaft	Multiturn	Singleturn	Resolution 18 bit per turn	SSI	CANopen™ / DeviceNet	Profibus-DP	SAE J1939	EtherCAT	EtherNet/IP	Powerlink	Product family	Page
58 mm	■			■		■	■	■	■	■	■	■	■	GXMMW	28
58 mm	■			■		■	■	■	■	■	■	■	■	GXAMW	28
58 mm		■		■		■	■	■	■	■	■	■	■	GXMMS	28
58 mm		■		■		■	■	■	■	■	■	■	■	GXAMS	28
58 mm			■	■		■	■	■	■	■	■	■	■	G0MMH	28
58 mm			■	■		■	■	■	■	■	■	■	■	G0AMH	28
58 mm	■			■		■	■	■	■	■	■	■	■	GBMMW	29
58 mm	■			■		■	■	■	■	■	■	■	■	GBAMW	29
58 mm		■		■		■	■	■	■	■	■	■	■	GBMMS	29
58 mm		■		■		■	■	■	■	■	■	■	■	GBAMS	29
58 mm			■	■		■	■	■	■	■	■	■	■	GBMMH	29
58 mm			■	■		■	■	■	■	■	■	■	■	GBAMH	29



Precise optical sensing – integrated interface – resolution up to 18 bit

Size (ø)	Solid shaft	Blind hollow shaft	Through hollow shaft	Multiturn	Singleturn	SSI / SSI + Incremental	RS485	CANopen™	EtherCAT / PoE	BiSS C	Profinet	Product family	Page
58 mm	■	■	■	■								EAL580	27
58 mm	■			■	■							GBM2W	27
58 mm	■			■	■							GBA2W	27
58 mm		■		■	■							GBM2S	27
58 mm		■		■	■							GBA2S	27
58 mm			■	■	■							GBM2H	27
58 mm			■	■	■							GBA2H	27
58 mm	■			■		■						GBM7W	27
58 mm	■			■		■						GBM7S	27
58 mm		■		■		■						GBP5W	27
58 mm	■			■		■						GBU5W	27
58 mm			■	■		■						GBP5S	27
58 mm			■	■		■						GBP5H	27
58 mm			■	■		■			■			ATD 2B A4	27
58 mm			■	■		■			■			ATD 4B A4	27
58 mm	■			■		■			■			GBPAW	27
58 mm	■			■		■			■			GBUAW	27
58 mm		■		■		■			■			GBPAS	27
58 mm		■		■		■			■			GBUAS	27
58 mm			■	■		■			■			GBPAH	27
58 mm			■	■		■			■			GBUAH	27



Precise optical sensing – large hollow shaft

Hollow shaft (ø max.)	Multiturn	Singleturn	Resolution 18 bit per turn	Integrated interface	Modular bus cover	SSI	CANopen™ / DeviceNet	Profibus-DP	EtherCAT	Product family	Page
25.4 mm	■		■	■						G1M2H	30
50.8 mm	■		■	■						G2M2H	30
27 mm	■	■		■						ATD 4S A4	30
25.4 mm	■		■	■		■	■	■	■	G1MMH	31
50.8 mm	■		■	■		■	■	■	■	G2MMH	31
27 mm	■		■	■		■	■	■	■	ATD 4B A4 Y11	31



HeavyDuty

Incremental encoders – TTL/HTL

Size (ø)	Shaft (ø max.)	Solid shaft	Hollow shaft	TTL/RS422	HTL/push-pull	HTL-p/Power Line/driver	EURO flange B10	Terminal box	Redundant sensing	EMS	Ex II 3G/3D (ATEX)	Ex II 2G (ATEX/IECEX)	Product family	Page
58 mm	6 mm	■	■	■									OG 71	34
115 mm	11 mm	■	■	■	■	■	■	■	■	■			OG 9	34
115 mm	11 mm	■	■	■	■	■	■	■	■	■			POG 86E	34
115 mm	11 mm	■	■	■	■	■	■	■	■	■			POG 86	34
115 mm	11 mm	■	■	■	■	■	■	■	■	■			POG 9	34
115 mm	11 mm	■	■	■	■	■	■	■	■	■			POG 10	35
115 mm	11 mm	■	■	■	■	■	■	■	■	■			POG 11	35
115 mm	11 mm	■	■	■	■	■	■	■	■	■			POG 90	35
120 mm	11 mm	■	■	■	■	■	■	■	■	■	■		EEx OG 9	35
60 mm	14 mm	■	■	■									HOG 71	36
75 mm	26 mm	■	■	■									HOG 75	36
99 mm	16 mm	■	■	■									HOG 86E	36
99 mm	16 mm	■	■	■									HOG 86	36
97 mm	16 mm	■	■	■	■								HOG 9	37
105 mm	20 mm	■	■	■	■								HOG 10	37
105 mm	20 mm	■	■	■	■								HOG 11	37
105 mm	20 mm	■	■	■									HOG 100	37
130 mm	36 mm	■	■	■	■								HOG 131	38
158 mm	38 mm	■	■	■	■								HOG 16	38
158 mm	75 mm	■	■	■	■								HOG 163	38
165 mm	25 mm	■	■	■	■								HOG 165	38
227 mm	115 mm	■	■	■	■								HOG 220	39
227 mm	115 mm	■	■	■	■								HOG 22	39
287 mm	150 mm	■	■	■	■								HOG 28	39



Incremental encoders – Sine/Cosine 1 Vpp

Size (ø)	Shaft (ø max.)	Solid shaft	Hollow shaft	EURO flange B10	Terminal box	Ex II 3G/3D (ATEX)	Product family	Page
58 mm	6 mm	■					OGS 71	40
115 mm	11 mm	■	■	■	■		POGS 90	40
60 mm	14 mm	■					HOGS 71	40
75 mm	26 mm	■					HOGS 75	40
105 mm	20 mm	■					HOGS 100	41
158 mm	75 mm	■					HOGS 14	41
168 mm	70 mm	■					HOGS 151	41



Absolute encoders

Size (ø)	Solid shaft	Hollow shaft	SSI	CANopen	DeviceNet	Profibus-DP	EtherCAT	Profinet	EURO flange B10	Terminal box	Redundant sensing	Ex II 3G/3D (ATEX)	Product family	Page
60 mm	■	■											AMG 71	42
115 mm	■	■	■		■			■					AMG 81	42
122 mm	■	■	■		■	■	■	■	■	■			PMG 10	42
122 mm	■	■	■		■	■	■	■	■	■	■		HMG 10	42
160 mm	■	■	■	■	■				■				HMG 161	43



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Speed switches

Size	Mechanical	Electronic	Digital/progr.	Solid shaft	Switching outputs	EURO flange B10	Terminal box	Surface mount	Product family	Page
ø115 mm	■		■	1	■	■			FS 90	44
ø115 mm		■	■	1	■	■			ES 90	44
ø115 mm		■	■	3	■	■			ES 93	44
ø115 mm		■	■	1	■	■			ES 100	44
122 mm			■	3			■		DS 93	45
75 mm			■	3			■		DS 93 R	45
100 mm			■	4			■		GMM2xxS	45



Incremental encoders with digital speed switches

Size (ø)	Digital/progr.	Solid shaft	Hollow shaft	TTL/RS422	HTL push-pull	Switching outputs	EURO flange B10	Terminal box	Ex II 3G/3D (ATEX)	Product family	Page
105 mm	■	■	■	■	2	■	■			HOG 10 + DSL.E	46
105 mm	■	■	■	■	3	■	■			HOG 10 + DSL.R	46
165 mm	■	■	■	■	2	■	■			HOG 165 + DSL.E	46
165 mm	■	■	■	■	3	■	■			HOG 165 + DSL.R	46
120 mm	■	■	■	■	2	■	■			POG 10 + DSL.E	47
120 mm	■	■	■	■	3	■	■			POG 10 + DSL.R	47



Absolute encoders with digital speed switches

Size (ø)	Solid shaft	Hollow shaft	SSI	CANopen*	DeviceNet	Profibus-DP	EtherCAT	Profinet	Relay output	Transistor output	EURO flange B10	Ex II 3G/3D (ATEX)	Product family	Page
115 mm	■	■	■	■	■	■	■	■	■	■	■	■	PMG 10D	48
115 mm	■	■	■	■	■	■	■	■	■	■	■	■	PMG 10D	48
115 mm	■	■	■	■	■	■	■	■	■	■	■	■	HMG 10D	48
115 mm	■	■	■	■	■	■	■	■	■	■	■	■	HMG 10D	48



Tachogenerators & Resolver

Size (ø)	Solid shaft	Hollow shaft	EURO flange B10	B10-Flansch	Terminal box	Product family	Page
115 mm	■	■				GTF 7.08	50
115 mm	■	■				GTF 7.16	50
85 mm	■		■	■		TDP 0,09	50
85 mm	■		■	■		TDPZ 0,09	50
115 mm	■	■				TDP 0,2	50
115 mm	■	■				TDPZ 0,2	50
175 mm	■		■	■		TDP 13	50
175 mm	■		■	■		TDPZ 13	50
126 mm	■	■				EEx GP 0,2	51
126 mm	■		■			TG 74	51



Size (ø)	Solid shaft	Hollow shaft	Resolver	Bearingless	Product family	Page
52 mm	■		■		GT 5	52
85 mm	■		■		GT 7.08	52
85 mm	■		■		GT 7.16	52
89 mm	■		■		GT 9	52
95 mm	■		■		GTB 9.06	52
95 mm	■		■		GTB 9.16	52
95 mm	■		■		GTR 9	53
86 mm	■				KTD 4	53
100 mm	■				KTD 3	53
58 mm	■	■			RTD 1 B14 Y1	53
80 mm	■	■			RTD 4 A4 Y2	53



HeavyDuty

Combinations – incremental twin encoders

Size (ø)	Solid shaft	Hollow shaft	TTL/RS422	HTL/push-pull	EURO flange B10	Terminal box	Redundant sensing	EMS	Ex II 3G/3D (ATEX)	Product family	Page
115 mm	■	■	■	■	■	■	■	■	■	POG 86 G	54
115 mm	■	■	■	■	■	■	■	■	■	POG 9 G	54
115 mm	■	■	■	■	■	■	■	■	■	POG 10 G	54
115 mm	■	■	■	■	■	■	■	■	■	POG 11 G	54
97 mm	■	■	■	■	■	■	■	■	■	HOG 9 G	54
105 mm	■	■	■	■	■	■	■	■	■	HOG 10 G	54
105 mm	■	■	■	■	■	■	■	■	■	HOG 11 G	54



POG 86 G
POG 9 G



POG 10 G
POG 11 G



HOG 9 G



HOG 10 G
HOG 11 G

Combinations – tachogenerators with speed switch or incremental encoder

Size (ø)	Centrifugal switch (FSL)	Speed switch (ESL)	Incremental encoder	Solid shaft	EURO flange B10	Terminal box	Product family	Page
85 mm	■	■	■	■	■	■	TDP 0.09 + FSL	55
115 mm	■	■	■	■	■	■	TDP 0.2 + FSL	55
115 mm	■	■	■	■	■	■	TDPZ 0.2 + FSL	55
115 mm	■	■	■	■	■	■	TDP 0.2 + ESL	55
115 mm	■	■	■	■	■	■	TDPZ 0.2 + ESL	55
115 mm	■	■	■	■	■	■	TDP 0.2 + OG9	55



TDP 0,09 + FSL



TDP 0,2 + FSL



TDP 0,2 + ESL



TDP 0,2 + OG9

TDPZ 0,2 + FSL
TDPZ 0,2 + ESL

Combinations – incremental encoders with speed switch

Size (ø)	Incremental	Mechanical (FSL)	Electronic (ESL)	Solid shaft	Blind hollow shaft	TTL/RS422	HTL/push-pull	Product family	Page
115 mm	■	■	■	■	■	■	■	POG 86 + FSL	56
115 mm	■	■	■	■	■	■	■	POG 10 + FSL	56
115 mm	■	■	■	■	■	■	■	POG 10 + ESL	56
115 mm	■	■	■	■	■	■	■	POG 11 + FSL	56
115 mm	■	■	■	■	■	■	■	POG 11 + ESL	56
99 mm	■	■	■	■	■	■	■	HOG 86 + FSL	57
105 mm	■	■	■	■	■	■	■	HOG 10 + FSL	57
105 mm	■	■	■	■	■	■	■	HOG 10 + ESL	57
105 mm	■	■	■	■	■	■	■	HOG 11 + FSL	57
105 mm	■	■	■	■	■	■	■	HOG 11 + ESL	57



POG 86 + FSL



POG 10 + FSL/ESL



POG 11 + FSL/ESL



HOG 86 + FSL



HOG 10 + FSL/ESL



HOG 11 + FSL/ESL

Bearingless encoders

Incremental & quasi-absolute

Hollow shaft (ø max.)	Product family						Page	
	Incremental	Quasi-absolute	TTL/RS422	HTL/push-pull	HTL-Pi/Power Linedriver	SinCos 1 Vpp		
47.8 mm	■	■	■				MDFK 08	60
47.8 mm	■	■	■				MIR 10	60
45 mm	■	■	■				ITD 67	60
28 mm	■	■	■				ITD49H00	60
28 mm	■			■			ITD49H00 Sine	60
65 mm	■	■	■				ITD69H00	61
65 mm	■			■			ITD69H00 Sine	61
140 mm	■	■	■				ITD89H00	61
140 mm	■			■			ITD89H00 Sine	61
80 mm	■	■	■	■	■		MHGE 100	62
180 mm	■	■	■	■	■		MHGE 200	62
340 mm	■	■	■	■	■		MHGE 400	62
740 mm	■	■	■	■	■		MHGE 800	62
80 mm	■	■	■	■			MHGP 100	63
180 mm	■	■	■	■			MHGP 200	63
340 mm	■	■	■	■			MHGP 400	63
3183 mm	■	■	■	■	■		MIR 3000F	64
3183 mm	■	■	■	■	■		MQR 3000F	64



Bearingless encoders

Absolute

Hollow shaft (ø max.)	Product family										Page		
	Absolute Singleturn	Absolute Multiturn	Analog	CANopen*	DeviceNet	Profibus-DP / SAE J1939	EtherCAT / PoE / EtherNet/IP	Powerlink / Profinet	TTL/RS422	HTL/push-pull		SinCos 1 Vpp	
30 mm	■	■	■					■	■			MHAD 50	66
80 mm	■	■						■	■	■		MHAP 100	66
180 mm	■	■						■	■	■		MHAP 200	66
340 mm	■	■						■	■	■		MHAP 400	66
12 mm	■	■	■	■								EAM360 Kit	67
12 mm	■	■	■	■	■							EAM360R Kit	67
12 mm	■	■	■	■		■						EAM580 Kit	67
12 mm	■	■	■	■	■							EAM580R Kit	67
8 mm	■		■	■								EAM500	68
8 mm	■	■										BMSK 55	68
12 mm	■		■	■	■	■	■					BMSK 58 flexible	69
12 mm	■		■	■	■	■	■					BMMK 58 flexible	69



Magnetic rotary encoders

Absolute

Size	Sensor housing M18x1	Sensor housing rectangular	Angular range 360°	Angular range 270°	Current output	Voltage output	Product family	Page
■	■	■	■	■	■	■	MDRM 18 (I-Type270°)	70
■	■	■	■	■	■	■	MDRM 18 (U-Type360°)	70
■	■	■	■	■	■	■	MDFM 20 (I-Type270°)	70
■	■	■	■	■	■	■	MDFM 20 (U-Type360°)	70



MDRM 18



MDFM 20

Linear bearingless encoders

Incremental

Size	TTU/RS422	HTL/push-pull	Product family	Page
10 mm	■	■	MIL10	71



MIL10

Cable transducers

Absolute & incremental

Size	Measuring length	Incremental	Absolute	SSI	Analog/redundant	CANopen/redundant	Devicenet	Profibus-DP / SAE J1939	EtherCAT / PoE / EtherNet/IP	Powerlink / Profinet	TTL/RS422	HTL/push-pull	Product family	Page
88 mm	3.4 m	■	■	■	■	■	■	■	■	■	■	■	BMMS K34	74
88 mm	5 m	■	■	■	■	■	■	■	■	■	■	■	BMMS K50	74
120 mm	7.5 m	■	■	■	■	■	■	■	■	■	■	■	BMMS M75	74
104 mm	4.7 m	■	■	■	■	■	■	■	■	■	■	■	GCA5	74
110 mm	8 m	■	■	■	■	■	■	■	■	■	■	■	GCA8	74
124 mm	12 m	■	■	■	■	■	■	■	■	■	■	■	GCA12	74
58 mm	2.1 m	■	■	■	■	■	■	■	■	■	■	■	GCA2	75
96 mm	3 m	■	■	■	■	■	■	■	■	■	■	■	GCA4	75
115 mm	15 m	■	■	■	■	■	■	■	■	■	■	■	GCA15	75
200 mm	50 m	■	■	■	■	■	■	■	■	■	■	■	GCA50	75
58 mm	2.1 m	■	■	■	■	■	■	■	■	■	■	■	GCI2	75
96 mm	3 m	■	■	■	■	■	■	■	■	■	■	■	GCI4	75
115 mm	15 m	■	■	■	■	■	■	■	■	■	■	■	GCI15	75
200 mm	50 m	■	■	■	■	■	■	■	■	■	■	■	GCI50	75



BMMS K34
BMMS K50



BMMS M75



GCA5



GCA8
GCA12



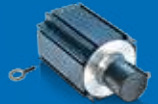
GCA2
GCI2



GCA4
GCI4



GCA15
GCI15



GCA50
GCI50

Motor feedback encoder

Size	Add-on encoder	Built-in encoder	Multiturn	Singleturn	SSI	BiSS C	With stator coupling	With expanding ring coupling	Product family	Page
36 mm	■	■	■	■	■	■	■	■	EFL360-MT	78
36 mm	■	■	■	■	■	■	■	■	EFL360-ST	78
58 mm	■	■	■	■	■	■	■	■	EFL580.CR	78
58 mm	■	■	■	■	■	■	■	■	EFL580.CE	78



EFL360-MT



EFL360-ST



EFL580.CR



EFL580.CE

Encoders for hazardous environments

Size (ø)	Ex II 2G (ATEX/IECEX)	Ex II 1G/1D (ATEX/IECEX)	Ex II 3D (ATEX)	Ex II 2D/2G (ATEX)	Incremental	Absolute	Solid shaft	Hollow shaft	TTL/RS422	HTL/ Push-pull	SimCos 1 Vpp	SSI	RS485	CANopen®	Profibus-DP	Product family	Page
120 mm	■				■	■	■	■								EEx OG 9	80
115 mm	■				■	■	■				■					EEx OG 9 S	80
160 mm	■				■	■	■	■								EEx HOG 161	80
58 mm		■			■	■	■	■								ExEIL580	80
70 mm			■		■	■	■	■								X 700 - incremental	80
58 mm		■			■	■	■									ExG25	81
80 mm		■			■	■	■									ExHS35	81
70 mm			■		■	■						■				X 700 - SSI	81
70 mm			■		■	■							■			X 700 - RS485	81
70 mm			■		■	■								■		X 700 - CANopen®	81
70 mm			■		■	■								■		X 700 - Profibus-DP	81



Redundant encoders

Absolute

Size (ø)	Solid shaft	Hollow shaft	Bearingless encoder	Analog redundant	SSI redundant	SSI + Resolver	CANopen® redundant	Product family	Page
28.6 mm	■					■		EAM280	82
58 mm	■					■		BMMV 58	82
58 mm		■						BMSH 58	82
58 mm		■						BMMH 58	82
58 mm	■					■		ATD 2S B14 Y24	82
55 mm	■	■				■		MHAD 50	82



SIL encoders

Incremental & absolute

Size (ø)	SIL3 (compliant in redundant use)	SIL2	Solid shaft	Hollow shaft	TTL/RS422	HTL/ push-pull	SimCos 1 Vpp	Product family	Page
58 mm	■						■	ITD22H00 SIL	83
58 mm		■	■		■	■	■	GI357	83
58 mm		■		■	■	■	■	HOGS 100S	83



Stainless steel encoders

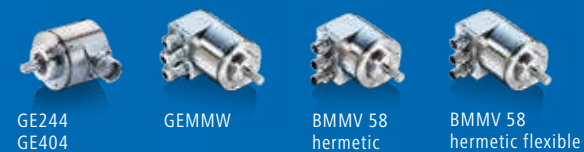
Incremental

Size (ø)	Stainless steel 1.4305	Stainless steel 1.4404	Solid shaft	Hollow shaft	TTL/RS422	HTL/ Push-pull	SimCos 1 Vpp	Product family	Page
58 mm	■			■	■	■		GE333	84
58 mm	■		■		■	■		GE355	84
58 mm		■	■		■	■		GF355	84
68 mm	■			■	■	■		ITD21 A4 Y65	84
89 mm	■			■	■	■		ITD 40 A4	84
89 mm	■			■			■	ITD 42 A4 Y141	84



Absolute

Size (ø)	Stainless steel 1.4305	Stainless steel 1.4404	Solid shaft	SSI	CANopen®	DeviceNet	Profibus-DP / SAE J1939	EtherCAT / EtherNet/IP	Powerlink / Profinet	Product family	Page
58 mm		■	■	■	■					GE244	85
58 mm	■			■	■					GE404	85
58 mm	■			■	■	■				GEMMW	85
58 mm	■			■	■	■				GEMMH	85
58 mm	■			■	■	■				BMMV 58 hermetic	85
58 mm	■			■	■	■	■			BMMV 58 hermetic flexible	85



Offshore encoders

Size (ø)	Incremental	Absolute Singleturn	Absolute Multiturn	Solid shaft	Hollow shaft	TTL/RS422	HTL/push-pull	HTL/PiPower	Line driver	SSI / SSI + Incremental	CANopen*	DeviceNet	EtherCAT	Profinet	Profibus-DP	Product family	Page
58 mm	■		■	■	■											GI355-C	86
58 mm	■		■	■	■											GI356-C	86
105 mm	■			■	■		■									HOG 11	86
130 mm	■			■	■		■									HOG 131	86
100 mm	■			■	■		■	■								MHGE 100	86
813 mm	■			■	■		■	■								MHGE 800	86
58 mm		■	■						■							GM400-C	87
58 mm		■	■						■							GM401-C	87
58 mm		■	■						■							GOM2H-C	87
58 mm	■		■						■							G0A2H-C	87
58 mm		■	■						■	■	■	■	■	■	■	GXMMW	87
105 mm	■	■	■						■	■	■	■	■	■	■	HMG 10	87
115 mm	■	■	■						■	■	■	■	■	■	■	PMG 10	87



Signal Processing

Size	Digital converter	Precision interpolator	Fiber-optic transmitter	Product family	Page
50 mm	■			HEAG 151	88
50 mm	■			HEAG 152	88
50 mm	■			HEAG 153	88
50 mm	■			HEAG 154	88
122 mm	■			HEAG 158	89
122 mm	■			HEAG 159	89
122 mm	■			HEAG 160	89
122 mm		■		HEAG 171	90
122 mm		■		HEAG 172	90
50 mm		■		HEAG 173	90
50 mm		■		HEAG 174	90
50 mm		■		HEAG 175	91
50 mm		■		HEAG 176	91



Inclination sensors

Size	Sensing range 1-dim. / 0...360°	Sensing range 2-dim. / max. ±90°	Sensing range 2-dim. / max. ±60°	Analog	CANopen*	Profibus-DP	SAE J1939	Corrosions protection C5-M	Product family	Page
48 mm	■	■		■	■				GIM500	94
99 mm	■			■	■				GNAMG	94














Acceleration sensors

Size	Redundant	SIL2/PLD approval	Analog	CANopen*	Product family	Page
55 mm		■	■		GAM900	95
55 mm	■	■	■	■	GAM900S	95
























КАТАЛОГ ОБОРУДОВАНИЯ ВАУМЕР























sample picture	product family	housing	sensing distance min.	sensing distance max.	features
	IR12.D04L (analog & digital) Inductive distance measuring sensors	12x60 mm, metal	0 mm	4 mm	<ul style="list-style-type: none"> • AlphaProx • linearized • Teach-in • integrated Analog- and switching output • IP 67
	IR12.D06L (analog & digital) Inductive distance measuring sensors	12x60 mm, metal	0 mm	6 mm	<ul style="list-style-type: none"> • AlphaProx • large measuring distance • linearized • Teach-in • integrated Analog- and switching output • IP 67
	IR12.D06L (analog) Inductive distance measuring sensors	12x60 mm, metal	0 mm	6 mm	<ul style="list-style-type: none"> • AlphaProx • large measuring distance • linearized • Teach-in • IP 67
	IR18.D08F (factor 1) Inductive distance measuring sensors	18x60 mm, metal	0 mm	8 mm	<ul style="list-style-type: none"> • AlphaProx • Factor 1 (all metal sensor) • large measuring distance • linearized • Teach-in • IP 67
	IR18.D08L (analog & digital) Inductive distance measuring sensors	18x60 mm, metal	0 mm	8 mm	<ul style="list-style-type: none"> • AlphaProx • large measuring distance • linearized • Teach-in • Integrated Analog- and switching output • IP 67
	IR18.D08L (analog) Inductive distance measuring sensors	18x60 mm, metal	0 mm	8 mm	<ul style="list-style-type: none"> • AlphaProx • large measuring distance • linearized • Teach-in • IP 67
	IR18.D08M (Alu) Inductive distance measuring sensors	18x60 mm, metal	0 mm	8 mm	<ul style="list-style-type: none"> • AlphaProx • optimized for aluminum • linearized • Teach-in • IP 67
	IR12.D03K (analog) Inductive distance measuring sensors	12x60 mm, metal	2,75 mm	3 mm	<ul style="list-style-type: none"> • AlphaProx • high sensitivity • linearized • Teach-in • IP 67
	IR18.D03K (analog) Inductive distance measuring sensors	18x60 mm, metal	2,75 mm	3 mm	<ul style="list-style-type: none"> • AlphaProx • high sensitivity • linearized • Teach-in • IP 67
	IWRM 12Z (Teach-in) Inductive distance measuring sensors	12x60 mm, metal	0 mm	4 mm	<ul style="list-style-type: none"> • AlphaProx • Teach-in • linearized • IP 67
	IR06.D03L Inductive distance measuring sensors	6,5x40 mm, metal	0 mm	3 mm	<ul style="list-style-type: none"> • AlphaProx • large measuring distance • linearized • IP 67












	<p>IR08.D03L Inductive distance measuring sensors</p>	<p>8x46 mm, metal</p>	<p>0 mm</p>	<p>3 mm</p>	<ul style="list-style-type: none"> • AlphaProx • large measuring distance • linearized • IP 67
	<p>IWM 18 Inductive distance measuring sensors</p>	<p>18x30 mm, metal</p>	<p>0 mm</p>	<p>4 mm</p>	<ul style="list-style-type: none"> • AlphaProx • resolution 1µm / 5µm • IP 67
	<p>IWRM 18Z (Teach-in) Inductive distance measuring sensors</p>	<p>18x60 mm, metal</p>	<p>0 mm</p>	<p>8 mm</p>	<ul style="list-style-type: none"> • AlphaProx • Teach-in • linearized • IP 67
	<p>IWRM 30Z (Teach-in) Inductive distance measuring sensors</p>	<p>30x62 mm, metal</p>	<p>0 mm</p>	<p>16 mm</p>	<ul style="list-style-type: none"> • AlphaProx • Teach-in • linearized • IP 67
	<p>IWFK 20 (Teach-in) Inductive distance measuring sensors</p>	<p>20x42 mm, plastic</p>	<p>0 mm</p>	<p>10 mm</p>	<ul style="list-style-type: none"> • AlphaProx • Teach-in • linearized • IP 67












sample picture	product family	housing	sensing distance min.	sensing distance max.	features
	O500H.GP Diffuse sensors with background suppression	20,2x47,7x36,4 mm, metal	60 mm	400 mm	<ul style="list-style-type: none"> • hygiene design • PinPoint LED • small beam diameter • short response time • IO-Link • Teach-in • IP 68/69K & proTect+
	O500W.GP (Retro series 14) Diffuse sensors with background suppression	20,2x47,9x37,7 mm, metal	60 mm	400 mm	<ul style="list-style-type: none"> • washdown design • PinPoint LED • small beam diameter • short response time • IO-Link • Teach-in • IP 68/69K & proTect+
	O500W.GP Diffuse sensors with background suppression	20,2x47,2x37,7 mm, metal	60 mm	400 mm	<ul style="list-style-type: none"> • washdown design • PinPoint LED • small beam diameter • short response time • IO-Link • qTeach • IP 68/69K & proTect+
	O500H.SP SmartReflect Light barriers	20,2x47,7x36,4 mm, metal	-	1000 mm	<ul style="list-style-type: none"> • hygiene design • PinPoint LED • IO-Link • Teach-in • short response time • IP 68/69K & proTect+
	O500W.SP (Retro series 14) SmartReflect Light barriers	20,2x47,9x37,7 mm, metal	-	600 mm	<ul style="list-style-type: none"> • washdown design • PinPoint LED • IO-Link • Teach-in • short response time • IP 68/69K & proTect+
	O500W.SP SmartReflect Light barriers	20,2x47,2x37,7 mm, metal	-	1000 mm	<ul style="list-style-type: none"> • washdown design • PinPoint LED • IO-Link • qTeach • short response time • IP 68/69K & proTect+
	OR18W.GR Diffuse sensors with background suppression	18x71,9 mm, metal	40 mm	120 mm	<ul style="list-style-type: none"> • washdown design • sensing distance adjustable via potentiometer • IP 67/69K
	O300.SL (Laser) SmartReflect Light barriers	12,9x32,3x23 mm, plastic	-	250 mm	<ul style="list-style-type: none"> • One inch class • laser diode • very small beam diameter • IO-Link • qTeach • IP 67
	O300.SP SmartReflect Light barriers	12,9x32,3x23 mm, plastic	-	300 mm	<ul style="list-style-type: none"> • One inch class • PinPoint LED • IO-Link • qTeach • short response time • IP 67
	O300H.SL (Laser) SmartReflect Light barriers	16,5x34,6x28,7 mm, metal	-	250 mm	<ul style="list-style-type: none"> • One inch class • hygiene design • laser diode • very small beam diameter • IO-Link • Teach-in • IP 68/69K & proTect+
	O300H.SP SmartReflect Light barriers	16,5x34,6x28,7 mm, metal	-	300 mm	<ul style="list-style-type: none"> • One inch class • hygiene design • PinPoint LED • IO-Link • Teach-in












					<ul style="list-style-type: none"> • short response time • IP 68/69K & proTect+
	O300W.SL (Laser) SmartReflect Light barriers	16,5x34,7x28,2 mm, metal	-	250 mm	<ul style="list-style-type: none"> • One inch class • washdown design • laser diode • very small beam diameter • IO-Link • qTeach • IP 68/69K & proTect+
	O300W.SP SmartReflect Light barriers	16,5x34,7x28,2 mm, metal	-	300 mm	<ul style="list-style-type: none"> • One inch class • washdown design • PinPoint LED • IO-Link • qTeach • short response time • IP 68/69K & proTect+
	OR18.SP SmartReflect Light barriers	18x65 mm, metal	-	300 mm	<ul style="list-style-type: none"> • PinPoint LED • qTeach • short response time • IP 67
	O300.RL (Laser) Retro-reflective sensors	12,9x32,3x23 mm, plastic	-	5 m	<ul style="list-style-type: none"> • One inch class • laser diode • polarization filter to detect shiny objects • very short response time • IO-Link • qTeach • IP 67
	O300.RP Retro-reflective sensors	12,9x32,3x23 mm, plastic	-	5 m	<ul style="list-style-type: none"> • One inch class • PinPoint LED • polarization filter to detect shiny objects • small beam diameter • IO-Link • qTeach • IP 67
	O300.GL (Laser) Diffuse sensors with background suppression	12,9x32,3x23 mm, plastic	30 mm	250 mm	<ul style="list-style-type: none"> • One inch class • laser diode • very small beam diameter • IO-Link • qTeach • IP 67
	O300.GP Diffuse sensors with background suppression	12,9x32,3x23 mm, plastic	30 mm	200 mm	<ul style="list-style-type: none"> • One inch class • PinPoint LED • small beam diameter • short response time • IO-Link • qTeach • IP 67
	O500.GP Diffuse sensors with background suppression	18x45x32 mm, plastic	60 mm	400 mm	<ul style="list-style-type: none"> • PinPoint LED • small beam diameter • short response time • IO-Link • qTeach • IP 67
	OR18.GP Diffuse sensors with background suppression	18x65 mm, metal	45 mm	200 mm	<ul style="list-style-type: none"> • PinPoint LED • small beam diameter • short response time • qTeach • IP 67
	OR18.GR.F Diffuse sensors with background suppression	18x48,3 mm, plastic	50 mm	50 mm	<ul style="list-style-type: none"> • fixed sensing distance • small beam diameter • IP 67












	OR18.GR Diffuse sensors with background suppression	18x71,9 mm, plastic	40 mm	120 mm	<ul style="list-style-type: none"> sensing distance adjustable via potentiometer IP 67
	O300H.GL (Laser) Diffuse sensors with background suppression	16,5x34,6x28,7 mm, metal	30 mm	250 mm	<ul style="list-style-type: none"> One inch class hygiene design laser diode very small beam diameter IO-Link Teach-in IP 68/69K & proTect+
	O300H.GP Diffuse sensors with background suppression	16,5x34,6x28,7 mm, metal	30 mm	200 mm	<ul style="list-style-type: none"> One inch class hygiene design PinPoint LED small beam diameter short response time IO-Link Teach-in IP 68/69K & proTect+
	O300W.GL (Laser) Diffuse sensors with background suppression	16,5x34,7x28,2 mm, metal	30 mm	250 mm	<ul style="list-style-type: none"> One inch class washdown design laser diode very small beam diameter IO-Link qTeach IP 68/69K & proTect+
	O300W.GP Diffuse sensors with background suppression	16,5x34,7x28,2 mm, metal	30 mm	200 mm	<ul style="list-style-type: none"> One inch class washdown design PinPoint LED small beam diameter short response time IO-Link qTeach IP 68/69K & proTect+
	O500.SP SmartReflect Light barriers	18x45x32 mm, plastic	-	1000 mm	<ul style="list-style-type: none"> PinPoint LED IO-Link qTeach short response time IP 67
	O500.RP Retro-reflective sensors	18x45x32 mm, plastic	-	7,5 m	<ul style="list-style-type: none"> PinPoint LED polarization filter to detect shiny objects small beam diameter IO-Link qTeach IP 67
	OR18.RR Retro-reflective sensors	18x44,8 mm, plastic	-	3,5 m	<ul style="list-style-type: none"> polarization filter to detect shiny objects sensitivity adjustable via potentiometer suppression of mutual optical interference IP 67
	OR18.RR.T Retro-reflective sensors	18x67,2 mm, plastic	-	0,5 m	<ul style="list-style-type: none"> designed for detection of transparent objects polarization filter to detect shiny objects sensitivity adjustable via potentiometer suppression of mutual optical interference IP 67
	OR18.RL (Laser) Retro-reflective sensors	18x77 mm, metal	-	15 m	<ul style="list-style-type: none"> short response time long range polarization filter to detect shiny objects sensitivity adjustable via potentiometer suppression of mutual optical interference IP 67
	O300H.RL (Laser) Retro-reflective sensors	16,5x34,6x28,7 mm, metal	-	5 m	<ul style="list-style-type: none"> One inch class hygiene design laser diode polarization filter to detect shiny objects












					<ul style="list-style-type: none"> • very short response time • IO-Link • Teach-in • IP 68/69K & proTect+
	O300H.RP Retro-reflective sensors	16,5x34,6x28,7 mm, metal	-	5 m	<ul style="list-style-type: none"> • One inch class • hygiene design • PinPoint LED • polarization filter to detect shiny objects • small beam diameter • IO-Link • Teach-in • IP 68/69K & proTect+
	O300W.RL (Laser) Retro-reflective sensors	16,5x34,7x28,2 mm, metal	-	5 m	<ul style="list-style-type: none"> • One inch class • washdown design • laser diode • polarization filter to detect shiny objects • very short response time • IO-Link • qTeach • IP 68/69K & proTect+
	O300W.RP Retro-reflective sensors	16,5x34,7x28,2 mm, metal	-	5 m	<ul style="list-style-type: none"> • One inch class • washdown design • PinPoint LED • polarization filter to detect shiny objects • small beam diameter • IO-Link • qTeach • IP 68/69K & proTect+
	O500H.RP Retro-reflective sensors	20,2x47,7x36,4 mm, metal	-	7,5 m	<ul style="list-style-type: none"> • hygiene design • PinPoint LED • polarization filter to detect shiny objects • small beam diameter • IO-Link • Teach-in • IP 68/69K & proTect+
	O500W.RP (Retro series 14) Retro-reflective sensors	20,2x47,2x37,7 mm, metal	-	7,5 m	<ul style="list-style-type: none"> • washdown design • PinPoint LED • polarization filter to detect shiny objects • small beam diameter • Teach-in • IP 68/69K & proTect+
	O500W.RP Retro-reflective sensors	20,2x47,2x37,7 mm, metal	-	7,5 m	<ul style="list-style-type: none"> • washdown design • PinPoint LED • polarization filter to detect shiny objects • small beam diameter • IO-Link • qTeach • IP 68/69K & proTect+
	OR18W.RR Retro-reflective sensors	18x67,2 mm, metal	-	3,5 m	<ul style="list-style-type: none"> • washdown design • polarization filter to detect shiny objects • sensitivity adjustable via potentiometer • suppression of mutual optical interference • IP 67/69K
	OR18W.RR.T Retro-reflective sensors	18x67,2 mm, metal	-	0,5 m	<ul style="list-style-type: none"> • washdown design • designed for detection of transparent objects • polarization filter to detect shiny objects • sensitivity adjustable via potentiometer • suppression of mutual optical interference • IP 67/69K
	FHCK 07 Diffuse sensors with background suppression	8x16,2x10,8 mm, plastic	10 mm	60 mm	<ul style="list-style-type: none"> • ultra compact housing • sensing distance adjustable via Teach-in • suppression of mutual optical interference • IP 65
	FHDK 10 (adjustable sensing distance)	10,4x27x14 mm, plastic	20 mm	120 mm	<ul style="list-style-type: none"> • compact housing • large sensing range • sensing distance adjustable via











	Diffuse sensors with background suppression					<ul style="list-style-type: none"> • IP 67
	FHDK 14 (mechanically adjustable) Diffuse sensors with background suppression	14,8x43x31 mm, plastic	20 mm	500 mm		<ul style="list-style-type: none"> • long range • sensing distance adjustable via potentiometer • suppression of mutual optical interference • IP 67
	FHDK 04 Diffuse sensors with background suppression	4x44,8x6,2 mm, plastic	30 mm ±2 mm	50 mm ±3 mm		<ul style="list-style-type: none"> • compact housing • small beam diameter • push-pull output • IP 65
	FHDM 12 Diffuse sensors with background suppression	12,4x35x35 mm, metal	15 mm	300 mm		<ul style="list-style-type: none"> • rugged miniature metal housing • sensing distance adjustable via potentiometer • suppression of mutual optical interference • IP 67
	FPDK 10 Retro-reflective sensors	10,4x27x16,3 mm, plastic	-	3,5 m		<ul style="list-style-type: none"> • compact housing • polarization filter to detect shiny objects • suppression of mutual optical interference • IP 67
	FPDK 14 Retro-reflective sensors	14,8x43x31 mm, plastic	-	7 m		<ul style="list-style-type: none"> • polarization filter to detect shiny objects • single lens optics (FPDK 14x5111/S35A) • suppression of mutual optical interference • IP 67
	FRDK 14 (for transparent Objects) Retro-reflective sensors	14,8x43x31 mm, plastic	-	7 m		<ul style="list-style-type: none"> • designed for detection of transparent objects • sensitivity adjustable via Teach-in • short response time • IP 67
	FNDR 14 SmartReflect Light barriers	19,6x51x34,3 mm, metal	-	800 mm on V4A		<ul style="list-style-type: none"> • washdown design • IO-Link • remote Teach-in • IP 68/69K & proTect+
	FHDH 14 Diffuse sensors with background suppression	19,6x52,2x34,3 mm, metal	50 mm	400 mm		<ul style="list-style-type: none"> • hygiene design • remote Teach-in • IP 68/69K & proTect+
	FHDR 14 Diffuse sensors with background suppression	19,6x51x34,3 mm, metal	50 mm	400 mm		<ul style="list-style-type: none"> • washdown design • IO-Link • Remote Teach-in • IP 68/69K & proTect+
	FZDK 10 Diffuse sensors with intensity difference	10,4x27x14 mm, plastic	5 mm	200 mm		<ul style="list-style-type: none"> • compact housing • sensing distance adjustable via potentiometer • IP 67
	O300.ZL (Laser)	12,9x32,3x23 mm, plastic	10 mm	250 mm		<ul style="list-style-type: none"> • One inch class • laser diode












	Diffuse sensors with intensity difference				<ul style="list-style-type: none"> • short response time • very small beam diameter • IO-Link • qTeach • IP 67
	O300.ZR Diffuse sensors with intensity difference	12,9x32,3x23 mm, plastic	10 mm	400 mm	<ul style="list-style-type: none"> • One inch class • qTeach • IP 67
	FZDK 14 Diffuse sensors with intensity difference	14,8x43x31 mm, plastic	5 mm	600 mm	<ul style="list-style-type: none"> • long range • sensing distance adjustable via potentiometer • suppression of mutual optical interference • IP 67
	O500.ZR Diffuse sensors with intensity difference	18x45x32 mm, plastic	20 mm	600 mm	<ul style="list-style-type: none"> • qTeach • IP 67
	OR18.ZI Diffuse sensors with intensity difference	18x44,8 mm, plastic	0 mm	800 mm	<ul style="list-style-type: none"> • infrared LED • long range • sensing distance adjustable via potentiometer • suppression of mutual optical interference • IP 67
	OR18.ZL (Laser) Diffuse sensors with intensity difference	18x77 mm, metal	10 mm	300 mm	<ul style="list-style-type: none"> • short response time • sensing distance adjustable via potentiometer • suppression of mutual optical interference • IP 67
	OR18W.ZI Diffuse sensors with intensity difference	18x67,2 mm, metal	0 mm	800 mm	<ul style="list-style-type: none"> • washdown design • infrared LED • long range • sensing distance adjustable via potentiometer • suppression of mutual optical interference • IP 67/69K
	FKDK 14 Diffuse contrast sensors	14,8x43x31 mm, plastic	12,5 mm ±2 mm	12,5 mm ±2 mm	<ul style="list-style-type: none"> • very short response time • white light • IP 67
	FVDK 66 (standard version) Fiber optic sensors & cables	10x33,8x70,2 mm, plastic	-	340 mm	<ul style="list-style-type: none"> • 2x4 digit display indicates the switching point and receiving light level • easy operation • version with external teach-in • IP 40
	FVDK 67 (standard version) Fiber optic sensors & cables	10x33,8x70,2 mm, plastic	-	1200 mm	<ul style="list-style-type: none"> • 2x4 digit display indicates the switching point and receiving light level • versatile applicable due to 8 integrated operating modes • version with external teach-in and teach feedback • IP 40
	OHDK 10 (Laser) Diffuse sensors with background suppression	10,4x27x16,3 mm, plastic	22 mm	130 mm	<ul style="list-style-type: none"> • compact housing • high repeatability • sensing distance adjustable via potentiometer • IP 67












	OHDK 14 (Laser) Diffuse sensors with background suppression	14,8x43x31 mm, plastic	20 mm	350 mm	<ul style="list-style-type: none"> • short response time • high repeatability • sensing distance adjustable via potentiometer • IP 67
	OPDK 14 (Laser, standard version) Retro-reflective sensors	14,8x43x31 mm, plastic	-	10 m	<ul style="list-style-type: none"> • single lens optics • long sensing range • short response time • IP 67
	OPDM 12 (Laser) Retro-reflective sensors	12,4x35x35 mm, metal	-	7 m	<ul style="list-style-type: none"> • rugged miniature metal housing • single lens optics • short response time • IP 67
	FHDK 14 (teach-in) Diffuse sensors with background suppression	14,8x43x31 mm, plastic	40 mm	200 mm	<ul style="list-style-type: none"> • short response time • sensing distance adjustable via Teach-in • suppression of mutual optical interference • IP 67
	FHDK 07 Diffuse sensors with background suppression	8x16,2x10,8 mm, plastic	10 mm	60 mm	<ul style="list-style-type: none"> • ultra compact housing • sensing distance adjustable via Teach-in • suppression of mutual optical interference • IP 65
	FLDK 110 (Laser, Scatec-2 box) Copy counters	30 mm, plastic	0 mm	120 mm	<ul style="list-style-type: none"> • Laser copy counter / edge detector • Individual package detection with seamless product detection • Selectable output pulse length • IP 54
	FLDK 110 (Laser, Scatec-2) Copy counters	30 mm, plastic	0 mm	120 mm	<ul style="list-style-type: none"> • Smallest laser copy counter on the market • counting of up to 600'000 copies/hour • Sensitivity $\geq 0,2$ mm • Selectable output pulse length • IP 54
	FLDK 110 (Laser, Scatec-J) Copy counters	30 mm, plastic	0 mm	55 mm	<ul style="list-style-type: none"> • Smallest laser copy counter on the market • counting of up to 280'000 copies/hour • Sensitivity $\geq 1,5$ mm • IP 54
	FLDM 170 (Laser, Scatec-10) Copy counters	30 mm, metal	0 mm	90 mm	<ul style="list-style-type: none"> • up to 3 million copies/hour • Sensitivity $\geq 0,1$ mm • display and integrated counter • Selectable output pulse length • Integrated gap detection and Sync-input • IP 54
	FNDK 14 SmartReflect Light barriers	14,8x43x31 mm, plastic	-	800 mm on V4A	<ul style="list-style-type: none"> • short response time • sensing distance adjustable via Teach-in • IO-Link • IP 67
	O300.TL (Laser, Emitter) Through beam sensors	12,9x32,3x23 mm, plastic	-	40 m	<ul style="list-style-type: none"> • One inch class • laser diode • very small beam diameter • IP 67












	O300.EL (Laser, Receiver) Through beam sensors	12,9x32,3x23 mm, plastic	-	40 m	<ul style="list-style-type: none"> • One inch class • short response time • qTeach • IP 67
	O300.TR (Emitter) Through beam sensors	12,9x32,3x23 mm, plastic	-	10 m	<ul style="list-style-type: none"> • One inch class • small beam diameter • IP 67
	O300.ER (Receiver) Through beam sensors	12,9x32,3x23 mm, plastic	-	10 m	<ul style="list-style-type: none"> • One inch class • short response time • qTeach • IP 67
	O500.TR (Emitter) Through beam sensors	18x45x32 mm, plastic	-	25 m	<ul style="list-style-type: none"> • IP 67
	O500.ER (Receiver) Through beam sensors	18x45x32 mm, plastic	-	25 m	<ul style="list-style-type: none"> • qTeach • IP 67
	OR18.TI (Emitter) Through beam sensors	18x44,8 mm, plastic	-	13 m	<ul style="list-style-type: none"> • infrared LED • long range • transmission power adjustable via potentiometer • IP 67
	OR18.EI (Receiver) Through beam sensors	18x44,8 mm, plastic	-	13 m	<ul style="list-style-type: none"> • infrared LED • long range • sensitivity adjustable via potentiometer • IP 67
	OR18.TL (Laser, Emitter) Through beam sensors	18x67 mm, metal	-	55 m	<ul style="list-style-type: none"> • short response time • long range • IP 67
	OR18.EL (Laser, Receiver) Through beam sensors	18x77 mm, metal	-	55 m	<ul style="list-style-type: none"> • short response time • long range • sensitivity adjustable via potentiometer • IP 67
	O300H.TL (Laser, Emitter) Through beam sensors	16,5x34,6x28,7 mm, metal	-	40 m	<ul style="list-style-type: none"> • One inch class • hygiene design • laser diode • very small beam diameter • IP 68/69K & proTect+
	O300H.EL (Laser, Receiver) Through beam sensors	16,5x34,6x28,7 mm, metal	-	40 m	<ul style="list-style-type: none"> • One inch class • hygiene design • short response time • Teach-in • IP 68/69K & proTect+












	O300H.TR (Emitter) Through beam sensors	16,5x34,6x28,7 mm, metal	-	10 m	<ul style="list-style-type: none"> • One inch class • hygiene design • small beam diameter • IP 68/69K & proTect+
	O300H.ER (Receiver) Through beam sensors	16,5x34,6x28,7 mm, metal	-	10 m	<ul style="list-style-type: none"> • One inch class • hygiene design • short response time • Teach-in • IP 68/69K & proTect+
	O300W.TL (Laser, Emitter) Through beam sensors	16,5x34,7x28,2 mm, metal	-	40 m	<ul style="list-style-type: none"> • One inch class • washdown design • laser diode • very small beam diameter • IP 68/69K & proTect+
	O300W.EL (Laser, Receiver) Through beam sensors	16,5x34,7x28,2 mm, metal	-	40 m	<ul style="list-style-type: none"> • One inch class • washdown design • short response time • qTeach • IP 68/69K & proTect+
	O300W.TR (Emitter) Through beam sensors	16,5x34,7x28,2 mm, metal	-	10 m	<ul style="list-style-type: none"> • One inch class • washdown design • small beam diameter • IP 68/69K & proTect+
	O300W.ER (Receiver) Through beam sensors	16,5x34,7x28,2 mm, metal	-	10 m	<ul style="list-style-type: none"> • One inch class • washdown design • short response time • qTeach • IP 68/69K & proTect+
	O500H.TR (Emitter) Through beam sensors	20,2x47,7x36,4 mm, metal	-	25 m	<ul style="list-style-type: none"> • hygiene design • IP 68/69K & proTect+
	O500H.ER (Receiver) Through beam sensors	20,2x47,7x36,4 mm, metal	-	25 m	<ul style="list-style-type: none"> • hygiene design • Teach-in • IP 68/69K & proTect+
	O500W.TR (Emitter) Through beam sensors	20,2x47,2x37,7 mm, metal	-	25 m	<ul style="list-style-type: none"> • washdown design • IP 68/69K & proTect+
	O500W.ER (Receiver) Through beam sensors	20,2x47,2x37,7 mm, metal	-	25 m	<ul style="list-style-type: none"> • washdown design • qTeach • IP 68/69K & proTect+
	OR18W.TI (Emitter) Through beam sensors	18x67,2 mm, metal	-	13 m	<ul style="list-style-type: none"> • washdown design • infrared LED • long range • transmission power adjustable via potentiometer • IP 67/69K



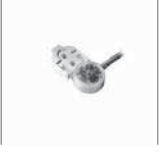







	(Receiver) Through beam sensors				<ul style="list-style-type: none"> • infrared LED • long range • sensitivity adjustable via potentiometer • IP 67/69K
	FSDK 14 (Emitter) Through beam sensors	14,8x43x31 mm, plastic	-	12 m	<ul style="list-style-type: none"> • economy line • IP 67
	FEDK 14 (Receiver) Through beam sensors	14,8x43x31 mm, plastic	-	12 m	<ul style="list-style-type: none"> • economy line • fix sensing distance • IP 67
	OSDK 14 (Laser, Emitter) Through beam sensors	14,8x43x31 mm, plastic	-	8 m	<ul style="list-style-type: none"> • economy line • IP 67
	OEDK 14 (Laser, Receiver) Through beam sensors	14,8x43x31 mm, plastic	-	8 m	<ul style="list-style-type: none"> • economy line • fix sensing distance • IP 67
	FSDK 10 (Emitter) Through beam sensors	10,4x27x14 mm, plastic	-	5 m	<ul style="list-style-type: none"> • compact housing • IP 67
	FEDK 10 (Receiver) Through beam sensors	10,4x27x14 mm, plastic	-	5 m	<ul style="list-style-type: none"> • compact housing • sensing range adjustable via potentiometer • IP 67
	OSDK 10 (Laser, Emitter) Through beam sensors	10,4x27x16,3 mm, plastic	-	8 m	<ul style="list-style-type: none"> • laser sensor in miniature housing • high repeatability • IP 67
	OEDK 10 (Laser, Receiver) Through beam sensors	10,4x27x14 mm, plastic	-	8 m	<ul style="list-style-type: none"> • laser sensor in sub miniature housing • high repeatability • IP 67
	FSDM 16 (Emitter) Through beam sensors	15,4x50x50 mm, metal	-	8 m	<ul style="list-style-type: none"> • rugged metal housing • IP 67












	FEDM 16 (Receiver)	15,4x50x50 mm, metal	-	8 m	<ul style="list-style-type: none"> • rugged metal housing • fix sensing distance • IP 67
	FSCK 07 (Emitter) Through beam sensors	8x16,2x10,8 mm, plastic	-	2 m	<ul style="list-style-type: none"> • ultra compact housing • IP 65
	FECK 07 (Receiver) Through beam sensors	8x16,2x10,8 mm, plastic	-	2 m	<ul style="list-style-type: none"> • ultra compact housing • sensing range adjustable via Teach-in • IP 65
	FSDK 07 (Emitter) Through beam sensors	8x16,2x10,8 mm, plastic	-	2 m	<ul style="list-style-type: none"> • ultra compact housing • IP 65
	FEDK 07 (Receiver) Through beam sensors	8x16,2x10,8 mm, plastic	-	2 m	<ul style="list-style-type: none"> • ultra compact housing • sensing range adjustable via Teach-in • IP 65
	FSDM 12 (Emitter) Through beam sensors	12,4x35x35 mm, metal	-	6 m	<ul style="list-style-type: none"> • rugged miniature metal housing • IP 67
	FEDM 12 (Receiver) Through beam sensors	12,4x35x35 mm, metal	-	6 m	<ul style="list-style-type: none"> • rugged miniature metal housing • fix sensing distance • IP 67
	FSAM 08 (Emitter) Through beam sensors	8x59 mm, metal	-	2,5 m	<ul style="list-style-type: none"> • subminiature metal housing • IP 65
	FEAM 08 (Receiver) Through beam sensors	8x59 mm, metal	-	2,5 m	<ul style="list-style-type: none"> • rugged subminiature metal housing • fix sensing distance • IP 65
	FSAM 18 (Emitter) Through beam sensors	18x57 mm, metal	-	16 m	<ul style="list-style-type: none"> • test input • IP 67
	FEAM 18 (Receiver) Through beam sensors	18x57 mm, metal	-	16 m	<ul style="list-style-type: none"> • sensing range adjustable via potentiometer • IP 67





	FSDM 08 (Emitter) Through beam sensors	8x58x12 mm, metal	-	2,5 m	<ul style="list-style-type: none"> • rectangular miniature housing with side sensing optics • IP 65
	FEDM 08 (Receiver) Through beam sensors	8x58x12 mm, metal	-	2,5 m	<ul style="list-style-type: none"> • rugged subminiature metal housing with side sensing optics • fix sensing distance • IP 65
	FCE xCD 1 Fiber optics	3x12 mm, metal	1 mm	400 mm	<ul style="list-style-type: none"> • with thread
	FCE xEF 1 Fiber optics	6x18 mm, metal	1 mm	46 mm	<ul style="list-style-type: none"> • with thread
	FFAK 16 Liquid level and leakage sensors	30x81 mm, plastic	-	-	<ul style="list-style-type: none"> • with thread M16x1 • chemical resistance • up to 10 bar nominal pressure • IP 67
	FFAK 17 (mechanically adjustable, axial) Liquid level and leakage sensors	30x81,5 mm, plastic	-	-	<ul style="list-style-type: none"> • sensitivity adjustable • chemical resistance • up to 10 bar nominal pressure • IP 67
	FFAK 17 (standard version) Liquid level and leakage sensors	30x81 mm, plastic	-	-	<ul style="list-style-type: none"> • chemical resistance • up to 10 bar nominal pressure • IP 67
	FFAM 16 Liquid level and leakage sensors	30x66,5 mm, metal	-	-	<ul style="list-style-type: none"> • with thread M16x1 • rugged metal housing • up to 40 bar nominal pressure • IP 67
	FFAM 17 Liquid level and leakage sensors	30x66,5 mm, metal	-	-	<ul style="list-style-type: none"> • rugged metal housing • chemical resistance • up to 40 bar nominal pressure • IP 67
	FFDK 16 Liquid level and leakage sensors	16x28x26 mm, plastic	-	-	<ul style="list-style-type: none"> • liquid level sensor for pipe mounting • pipe diameter from 3 ... 13 mm • easy setup - no adjustment necessary • IP 50
	FGLM Fork and angle sensors	75x75x10 mm, metal	-	158 mm	<ul style="list-style-type: none"> • fork opening from 60-158 mm • optical axis approachable in x-, y- and z-direction • smallest detectable object 0,5 mm • IP 67
	FGUM	50x60x10 mm,	-	80 mm	<ul style="list-style-type: none"> • fork opening from 30-80 mm

	(Teach-in) Fork and angle sensors	metal				<ul style="list-style-type: none"> • smallest detectable object 0,3 mm • Teach-in • IP 67
	FGUM Fork and angle sensors	40x50x10 mm, metal	-	120 mm		<ul style="list-style-type: none"> • fork opening from 20-120 mm • smallest detectable object 0,5 mm • ambient light immunity up to 140 kLux • IP 67
	FHDK 10 (for glass detection) Diffuse sensors with background suppression	10,4x27x14 mm, plastic	10 mm	30 mm		<ul style="list-style-type: none"> • compact housing • optimized for glass detection • sensing distance adjustable via potentiometer • IP 67
	FHDK 10 (line beam) Diffuse sensors with background suppression	10,4x27x14 mm, plastic	20 mm	80 mm		<ul style="list-style-type: none"> • compact housing • with line beam • sensing distance adjustable via potentiometer • IP 67
	FHDK 10 (Tw adjustable, point source LED) Diffuse sensors with background suppression	10,4x27x14 mm, plastic	25 mm	120 mm		<ul style="list-style-type: none"> • compact housing • small beam diameter • sensing distance adjustable via potentiometer • IP 67
	FHDK 10 (Tw fixed) Diffuse sensors with background suppression	10,4x27x14,7 mm, plastic	30 mm ±2 mm	80 mm ±8 mm		<ul style="list-style-type: none"> • compact housing • fixed sensing distance • push-pull output • IP 67
	FHDK 20 Diffuse sensors with background suppression	20x42x15 mm, plastic	30 mm	200 mm		<ul style="list-style-type: none"> • cross-technology housing concept • sensing distance adjustable via Teach-in • small mounting depth • IP 67
	FHDM 16 Diffuse sensors with background suppression	15,4x50x50 mm, metal	20 mm	600 mm		<ul style="list-style-type: none"> • rugged metal housing • sensing distance adjustable via potentiometer • suppression of mutual optical interference • IP 67
	FKDH 14 Diffuse contrast sensors	19,6x52,2x34,3 mm, metal	12,5 mm ±2 mm	12,5 mm ±2 mm		<ul style="list-style-type: none"> • hygiene design • very short response time • White light • IP 68/69K & proTect+
	FKDM 22 (large light spot, 2 channels) Color sensors	22,9 mm, metal	40 mm	40 mm		<ul style="list-style-type: none"> • up to 2 colors can be distinguished properly • spot size 3 x 5 mm • rugged metal housing • IP 67
	FKDM 22 (large light spot, 4 channels) Color sensors	22,9 mm, metal	40 mm	40 mm		<ul style="list-style-type: none"> • up to 4 colors can be distinguished properly • spot size 3 x 5 mm • rugged metal housing • IP 67
	FKDM 22	22,9 mm, metal	25 mm	25 mm		<ul style="list-style-type: none"> • up to 4 colors can be distinguished












	Color sensors				<ul style="list-style-type: none"> • spot size 0,7 x 1,3 mm • rugged metal housing • IP 67
	FKDR 14 Diffuse contrast sensors	19,6x51x34,3 mm, metal	12,5 mm ±2 mm	12,5 mm ±2 mm	<ul style="list-style-type: none"> • hygiene design • very short response time • White light • IP 68/69K & proTect+
	FKE xCD 1 Fiber optics	5x31,2 mm, metal	1 mm	70 mm	<ul style="list-style-type: none"> • with thread
	FLC xCD 2 Fiber optics	5x14,7 mm, metal	-	4500 mm	<ul style="list-style-type: none"> • Chemical and oil proof • Smooth sensing head
	FLDM 170 (Laser, Scatec-15) Copy counters	30 mm, metal	0 mm	120 mm	<ul style="list-style-type: none"> • up to 3 million copies/hour • Sensitivity ≥ 0,15 mm • display and integrated counter • Selectable output pulse length • Integrated gap detection and Sync-input • IP 54
	FLDM 180 (Laser, Edge) Copy counters	31 mm, metal	30 mm	100 mm	<ul style="list-style-type: none"> • Für Neuprojekte empfehlen wir SCATEC Produkte
	FLDM 180 (Laser, Micro) Copy counters	31 mm, metal	30 mm	100 mm	<ul style="list-style-type: none"> • Für Neuprojekte empfehlen wir SCATEC Produkte
	FLDM 180 (LED, gripper) Copy counters	31 mm, metal	30 mm	50 mm	-
	FLE xCD 1 Fiber optics	4x15 mm, metal	1 mm	530 mm	<ul style="list-style-type: none"> • with thread
	FNCK 07 SmartReflect Light barriers	8x16,2x10,8 mm, plastic	-	45 mm	<ul style="list-style-type: none"> • ultra compact housing with cable rear side • sensing distance adjustable via Teach-in • suppression of mutual optical interference • IP 65
	FNDH 14 SmartReflect Light barriers	19,6x52,2x34,3 mm, metal	-	800 mm on V4A	<ul style="list-style-type: none"> • hygiene design • IO-Link • remote Teach-in • IP 68/69K & proTect+












	FNDK 07 SmartReflect Light barriers	8x16,2x10,8 mm, plastic	-	45 mm	<ul style="list-style-type: none"> • ultra compact housing with cable bottom side • sensing distance adjustable via Teach-in • suppression of mutual optical interference • IP 65
	FNDK 14 SmartReflect Light barriers	14,8x43x31 mm, plastic	-	200 mm	<ul style="list-style-type: none"> • short response time • sensing distance adjustable via Teach-in • IP 67
	FOC xCD 6 Fiber optics	13x30,9x9,9 mm, plastic	-	-	<ul style="list-style-type: none"> • leakage monitoring
	FODK 23 Liquid level and leakage sensors	23x10,5x37,2 mm, plastic	-	-	<ul style="list-style-type: none"> • leakage sensor with integrated electronics • detects liquid amounts of approx. 1 ml • chemical resistance thanks to PFA sheath • IP 67
	FPAM 18 Retro-reflective sensors	18x57 mm, metal	-	3,2 m	<ul style="list-style-type: none"> • rugged metal housing • polarization filter to detect shiny objects • IP 67
	FPCK 07 Retro-reflective sensors	8x17,8x12,6 mm, plastic	-	0,6 m	<ul style="list-style-type: none"> • ultra compact housing • sensing range adjustable via Teach-in • suppression of mutual optical interference • IP 65
	FPDH 14 Retro-reflective sensors	19,6x52,2x34,3 mm, metal	-	3 m	<ul style="list-style-type: none"> • hygiene design • EHEDG certified • IP 68/69K & proTect+
	FPDK 07 Retro-reflective sensors	8x17,8x12,6 mm, plastic	-	0,6 m	<ul style="list-style-type: none"> • ultra compact housing • sensing range adjustable via Teach-in • suppression of mutual optical interference • IP 65
	FPDK 20 Retro-reflective sensors	20x42x15 mm, plastic	-	5,5 m	<ul style="list-style-type: none"> • cross-technology housing concept • polarization filter to detect shiny objects • small mounting depth • IP 67
	FPDM 12 Retro-reflective sensors	12,4x35x35 mm, metal	-	5 m	<ul style="list-style-type: none"> • rugged miniature metal housing • polarization filter to detect shiny objects • available with alarm output • IP 67
	FPDM 16 (for transparent objects) Retro-reflective sensors	15,4x50x50 mm, metal	-	6 m	<ul style="list-style-type: none"> • rugged metal housing • designed for detection of transparent objects • sensitivity adjustable via Teach-in • IP 67












	FPDM 16 (standard version) Retro-reflective sensors	15,4x50x50 mm, metal	-	7,3 m	<ul style="list-style-type: none"> • rugged metal housing • sensing range adjustable via potentiometer • polarization filter to detect shiny objects • IP 67
	FPDR 14 Retro-reflective sensors	19,6x51x34,3 mm, metal	-	3 m	<ul style="list-style-type: none"> • washdown design • Ecolab approved • IP 68/69K & proTect+
	FPE xCD 1 Fiber optics	4x28 mm, metal	-	4140 mm	<ul style="list-style-type: none"> • with thread
	FPE xCD 4 Fiber optics	4x30 mm, metal	-	4500 mm	<ul style="list-style-type: none"> • Smooth sensing head • side view
	FSA xCD 1 Fiber optics	4x14 mm, metal	-	690 mm	<ul style="list-style-type: none"> • Heat resistant • with thread
	FSB xCD 1 Fiber optics	4x17 mm, metal	-	1200 mm	<ul style="list-style-type: none"> • Heat and cold resistant • with thread
	FSC xCD 4 Fiber optics	4,7x15,8 mm, metal	-	1030 mm	<ul style="list-style-type: none"> • Chemical and oil proof • Smooth sensing head • side view
	FSE xCD 1 Fiber optics	3x11 mm, metal	-	1200 mm	<ul style="list-style-type: none"> • with thread
	FSE xCD 2 Fiber optics	3x15 mm, metal	-	1200 mm	<ul style="list-style-type: none"> • Smooth sensing head
	FSE xCD 4 Fiber optics	4x22 mm, metal	-	750 mm	<ul style="list-style-type: none"> • with thread • Smooth sensing head • side view
	FSE xCD 6 Fiber optics	20x25x3 mm, metal	-	790 mm	<ul style="list-style-type: none"> • Array • Line length = Number of holes x hole spacing









	FSE xEF 1 Fiber optics	3x11 mm, metal	-	900 mm	• with thread
	FSE xEF 4 Fiber optics	2,5x27 mm, metal	-	52 mm	• Smooth sensing head • side view
	FSE xEF 6 Fiber optics	12x8x3 mm, plastic	-	140 mm	-
	FSL xCD 6 Fiber optics	32x28x23,4 mm, plastic	-	13 mm	• Fill level detection • pipe mounting • pipe diameter from 3 ... 13 mm
	FUAXCD 1 Fiber optics	6x20 mm, metal	1 mm	200 mm	• Heat resistant • with thread
	FUB xCD 1 Fiber optics	6x17 mm, metal	1 mm	400 mm	• Heat and cold resistant • with thread
	FUC xCD 2 Fiber optics	6x16 mm, metal	1 mm	170 mm	• Chemically resistant • Smooth sensing head
	FUE xCD 1 Fiber optics	3x11 mm, metal	1 mm	300 mm	• with thread
	FUE xCD 2 Fiber optics	3x15 mm, metal	1 mm	300 mm	• Smooth sensing head
	FUE xCD 4 Fiber optics	3x55 mm, metal	1 mm	40 mm	• Smooth sensing head • side view
	FUE xCD 6 Fiber optics	20,6x20,6x5 mm, metal	1 mm	265 mm	• Array • Line length = Number of holes x hole spacing










	FUE xEF 1 Fiber optics	3x10 mm, metal	1 mm	210 mm	<ul style="list-style-type: none"> • with thread
	FUG xCD 1 Fiber optics	6x25 mm, metal	1 mm	160 mm	<ul style="list-style-type: none"> • Heat and cold resistant • with thread • Glass fibers
	FUL xCD 2 Fiber optics	4x15 mm, plastic	-	-	<ul style="list-style-type: none"> • Fill level detection • Smooth sensing head
	FVDK 10 Fiber optic sensors & cables	10,4x27x14 mm, plastic	-	160 mm	<ul style="list-style-type: none"> • sensitivity adjustable via potentiometer • suppression of mutual optical interference • IP 40
	FVDK 12 (fast version) Fiber optic sensors & cables	12x33,2x60 mm, plastic	-	140 mm	<ul style="list-style-type: none"> • short response time 50 µs • fast version < 0,05 ms • integrated alarm output • timer function • IP 65
	FVDK 12 Fiber optic sensors & cables	12x33,2x60 mm, plastic	-	320 mm	<ul style="list-style-type: none"> • sensitivity adjustable via Teach-in • integrated alarm output • protection class IP 65 • timer function • IP 65
	FVDK 22 Fiber optic sensors & cables	22x33,2x60 mm, plastic	-	320 mm	<ul style="list-style-type: none"> • 2 sensors in one housing • sensitivity adjustable via Teach-in • optional logical output operation • IP 65
	FVDK 66 (master/slave) Fiber optic sensors & cables	10x33,8x70,2 mm, plastic	-	340 mm	<ul style="list-style-type: none"> • master/slave system with up to 15 extension units • 2x4 digit display • IP 40
	FVDK 67 (2 adjustable outputs) Fiber optic sensors & cables	10x33,8x70,2 mm, plastic	-	1200 mm	<ul style="list-style-type: none"> • 2 independently adjustable outputs • suppression of mutual optical interference • 2x4 digit display • IP 40
	FVDK 67 (master/slave) Fiber optic sensors & cables	10x33,8x70,2 mm, plastic	-	1200 mm	<ul style="list-style-type: none"> • master/slave system with up to 16 extension units • integrated dynamic auto-teach-in function • 2x4 digit display • IP 40
	FVDK 80 Fiber optic sensors & cables	10x29,7x60 mm, plastic	-	440 mm	<ul style="list-style-type: none"> • sensitivity adjustable via potentiometer • fast and high sensitivity version available • integrated alarm output • IP 40
	FVDM 15	15x60x45 mm,	240 mm	1200 mm	<ul style="list-style-type: none"> • sensitivity adjustable via potentiometer











	Fiber optic sensors & cables	metal			<ul style="list-style-type: none"> • fast version available • rugged metal housing • IP 65
	FWE xCD 1 Fiber optics	3x14 mm, metal	-	2175 mm	<ul style="list-style-type: none"> • with thread
	FWE xCD 2 Fiber optics	3x15 mm, metal	-	2350 mm	<ul style="list-style-type: none"> • Smooth sensing head
	FZAM 08 Diffuse sensors with intensity difference	8x56 mm, metal	40 mm	80 mm	<ul style="list-style-type: none"> • subminiature metal housing • fixed sensing distance • IP 65
	FZAM 12 Diffuse sensors with intensity difference	12x70 mm, metal	30 mm	200 mm	<ul style="list-style-type: none"> • rugged metal housing • sensing distance adjustable via potentiometer • suppression of mutual optical interference • IP 65
	FZAM 18 (mechanically adjustable, axial) Diffuse sensors with intensity difference	18x50 mm, metal	20 mm	150 mm	<ul style="list-style-type: none"> • rugged metal housing • sensing distance adjustable with potentiometer (axial) • extended sensing distance with lens • IP 65
	FZAM 18 (mechanically adjustable, axial) Fiber optic sensors & cables	18x50 mm, metal	60 mm	310 mm	<ul style="list-style-type: none"> • sensitivity adjustable via potentiometer (axial) • rugged metal housing • infrared light source • IP 65
	FZAM 18 (mechanically adjustable, lateral) Diffuse sensors with intensity difference	18x50 mm, metal	60 mm	430 mm	<ul style="list-style-type: none"> • rugged metal housing • sensing distance adjustable with radially mounted potentiometer • extended sensing distance with lens • IP 67
	FZAM 18 (mechanically adjustable, lateral) Fiber optic sensors & cables	18x50 mm, metal	150 mm	800 mm	<ul style="list-style-type: none"> • sensitivity adjustable via potentiometer (radial) • rugged metal housing • infrared light source • IP 67
	FZAM 18 (teach-in) Diffuse sensors with intensity difference	18x50 mm, metal	60 mm	430 mm	<ul style="list-style-type: none"> • with alarm output • sensing distance adjustable via Teach-in • extended sensing distance with lens • IP 67
	FZAM 18 (teach-in) Fiber optic sensors & cables	18x50 mm, metal	150 mm	800 mm	<ul style="list-style-type: none"> • sensitivity adjustable via Teach-in • light / dark operation programmable • rugged metal housing • IP 67












	FZAM 30 Diffuse sensors with intensity difference	30x66 mm, metal	100 mm	1500 mm	<ul style="list-style-type: none"> • rugged metal housing • long sensing range • IP 65
	FZAM 30 Fiber optic sensors & cables	30x66 mm, metal	110 mm	1400 mm	<ul style="list-style-type: none"> • extended sensing distance • fast version available • rugged metal housing • IP 65
	FZCK 07 Diffuse sensors with intensity difference	8x16,2x10,8 mm, plastic	20 mm	150 mm	<ul style="list-style-type: none"> • ultra compact housing • sensitivity adjustable via Teach-in • suppression of mutual optical interference • IP 65
	FZDK 07 Diffuse sensors with intensity difference	8x16,2x10,8 mm, plastic	20 mm	150 mm	<ul style="list-style-type: none"> • ultra compact housing • sensitivity adjustable via Teach-in • suppression of mutual optical interference • IP 65
	FZDK 20 Diffuse sensors with intensity difference	20x42x15 mm, plastic	5 mm	500 mm	<ul style="list-style-type: none"> • cross-technology housing concept • sensing distance adjustable via potentiometer • small mounting depth • IP 67
	FZDM 08 Diffuse sensors with intensity difference	8x58x12 mm, metal	40 mm	80 mm	<ul style="list-style-type: none"> • subminiature metal housing • fixed sensing distance • IP 65
	FZDM 16 Diffuse sensors with intensity difference	15,4x50x50 mm, metal	0 mm	400 mm	<ul style="list-style-type: none"> • rugged metal housing • sensing distance adjustable via potentiometer • IP 67
	O300.GI Diffuse sensors with background suppression	12,9x32,3x23 mm, plastic	30 mm	300 mm	<ul style="list-style-type: none"> • One inch class • infrared LED • short response time • qTeach • IP 67
	O300.GR Diffuse sensors with background suppression	12,9x32,3x23 mm, plastic	30 mm	300 mm	<ul style="list-style-type: none"> • One inch class • qTeach • IP 67
	O300.RR Retro-reflective sensors	12,9x32,3x23 mm, plastic	-	4 m	<ul style="list-style-type: none"> • One inch class • polarization filter to detect shiny objects • IP 67
	O500.GI Diffuse sensors with background suppression	18x45x32 mm, plastic	60 mm	550 mm	<ul style="list-style-type: none"> • infrared LED • short response time • qTeach • IP 67
	O500.GR	18x45x32 mm, plastic	60 mm	550 mm	<ul style="list-style-type: none"> • qTeach • IP 67












	Diffuse sensors with background suppression				
	O500.RR Retro-reflective sensors	18x45x32 mm, plastic	-	7,5 m	<ul style="list-style-type: none"> polarization filter to detect shiny objects IP 67
	OBDM 12 (2-point comparison) Difference sensors	12,4x37x34,5 mm, metal	16 mm	120 mm	<ul style="list-style-type: none"> comparison of two distances max. tolerance adjustable specific measuring moment selectable IP 67
	OBDM 12 (min./max. analysis) Difference sensors	12,4x37x34,5 mm, metal	16 mm	120 mm	<ul style="list-style-type: none"> analysis of distance differences (min./max.) max. difference tolerance adjustable measuring time selectable IP 67
	OBDM 12 (step analysis) Difference sensors	12,4x37x34,5 mm, metal	16 mm	120 mm	<ul style="list-style-type: none"> detection of edges reference steps adjustable min. output pulse 10 ms IP 67
	OBDM 12 (tolerance analysis) Difference sensors	12,4x37x34,5 mm, metal	16 mm	120 mm	<ul style="list-style-type: none"> distance monitoring within a tolerance band nominal distance adjustable tolerance band IP 67
	OBDM 12 (window analysis) Difference sensors	12,4x37x34,5 mm, metal	16 mm	120 mm	<ul style="list-style-type: none"> range switch (foreground / background suppression) adjustable window IP 67
	OGUM (Laser) Fork and angle sensors	60x60x10 mm, metal	-	120 mm	<ul style="list-style-type: none"> fork opening from 30-120 mm smallest detectable object 0,05 mm high repeatability of 0.01 mm IP 67
	OGUM (Laser, basic) Fork and angle sensors	50x60x10 mm, metal	-	120 mm	<ul style="list-style-type: none"> fork opening from 30-120 mm smallest detectable object 0,1 mm repeatability of 0,02 mm IP 67
	OHDK 10 (Laser line beam) Diffuse sensors with background suppression	10,4x27x16,3 mm, plastic	22 mm	130 mm	<ul style="list-style-type: none"> compact housing line beam sensing distance adjustable via potentiometer IP 67
	OHDK 25 (Laser, 1 m) Diffuse sensors with background suppression	23,4x63x45 mm, plastic	100 mm	900 mm	<ul style="list-style-type: none"> qTeach no black/white difference IP 67












	OHDK 25 (Laser, 2 m) Diffuse sensors with background suppression	23,4x63x45 mm, plastic	100 mm	1750 mm	<ul style="list-style-type: none"> • qTeach • no black/white difference • 1 or 2 switching outputs • IP 67
	OHDM 12 (Laser) Diffuse sensors with background suppression	12,4x37x34,5 mm, metal	17 mm	120 mm	<ul style="list-style-type: none"> • rugged miniature metal housing • negligible black/white difference • teachable sensing distance • IP 67
	OHDM 13 (Laser) Diffuse sensors with background suppression	13,4x48,2x40 mm, metal	50 mm	550 mm	<ul style="list-style-type: none"> • rugged metal housing • negligible black/white difference • teachable sensing distance • IP 67
	OHDM 16 (Laser) Diffuse sensors with background suppression	15,4x50x50 mm, metal	25 mm	300 mm	<ul style="list-style-type: none"> • rugged metal housing • long range • high repeatability • IP 67
	OHDM 16 (Laser, wafer mapping sensor) Diffuse sensors with background suppression	15,4x50x50 mm, metal	123 mm	143 mm	<ul style="list-style-type: none"> • for lateral detection of wafer edges • very long range • laser sensor in rugged metal housing • IP 67
	OHDM 20 (Laser) Diffuse sensors with background suppression	20,6x65x50 mm, metal	210 mm	1500 mm	<ul style="list-style-type: none"> • long range • negligible black/white difference • two teachable sensing distances • IP 67
	ONDK 25 (Laser) SmartReflect Light barriers	23,4x63x45 mm, plastic	-	1900 mm	<ul style="list-style-type: none"> • long sensing range • qTeach • IP 67
	OPDK 14 (Laser, for transparent Objects) Retro-reflective sensors	14,8x43x31 mm, plastic	-	4,5 m	<ul style="list-style-type: none"> • designed for detection of transparent objects • single lens optics • short response time • IP 67
	OPDM 16 (Laser) Retro-reflective sensors	15,4x50x50 mm, metal	-	11 m	<ul style="list-style-type: none"> • rugged metal housing • high repeatability • short response time • IP 67
	OZDK 10 (Laser line beam) Diffuse contrast sensors	10,4x27x16,3 mm, plastic	3 mm	150 mm	<ul style="list-style-type: none"> • compact housing • high repeatability • very short response time • IP 67
	OZDK 10 (Laser line beam) Diffuse sensors with intensity difference	10,4x27x16,3 mm, plastic	3 mm	150 mm	<ul style="list-style-type: none"> • compact housing • line beam • very short response time • IP 67







	OZDK 10 (Laser) Diffuse contrast sensors	10,4x27x16,3 mm, plastic	3 mm	150 mm	<ul style="list-style-type: none"> • compact housing • high repeatability • very short response time • IP 67
	OZDK 10 (Laser) Diffuse sensors with intensity difference	10,4x27x16,3 mm, plastic	3 mm	150 mm	<ul style="list-style-type: none"> • compact housing • high repeatability • very short response time • IP 67
	OZDK 14 (Laser) Diffuse contrast sensors	14,8x43x31 mm, plastic	20 mm	300 mm	<ul style="list-style-type: none"> • very short response time • high repeatability • sensing distance adjustable via Teach-in • IP 67
	OZDK 14 (Laser) Diffuse sensors with intensity difference	14,8x43x31 mm, plastic	20 mm	300 mm	<ul style="list-style-type: none"> • very short response time • high repeatability • sensing distance adjustable via Teach-in • IP 67
	OZDM 16 (Laser, analog output) Diffuse contrast sensors	15,4x50x50 mm, metal	0 mm	250 mm	<ul style="list-style-type: none"> • with analog output • high repeatability • very short response time • IP 67
	OZDM 16 (Laser, analog output) Diffuse sensors with intensity difference	15,4x50x50 mm, metal	0 mm	250 mm	<ul style="list-style-type: none"> • with analog output • high repeatability • very short response time • IP 67
	OZDM 16 (Laser, switching output) Diffuse contrast sensors	15,4x50x50 mm, metal	0 mm	250 mm	<ul style="list-style-type: none"> • rugged metal housing • high repeatability • very short response time • IP 67
	OZDM 16 (Laser, switching output) Diffuse sensors with intensity difference	15,4x50x50 mm, metal	0 mm	250 mm	<ul style="list-style-type: none"> • rugged metal housing • high repeatability • very short response time • IP 67
	ZADM 034 (ParCon, switching output) Edge sensors	34 mm, metal	0 mm	40 mm	<ul style="list-style-type: none"> • detection of small objects • measuring area 24 x 40 mm • high measuring frequency • IP 67











sample picture	product family	housing	sensing distance min.	sensing distance max.	features
	U500.PA0 Ultrasonic proximity sensors	18x45x32 mm, plastic	100 mm	1000 mm	<ul style="list-style-type: none"> • narrow sonic beam • short response time • qTeach • IP 67
	UR18.PA0 Ultrasonic proximity sensors	18x64 mm, metal	100 mm	1000 mm	<ul style="list-style-type: none"> • narrow sonic beam • short response time • qTeach • IP 67
	U500.RA0 Ultrasonic retro-reflective sensors	18x45x32 mm, plastic	0 mm	1000 mm	<ul style="list-style-type: none"> • narrow sonic beam • short response time • no blind spot area for objects > 30 mm • qTeach • IP 67
	UR18.RA0 Ultrasonic retro-reflective sensors	18x64 mm, metal	0 mm	1000 mm	<ul style="list-style-type: none"> • narrow sonic beam • short response time • no blind spot area for objects > 30 mm • qTeach • IP 67
	UNAM 18 (with Teach-in) Ultrasonic proximity sensors	18x90 mm, metal	100 mm	1000 mm	<ul style="list-style-type: none"> • IP 67
	UNDK 20 (Sd = 1000 mm) Ultrasonic proximity sensors	20x42x15 mm, plastic	100 mm	1000 mm	<ul style="list-style-type: none"> • IP 67
	UNDK 10 (Sd = 200 mm) Ultrasonic proximity sensors	10,4x27x14 mm, plastic	10 mm	200 mm	<ul style="list-style-type: none"> • SONUS • IP 67
	UNDK 09 (with beam columnator) Ultrasonic proximity sensors	8,6x48,8x57,7 mm, plastic	3 mm	150 mm	<ul style="list-style-type: none"> • Teach-in input • IP 67
	UNAM 12 (with beam columnator, Highspeed) Ultrasonic proximity sensors	12x100 mm, metal	0 mm	40 mm	<ul style="list-style-type: none"> • Response time < 1,3 ms • IP 67
	UNAM 12 (Sde = 400 mm) Ultrasonic proximity sensors	12x70 mm, metal	40 mm	400 mm	<ul style="list-style-type: none"> • Teach-in input • IP 67





	UZDK 30 (Sd = 2000 mm) Ultrasonic proximity sensors	30x65x31 mm, metal	200 mm	2000 mm	<ul style="list-style-type: none"> • 2 outputs, each with one independent switching point • IP 67
	UNAM 30 Ultrasonic proximity sensors	30x70 mm, metal	200 mm	1500 mm	<ul style="list-style-type: none"> • IP 67
	UZAM 50 Ultrasonic proximity sensors	30x95 mm, metal	350 mm	2500 mm	<ul style="list-style-type: none"> • 2 outputs, each with one independent switching point • IP 67
	URDK 20 (Sde = 1000 mm) Ultrasonic retro-reflective sensors	20x42x15 mm, plastic	0 mm	1000 mm	<ul style="list-style-type: none"> • detects sound absorbing objects • no blind spot area for objects > 30 mm • IP 67
	URAR 18 Ultrasonic retro-reflective sensors	18x91,5 mm, metal	0 mm	400 mm	<ul style="list-style-type: none"> • Internal and external Teach-in • chemically resistant • IP 67
	URDK 10 (Sde = 200 mm) Ultrasonic retro-reflective sensors	10,4x27x14 mm, plastic	0 mm	200 mm	<ul style="list-style-type: none"> • SONUS • detects sound absorbing objects • no blind spot area for objects > 30 mm • IP 67
	URDK 09 Ultrasonic retro-reflective sensors	8,6x48,8x30,5 mm, plastic	0 mm	200 mm	<ul style="list-style-type: none"> • detects sound absorbing objects • no blind spot area for objects > 30 mm • push-pull • IP 67
	URAM 12 (with beam columnator, Highspeed) Ultrasonic retro-reflective sensors	12x100 mm, metal	0 mm	40 mm	<ul style="list-style-type: none"> • detects sound absorbing objects • no blind spot area • IP 67
	URDK 30 (Sde = 1000 mm) Ultrasonic retro-reflective sensors	30x65x31 mm, metal	0 mm	1000 mm	<ul style="list-style-type: none"> • detects sound absorbing objects • no blind spot area for objects > 30 mm • IP 67
	URAM 50 Ultrasonic retro-reflective sensors	30x95 mm, metal	0 mm	3000 mm	<ul style="list-style-type: none"> • detects sound absorbing objects • no blind spot area for objects > 100 mm • IP 67
	UEDK 20 (Receiver) Ultrasonic through beam sensors	20x42x15 mm, plastic	0 mm	1000 mm	<ul style="list-style-type: none"> • receiver with teach-in & LED display • response time adjustable • IP 67












	USDK 20 (Emitter) Ultrasonic through beam sensors	20x42x15 mm, plastic	0 mm	1000 mm	• IP 67
	UNDK 20 (Sd = 200 mm) Ultrasonic proximity sensors	20x42x15 mm, plastic	10 mm	200 mm	• IP 67
	UNAM 12 (Sde = 200 mm) Ultrasonic proximity sensors	12x70 mm, metal	10 mm	200 mm	• Teach-in input • IP 67
	UNDK 09 Ultrasonic proximity sensors	8,6x48,8x30,5 mm, plastic	30 mm	200 mm	• Teach-in input • IP 67
	UNDK 30 (Sd = 1000 mm) Ultrasonic proximity sensors	30x65x31 mm, metal	100 mm	1000 mm	• temperature compensation • IP 67
	UZDK 30 (Sd = 1000 mm) Ultrasonic proximity sensors	30x65x31 mm, metal	100 mm	1000 mm	• 2 outputs, each with one independent switching point • IP 67
	UNAM 50 Ultrasonic proximity sensors	30x95 mm, metal	350 mm	2500 mm	• IP 67
	URDK 20 (Sde = 200 mm) Ultrasonic retro-reflective sensors	20x42x15 mm, plastic	0 mm	200 mm	• detects sound absorbing objects • no blind spot area for objects > 30 mm • IP 67
	URDK 20 (Sde = 400 mm) Ultrasonic retro-reflective sensors	20x42x15 mm, plastic	0 mm	400 mm	• detects sound absorbing objects • no blind spot area for objects > 30 mm • IP 67
	JEDK 30 (Receiver) Ultrasonic through beam sensors	30x65x18,5 mm, metal	0 mm	700 mm	• response time ≤ 5 ms • IP 67
	UNAM 12 (Sde = 70 mm, Highspeed) Ultrasonic proximity sensors	12x70 mm, metal	10 mm	70 mm	• Teach-in input • Response time < 1,3 ms • IP 67


	UNAM 12 Ultrasonic proximity sensors	12x100 mm, metal	5 mm	70 mm	• IP 67
	UNAM 18 (without Teach-in) Ultrasonic proximity sensors	18x89 mm, metal	100 mm	700 mm	• IP 67
	UNAR 18 (Sde = 1000 mm) Ultrasonic proximity sensors	18x91,5 mm, metal	100 mm	1000 mm	• Internal and external Teach-in • chemically resistant • IP 67
	UNAR 18 (Sde = 400 mm) Ultrasonic proximity sensors	18x91,5 mm, metal	60 mm	400 mm	• Internal and external Teach-in • chemically resistant • IP 67
	UNCK 09 (with beam columnator) Ultrasonic proximity sensors	8,6x82x24,5 mm, plastic	3 mm	150 mm	• Teach-in input • IP 67
	UNCK 09 Ultrasonic proximity sensors	8,6x55x24,5 mm, plastic	30 mm	200 mm	• Teach-in input • IP 67
	UNDK 20 (Sd = 400 mm) Ultrasonic proximity sensors	20x42x15 mm, plastic	40 mm	400 mm	• IP 67
	UNDK 30 (Sd = 250 mm) Ultrasonic proximity sensors	30x65x31 mm, metal	30 mm	250 mm	• repeatability $\leq 0,5$ mm • IP 67
	UNDK 30 (Sd = 400 mm) Ultrasonic proximity sensors	30x65x31 mm, metal	60 mm	400 mm	• repeatability $\leq 0,5$ mm • IP 67
	URAM 12 (Sde = 70 mm, Highspeed) Ultrasonic retro-reflective sensors	12x70 mm, metal	0 mm	70 mm	• detects sound absorbing objects • no blind spot area • IP 67
	URCK 09 Ultrasonic retro-reflective sensors	8,6x55x24,5 mm, plastic	0 mm	200 mm	• detects sound absorbing objects • no blind spot area for objects > 30 mm • push-pull • IP 67











	<p>URDK 30 (Sde = 2000 mm)</p> <p>Ultrasonic retro-reflective sensors</p>	30x65x31 mm, metal	0 mm	2000 mm	<ul style="list-style-type: none"> • Internal Teach-in • IP 67
	<p>USDK 30 (Emitter)</p> <p>Ultrasonic through beam sensors</p>	30x65x18,5 mm, metal	0 mm	700 mm	<ul style="list-style-type: none"> • IP 67
	<p>UZAM 30</p> <p>Ultrasonic proximity sensors</p>	30x70 mm, metal	100 mm	1000 mm	<ul style="list-style-type: none"> • 2 outputs, each with one independent switching point • IP 67
	<p>UZAM 70</p> <p>Ultrasonic proximity sensors</p>	30x95 mm, metal	600 mm	6000 mm	<ul style="list-style-type: none"> • 2 outputs, each with one independent switching point • IP 67
	<p>UZDK 30 (Sd = 250 mm)</p> <p>Ultrasonic proximity sensors</p>	30x65x31 mm, metal	30 mm	250 mm	<ul style="list-style-type: none"> • 2 outputs, each with one independent switching point • IP 67
	<p>UZDK 30 (Sd = 400 mm)</p> <p>Ultrasonic proximity sensors</p>	30x65x31 mm, metal	60 mm	400 mm	<ul style="list-style-type: none"> • 2 outputs, each with one independent switching point • IP 67












sample picture	product family	housing	sensing distance min.	sensing distance max.	features
	MHRM 12 (Sn = 1,8 mm) Hall sensors	12x50 mm, metal	-	<0,7 mm (module 1), <2,4 mm (module 3)	<ul style="list-style-type: none"> • picks up the rpm speed • IP 67
	MHRM 12 (Sn = 1,0 mm) Hall sensors	12x60 mm, metal	-	<0,5 mm (module 1), <2,5 mm (module 3)	<ul style="list-style-type: none"> • full metal housing • picks up the rotational direction as well as rpm speed • IP 68
	MFRM 08 Magnetic proximity switches	8x30 mm, metal	-	60 mm	<ul style="list-style-type: none"> • Detects magnetic fields • IP 67
	MZTK 06 (T-slots, quick mounting) Magnetic cylinder sensors	6,2x4,5x31,5 mm, plastic	-	-	<ul style="list-style-type: none"> • sensor laid into T-slot from the top • wide voltage supply range • with output indicator • high protection class • IP 67
	MZCK 03 (C-slots, axial) Magnetic cylinder sensors	3,7x4,6x23 mm, plastic	-	-	<ul style="list-style-type: none"> • for all common cylinders with C-slots • wide voltage supply range • with output indicator • high protection class • IP 67
	IHRM 12 Hall sensors	12x60 mm, metal	-	<1 mm (module 1), <2,5 mm (module 3)	<ul style="list-style-type: none"> • Full metal housing • picks up the rpm speed • IP 68
	MFFM 08 Magnetic proximity switches	8x30 mm, metal	-	60 mm	<ul style="list-style-type: none"> • Detects magnetic fields • IP 67
	MFVM 08 Magnetic proximity switches	8x30 mm, metal	-	60 mm	<ul style="list-style-type: none"> • Detects magnetic fields • Full metal housing • IP 67
	MHRM 18 Hall sensors	18x60 mm, metal	-	0,7 mm (module 1), 1,8 mm (module 2)	<ul style="list-style-type: none"> • Full metal housing • picks up the rpm speed • IP 68
	MTR Hall sensors	16x90 mm, metal	-	-	<ul style="list-style-type: none"> • Full metal housing • railway standard • picks up the rotational direction as well as rpm speed • high insulation strength
	MTRM 16 Hall sensors	16x93 mm, metal	-	1,0 mm (module 1)	<ul style="list-style-type: none"> • Full metal housing • railway standard • picks up the rotational direction as well as rpm speed • IP 68











					
	MZCK 03 (C-slots, lateral) Magnetic cylinder sensors	3,7x19,5x11 mm, plastic	-	-	<ul style="list-style-type: none">• for all common cylinders with C-slots• wide voltage supply range• with output indicator• high protection class• IP 67
	MZTK 06 (T-slots, axial) Magnetic cylinder sensors	6,2x4,3x31 mm, plastic	-	-	<ul style="list-style-type: none">• for all common cylinders with T-slots• wide voltage supply range• with output indicator• high protection class• IP 67
	MZTK 06 (T-slots, lateral) Magnetic cylinder sensors	6,5x9,4x21 mm, plastic	-	-	<ul style="list-style-type: none">• for all common cylinders with T-slots• wide voltage supply range• with output indicator• high protection class• IP 67












sample picture	product family	housing	sensing distance min.	sensing distance max.	features
	MY-COMA My-Com precision switches	8x20 mm, metal	-	-	<ul style="list-style-type: none"> • conical housing front • two wire break function (NC) • IP 50
	MY-COMB My-Com precision switches	8x20 mm, metal	-	-	<ul style="list-style-type: none"> • flat housing front • two wire break function (NC) • IP 50
	MY-COMF My-Com precision switches	8x28 mm, metal	-	-	<ul style="list-style-type: none"> • long body • long thread length • two wire break function (NC) • IP 50
	MY-COME (2-wire) My-Com precision switches	6x36 mm, metal	-	-	<ul style="list-style-type: none"> • spherical hard metal tip • thread M6 x 0,5 • two wire break function (NC) • IP 50
	MY-COME (3-wire) My-Com precision switches	6x47 mm, metal	-	-	<ul style="list-style-type: none"> • spherical hard metal tip • thread M6 x 0,5 • three wire make function (NO) • IP 50
	MY-COMC My-Com precision switches	8x20 mm, metal	-	-	<ul style="list-style-type: none"> • rectangular brass housing • two bore mounting • two wire break function (NC) • IP 50
	MY-COMH My-Com precision switches	8x21 mm, metal	-	-	<ul style="list-style-type: none"> • spherical ruby tip • two wire break function (NC) • protection class IP 67 • IP 67
	MY-COMM (2-Leiter) My-Com precision switches	8x27 mm, metal	-	-	<ul style="list-style-type: none"> • silicone gasket • protection class IP 67 • two wire break function (NC) • IP 67
	MY-COMD My-Com precision switches	16x56 mm, metal	-	-	<ul style="list-style-type: none"> • browned brass • two wire break function (NC) • protection class IP 67 • IP 67
	MY-COMG My-Com precision switches	8x28 mm, metal	-	-	<ul style="list-style-type: none"> • transistor output NPN / PNP • long thread length • three wire make function (NO) • IP 50
	MY-COML My-Com precision switches	8x30 mm, metal	-	-	<ul style="list-style-type: none"> • transistor output NPN / PNP • three wire make function (NO) • protection class IP 67 • IP 67











	<p>MY-COM M (3-Leiter)</p> <p>My-Com precision switches</p>	<p>8x27 mm, metal</p>	<p>-</p>	<p>-</p>	<ul style="list-style-type: none">• silicone gasket• protection class IP 67• three wire make function (NO)• IP 67
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sample picture	product family	housing	sensing distance min.	sensing distance max.	features
	OXE7.E (PosCon 3D) Edge sensors	26x74x55 mm, metal	150 mm	250 mm	<ul style="list-style-type: none"> • 0-10 VDC / 4-20 mA (adaptive) • measuring mode: edges, center, width, gap • RS 485 interface • IP 67
	OADM 20 (Laser, connector 5 pin, > 130 mm) Distance sensors	20,6x65x50 mm, metal	50 mm	600 mm	<ul style="list-style-type: none"> • response time < 0,9 ms • teachable measuring range Sr > 5 mm • IP 67
	OADM 12 (Laser) Distance sensors	12,4x37x34,5 mm, metal	16 mm	120 mm	<ul style="list-style-type: none"> • smallest distance measuring sensor • teachable measuring range Sr > 1 mm • resolution up to 2 µm • IP 67
	OADM 12 (Laser, class 1) Distance sensors	12,4x37x34,5 mm, metal	16 mm	120 mm	<ul style="list-style-type: none"> • smallest distance measuring sensor • teachable measuring range Sr > 1 mm • resolution up to 2 µm • Laser class 1 • IP 67
	OADM 13 (Laser, current output) Distance sensors	13,4x48,2x40 mm, metal	50 mm	550 mm	<ul style="list-style-type: none"> • compact housing, current output • teachable measuring range Sr > 5 mm • resolution up to 10 µm • IP 67
	FADK 14 (current output) Distance sensors	14,8x43x31 mm, plastic	50 mm	400 mm	<ul style="list-style-type: none"> • compact design • measuring distance Sd 50 ... 400 mm • resolution up to 0,1 mm • IP 67
	ZADM 023 (PosCon, short measuring range) Edge sensors	23 mm, metal	50 mm	500 mm	<ul style="list-style-type: none"> • Teach-in measuring range • measuring mode: edges, center, width • RS 485 interface • IP 67
	ZADM 034 (ParCon, analog output) Edge sensors	34 mm, metal	0 mm	40 mm	<ul style="list-style-type: none"> • measuring of edge position and object width • parallel, uniform light beam • high measuring frequency • IP 67
	OADM 20 (Laser, connector 8 pins, < 300 mm) Distance sensors	20,6x65x50 mm, metal	30 mm	300 mm	<ul style="list-style-type: none"> • response time < 0,9 ms • teachable measuring range Sr > 2 mm • resolution up to 4 µm • IP 67
	FADK 14 (voltage output) Distance sensors	14,8x43x31 mm, plastic	50 mm	400 mm	<ul style="list-style-type: none"> • compact design • measuring distance Sd 50 ... 400 mm • resolution up to 0,1 mm • IP 67

	OXC7 (PosCon CM)	26x74x55 mm, metal	150 mm	250 mm	<ul style="list-style-type: none"> • Measurement of center positions, diameters, and outer positions of round objects • Suitable for outer diameters up to 130 mm • Output in mm • Touch display for parameterization • Extra wide, adjustable measuring field • Laser class 1 • IP 67
	OXH7 (PosCon HM)	26x74x55 mm, metal	100 mm	150 mm	<ul style="list-style-type: none"> • Position-independent height measurements • Very high resolution up to 2 µm • Output in mm • Touch display for parameterization • Extra wide, adjustable measuring field • Laser class 1 • IP 67
	OXH7 (PosCon HM)	26x74x55 mm, metal	100 mm	500 mm	<ul style="list-style-type: none"> • Position-independent height measurements • Very high resolution up to 4 µm • Output in mm • Touch display for parameterization • Adjustable measuring field • Laser class 2 • IP 67
	FADH 14 (current output) Distance sensors	19,6x52,2x34,3 mm, metal	50 mm	400 mm	<ul style="list-style-type: none"> • hygiene design • compact design • measuring distance Sd 50 ... 400 mm • resolution up to 0,1 mm • IP 68/69K & proTect+
	FADH 14 (voltage output) Distance sensors	19,6x52,2x34,3 mm, metal	50 mm	400 mm	<ul style="list-style-type: none"> • hygiene design • compact design • measuring distance Sd 50 ... 400 mm • resolution up to 0,1 mm • IP 68/69K & proTect+
	FADR 14 (current output) Distance sensors	19,6x51x34,3 mm, metal	50 mm	400 mm	<ul style="list-style-type: none"> • washdown design • compact design • measuring distance Sd 50 ... 400 mm • resolution up to 0,1 mm • IP 68/69K & proTect+
	FADR 14 (voltage output) Distance sensors	19,6x51x34,3 mm, metal	50 mm	400 mm	<ul style="list-style-type: none"> • washdown design • compact design • measuring distance Sd 50 ... 400 mm • resolution up to 0,1 mm • IP 68/69K & proTect+
	FCE xCD 1 Fiber optics	3x12 mm, metal	1 mm	400 mm	<ul style="list-style-type: none"> • with thread
	FCE xEF 1 Fiber optics	6x18 mm, metal	1 mm	46 mm	<ul style="list-style-type: none"> • with thread
	FKE xCD 1 Fiber optics	5x31,2 mm, metal	1 mm	70 mm	<ul style="list-style-type: none"> • with thread
	FLC xCD 2 Fiber optics	5x14,7 mm, metal	-	4500 mm	<ul style="list-style-type: none"> • Chemical and oil proof • Smooth sensing head

	FLE xCD 1 Fiber optics	4x15 mm, metal	1 mm	530 mm	• with thread
	FPE xCD 1 Fiber optics	4x28 mm, metal	-	4140 mm	• with thread
	FPE xCD 4 Fiber optics	4x30 mm, metal	-	4500 mm	• Smooth sensing head • side view
	FSA xCD 1 Fiber optics	4x14 mm, metal	-	690 mm	• Heat resistant • with thread
	FSB xCD 1 Fiber optics	4x17 mm, metal	-	1200 mm	• Heat and cold resistant • with thread
	FSC xCD 4 Fiber optics	4,7x15,8 mm, metal	-	1030 mm	• Chemical and oil proof • Smooth sensing head • side view
	FSE xCD 1 Fiber optics	3x11 mm, metal	-	1200 mm	• with thread
	FSE xCD 2 Fiber optics	3x15 mm, metal	-	1200 mm	• Smooth sensing head
	FSE xCD 4 Fiber optics	4x22 mm, metal	-	750 mm	• with thread • Smooth sensing head • side view
	FSE xCD 6 Fiber optics	20x25x3 mm, metal	-	790 mm	• Array • Line length = Number of holes x hole spacing

	FSE xEF 1 Fiber optics	3x11 mm, metal	-	900 mm	• with thread
	FSE xEF 4 Fiber optics	2,5x27 mm, metal	-	52 mm	• Smooth sensing head • side view
	FSE xEF 6 Fiber optics	12x8x3 mm, plastic	-	140 mm	-
	FUA xCD 1 Fiber optics	6x20 mm, metal	1 mm	200 mm	• Heat resistant • with thread
	FUB xCD 1 Fiber optics	6x17 mm, metal	1 mm	400 mm	• Heat and cold resistant • with thread
	FUC xCD 2 Fiber optics	6x16 mm, metal	1 mm	170 mm	• Chemically resistant • Smooth sensing head
	FUE xCD 1 Fiber optics	3x11 mm, metal	1 mm	300 mm	• with thread
	FUE xCD 2 Fiber optics	4x20 mm, metal	1 mm	300 mm	• Smooth sensing head
	FUE xCD 4 Fiber optics	3x55 mm, metal	1 mm	40 mm	• Smooth sensing head • side view
	FUE xCD 6 Fiber optics	20,6x20,6x5 mm, metal	1 mm	265 mm	• Array • Line length = Number of holes x hole spacing
	FUE xEF 1 Fiber optics	3x10 mm, metal	1 mm	210 mm	• with thread

	FUG xCD 1	6x25 mm, metal	1 mm	160 mm	<ul style="list-style-type: none"> • Heat and cold resistant • with thread • Glass fibers
	FWDK 84 (analog output) Fiber optic sensors & cables	10x29,7x60 mm, plastic	-	90 mm	<ul style="list-style-type: none"> • analog output 1 ... 5 VDC • adjustable resolution • IP 40
	FWE xCD 1 Fiber optics	3x14 mm, metal	-	2175 mm	<ul style="list-style-type: none"> • with thread
	FWE xCD 2 Fiber optics	3x15 mm, metal	-	2350 mm	<ul style="list-style-type: none"> • Smooth sensing head
	OADM 25 (Laser) Distance sensors	23,4x63x45 mm, plastic	100 mm	1000 mm	<ul style="list-style-type: none"> • qTeach • alarm output • IP 67
	OADM 12 (Laser, RS485 interface) Distance sensors	12,4x37x34,5 mm, metal	16 mm	120 mm	<ul style="list-style-type: none"> • smallest distance measuring sensor • serial interface RS 485 • resolution up to 4 µm • Laser class 1 • IP 67
	OADM 13 (Laser, current output, focused beam) Distance sensors	13,4x48,2x40 mm, metal	50 mm	200 mm	<ul style="list-style-type: none"> • compact housing, current output • high sensitivity • fine laser line • IP 67
	OADM 13 (Laser, RS232 interface) Distance sensors	13,4x48,2x40 mm, metal	50 mm	550 mm	<ul style="list-style-type: none"> • serial interface RS 232 • resolution up to 50 µm • also with laser line for rough surfaces • IP 67
	OADM 13 (Laser, RS485 interface) Distance sensors	13,4x48,2x40 mm, metal	50 mm	550 mm	<ul style="list-style-type: none"> • serial interface RS 485 • resolution up to 50 µm • also with laser line for rough surfaces • IP 67
	OADM 13 (Laser, voltage output) Distance sensors	13,4x48,2x40 mm, metal	50 mm	550 mm	<ul style="list-style-type: none"> • compact housing, voltage output • teachable measuring range Sr > 5 mm • resolution up to 10 µm • IP 67

	OADM 13 (Laser, voltage output, focused beam) Distance sensors	13,4x48,2x40 mm, metal	50 mm	200 mm	<ul style="list-style-type: none"> • compact housing, voltage output • high sensitivity • fine laser line • IP 67
	OADM 20 (Laser, connector 5 pin, < 130 mm) Distance sensors	20,6x65x50 mm, metal	30 mm	130 mm	<ul style="list-style-type: none"> • response time < 0,9 ms • teachable measuring range Sr >2 mm • IP 67
	OADM 20 (Laser, connector 8 pins, > 300 mm) Distance sensors	20,6x65x50 mm, metal	100 mm	1000 mm	<ul style="list-style-type: none"> • response time < 0,9 ms • teachable measuring range Sr > 10 mm • resolution up to 15 µm • IP 67
	OADM 20 (Laser, fixed sensing range, < 250 mm) Distance sensors	20,6x65x50 mm, metal	30 mm	250 mm	<ul style="list-style-type: none"> • current or voltage output • resolution up to 10 µm • also with laser line for rough surfaces • IP 67
	OADM 20 (Laser, fixed sensing range, > 250 mm) Distance sensors	20,6x65x50 mm, metal	100 mm	1000 mm	<ul style="list-style-type: none"> • current or voltage output • resolution up to 0,2 mm • also with laser line for rough surfaces • IP 67
	OADM 20 (Laser, outdoor applications, < 1000 mm) Distance sensors	20,6x65x50 mm, metal	50 mm	1000 mm	<ul style="list-style-type: none"> • for demanding applications • very high ambient light immunity • extremely vibration resistant • IP 67
	OADM 21 (Laser) Distance sensors	20,4x135x45 mm, metal	100 mm	1000 mm	<ul style="list-style-type: none"> • teachable measuring range Sr > 10 mm • resolution up to 10 µm • synchronization input • IP 67
	OADM 250 (Laser) Distance sensors	25,4x66x51 mm, metal	200 mm	4000 mm	<ul style="list-style-type: none"> • measuring independent of colors up to 4 m • extremely compact housing • teachable measuring range • IP 67
	OADM 260 (Laser) Distance sensors	25,4x66x51 mm, metal	200 mm	13000 mm	<ul style="list-style-type: none"> • measuring up to 13 m • extremely compact housing • teachable measuring range • IP 67
	OADR 20 (Laser, variable sensing range) Distance sensors	20,3x65x51 mm, metal	30 mm	600 mm	<ul style="list-style-type: none"> • washdown design • Ecolab approved • front screen PMMA • IP 69K & proTect+
	OM70 (MESAX multi-spot) Distance sensors	26x74x55 mm, metal	100 mm	150 mm	<ul style="list-style-type: none"> • Stable measurement values even on coarse and shiny surfaces • Very high resolution up to 2 µm • Output in mm • Touch display for parameterization • Extra wide, adjustable measuring field • Laser class 1 • IP 67

	<p>OM70 (MESAX multi-spot)</p> <p>Distance sensors</p>	<p>26x74x55 mm, metal</p>	<p>100 mm</p>	<p>500 mm</p>	<ul style="list-style-type: none"> • Stable measurement values even on coarse and shiny surfaces • Very high resolution up to 4 μm • Output in mm • Touch display for parameterization • Extra wide, adjustable measuring field • Laser class 2 • IP 67
	<p>ZADM 023 (PosCon, large measuring range)</p> <p>Edge sensors</p>	<p>23 mm, metal</p>	<p>640 mm</p>	<p>1400 mm</p>	<ul style="list-style-type: none"> • Teach-in measuring range • measuring mode: edges, center, width • RS 485 interface • IP 67
	<p>ZADM 034 (ParCon, for large distances)</p> <p>Edge sensors</p>	<p>34 mm, metal</p>	<p>0 mm</p>	<p>200 mm</p>	<ul style="list-style-type: none"> • measuring of edge position and object width • parallel, uniform light beam • high measuring frequency • IP 67
	<p>ZADM 034 (ParCon, switching output)</p> <p>Edge sensors</p>	<p>34 mm, metal</p>	<p>0 mm</p>	<p>40 mm</p>	<ul style="list-style-type: none"> • detection of small objects • measuring area 24 x 40 mm • high measuring frequency • IP 67

PosCon 3D

OXE7.E25T-11111452 - Edge sensors

general data

type	measuring mode: edges, center, width, gap
version	PosCon 3D
measuring range (width)	75 ... 125 mm
measuring range (distance)	150 ... 250 mm
power on indication	LED green
output indicator	LED yellow / LED red
light source	pulsed red laser diode
wave length	656 nm
laser class	1
optical peak power max.	3 mW
adjustment	Touch Display, RS485

electrical data

voltage supply range +Vs	15 ... 28 VDC
current consumption max. (no load)	150 mA
output circuit	analog and RS 485
output signal	4 ... 20 mA / 0 ... 10 VDC
switching output	push-pull
output function	Out 1 / Alarm
output current	< 100 mA
baud rate	115200, adjustable
reverse polarity protection	yes, Vs to GND
short circuit protection	yes

mechanical data

width / diameter	26 mm
height / length	74 mm
depth	55 mm
type	rectangular, front view
housing material	aluminum
front (optics)	glass
connection types	connector M12 8 pin
weight	130 g

PosCon 3D for very dark objects

OXE7.E25T-11111452 - Edge sensors

general data

type	measuring mode: edges, center, width, gap
version	PosCon 3D
measuring range (width)	75 ... 125 mm
measuring range (distance)	150 ... 250 mm
power on indication	LED green
output indicator	LED yellow / LED red
light source	pulsed red laser diode
wave length	656 nm
laser class	1
optical peak power max.	3 mW
adjustment	Touch Display, RS485





electrical data








voltage supply range +Vs	15 ... 28 VDC
current consumption max. (no load)	150 mA
output circuit	analog and RS 485
output signal	4 ... 20 mA / 0 ... 10 VDC
switching output	push-pull
output function	Out 1 / Alarm
output current	< 100 mA
baud rate	115200, adjustable
reverse polarity protection	yes, Vs to GND
short circuit protection	yes









mechanical data









width / diameter	26 mm
height / length	74 mm
depth	55 mm
type	rectangular, front view
housing material	aluminum
front (optics)	glass
connection types	connector M12 8 pin
weight	130 g









sample picture	product family	housing	sensing distance min.	sensing distance max.	features
	ZADM 034 (ParCon, analog output) Edge sensors	34 mm, metal	0 mm	40 mm	<ul style="list-style-type: none"> • measuring of edge position and object width • parallel, uniform light beam • high measuring frequency • IP 67
	ZADM 034 (ParCon, for large distances) Edge sensors	34 mm, metal	0 mm	200 mm	<ul style="list-style-type: none"> • measuring of edge position and object width • parallel, uniform light beam • high measuring frequency • IP 67
	ZADM 034 (ParCon, switching output) Edge sensors	34 mm, metal	0 mm	40 mm	<ul style="list-style-type: none"> • detection of small objects • measuring area 24 x 40 mm • high measuring frequency • IP 67
	<u>OXE7.E</u> (PosCon 3D) Edge sensors	26x74x55 mm, metal	150 mm	250 mm	<ul style="list-style-type: none"> • 0-10 VDC / 4-20 mA (adaptive) • measuring mode: edges, center, width, gap • RS 485 interface • IP 67
	<u>ZADM 023</u> (PosCon, short measuring range) Edge sensors	23 mm, metal	50 mm	500 mm	<ul style="list-style-type: none"> • Teach-in measuring range • measuring mode: edges, center, width • RS 485 interface • IP 67
	<u>ZADM 023</u> (PosCon, large measuring range) Edge sensors	23 mm, metal	640 mm	1400 mm	<ul style="list-style-type: none"> • Teach-in measuring range • measuring mode: edges, center, width • RS 485 interface • IP 67
	<u>FLDK 110</u> (Laser, Scatec-2 box) Copy counters	30 mm, plastic	0 mm	120 mm	<ul style="list-style-type: none"> • Laser copy counter / edge detector • Individual package detection with seamless product detection • Selectable output pulse length • IP 54









	<p>FLDK 110 (Laser, Scatec-2)</p> <p>Copy counters</p>	<p>30 mm, plastic</p>	<p>0 mm</p>	<p>120 mm</p>	<ul style="list-style-type: none"> • Smallest laser copy counter on the market • counting of up to 600'000 copies/hour • Sensitivity $\geq 0,2$ mm • Selectable output pulse length • IP 54
	<p>FLDK 110 (Laser, Scatec-J)</p> <p>Copy counters</p>	<p>30 mm, plastic</p>	<p>0 mm</p>	<p>55 mm</p>	<ul style="list-style-type: none"> • Smallest laser copy counter on the market • counting of up to 280'000 copies/hour • Sensitivity $\geq 1,5$ mm • IP 54
	<p>FLDM 170 (Laser, Scatec-10)</p> <p>Copy counters</p>	<p>30 mm, metal</p>	<p>0 mm</p>	<p>90 mm</p>	<ul style="list-style-type: none"> • up to 3 million copies/hour • Sensitivity $\geq 0,1$ mm • display and integrated counter • Selectable output pulse length • Integrated gap detection and Sync-input • IP 54
	<p>FLDM 170 (Laser, Scatec-15)</p> <p>Copy counters</p>	<p>30 mm, metal</p>	<p>0 mm</p>	<p>120 mm</p>	<ul style="list-style-type: none"> • up to 3 million copies/hour • Sensitivity $\geq 0,15$ mm • display and integrated counter • Selectable output pulse length • Integrated gap detection and Sync-input • IP 54









sample picture	product family	housing	sensing distance min.	sensing distance max.	features
Линейные					
	MIL10	-	-	5 µm (4-times evaluation)	<ul style="list-style-type: none"> • Output signals A 90° B or A 90° B +R • Protection IP 67
Инкрементные					
	EIL580-T - through hollow shaft	ø58 mm	ø8...15 mm (through hollow shaft)	100...5000	<ul style="list-style-type: none"> • Compact • Industrial standard
	ExEIL580-T - through hollow shaft	ø58 mm	ø8...15 mm (through hollow shaft)	100...5000	<ul style="list-style-type: none"> • Industrial standard • ATEX II 3 D (Zone 22)
	EIL580P-T - through hollow shaft	ø58 mm	ø8...15 mm (through hollow shaft)	1...65536	<ul style="list-style-type: none"> • Compact • Industrial standard • Programmable
	ExEIL580P-T - through hollow shaft	ø58 mm	ø8...15 mm (through hollow shaft)	1...65536	<ul style="list-style-type: none"> • Programmable • ATEX II 3 D (Zone 22)
	EIL580-B - blind hollow shaft	ø58 mm	ø8...15 mm (blind hollow shaft)	100...5000	<ul style="list-style-type: none"> • Compact • Industrial standard
	ExEIL580-B - blind hollow shaft	ø58 mm	ø8...15 mm (blind hollow shaft)	100...5000	<ul style="list-style-type: none"> • Industrial standard • ATEX II 3 D (Zone 22)


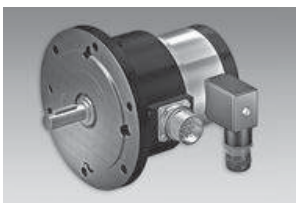
	EIL580P-B - blind hollow shaft	ø58 mm	ø8...15 mm (blind hollow shaft)	1...65536	<ul style="list-style-type: none"> • Compact • Industrial standard • Programmable
	ExEIL580P-B - blind hollow shaft	ø58 mm	ø8...15 mm (blind hollow shaft)	1...65536	<ul style="list-style-type: none"> • Programmable • ATEX II 3 D (Zone 22)
	EIL580-SC - clamping flange	ø58 mm	ø10 x 20 mm, solid shaft with flat (clamping flange) ø3/8" x 4/5" (ø9.525 x 20.32 mm), solid shaft with flat	100...5000	<ul style="list-style-type: none"> • Compact • Industrial standard
	ExEIL580-SC - clamping flange	ø58 mm	ø10 x 20 mm, solid shaft with flat (clamping flange)	100...5000	<ul style="list-style-type: none"> • Industrial standard • ATEX II 3 D (Zone 22)
	EIL580P-SC - clamping flange	ø58 mm	ø10 x 20 mm, solid shaft with flat (clamping flange) ø3/8" x 4/5" (ø9.525 x 20.32 mm), solid shaft with flat	1...65536	<ul style="list-style-type: none"> • Compact • Industrial standard • Programmable
	ExEIL580P-SC - clamping flange	ø58 mm	ø10 x 20 mm, solid shaft with flat (clamping flange)	1...65536	<ul style="list-style-type: none"> • Programmable • ATEX II 3 D (Zone 22)
	EIL580-S1B1 - EURO flange B10	ø115 mm	ø11 x 30 mm solid shaft with woodruff key	100...5000	<ul style="list-style-type: none"> • Compact • Industrial standard
	EIL580-SQ10 - Square flange	2.5 x 2.5" (63.5 x 63.5 mm)	ø10 x 20 mm, solid shaft with flat ø3/8" x 4/5" (ø9.525 x 20.32 mm), solid shaft with flat	100...5000	<ul style="list-style-type: none"> • Compact • Industrial standard









	EIL580P-SQ10 - Square flange	2.5 x 2.5" (63.5 x 63.5 mm)	ø10 x 20 mm, solid shaft with flat ø3/8" x 4/5" (ø9.525 x 20.32 mm), solid shaft with flat	1...65536	<ul style="list-style-type: none"> • Compact • Industrial standard • Programmable
	EIL580-SY - synchro flange	ø58 mm	ø6 x 10 mm, solid shaft with flat (synchro flange)	100...5000	<ul style="list-style-type: none"> • Compact • Industrial standard
	ExEIL580-SY - synchro flange	ø58 mm	ø6 x 10 mm, solid shaft with flat (synchro flange)	100...5000	<ul style="list-style-type: none"> • Industrial standard • ATEX II 3 D (Zone 22)
	EIL580P-SY - synchro flange	ø58 mm	ø6 x 10 mm, solid shaft with flat (synchro flange)	1...65536	<ul style="list-style-type: none"> • Compact • Industrial standard • Programmable
	ExEIL580P-SY - synchro flange	ø58 mm	ø6 x 10 mm, solid shaft with flat (synchro flange)	1...65536	<ul style="list-style-type: none"> • Programmable • ATEX II 3 D (Zone 22)
	EIL580-T - through hollow shaft - Option 6301	ø58 mm	ø8...15 mm (through hollow shaft)	100...5000	<ul style="list-style-type: none"> • Compact • Industrial standard
	EIL580-B - blind hollow shaft - Option 6301	ø58 mm	ø8...15 mm (blind hollow shaft)	100...5000	<ul style="list-style-type: none"> • Compact • Industrial standard
	AG 14	ø139 mm	ø70 mm (through hollow shaft)	250...2500	<ul style="list-style-type: none"> • Attached encoder • Short overall length • Large through hollow shaft

	BDH	ø55 mm	ø10 mm solid shaft (clamping flange)	10...5000	• Small profile depth
	BDH - HighRes	ø55 mm	ø10 mm solid shaft (clamping flange)	7200...320000	• Small profile depth
	BDK	ø30 mm	ø5 mm solid shaft	10...2048	• Operation speed max. 12000 rpm
	BDT	ø58 mm	ø6 mm solid shaft (synchro flange)	10...5000	• Small profile depth
	BDT - HighRes	ø58 mm	ø6 mm solid shaft (synchro flange)	7200...320000	• Small profile depth
	BDT sine	ø58 mm	ø6 mm solid shaft (synchro flange)	1000...5000	• Sine output
	BHF	ø58 mm	ø12 mm (blind hollow shaft)	10...5000	• Small profile depth
	BHF - HighRes	ø58 mm	ø12 mm (blind hollow shaft)	4096...320000	• High resolution • Programmable








	BHF sine	ø58 mm	ø12 mm (blind hollow shaft)	1000...5000	<ul style="list-style-type: none"> • Sine output
	BHG	ø58 mm	ø12 mm (through hollow shaft)	10...5000	<ul style="list-style-type: none"> • Small profile depth
	BHG - HighRes	ø58 mm	ø12 mm (through hollow shaft)	4096...320000	<ul style="list-style-type: none"> • High resolution • Programmable
	BHG sine	ø58 mm	ø12 mm (through hollow shaft)	1000...5000	<ul style="list-style-type: none"> • Sine output
	BHK	ø40 mm	ø6 mm (through hollow shaft) ø12 mm (blind hollow shaft)	10...2048	<ul style="list-style-type: none"> • Operation speed max. 12000 rpm
	BHT	ø58 mm	ø9.52 mm (blind hollow shaft) ø10 mm (blind hollow shaft)	20...5000	<ul style="list-style-type: none"> • Integrated flexible coupling
	BHT sine	ø58 mm	ø9.52 mm (blind hollow shaft) ø10 mm (blind hollow shaft)	1000...5000	<ul style="list-style-type: none"> • Sine output
	BHW - HighRes	ø80 mm	ø27 mm (through hollow shaft)	10000...320000	<ul style="list-style-type: none"> • High resolution • Programmable







	BNIV	ø40 mm	ø6 mm solid shaft	100...25000	<ul style="list-style-type: none"> • Programmable via HEX-switch
	BRID - EcoMag	ø58 mm	ø12 mm (through hollow shaft)	64...2048	<ul style="list-style-type: none"> • Wide pulse number range
	BRIH - EcoMag	ø58 mm	ø12 mm (blind hollow shaft)	64...2048	<ul style="list-style-type: none"> • Wide pulse number range
	BRIH 40 - EcoMag	ø40 mm	ø6 mm (blind hollow shaft) ø12 mm (blind hollow shaft)	2...1024	<ul style="list-style-type: none"> • Wide pulse number range
	BRIV 30 - EcoMag	ø30 mm	ø5 mm solid shaft	2...1024	<ul style="list-style-type: none"> • Wide pulse number range
	BRIV 30R - EcoMag	ø30 mm	ø6 mm solid shaft ø8 mm solid shaft	2...1024	<ul style="list-style-type: none"> • Temperature range -40...+85 °C
	BRIV 58K - EcoMag	ø58 mm	ø10 mm solid shaft (clamping flange)	64...2048	<ul style="list-style-type: none"> • Clamping flange
	BRIV 58S - EcoMag	ø58 mm	ø6 mm solid shaft (synchro flange)	64...2048	<ul style="list-style-type: none"> • Synchro flange








	ExG25	2.5 x 2.5" (63.5 x 63.5 mm) ø2.283" (ø58 mm)	ø0.375" (ø9.52 mm) solid shaft	5...6000	<ul style="list-style-type: none"> • Square flange • Inch dimensions • MIL connector
	EEEx HOG 161	ø160 mm	ø30...70 mm (through hollow shaft)	250...2500	<ul style="list-style-type: none"> • ATEX II 2 G • IECEx approval
	EEEx OG 9	ø115 mm	ø11 mm solid shaft	25...5000	<ul style="list-style-type: none"> • ATEX II 2 G • IECEx approval
	EEEx OG 9 S	ø115 mm	ø11 mm solid shaft	1024...2048	<ul style="list-style-type: none"> • ATEX II 2 G • IECEx approval
	FOG 9 + GT 7.08	ø115 mm	ø11 mm solid shaft	100...5000	<ul style="list-style-type: none"> • Encoder combination with tachogenerator • Connector with metal mating connector • EURO flange B10 • High response speed
	FOG 9	ø115 mm	ø10...11 mm solid shaft	100...5000	<ul style="list-style-type: none"> • Flange connector with metal mating connector • EURO flange B10 • ATEX II 3 G / 3 D • Function control with Enhanced Monitoring System
	FOG 9 + GT 7.16	ø115 mm	ø11 mm solid shaft	100...5000	<ul style="list-style-type: none"> • Encoder combination with tachogenerator • Connector with metal mating connector • EURO flange B10 • High response speed • No auxiliary

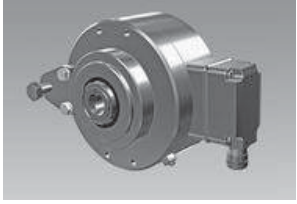





					energy source required
	G 305	62.5 x 70 mm	ø7 mm solid shaft single / dual shaft	5...120	• Surface mount housing
	G0333	ø58 mm	ø12 mm (through hollow shaft)	6000...80000	• High resolution
	G0355	ø58 mm	ø10 mm solid shaft	6000...80000	• High resolution
	G0356	ø58 mm	ø6 mm solid shaft	6000...80000	• High resolution
	G110H	ø75 mm	ø20 mm (through hollow shaft) ø25 mm (through hollow shaft) ø25.4 mm (through hollow shaft)	1024...16384	• Large hollow shaft
	G110S	ø75 mm	ø20 mm (blind hollow shaft) ø25 mm (blind hollow shaft)	1024...16384	• Large diameter blind shaft
	G25	2.5 x 2.5" (63.5 x 63.5 mm)	ø0.375" (ø9.52 mm) solid shaft	5...6000	• Square flange • Inch dimensions • MIL connector or cable
	GE333	ø58 mm	ø12 mm (through hollow shaft)	5...6000	• Stainless steel design






	GE355	ø58 mm	ø10 mm solid shaft (clamping flange)	5...6000	<ul style="list-style-type: none"> • Stainless steel design
	GI330	ø58 mm	ø12 mm (blind hollow shaft)	5...6000	<ul style="list-style-type: none"> • High resolution
	GI331	ø58 mm	ø12 mm (through hollow shaft)	5...6000	<ul style="list-style-type: none"> • High resolution
	GI332	ø58 mm	ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft)	5...6000	<ul style="list-style-type: none"> • High resolution
	GI333	ø58 mm	ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	5...6000	<ul style="list-style-type: none"> • High resolution
	GI341	ø58 mm	ø10...15 mm (blind hollow shaft)	5...2048	<ul style="list-style-type: none"> • Compact
	GI342	ø58 mm	ø10...15 mm (through hollow shaft)	5...2048	<ul style="list-style-type: none"> • Compact
	GI352	63.5 x 63.5 mm	ø9.52 mm solid shaft	5...6000	<ul style="list-style-type: none"> • Square flange • Inch dimensions • MIL connector







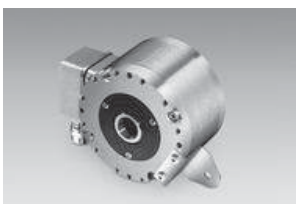
	GI355	ø58 mm	ø10 mm solid shaft	5...6000	<ul style="list-style-type: none"> • Industrial standard
	GI356	ø58 mm	ø6 mm solid shaft	5...6000	<ul style="list-style-type: none"> • Industrial standard
	GI357	ø58 mm	ø6 mm solid shaft (synchro flange) ø10 mm solid shaft (clamping flange)	5...5000	<ul style="list-style-type: none"> • SIL2 approval
	GPI0W	ø58 mm	ø6 mm solid shaft (synchro flange) ø10 mm solid shaft (clamping flange)	50...500	<ul style="list-style-type: none"> • PTB approved
	HOG 10	ø105 mm	ø12...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Radial terminal box or axial terminal cover • Blind hollow shaft up to ø20 mm • ATEX II 3 G / 3 D • Redundant sensing • Function control with Enhanced Monitoring System
	HOG 100	ø105 mm	ø16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	1024...10000	<ul style="list-style-type: none"> • Radial terminal box or axial terminal cover • High resolution • ATEX II 3 G / 3 D
	HOG 11 DNV	ø105 mm	ø16 mm (blind hollow shaft)	300...2500	<ul style="list-style-type: none"> • Very high protection IP 67 • Offshore and salt water firm • DNV approval

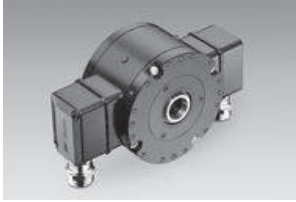
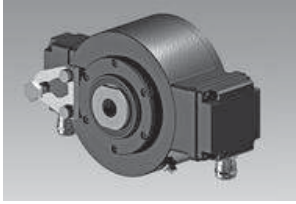
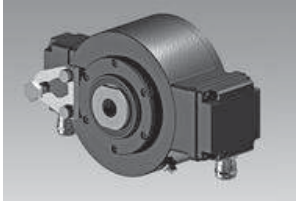




	HOG 11	ø105 mm	ø12...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Very high protection IP 67 • Offshore and salt water firm • Radial terminal box or axial terminal cover • ATEX II 3 G / 3 D • Redundant sensing • Function control with Enhanced Monitoring System
	HOG 10 + DSL.E	ø105 mm	ø16 mm (blind hollow shaft)	512...2500	<ul style="list-style-type: none"> • Incremental encoder combination with digital speed switch • Programmable for 2 switching speeds and 1 control output • ATEX II 3G/3D
	HOG 12	ø125 mm	ø30...45 mm (through hollow shaft)	600...1200	<ul style="list-style-type: none"> • Optical sensing method • Robust light-metal housing
	HOG 131	ø130 mm	ø16...36 mm (through hollow shaft)	1024...3072	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Integrated lightning protection • Hybrid bearing with ceramic balls • Especially sealed for offshore applications
	HOG 14	ø158 mm	ø40...75 mm (through hollow shaft)	1024...5000	<ul style="list-style-type: none"> • Optical sensing method • Robust light-metal housing • ATEX II 3 G / 3 D
	HOG 10 + DSL.R	ø105 mm	ø16 mm (blind hollow shaft)	512...2500	<ul style="list-style-type: none"> • Incremental encoder combination with digital speed switch • Programmable for 3 switching speeds • ATEX II 3G/3D

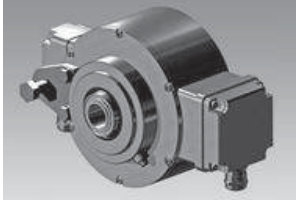

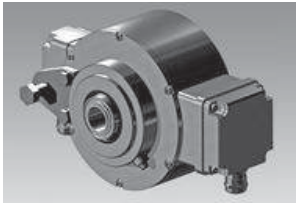
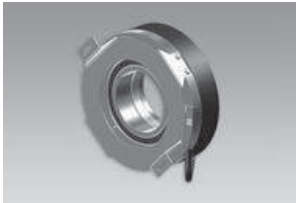




	HOG 16	ø158 mm	ø20...38 mm (through hollow shaft)	250...2500	<ul style="list-style-type: none"> • Through hollow shaft up to ø38 mm • Redundant sensing
	HOG 86 + DSL	ø99 mm	ø16 mm (blind hollow shaft)	512...2500	<ul style="list-style-type: none"> • Incremental encoder combination with digital speed switch • Programmable for 3 switching speeds
	HOG 10 + ESL 90	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 90 • Redundant sensing • Function control with Enhanced Monitoring System
	HOG 161	ø158 mm	ø38...75 mm (through hollow shaft)	250...2500	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Redundant sensing
	HOG 10 + ESL 93	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 90 • Redundant sensing • Function control with Enhanced Monitoring System
	HOG 163	ø158 mm	ø38...75 mm (through hollow shaft)	250...5000	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Redundant sensing
	HOG 10 + FSL	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • Blind hollow shaft up to ø20 mm • Redundant sensing • Function control









					with Enhanced Monitoring System
	HOG 165	ø165 mm	ø20...38 mm (blind hollow shaft)	1024...8192	<ul style="list-style-type: none"> • Special protection against corrosion • Large terminal box, turn by 180° • ATEX II 3 G / 3 D • Very high resistance to shock and vibrations
	HOG 86 + FSL	ø105 mm	ø16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	500...5000	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • Redundant sensing • Function control with Enhanced Monitoring System
	HOG 10 G	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Twin encoder combination with double sensing • ATEX II 3G/3D • Redundant sensing • Function control with Enhanced Monitoring System
	HOG 22	ø227 mm	ø80...115 mm (through hollow shaft)	720...4000	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Redundant sensing • Plug-in electronics
	HOG 220	ø227 mm	ø80...115 mm (through hollow shaft)	1024	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Redundant sensing
	HOG 28	ø287 mm	ø120...150 mm (through hollow shaft)	1024...2048	<ul style="list-style-type: none"> • Large terminal box, turn by 180° • Option: Plug-in electronics • ATEX II 3 G / 3 D • Redundant sensing






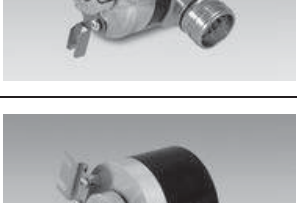

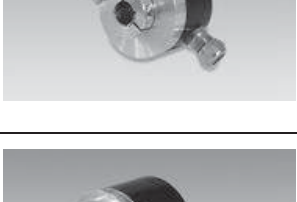
	<p>HOG 11 + ESL 90</p>	<p>ø105 mm</p>	<p>ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)</p>	<p>300...5000</p>	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 90 • Offshore and salt water firm • High protection IP 67 • Redundant sensing • Function control with Enhanced Monitoring System
	<p>HOG 60</p>	<p>ø58 mm</p>	<p>ø8...12 mm (blind hollow shaft)</p>	<p>200...10000</p>	<ul style="list-style-type: none"> • High resistance to shock • High protection IP 65 • ATEX II 3 G / 3 D
	<p>HOG 11 + ESL 93</p>	<p>ø105 mm</p>	<p>ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)</p>	<p>300...5000</p>	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 90 • Offshore and salt water firm • High protection IP 67 • Redundant sensing • Function control with Enhanced Monitoring System
	<p>HOG 70</p>	<p>ø60 mm</p>	<p>ø12...14 mm (blind hollow shaft)</p>	<p>10...10000</p>	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D
	<p>HOG 11 + FSL</p>	<p>ø105 mm</p>	<p>ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)</p>	<p>300...5000</p>	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • Offshore and salt water firm • High protection IP 67 • Redundant sensing • Function control with Enhanced Monitoring System









	HOG 71	ø60 mm	ø12...14 mm (blind hollow shaft)	64...2048	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D
	HOG 11 G	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Twin encoder combination with double sensing • High protection IP 67 • Offshore and salt water firm • ATEX II 3G/3D • Redundant sensing • Function control with Enhanced Monitoring System
	HOG 75 K	ø75 mm	ø17 mm (cone shaft 1:10)	250...2500	<ul style="list-style-type: none"> • Very high resistance to vibrations • ATEX II 3 G / 3 D
	HOG 75	ø75 mm	ø12...26 mm (through hollow shaft)	250...2500	<ul style="list-style-type: none"> • Very high resistance to vibrations • ATEX II 3 G / 3 D
	HOG 8	ø86.5 mm	ø10...16 mm (through hollow shaft)	1...5000	<ul style="list-style-type: none"> • Compact, robust die-cast housing
	HOG 86	ø99 mm	ø12...16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	500...5000	<ul style="list-style-type: none"> • Function control with Enhanced Monitoring System • ATEX II 3 G / 3 D
	HOG 86E	ø99 mm	ø12...16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	500...2500	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D









	HOG 86 M	ø99 mm	ø12...16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	500...5000	<ul style="list-style-type: none"> • Function control with Enhanced Monitoring System • Redundant sensing • ATEX II 3 G / 3 D
	HOG 16 + DSLE	ø158 mm	ø20...50 mm (through hollow shaft)	512...2500	<ul style="list-style-type: none"> • Incremental encoder combination with digital speed switch • Programmable for 2 switching speeds and 1 control output
	HOG 16 + DSLR	ø158 mm	ø20...50 mm (through hollow shaft)	512...2500	<ul style="list-style-type: none"> • Incremental encoder combination with digital speed switch • Programmable for 3 switching speeds
	HOG 9	ø97 mm	ø12...16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Function control with Enhanced Monitoring System
	HOG 9 G	ø97 mm	ø16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Twin encoder combination with double sensing • ATEX II 3G/3D • Function control with Enhanced Monitoring System
	HOGS 100	ø105 mm	ø16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	720...5000	<ul style="list-style-type: none"> • Radial terminal box or axial terminal cover • Top-quality SinCos output-signals • ATEX II 3 G / 3 D
	HOGS 100 S	ø105 mm	ø16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	1024...5000	<ul style="list-style-type: none"> • SIL2 approval • Radial terminal box or axial terminal cover • Top-quality SinCos output-signals • ATEX II 3 G / 3 D

	HOG 165 + DSL.E	ø165 mm	ø25 mm (through hollow shaft)	512...4096	<ul style="list-style-type: none"> • Incremental encoder combination with digital speed switch • Programmable for 2 switching speeds and 1 control output • ATEX II 3G/3D
	HOGS 14	ø158 mm	ø40...75 mm (through hollow shaft)	1024...5000	<ul style="list-style-type: none"> • Top-quality SinCos output-signals • ATEX II 3 G / 3 D
	HOG 165 + DSL.R	ø165 mm	ø25 mm (through hollow shaft)	512...4096	<ul style="list-style-type: none"> • Incremental encoder combination with digital speed switch • Programmable for 3 switching speeds • ATEX II 3G/3D
	HOGS 151	ø168 mm	ø60...70 mm (through hollow shaft)	1024...5000	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Top-quality SinCos output-signals
	HOGS 71	ø60 mm	ø12...14 mm (blind hollow shaft)	1024...5000	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Top-quality SinCos output-signals
	HOGS 75 K	ø75 mm	ø17 mm (cone shaft 1:10)	720...5000	<ul style="list-style-type: none"> • Very high resistance to vibrations • ATEX II 3 G / 3 D
	HOGS 75	ø75 mm	ø14...26 mm (through hollow shaft)	720...5000	<ul style="list-style-type: none"> • Very high resistance to vibrations • ATEX II 3 G / 3 D
	HS35F	ø3.15" (ø80 mm)	ø0.375...1" (ø9.525...25.4 mm) (through hollow shaft isolated)	1024...80000	<ul style="list-style-type: none"> • Industrial standard • Inch dimensions • Very high IP protection • Isolated shaft









	HS35P - Programmable	ø3.15" (ø80 mm)	ø0.375...1" (ø9.525... 25.4 mm) (through hollow shaft isolated)	1...8192	<ul style="list-style-type: none"> • Programmable • Inch dimensions • Very high IP protection • Isolated shaft
	HS35S - Sine	ø3.15" (ø80 mm)	ø0.375...1" (ø9.525... 25.4 mm) (through hollow shaft isolated)	1024...5000	<ul style="list-style-type: none"> • Top-quality sine signals • Inch dimensions • Very high IP protection
	ExHS35	ø3.15" (ø80 mm)	ø0.375...1" (ø9.525... 25.4 mm) (through hollow shaft isolated)	1024...5000	<ul style="list-style-type: none"> • Intrinsically safe encoder • Inch dimensions • Very high IP protection
	ITD 01 A 4 Y 1	ø24 mm	ø4 mm (blind hollow shaft)	30...1024	<ul style="list-style-type: none"> • Mini encoder
	ITD 01 A 4 Y 4	ø24 mm	ø4 mm (blind hollow shaft)	30...1024	<ul style="list-style-type: none"> • Mini encoder
	ITD 01 B14	ø24 mm	ø4 mm solid shaft	30...1024	<ul style="list-style-type: none"> • Mini encoder
	ITD 2 A 4 Y22	ø58 mm	ø10 mm (blind hollow shaft) ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft)	2...60	<ul style="list-style-type: none"> • Compact • Industrial standard
	ITD 2 A 4 Y36	ø58 mm	ø10 mm (blind hollow shaft) ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft)	2...60	<ul style="list-style-type: none"> • Compact • Industrial standard









	ITD 20 A 4	ø58 mm	ø8...14 mm (blind hollow shaft)	50...1024	<ul style="list-style-type: none"> • Compact • Industrial standard
	ITD 20 A 4 Y10	ø58 mm	ø6...16 mm (blind hollow shaft)	50...1024	<ul style="list-style-type: none"> • Encoder with bellhousing • High IP protection
	ITD 20 A 4 Y114	-	ø10 mm (blind hollow shaft) ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft)	100...2048	<ul style="list-style-type: none"> • Terminal box axial, screw connection sidewise
	ITD 20 A 4 Y120	60 x 72 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft) ø16 mm (through hollow shaft)	200...2048	<ul style="list-style-type: none"> • Compact • High IP protection
	ITD 20 A 4 Y130	ø58 mm	ø12 mm (blind hollow shaft)	50...1024	<ul style="list-style-type: none"> • Electric isolated • High IP protection • Compact
	ITD 20 A 4 Y22	ø58 mm	ø10 mm (blind hollow shaft) ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft)	50...1024	<ul style="list-style-type: none"> • Compact • High IP protection
	ITD 20 A 4 Y36	ø58 mm	ø10 mm (blind hollow shaft) ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft)	50...1024	<ul style="list-style-type: none"> • Compact • Industrial standard
	ITD 20 B14	ø58 mm	ø6 mm solid shaft	50...1024	<ul style="list-style-type: none"> • Industrial standard • Synchro flange • High IP protection









	ITD 20 B14 Y 1	ø58 mm	ø6 mm solid shaft	50...1024	<ul style="list-style-type: none"> • Industrial standard • Synchro flange • High IP protection
	ITD 20 B14 Y 9	ø58 mm	ø10 mm solid shaft (clamping flange)	50...1024	<ul style="list-style-type: none"> • Industrial standard • Clamping flange • High IP protection
	ITD 20 B14 Y11	ø58 mm	ø10 mm solid shaft (clamping flange)	50...1024	<ul style="list-style-type: none"> • Industrial standard • Clamping flange • High IP protection
	ITD 21 A 4 Y10	ø58 mm	ø6...16 mm (blind hollow shaft)	1000...10000	<ul style="list-style-type: none"> • Encoder with bellhousing • High resolutions • High IP protection
	ITD 21 A 4 Y109	ø68 mm	ø10 mm (blind hollow shaft) ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft)	200...6000	<ul style="list-style-type: none"> • Anodised • High resolutions • Very high IP protection
	ITD 21 A 4 Y21	ø58 mm	ø10 mm (blind hollow shaft) ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft)	200...6000	<ul style="list-style-type: none"> • Compact • High resolutions • High IP protection
	ITD 21 A 4 Y22	ø58 mm	ø10 mm (blind hollow shaft) ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft)	200...6000	<ul style="list-style-type: none"> • Compact • High resolutions • High IP protection
	ITD 21 A 4 Y36	ø58 mm	ø10 mm (blind hollow shaft) ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft)	200...6000	<ul style="list-style-type: none"> • Compact • High resolutions • High IP protection








	ITD 21 A 4 Y65	ø68 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	200...6000	<ul style="list-style-type: none"> • Stainless steel • High resolutions • High IP protection
	ITD 21 B14	ø58 mm	ø6 mm solid shaft (synchro flange)	1000...10000	<ul style="list-style-type: none"> • Synchro flange • High resolutions • High IP protection
	ITD 21 B14 Y 1	ø58 mm	ø6 mm solid shaft (synchro flange)	1000...10000	<ul style="list-style-type: none"> • Synchro flange • High resolutions • High IP protection
	ITD 21 B14 Y 9	ø58 mm	ø10 mm solid shaft (clamping flange)	1000...6000	<ul style="list-style-type: none"> • Clamping flange • High resolutions • High IP protection
	ITD 21 B14 Y11	ø58 mm	ø10 mm solid shaft (clamping flange)	1000...6000	<ul style="list-style-type: none"> • Clamping flange • High resolutions • High IP protection
	ITD 22 A 4 Y36	ø58 mm	ø10 mm (blind hollow shaft) ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft)	1024...5000	<ul style="list-style-type: none"> • Top-quality sine signals • Compact
	ITD 23 A 4 Y 2	60 x 72 mm	ø14 mm (through hollow shaft)	128	<ul style="list-style-type: none"> • Compact • Tangential cable output
	ITD 27 A 4 Y15	ø58 mm	ø9...14 mm (through hollow shaft)	1...32	<ul style="list-style-type: none"> • Compact • Magnetic sensing







	ITD 28 A 4	ø58 mm	ø10...14 mm (blind hollow shaft)	50...1024	<ul style="list-style-type: none"> • Encoder redundant • High IP protection
	ITD 4 A 4	ø80 mm	ø10...16 mm (blind hollow shaft)	5...100	<ul style="list-style-type: none"> • Industrial standard
	ITD 4 B10	ø82 mm	ø11 mm solid shaft	5...60	<ul style="list-style-type: none"> • EURO flange B10 • Industrial standard • High IP protection
	ITD 4 B10 Y 1	ø82 mm	ø11 mm solid shaft	5...60	<ul style="list-style-type: none"> • EURO flange B10 • Industrial standard • High IP protection
	ITD 4 B10 Y 4	ø82 mm	ø11 mm solid shaft	5...60	<ul style="list-style-type: none"> • EURO flange B10 • Dual bearing • High IP protection
	ITD 4 B10 Y 5	ø82 mm	ø11 mm solid shaft	5...60	<ul style="list-style-type: none"> • EURO flange B10 • Industrial standard • High IP protection
	ITD 40 A 4	ø80 mm	ø10...16 mm (blind hollow shaft)	200...2048	<ul style="list-style-type: none"> • Industrial standard
	ITD 40 A 4 Y109	ø80 mm	ø10...16 mm (blind hollow shaft)	200...2048	<ul style="list-style-type: none"> • High IP protection







	ITD 40 A 4 Y138	ø80 mm	ø14 mm (through hollow shaft)	200...2048	<ul style="list-style-type: none"> • High resistance to shock and vibrations • Electric isolated
	ITD 40 A 4 Y141	ø89 mm	ø20 mm (blind hollow shaft) ø22 mm (blind hollow shaft) ø25 mm (blind hollow shaft) ø27 mm (blind hollow shaft)	200...2048	<ul style="list-style-type: none"> • Stainless steel • Large hollow shaft • Very high IP protection
	ITD 40 A 4 Y22	ø80 mm	ø17...27 mm (through hollow shaft)	200...2048	<ul style="list-style-type: none"> • Large hollow shaft
	ITD 40 A 4 Y79	ø80 mm	ø20...27 mm (through hollow shaft)	200...2048	<ul style="list-style-type: none"> • Large hollow shaft
	ITD 40 B10	ø82 mm	ø11 mm solid shaft	200...2048	<ul style="list-style-type: none"> • EURO flange B10 • Industrial standard • High IP protection
	ITD 40 B10 Y 1	ø82 mm	ø11 mm solid shaft	200...2048	<ul style="list-style-type: none"> • EURO flange B10 • Industrial standard • High IP protection
	ITD 40 B10 Y 4	ø82 mm	ø11 mm solid shaft	200...2048	<ul style="list-style-type: none"> • EURO flange B10 • Dual bearing • High IP protection
	ITD 40 B10 Y 5	ø82 mm	ø11 mm solid shaft	200...2048	<ul style="list-style-type: none"> • EURO flange B10 • Dual bearing • Terminal box axial, screw connection sidewise








	ITD 41 A 4	ø80 mm	ø10...16 mm (blind hollow shaft)	2000...10000	<ul style="list-style-type: none"> • Industrial standard • High resolutions • High IP protection
	ITD 41 A 4 Y 1	ø80 mm	ø10...16 mm (blind hollow shaft)	2000...10000	<ul style="list-style-type: none"> • High resolutions • High IP protection
	ITD 41 A 4 Y 2	ø80 mm	ø10...16 mm (through hollow shaft)	2000...10000	<ul style="list-style-type: none"> • High resolutions • High IP protection
	ITD 41 A 4 Y100	ø80 mm	ø20 mm (through hollow shaft) ø25 mm (through hollow shaft)	2000...10000	<ul style="list-style-type: none"> • Large hollow shaft • Electric isolated • High resolutions
	ITD 41 A 4 Y117	ø80 mm	ø14 mm (through hollow shaft)	2000...10000	<ul style="list-style-type: none"> • Electric isolated • High resolutions • High IP protection
	ITD 41 A 4 Y141	ø89 mm	ø20...27 mm (blind hollow shaft)	2000...10000	<ul style="list-style-type: none"> • Stainless steel • Very high IP protection • High resolutions
	ITD 41 A 4 Y22	ø80 mm	ø17...27 mm (through hollow shaft)	2000...10000	<ul style="list-style-type: none"> • Large hollow shaft • High resolutions • High IP protection
	ITD 41 A 4 Y68	ø80 mm	ø28...30 mm (through hollow shaft)	1024...10000	<ul style="list-style-type: none"> • Large hollow shaft • High resolutions

	ITD 41 A 4 Y70	ø80 mm	ø28...30 mm (through hollow shaft)	1024...10000	<ul style="list-style-type: none"> • Large hollow shaft • High resolutions
	ITD 41 A 4 Y79	ø80 mm	ø20 mm (through hollow shaft) ø22 mm (through hollow shaft) ø25 mm (through hollow shaft) ø27 mm (through hollow shaft)	2000...10000	<ul style="list-style-type: none"> • Large hollow shaft • High resolutions
	ITD 41 B10	ø82 mm	ø11 mm solid shaft	1000...6000	<ul style="list-style-type: none"> • EURO flange B10 • Industrial standard • High resolutions
	ITD 41 B10 Y 1	ø82 mm	ø11 mm solid shaft	1000...6000	<ul style="list-style-type: none"> • EURO flange B10 • Industrial standard • High IP protection
	ITD 41 B10 Y 4	ø82 mm	ø11 mm solid shaft	1000...6000	<ul style="list-style-type: none"> • EURO flange B10 • Dual bearing • High IP protection
	ITD 41 B10 Y 5	ø82 mm	ø11 mm solid shaft	1000...6000	<ul style="list-style-type: none"> • EURO flange B10 • Dual bearing • High resolutions • Terminal box axial, screw connection sidewise
	ITD 42 A 4	ø80 mm	ø10...16 mm (blind hollow shaft)	1024...2048	<ul style="list-style-type: none"> • Top-quality sine signals
	ITD 42 A 4 Y141	ø89 mm	ø20 mm (blind hollow shaft) ø27 mm (blind hollow shaft) ø25 mm (blind hollow shaft) ø22 mm (blind	1024...2048	<ul style="list-style-type: none"> • Stainless steel • Very high IP protection • Top-quality sine signals

			hollow shaft)		
	ITD 42 A 4 Y79	ø80 mm	ø20 mm (through hollow shaft) ø22 mm (through hollow shaft) ø25 mm (through hollow shaft) ø27 mm (through hollow shaft)	1024...2048	<ul style="list-style-type: none"> • Top-quality sine signals • Large hollow shaft
	ITD61H00	ø120 mm	ø30...50 mm (through hollow shaft)	1024...10000	<ul style="list-style-type: none"> • Large hollow shaft • Stainless steel • Flat design
	ITD 70 A 4 Y 2	ø150 mm	ø38...65 mm (through hollow shaft)	1000...2500	<ul style="list-style-type: none"> • Large hollow shaft
	ITD 70 A 4 Y 7	ø150 mm	ø40...65 mm (through hollow shaft)	1000...2500	<ul style="list-style-type: none"> • Large hollow shaft
	ITD 70 A 4 Y 9	ø150 mm	ø40...65 mm (through hollow shaft)	1000...2500	<ul style="list-style-type: none"> • Large hollow shaft
	ITD21H00	ø58 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	100...80000	<ul style="list-style-type: none"> • Space-saving installation • Flexible cable concept
	ITD21H00 HT	ø58 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	100...8192	<ul style="list-style-type: none"> • Space-saving installation • Flexible cable concept • Extended operating temperature


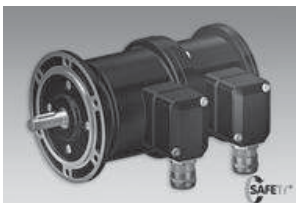
	ITD22H00	ø58 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	1024...2048	<ul style="list-style-type: none"> • Top-quality sine signals • Space-saving installation • Flexible cable concept
	ITD22H00 SIL	ø58 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	1024...2048	<ul style="list-style-type: none"> • SIL2 approval • Top-quality sine signals • Space-saving installation • Flexible cable concept
	ITD21H01	ø58 mm	ø14 mm (through hollow shaft)	100...80000	<ul style="list-style-type: none"> • Space-saving installation • Flexible cable concept
	ITD21H01 HT	ø58 mm	ø14 mm (through hollow shaft)	100...8192	<ul style="list-style-type: none"> • Space-saving installation • Flexible cable concept
	MA20	ø40 mm	ø6 mm solid shaft	100...25000	<ul style="list-style-type: none"> • Programmable via HEX-switch
	OG 6	ø58 mm	ø6 mm solid shaft	100...512	<ul style="list-style-type: none"> • Solid shaft ø6 mm • Synchro flange
	OG 60	ø58 mm	ø6 mm solid shaft	10...10000	<ul style="list-style-type: none"> • Solid shaft ø6 mm • Synchro flange
	OG 71	ø58 mm	ø6 mm solid shaft	100...1024	<ul style="list-style-type: none"> • Solid shaft ø6 mm • High resistance to shock • ATEX II 3 G / 3 D

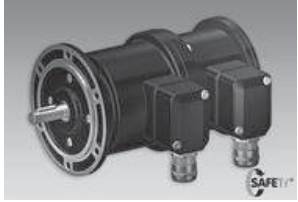
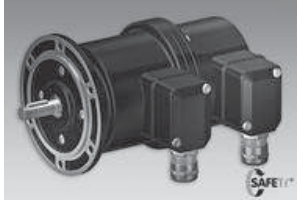
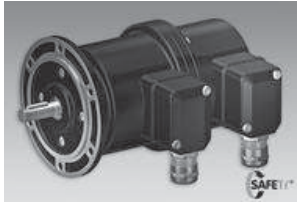
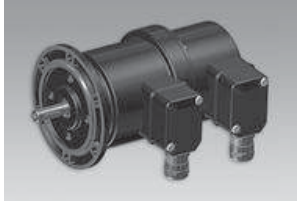
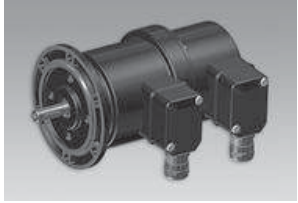


	OG 8	ø115 mm	ø11 mm solid shaft	1...5000	<ul style="list-style-type: none"> • Solid shaft ø11 mm • EURO flange B10
	OG 9	ø115 mm	ø11 mm solid shaft	25...5000	<ul style="list-style-type: none"> • Solid shaft ø11 mm • EURO flange B10 • Operating temperature up to +100 °C • ATEX II 3 G / 3 D
	OGS 71	ø58 mm	ø6 mm solid shaft	1024...5000	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D
	POG 10	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • EURO flange B10 • Encoder with solid shaft ø11 mm • Radial terminal box • ATEX II 3 G / 3 D • Redundant sensing • Function control with Enhanced Monitoring System
	POG 11	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Very high protection IP 67 • Offshore and salt water firm • Radial terminal box • ATEX II 3 G / 3 D • Redundant sensing • Function control with Enhanced Monitoring System
	POG 86	ø115 mm	ø11 mm solid shaft	500...5000	<ul style="list-style-type: none"> • Encoder with solid shaft ø11 mm • EURO flange B10 • ATEX II 3 G / 3 D • Function control with Enhanced





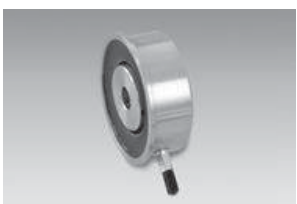



					Monitoring System
	POG 86E	ø115 mm	ø11 mm solid shaft	500...5000	<ul style="list-style-type: none"> Encoder with solid shaft ø11 mm EURO flange B10 ATEX II 3 G / 3 D Function control with Enhanced Monitoring System
	POG 9	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> Encoder with solid shaft ø11 mm EURO flange B10 ATEX II 3 G / 3 D Function control with Enhanced Monitoring System
	POG 90	ø115 mm	ø11 mm solid shaft	1024...10000	<ul style="list-style-type: none"> ATEX II 3 G / 3 D
	POGS 90	ø115 mm	ø11 mm solid shaft	720...5000	<ul style="list-style-type: none"> ATEX II 3 G / 3 D
	TIL	60 x 72 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft) ø16 mm (through hollow shaft)	100...2048	<ul style="list-style-type: none"> Tangential cable output
	TIL Y 1	60 x 72 mm	ø12 mm (blind hollow shaft)	100...2048	<ul style="list-style-type: none"> Tangential cable output High IP protection
	X 700 - incremental	ø70 mm	ø10 mm solid shaft (clamping flange)	5...5000	<ul style="list-style-type: none"> Ex II 2D/2G (ATEX)








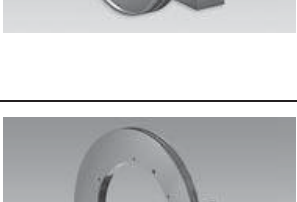
	POG 90 + ESL 90	ø115 mm	ø11 mm solid shaft	1024...10000	<ul style="list-style-type: none"> Encoder combination with electronic speed switch ESL 90 EURO flange B10 or foot mounting
	POG 90 + ESL 93	ø115 mm	ø11 mm solid shaft	1024...10000	<ul style="list-style-type: none"> Encoder combination with electronic speed switch ESL 93 EURO flange B10 or foot mounting
	OG 60 + GT 5	ø58 mm	ø6 mm solid shaft	10...10000	<ul style="list-style-type: none"> Encoder combination with tachogenerator Connector with metal mating connector Synchro flange Recognition of sense of rotation
	POG 10 + DSLE	ø115 mm	ø11 mm solid shaft	512...2500	<ul style="list-style-type: none"> Incremental encoder combination with digital speed switch Programmable for 2 switching speeds and 1 control output ATEX II 3G/3D
	POG 90 + FSL	ø115 mm	ø11 mm solid shaft	1024...10000	<ul style="list-style-type: none"> Encoder combination with centrifugal switch FSL EURO flange B10
	POG 10 + DSL.R	ø115 mm	ø11 mm solid shaft	512...2500	<ul style="list-style-type: none"> Incremental encoder combination with digital speed switch Programmable for 3 switching speeds ATEX II 3G/3D
	POG 10 + ESL 90	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> Encoder combination with electronic speed switch ESL 90 EURO flange B10 or foot mounting Redundant sensing



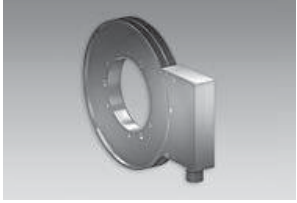




					<ul style="list-style-type: none"> • Function control with Enhanced Monitoring System
	POG 10 + ESL 93	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 93 • EURO flange B10 or foot mounting • Redundant sensing • Function control with Enhanced Monitoring System
	POG 10 + FSL	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • EURO flange B10 or foot mounting • Redundant sensing • Function control with Enhanced Monitoring System
	POG 10 G	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Twin encoder combination with double sensing • EURO flange B10 • ATEX II 3G/3D • Redundant sensing • Function control with Enhanced Monitoring System
	POG 11 + ESL 90	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 90 • Offshore and salt water firm • High protection IP 67 • EURO flange B10 or foot mounting • Redundant sensing • Function control with Enhanced Monitoring System

	<p>POG 11 + ESL 93</p>	<p>ø115 mm</p>	<p>ø11 mm solid shaft</p>	<p>300...5000</p>	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 93 • Offshore and salt water firm • High protection IP 67 • EURO flange B10 or foot mounting • Redundant sensing • Function control with Enhanced Monitoring System
	<p>POG 11 + FSL</p>	<p>ø115 mm</p>	<p>ø11 mm solid shaft</p>	<p>300...5000</p>	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • Offshore and salt water firm • High protection IP 67 • EURO flange B10 or foot mounting • Redundant sensing • Function control with Enhanced Monitoring System
	<p>POG 11 G</p>	<p>ø115 mm</p>	<p>ø11 mm solid shaft</p>	<p>300...5000</p>	<ul style="list-style-type: none"> • Twin encoder with double sensing • High protection IP 67 • Offshore and salt water firm • EURO flange B10 • ATEX II 3G/3D • Redundant sensing • Function control EMS
	<p>POG 9 + ESL 90</p>	<p>ø115 mm</p>	<p>ø11 mm solid shaft</p>	<p>300...5000</p>	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 90 • EURO flange B10 • Function control with Enhanced Monitoring System





	POG 9 + ESL 93	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> Encoder combination with electronic speed switch ESL 93 EURO flange B10 Function control with Enhanced Monitoring System
	POG 86 + FSL	ø115 mm	ø11 mm solid shaft	500...5000	<ul style="list-style-type: none"> Encoder combination with centrifugal switch FSL EURO flange B10 Function control with Enhanced Monitoring System
	POG 9 + FSL	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> Encoder combination with centrifugal switch FSL EURO flange B10 Function control with Enhanced Monitoring System
	POG 86 G	ø115 mm	ø11 mm solid shaft	500...5000	<ul style="list-style-type: none"> Twin encoder combination with double sensing ATEX II 3G/3D Function control with Enhanced Monitoring System
	POG 9 G	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> Twin encoder combination with double sensing ATEX II 3G/3D Function control with Enhanced Monitoring System
	MIL10	-	-	-	<ul style="list-style-type: none"> Output signals A 90° B or A 90° B +R Protection IP 67
	MIR10	-	ø6...43.5 mm (through hollow shaft)	320...4096	<ul style="list-style-type: none"> Max. 4096 pulses per revolution Output signals A 90° B or A 90° B +R Protection IP 67





	MIR 3000F - HDmag flex	-	ø300...3183 mm (through hollow shaft)	512...131072512...1638 4	<ul style="list-style-type: none"> • Integrated signal processing • Magnetic sensing • Protection IP 67 • Square-wave or sine signals
	MIR 350A - HDmag flex	-	ø90...300 mm (through hollow shaft)	512...131072512...1638 4	<ul style="list-style-type: none"> • Integrated signal processing • Magnetic sensing • Protection IP 67 • Square-wave or sine signals
	MDFK 08 - push-pull	-	ø6...43.5 mm (through hollow shaft)	256...1024	<ul style="list-style-type: none"> • Resolution up to 1024 pulses • Output signals A 90° B or A 90° B +N • Protection IP 67
	MDFK 08 - RS422	-	ø6...43.5 mm (through hollow shaft)	256...1024	<ul style="list-style-type: none"> • Resolution up to 1024 pulses • Output signals A 90° B or A 90° B +N • Protection IP 67
	ITD 27 A 4 Y27	ø58 mm	ø10...16 mm (blind hollow shaft)	1...32	<ul style="list-style-type: none"> • Magnetic sensing • Protection IP 67
	ITD 67 A 4 Y 9	-	ø10...45 mm (through hollow shaft)	20...50	<ul style="list-style-type: none"> • Magnetic sensing • Flat design • Protection IP 67
	ITD 75 A 4	ø150 mm	ø60...85 mm (through hollow shaft)	1000...2500	<ul style="list-style-type: none"> • Large hollow shaft • Incremental encoder without bearings
	ITD49H00	-	ø9...28 mm (through hollow shaft)	64...2048	<ul style="list-style-type: none"> • Square-wave signals • Flat design • Protection IP 67






	ITD49H00 sine	-	ø9...28 mm (through hollow shaft)	64	<ul style="list-style-type: none"> • Flat design • Protection IP 67
	ITD69H00	-	ø40...65 mm (through hollow shaft)	128...4096	<ul style="list-style-type: none"> • Square-wave signals • Flat design • Protection IP 67
	ITD69H00 sine	-	ø40...65 mm (through hollow shaft)	128	<ul style="list-style-type: none"> • Flat design • Protection IP 67
	ITD89H00	-	ø70...140 mm (through hollow shaft)	256...8192	<ul style="list-style-type: none"> • Very high IP protection • Square-wave signals • Flat design
	ITD89H00 sine	-	ø70...140 mm (through hollow shaft)	256	<ul style="list-style-type: none"> • Very high IP protection • Flat design
	MHGE 100 - HDmag	ø99,9 mm	ø16...80 mm (through hollow shaft)	64...409664	<ul style="list-style-type: none"> • Max. 4096 pulses per revolution • Square-wave or sine signals • Protection IP 67 • DNV approval as option
	MHGE 200 - HDmag	ø201.7 mm	ø50...180 mm (through hollow shaft)	128...8192128	<ul style="list-style-type: none"> • Max. 8192 pulses per revolution • Square-wave or sine signals • Protection IP 67 • DNV approval as option
	MHGE 400 - HDmag	ø405.4 mm	ø70...340 mm (through hollow shaft)	256...16384256	<ul style="list-style-type: none"> • Max. 16384 pulses per revolution • Square-wave or sine signals • Protection IP 67 • DNV approval as option





					option
	MHGE 800 - HDmag	ø813 mm	ø650...740 mm (through hollow shaft)	512...32768512	<ul style="list-style-type: none"> • Max. 32768 pulses per revolution • Square-wave or sine signals • Protection IP 67 • DNV approval as option
	MHGP 100 - HDmag	ø99,9 mm	ø16...80 mm (through hollow shaft)	64...13107264...8192	<ul style="list-style-type: none"> • Max. 131072 pulses per revolution • Square-wave or sine signals • Protection IP 67
	MHGP 200 - HDmag	ø201.7 mm	ø50...180 mm (through hollow shaft)	128...262144128...16384	<ul style="list-style-type: none"> • Max. 262144 pulses per revolution • Square-wave or sine signals • Protection IP 67
	MHGP 400 - HDmag	ø405.4 mm	ø70...340 mm (through hollow shaft)	256...524288256...32768	<ul style="list-style-type: none"> • Max. 524288 pulses per revolution • Square-wave or sine signals • Protection IP 67
	HG 6	ø58 mm	ø12...16 mm (blind hollow shaft)	100...512	<ul style="list-style-type: none"> • Fit for high operating speed • Max. 512 pulses per revolution
	HG 16	ø158 mm	ø20...45 mm (through hollow shaft)	250...2048	<ul style="list-style-type: none"> • Robust and wearless • Fit for high operating speed • Max. 2048 pulses per revolution
	HG 18	ø186 mm	ø65...85 mm (through hollow shaft)	250...2500	<ul style="list-style-type: none"> • Robust and wearless • Fit for high operating speed • Max. 2500 pulses per revolution






	HG 22	ø227 mm	ø90...120 mm (through hollow shaft)	720...4000	<ul style="list-style-type: none"> • Robust and wearless • Fit for high operating speed • Max. 4000 pulses per revolution
	HG 21	ø240 mm	ø85...95 mm (through hollow shaft)	2500	<ul style="list-style-type: none"> • Robust and wearless • Fit for high operating speed • 2500 pulses per revolution
	HG 211	ø210 mm	ø85...95 mm (through hollow shaft)	2500	<ul style="list-style-type: none"> • Robust and wearless • Fit for high operating speed • Resolution 2500 pulses
Грузовые					
	AMG 71	ø60 mm	ø6 mm solid shaft	ST 8192 / 13 bit MT 4096 / 12 bit	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D
	AMG 81	ø115 mm	ø11 mm solid shaft	ST 8192 / 13 bit MT 4096 / 12 bit	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • SSI, Profibus, CANopen®
	AMG 11	ø115 mm	ø11 mm solid shaft	ST 8192 / 13 bit MT ≤65536 / 16 bit	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • SSI, Profibus, CANopen®, DeviceNet, PROFINET • Multiturn sensing with microGen technologie • Without gears and battery • Special protection against corrosion
	AMG 11 + FSL	ø115 mm	ø11 mm solid shaft	ST 8192 / 13 bit MT ≤65536 / 16 bit	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • SSI, Profibus, CANopen®,





					<p>DeviceNet</p> <ul style="list-style-type: none"> • Multiturn sensing with microGen technologie • Without gears and battery • EURO flange B10 • Special protection against corrosion
	HMG 11	ø122 mm	<p>ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)</p>	<p>ST 8192 / 13 bit MT ≤65536 / 16 bit</p>	<ul style="list-style-type: none"> • ATEX II 3G/3D • SSI, Profibus, CANopen®, DeviceNet, PROFINET • Multiturn sensing with microGen technologie • Without gears and battery • Special protection against corrosion
	HMG10-B - SSI	ø105 mm	<p>ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)</p>	<p>ST 1048576 / 20 bit MT 1048576 / 20 bit</p>	<ul style="list-style-type: none"> • SSI • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-T - SSI	ø105 mm	<p>ø16...20 mm (through hollow shaft)</p>	<p>ST 1048576 / 20 bit MT 1048576 / 20 bit</p>	<ul style="list-style-type: none"> • SSI • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-B - CANopen®	ø105 mm	<p>ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)</p>	<p>ST 8192 / 13 bit MT 65536 / 16 bit</p>	<ul style="list-style-type: none"> • CANopen® • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie





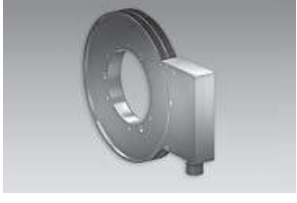
					<ul style="list-style-type: none"> • Without gears and battery
	HMG10-B - DeviceNet	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • DeviceNet • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-B - Profibus DP	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • Profibus-DPV0 or DPV2 • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-T - CANopen®	ø105 mm	ø16...20 mm (through hollow shaft)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • CANopen® • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-T - DeviceNet	ø105 mm	ø16...20 mm (through hollow shaft)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • DeviceNet • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery

	<p>HMG10-T - Profibus DP</p>	<p>ø105 mm</p>	<p>ø16...20 mm (through hollow shaft)</p>	<p>ST 8192 / 13 bit MT 65536 / 16 bit</p>	<ul style="list-style-type: none"> • Profibus-DPV0 or DPV2 • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	<p>HMG10-B EtherCAT</p>	<p>ø105 mm</p>	<p>ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)</p>	<p>ST 8192 / 13 bit MT 65536 / 16 bit</p>	<ul style="list-style-type: none"> • EtherCAT • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	<p>HMG10-B EtherNet/IP</p>	<p>ø105 mm</p>	<p>ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)</p>	<p>ST 8192 / 13 bit MT 65536 / 16 bit</p>	<ul style="list-style-type: none"> • EtherNet/IP • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	<p>HMG10-B PROFINET</p>	<p>ø105 mm</p>	<p>ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)</p>	<p>ST 8192 / 13 bit MT 65536 / 16 bit</p>	<ul style="list-style-type: none"> • PROFINET • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	<p>HMG10-T EtherCAT</p>	<p>ø105 mm</p>	<p>ø16...20 mm (through hollow shaft)</p>	<p>ST 8192 / 13 bit MT 65536 / 16 bit</p>	<ul style="list-style-type: none"> • EtherCAT • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy







					<p>Harvesting technologie</p> <ul style="list-style-type: none"> • Without gears and battery
	HMG10-T EtherNet/IP	ø105 mm	ø16...20 mm (through hollow shaft)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • EtherNet/IP • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-T PROFINET	ø105 mm	ø16...20 mm (through hollow shaft)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • PROFINET • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	PMG10 - SSI	ø115 mm	ø11 mm solid shaft	ST 1048576 / 20 bit MT 1048576 / 20 bit	<ul style="list-style-type: none"> • SSI • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	PMG10 - CANopen®	ø115 mm	ø11 mm solid shaft	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • CANopen® • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery


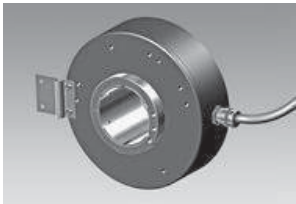




	PMG10 - DeviceNet	ø115 mm	ø11 mm solid shaft	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • DeviceNet • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	PMG10 - Profibus DP	ø115 mm	ø11 mm solid shaft	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • Profibus-DPV0 or DPV2 • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	PMG10 - EtherCAT	ø115 mm	ø11 mm solid shaft	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • EtherCAT • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	PMG10 - EtherNet/IP	ø115 mm	ø11 mm solid shaft	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • EtherNet/IP • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	PMG10 - PROFINET	ø115 mm	ø11 mm solid shaft	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • PROFINET • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy







					<p>Harvesting technologie</p> <ul style="list-style-type: none"> • Without gears and battery
	HMG 11 + ESL 90	ø122 mm	<p>ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)</p>	<p>ST 8192 / 13 bit MT ≤65536 / 16 bit</p>	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL • SSI, Profibus, CANopen®, DeviceNet • Multiturn sensing with microGen technologie • Without gears and battery • Special protection against corrosion
	HMG 11 + ESL 93	ø122 mm	<p>ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)</p>	<p>ST 8192 / 13 bit MT ≤65536 / 16 bit</p>	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL • SSI, Profibus, CANopen®, DeviceNet • Multiturn sensing with microGen technologie • Without gears and battery • Special protection against corrosion
	HMG 11 + FSL	ø122 mm	<p>ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)</p>	<p>ST 8192 / 13 bit MT ≤65536 / 16 bit</p>	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • SSI, Profibus, CANopen®, DeviceNet • Multiturn sensing with microGen technologie • Without gears and battery • Special protection against corrosion
	HMG 161	ø160 mm	<p>ø38...70 mm (through hollow shaft)</p>	<p>ST 8192 / 13 bit MT ≤65536 / 16 bit</p>	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • SSI, Profibus, CANopen®, DeviceNet • Multiturn sensing

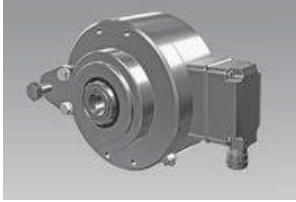





					<p>with microGen technologie</p> <ul style="list-style-type: none"> • Without gears and battery • Special protection against corrosion
	MQR 3000F - HDmag flex	-	ø300...3183 mm (through hollow shaft)	-	<ul style="list-style-type: none"> • "Quasi-absolut", i. e. providing a valid absolute position only after initialization • Integrated signal processing • SSI, resolution up to 20 bit • Magnetic sensing • Protection IP 67 • Incremental outputs as option
	MQR 350A - HDmag flex	-	ø90...300 mm (through hollow shaft)	-	<ul style="list-style-type: none"> • "Quasi-absolut", i. e. providing a valid absolute position only after initialization • Integrated signal processing • SSI, resolution up to 20 bit • Magnetic sensing • Protection IP 67 • Incremental outputs as option
	MHAD 50 - HDmag	-	ø30 mm (through hollow shaft)	-	<ul style="list-style-type: none"> • Resolution up to 16 bit • Protection IP 67 • SSI, CANopen® • Incremental outputs as option
	MHAP 100 - HDmag	ø101.3 mm	ø16...80 mm (through hollow shaft)	-	<ul style="list-style-type: none"> • Resolution up to 17 bit • Protection IP 67 • SSI • Additional incremental output
	MHAP 200 - HDmag	ø203.1 mm	ø50...180 mm (through hollow shaft)	-	<ul style="list-style-type: none"> • Resolution up to 17 bit • Protection IP 67 • SSI • Additional incremental output






	MHAP 400 - HDmag	ø406.8 mm	ø70...340 mm (through hollow shaft)	-	<ul style="list-style-type: none"> • Resolution up to 17 bit • Protection IP 67 • SSI • Additional incremental output
	AG 14	ø139 mm	ø70 mm (through hollow shaft)	250...2500	<ul style="list-style-type: none"> • Attached encoder • Short overall length • Large through hollow shaft
	ExG25	2.5 x 2.5" (63.5 x 63.5 mm) ø2.283" (ø58 mm)	ø0.375" (ø9.52 mm) solid shaft	5...6000	<ul style="list-style-type: none"> • Square flange • Inch dimensions • MIL connector
	EEx HOG 161	ø160 mm	ø30...70 mm (through hollow shaft)	250...2500	<ul style="list-style-type: none"> • ATEX II 2 G • IECEx approval
	EEx OG 9	ø115 mm	ø11 mm solid shaft	25...5000	<ul style="list-style-type: none"> • ATEX II 2 G • IECEx approval
	EEx OG 9 S	ø115 mm	ø11 mm solid shaft	1024...2048	<ul style="list-style-type: none"> • ATEX II 2 G • IECEx approval
	FOG 9 + GT 7.08	ø115 mm	ø11 mm solid shaft	100...5000	<ul style="list-style-type: none"> • Encoder combination with tachogenerator • Connector with metal mating connector • EURO flange B10 • High response speed
	FOG 9	ø115 mm	ø10...11 mm solid shaft	100...5000	<ul style="list-style-type: none"> • Flange connector with metal mating connector • EURO flange B10 • ATEX II 3 G / 3 D







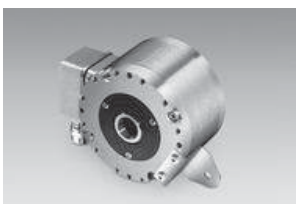
					<ul style="list-style-type: none"> • Function control with Enhanced Monitoring System
	FOG 9 + GT 7.16	ø115 mm	ø11 mm solid shaft	100...5000	<ul style="list-style-type: none"> • Encoder combination with tachogenerator • Connector with metal mating connector • EURO flange B10 • High response speed • No auxiliary energy source required
	G25	2.5 x 2.5" (63.5 x 63.5 mm)	ø0.375" (ø9.52 mm) solid shaft	5...6000	<ul style="list-style-type: none"> • Square flange • Inch dimensions • MIL connector or cable
	HOG 10	ø105 mm	ø12...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Radial terminal box or axial terminal cover • Blind hollow shaft up to ø20 mm • ATEX II 3 G / 3 D • Redundant sensing • Function control with Enhanced Monitoring System
	HOG 100	ø105 mm	ø16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	1024...10000	<ul style="list-style-type: none"> • Radial terminal box or axial terminal cover • High resolution • ATEX II 3 G / 3 D
	HOG 11 DNV	ø105 mm	ø16 mm (blind hollow shaft)	300...2500	<ul style="list-style-type: none"> • Very high protection IP 67 • Offshore and salt water firm • DNV approval
	HOG 11	ø105 mm	ø12...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Very high protection IP 67 • Offshore and salt water firm • Radial terminal box or axial

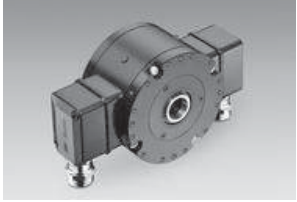
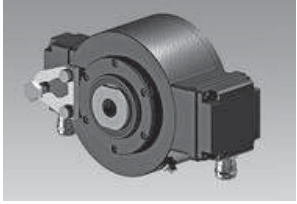
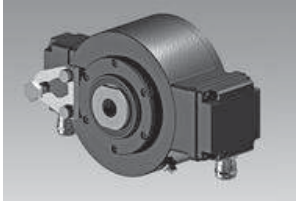




					<p>terminal cover</p> <ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Redundant sensing • Function control with Enhanced Monitoring System
	HOG 10 + DSL.E	ø105 mm	ø16 mm (blind hollow shaft)	512...2500	<ul style="list-style-type: none"> • Incremental encoder combination with digital speed switch • Programmable for 2 switching speeds and 1 control output • ATEX II 3G/3D
	HOG 12	ø125 mm	ø30...45 mm (through hollow shaft)	600...1200	<ul style="list-style-type: none"> • Optical sensing method • Robust light-metal housing
	HOG 131	ø130 mm	ø16...36 mm (through hollow shaft)	1024...3072	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Integrated lightning protection • Hybrid bearing with ceramic balls • Especially sealed for offshore applications
	HOG 14	ø158 mm	ø40...75 mm (through hollow shaft)	1024...5000	<ul style="list-style-type: none"> • Optical sensing method • Robust light-metal housing • ATEX II 3 G / 3 D
	HOG 10 + DSL.R	ø105 mm	ø16 mm (blind hollow shaft)	512...2500	<ul style="list-style-type: none"> • Incremental encoder combination with digital speed switch • Programmable for 3 switching speeds • ATEX II 3G/3D
	HOG 16	ø158 mm	ø20...38 mm (through hollow shaft)	250...2500	<ul style="list-style-type: none"> • Through hollow shaft up to ø38 mm • Redundant sensing

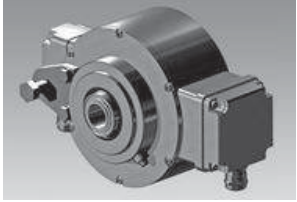

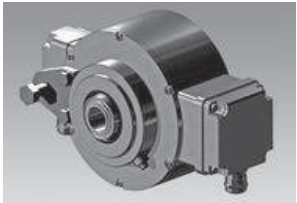
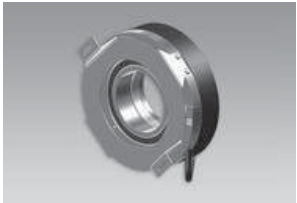




	HOG 86 + DSL	ø99 mm	ø16 mm (blind hollow shaft)	512...2500	<ul style="list-style-type: none"> • Incremental encoder combination with digital speed switch • Programmable for 3 switching speeds
	HOG 10 + ESL 90	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 90 • Redundant sensing • Function control with Enhanced Monitoring System
	HOG 161	ø158 mm	ø38...75 mm (through hollow shaft)	250...2500	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Redundant sensing
	HOG 10 + ESL 93	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 90 • Redundant sensing • Function control with Enhanced Monitoring System
	HOG 163	ø158 mm	ø38...75 mm (through hollow shaft)	250...5000	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Redundant sensing
	HOG 10 + FSL	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • Blind hollow shaft up to ø20 mm • Redundant sensing • Function control with Enhanced Monitoring System









	HOG 165	ø165 mm	ø20...38 mm (blind hollow shaft)	1024...8192	<ul style="list-style-type: none"> • Special protection against corrosion • Large terminal box, turn by 180° • ATEX II 3 G / 3 D • Very high resistance to shock and vibrations
	HOG 86 + FSL	ø105 mm	ø16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	500...5000	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • Redundant sensing • Function control with Enhanced Monitoring System
	HOG 10 G	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Twin encoder combination with double sensing • ATEX II 3G/3D • Redundant sensing • Function control with Enhanced Monitoring System
	HOG 22	ø227 mm	ø80...115 mm (through hollow shaft)	720...4000	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Redundant sensing • Plug-in electronics
	HOG 220	ø227 mm	ø80...115 mm (through hollow shaft)	1024	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Redundant sensing
	HOG 28	ø287 mm	ø120...150 mm (through hollow shaft)	1024...2048	<ul style="list-style-type: none"> • Large terminal box, turn by 180° • Option: Plug-in electronics • ATEX II 3 G / 3 D • Redundant sensing

	<p>HOG 11 + ESL 90</p>	<p>ø105 mm</p>	<p>ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)</p>	<p>300...5000</p>	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 90 • Offshore and salt water firm • High protection IP 67 • Redundant sensing • Function control with Enhanced Monitoring System
	<p>HOG 60</p>	<p>ø58 mm</p>	<p>ø8...12 mm (blind hollow shaft)</p>	<p>200...10000</p>	<ul style="list-style-type: none"> • High resistance to shock • High protection IP 65 • ATEX II 3 G / 3 D
	<p>HOG 11 + ESL 93</p>	<p>ø105 mm</p>	<p>ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)</p>	<p>300...5000</p>	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 90 • Offshore and salt water firm • High protection IP 67 • Redundant sensing • Function control with Enhanced Monitoring System
	<p>HOG 70</p>	<p>ø60 mm</p>	<p>ø12...14 mm (blind hollow shaft)</p>	<p>10...10000</p>	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D
	<p>HOG 11 + FSL</p>	<p>ø105 mm</p>	<p>ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)</p>	<p>300...5000</p>	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • Offshore and salt water firm • High protection IP 67 • Redundant sensing • Function control with Enhanced Monitoring System

	HOG 71	ø60 mm	ø12...14 mm (blind hollow shaft)	64...2048	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D
	HOG 11 G	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Twin encoder combination with double sensing • High protection IP 67 • Offshore and salt water firm • ATEX II 3G/3D • Redundant sensing • Function control with Enhanced Monitoring System
	HOG 75 K	ø75 mm	ø17 mm (cone shaft 1:10)	250...2500	<ul style="list-style-type: none"> • Very high resistance to vibrations • ATEX II 3 G / 3 D
	HOG 75	ø75 mm	ø12...26 mm (through hollow shaft)	250...2500	<ul style="list-style-type: none"> • Very high resistance to vibrations • ATEX II 3 G / 3 D
	HOG 8	ø86.5 mm	ø10...16 mm (through hollow shaft)	1...5000	<ul style="list-style-type: none"> • Compact, robust die-cast housing
	HOG 86	ø99 mm	ø12...16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	500...5000	<ul style="list-style-type: none"> • Function control with Enhanced Monitoring System • ATEX II 3 G / 3 D
	HOG 86E	ø99 mm	ø12...16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	500...2500	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D

	HOG 86 M	ø99 mm	ø12...16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	500...5000	<ul style="list-style-type: none"> • Function control with Enhanced Monitoring System • Redundant sensing • ATEX II 3 G / 3 D
	HOG 16 + DSLE	ø158 mm	ø20...50 mm (through hollow shaft)	512...2500	<ul style="list-style-type: none"> • Incremental encoder combination with digital speed switch • Programmable for 2 switching speeds and 1 control output
	HOG 16 + DSLR	ø158 mm	ø20...50 mm (through hollow shaft)	512...2500	<ul style="list-style-type: none"> • Incremental encoder combination with digital speed switch • Programmable for 3 switching speeds
	HOG 9	ø97 mm	ø12...16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Function control with Enhanced Monitoring System
	HOG 9 G	ø97 mm	ø16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	300...5000	<ul style="list-style-type: none"> • Twin encoder combination with double sensing • ATEX II 3G/3D • Function control with Enhanced Monitoring System
	HOGS 100	ø105 mm	ø16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	720...5000	<ul style="list-style-type: none"> • Radial terminal box or axial terminal cover • Top-quality SinCos output-signals • ATEX II 3 G / 3 D
	HOGS 100 S	ø105 mm	ø16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	1024...5000	<ul style="list-style-type: none"> • SIL2 approval • Radial terminal box or axial terminal cover • Top-quality SinCos output-signals • ATEX II 3 G / 3 D




	HOG 165 + DSL.E	ø165 mm	ø25 mm (through hollow shaft)	512...4096	<ul style="list-style-type: none"> • Incremental encoder combination with digital speed switch • Programmable for 2 switching speeds and 1 control output • ATEX II 3G/3D
	HOGS 14	ø158 mm	ø40...75 mm (through hollow shaft)	1024...5000	<ul style="list-style-type: none"> • Top-quality SinCos output-signals • ATEX II 3 G / 3 D
	HOG 165 + DSL.R	ø165 mm	ø25 mm (through hollow shaft)	512...4096	<ul style="list-style-type: none"> • Incremental encoder combination with digital speed switch • Programmable for 3 switching speeds • ATEX II 3G/3D
	HOGS 151	ø168 mm	ø60...70 mm (through hollow shaft)	1024...5000	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Top-quality SinCos output-signals
	HOGS 71	ø60 mm	ø12...14 mm (blind hollow shaft)	1024...5000	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • Top-quality SinCos output-signals
	HOGS 75 K	ø75 mm	ø17 mm (cone shaft 1:10)	720...5000	<ul style="list-style-type: none"> • Very high resistance to vibrations • ATEX II 3 G / 3 D
	HOGS 75	ø75 mm	ø14...26 mm (through hollow shaft)	720...5000	<ul style="list-style-type: none"> • Very high resistance to vibrations • ATEX II 3 G / 3 D
	HS35F	ø3.15" (ø80 mm)	ø0.375...1" (ø9.525... 25.4 mm) (through hollow shaft isolated)	1024...80000	<ul style="list-style-type: none"> • Industrial standard • Inch dimensions • Very high IP protection • Isolated shaft


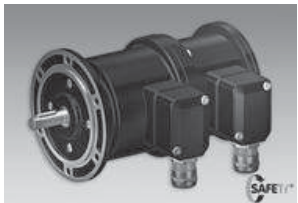
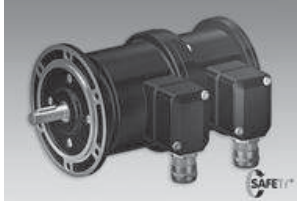
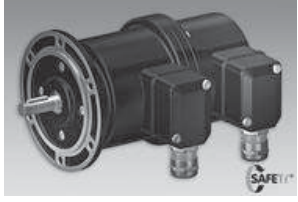
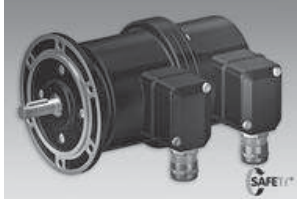

	HS35P - Programmable	ø3.15" (ø80 mm)	ø0.375...1" (ø9.525... 25.4 mm) (through hollow shaft isolated)	1...8192	<ul style="list-style-type: none"> • Programmable • Inch dimensions • Very high IP protection • Isolated shaft
	HS35S - Sine	ø3.15" (ø80 mm)	ø0.375...1" (ø9.525... 25.4 mm) (through hollow shaft isolated)	1024...5000	<ul style="list-style-type: none"> • Top-quality sine signals • Inch dimensions • Very high IP protection
	ExHS35	ø3.15" (ø80 mm)	ø0.375...1" (ø9.525... 25.4 mm) (through hollow shaft isolated)	1024...5000	<ul style="list-style-type: none"> • Intrinsically safe encoder • Inch dimensions • Very high IP protection
	OG 6	ø58 mm	ø6 mm solid shaft	100...512	<ul style="list-style-type: none"> • Solid shaft ø6 mm • Synchro flange
	OG 60	ø58 mm	ø6 mm solid shaft	10...10000	<ul style="list-style-type: none"> • Solid shaft ø6 mm • Synchro flange
	OG 71	ø58 mm	ø6 mm solid shaft	100...1024	<ul style="list-style-type: none"> • Solid shaft ø6 mm • High resistance to shock • ATEX II 3 G / 3 D
	OG 8	ø115 mm	ø11 mm solid shaft	1...5000	<ul style="list-style-type: none"> • Solid shaft ø11 mm • EURO flange B10
	OG 9	ø115 mm	ø11 mm solid shaft	25...5000	<ul style="list-style-type: none"> • Solid shaft ø11 mm • EURO flange B10 • Operating temperature up to +100 °C • ATEX II 3 G / 3 D

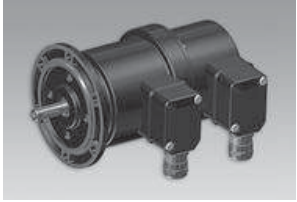




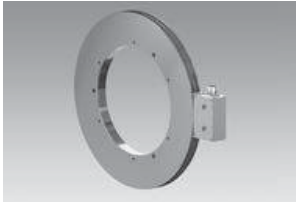

	OGS 71	ø58 mm	ø6 mm solid shaft	1024...5000	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D
	POG 10	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • EURO flange B10 • Encoder with solid shaft ø11 mm • Radial terminal box • ATEX II 3 G / 3 D • Redundant sensing • Function control with Enhanced Monitoring System
	POG 11	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Very high protection IP 67 • Offshore and salt water firm • Radial terminal box • ATEX II 3 G / 3 D • Redundant sensing • Function control with Enhanced Monitoring System
	POG 86	ø115 mm	ø11 mm solid shaft	500...5000	<ul style="list-style-type: none"> • Encoder with solid shaft ø11 mm • EURO flange B10 • ATEX II 3 G / 3 D • Function control with Enhanced Monitoring System
	POG 86E	ø115 mm	ø11 mm solid shaft	500...5000	<ul style="list-style-type: none"> • Encoder with solid shaft ø11 mm • EURO flange B10 • ATEX II 3 G / 3 D • Function control with Enhanced Monitoring System


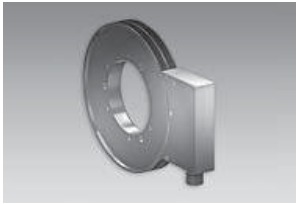
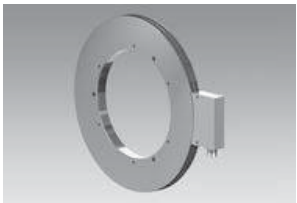





	POG 9	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> Encoder with solid shaft ø11 mm EURO flange B10 ATEX II 3 G / 3 D Function control with Enhanced Monitoring System
	POG 90	ø115 mm	ø11 mm solid shaft	1024...10000	<ul style="list-style-type: none"> ATEX II 3 G / 3 D
	POGS 90	ø115 mm	ø11 mm solid shaft	720...5000	<ul style="list-style-type: none"> ATEX II 3 G / 3 D
	POG 90 + ESL 90	ø115 mm	ø11 mm solid shaft	1024...10000	<ul style="list-style-type: none"> Encoder combination with electronic speed switch ESL 90 EURO flange B10 or foot mounting
	POG 90 + ESL 93	ø115 mm	ø11 mm solid shaft	1024...10000	<ul style="list-style-type: none"> Encoder combination with electronic speed switch ESL 93 EURO flange B10 or foot mounting
	OG 60 + GT 5	ø58 mm	ø6 mm solid shaft	10...10000	<ul style="list-style-type: none"> Encoder combination with tachogenerator Connector with metal mating connector Synchro flange Recognition of sense of rotation
	POG 10 + DSLE	ø115 mm	ø11 mm solid shaft	512...2500	<ul style="list-style-type: none"> Incremental encoder combination with digital speed switch Programmable for 2 switching speeds and 1 control output ATEX II 3G/3D

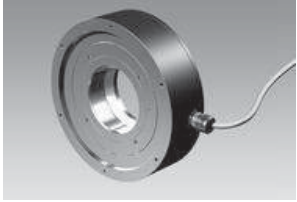







	POG 90 + FSL	ø115 mm	ø11 mm solid shaft	1024...10000	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • EURO flange B10
	POG 10 + DSL.R	ø115 mm	ø11 mm solid shaft	512...2500	<ul style="list-style-type: none"> • Incremental encoder combination with digital speed switch • Programmable for 3 switching speeds • ATEX II 3G/3D
	POG 10 + ESL 90	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 90 • EURO flange B10 or foot mounting • Redundant sensing • Function control with Enhanced Monitoring System
	POG 10 + ESL 93	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 93 • EURO flange B10 or foot mounting • Redundant sensing • Function control with Enhanced Monitoring System
	POG 10 + FSL	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • EURO flange B10 or foot mounting • Redundant sensing • Function control with Enhanced Monitoring System
	POG 10 G	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Twin encoder combination with double sensing • EURO flange B10 • ATEX II 3G/3D






					<ul style="list-style-type: none"> • Redundant sensing • Function control with Enhanced Monitoring System
	POG 11 + ESL 90	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 90 • Offshore and salt water firm • High protection IP 67 • EURO flange B10 or foot mounting • Redundant sensing • Function control with Enhanced Monitoring System
	POG 11 + ESL 93	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 93 • Offshore and salt water firm • High protection IP 67 • EURO flange B10 or foot mounting • Redundant sensing • Function control with Enhanced Monitoring System
	POG 11 + FSL	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • Offshore and salt water firm • High protection IP 67 • EURO flange B10 or foot mounting • Redundant sensing • Function control with Enhanced Monitoring System







	POG 11 G	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Twin encoder with double sensing • High protection IP 67 • Offshore and salt water firm • EURO flange B10 • ATEX II 3G/3D • Redundant sensing • Function control EMS
	POG 9 + ESL 90	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 90 • EURO flange B10 • Function control with Enhanced Monitoring System
	POG 9 + ESL 93	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL 93 • EURO flange B10 • Function control with Enhanced Monitoring System
	POG 86 + FSL	ø115 mm	ø11 mm solid shaft	500...5000	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • EURO flange B10 • Function control with Enhanced Monitoring System
	POG 9 + FSL	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • EURO flange B10 • Function control with Enhanced Monitoring System
	POG 86 G	ø115 mm	ø11 mm solid shaft	500...5000	<ul style="list-style-type: none"> • Twin encoder combination with double sensing • ATEX II 3G/3D • Function control with Enhanced Monitoring System









	POG 9 G	ø115 mm	ø11 mm solid shaft	300...5000	<ul style="list-style-type: none"> • Twin encoder combination with double sensing • ATEX II 3G/3D • Function control with Enhanced Monitoring System
	MIR 3000F - HDmag flex	-	ø300...3183 mm (through hollow shaft)	512...131072512...16384	<ul style="list-style-type: none"> • Integrated signal processing • Magnetic sensing • Protection IP 67 • Square-wave or sine signals
	MIR 350A - HDmag flex	-	ø90...300 mm (through hollow shaft)	512...131072512...16384	<ul style="list-style-type: none"> • Integrated signal processing • Magnetic sensing • Protection IP 67 • Square-wave or sine signals
	MHGE 100 - HDmag	ø99,9 mm	ø16...80 mm (through hollow shaft)	64...409664	<ul style="list-style-type: none"> • Max. 4096 pulses per revolution • Square-wave or sine signals • Protection IP 67 • DNV approval as option
	MHGE 200 - HDmag	ø201.7 mm	ø50...180 mm (through hollow shaft)	128...8192128	<ul style="list-style-type: none"> • Max. 8192 pulses per revolution • Square-wave or sine signals • Protection IP 67 • DNV approval as option
	MHGE 400 - HDmag	ø405.4 mm	ø70...340 mm (through hollow shaft)	256...16384256	<ul style="list-style-type: none"> • Max. 16384 pulses per revolution • Square-wave or sine signals • Protection IP 67 • DNV approval as option
	MHGE 800 - HDmag	ø813 mm	ø650...740 mm (through hollow shaft)	512...32768512	<ul style="list-style-type: none"> • Max. 32768 pulses per revolution • Square-wave or sine signals • Protection IP 67 • DNV approval as option





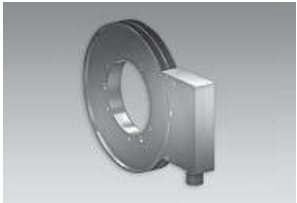


	MHGP 100 - HDmag	ø99,9 mm	ø16...80 mm (through hollow shaft)	64...13107264...8192	<ul style="list-style-type: none"> • Max. 131072 pulses per revolution • Square-wave or sine signals • Protection IP 67
	MHGP 200 - HDmag	ø201.7 mm	ø50...180 mm (through hollow shaft)	128...262144128...16384	<ul style="list-style-type: none"> • Max. 262144 pulses per revolution • Square-wave or sine signals • Protection IP 67
	MHGP 400 - HDmag	ø405.4 mm	ø70...340 mm (through hollow shaft)	256...524288256...32768	<ul style="list-style-type: none"> • Max. 524288 pulses per revolution • Square-wave or sine signals • Protection IP 67
	HG 6	ø58 mm	ø12...16 mm (blind hollow shaft)	100...512	<ul style="list-style-type: none"> • Fit for high operating speed • Max. 512 pulses per revolution
	HG 16	ø158 mm	ø20...45 mm (through hollow shaft)	250...2048	<ul style="list-style-type: none"> • Robust and wearless • Fit for high operating speed • Max. 2048 pulses per revolution
	HG 18	ø186 mm	ø65...85 mm (through hollow shaft)	250...2500	<ul style="list-style-type: none"> • Robust and wearless • Fit for high operating speed • Max. 2500 pulses per revolution
	HG 22	ø227 mm	ø90...120 mm (through hollow shaft)	720...4000	<ul style="list-style-type: none"> • Robust and wearless • Fit for high operating speed • Max. 4000 pulses per revolution
	HG 21	ø240 mm	ø85...95 mm (through hollow shaft)	2500	<ul style="list-style-type: none"> • Robust and wearless • Fit for high operating speed • 2500 pulses per revolution

	HG 211	ø210 mm	ø85...95 mm (through hollow shaft)	2500	<ul style="list-style-type: none"> • Robust and wearless • Fit for high operating speed • Resolution 2500 pulses
Бесподшипниковые					
	EAM360 - Kit SSI - MAGRES	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	-	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• SSI
	EAM360 - Kit CANopen® - MAGRES	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	-	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen®
	EAM360R - Kit CANopen®/SAE J1939 - MAGRES	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	-	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen® • SAE J1939
	EAM360R - Kit analog - MAGRES	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	-	-	• Analog
	EAM580 - Kit SSI - MAGRES	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	-	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• SSI
	EAM580 - Kit CANopen® - MAGRES	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	-	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen®
	EAM580 - Kit PROFINET - MAGRES	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	-	ST ≤16384 / 14 bit MT ≤65536 / 16 bit	• PROFINET IO



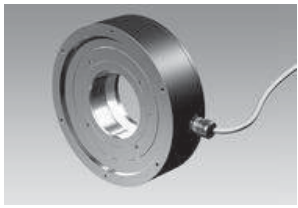
		bore)			
	EAM580R - Kit CANopen®/SAE J1939 - MAGRES	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	-	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	<ul style="list-style-type: none"> • CANopen® • SAE J1939
	EAM580R - Kit analog - MAGRES	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	-	-	<ul style="list-style-type: none"> • Analog
	MQR 3000F - HDmag flex	ø300...3183 mm (through hollow shaft)	1024...4096	-	<ul style="list-style-type: none"> • "Quasi-absolut", i. e. providing a valid absolute position only after initialization • Integrated signal processing • SSI, resolution up to 20 bit • Magnetic sensing • Protection IP 67 • Incremental outputs as option
	MQR 350A - HDmag flex	ø90...300 mm (through hollow shaft)	1024...4096	-	<ul style="list-style-type: none"> • "Quasi-absolut", i. e. providing a valid absolute position only after initialization • Integrated signal processing • SSI, resolution up to 20 bit • Magnetic sensing • Protection IP 67 • Incremental outputs as option
	MHAD 50 - HDmag	ø30 mm (through hollow shaft)	1024...8192	-	<ul style="list-style-type: none"> • Resolution up to 16 bit • Protection IP 67 • SSI, CANopen® • Incremental outputs as option

	MIL10	-	-	5 μm (4-times evaluation)	<ul style="list-style-type: none"> • Output signals A 90° B or A 90° B +R • Protection IP 67
	MIR10	ø6...43.5 mm (through hollow shaft)	320...4096	-	<ul style="list-style-type: none"> • Max. 4096 pulses per revolution • Output signals A 90° B or A 90° B +R • Protection IP 67
	MIR 3000F - HDmag flex	ø300...3183 mm (through hollow shaft)	512...131072	-	<ul style="list-style-type: none"> • Integrated signal processing • Magnetic sensing • Protection IP 67 • Square-wave or sine signals
	MIR 350A - HDmag flex	ø90...300 mm (through hollow shaft)	512...131072	-	<ul style="list-style-type: none"> • Integrated signal processing • Magnetic sensing • Protection IP 67 • Square-wave or sine signals
	MDFK 08 - push-pull	ø6...43.5 mm (through hollow shaft)	256...1024	-	<ul style="list-style-type: none"> • Resolution up to 1024 pulses • Output signals A 90° B or A 90° B +N • Protection IP 67
	MDFK 08 - RS422	ø6...43.5 mm (through hollow shaft)	256...1024	-	<ul style="list-style-type: none"> • Resolution up to 1024 pulses • Output signals A 90° B or A 90° B +N • Protection IP 67
	ITD 27 A 4 Y27	ø10...16 mm (blind hollow shaft)	1...32	-	<ul style="list-style-type: none"> • Magnetic sensing • Protection IP 67
	ITD 67 A 4 Y 9	ø10...45 mm (through hollow shaft)	20...50	-	<ul style="list-style-type: none"> • Magnetic sensing • Flat design • Protection IP 67

	ITD 75 A 4	ø60...85 mm (through hollow shaft)	1000...2500	-	<ul style="list-style-type: none"> • Large hollow shaft • Incremental encoder without bearings
	ITD49H00	ø9...28 mm (through hollow shaft)	64...2048	-	<ul style="list-style-type: none"> • Square-wave signals • Flat design • Protection IP 67
	ITD49H00 sine	ø9...28 mm (through hollow shaft)	-	-	<ul style="list-style-type: none"> • Flat design • Protection IP 67
	ITD69H00	ø40...65 mm (through hollow shaft)	128...4096	-	<ul style="list-style-type: none"> • Square-wave signals • Flat design • Protection IP 67
	ITD69H00 sine	ø40...65 mm (through hollow shaft)	-	-	<ul style="list-style-type: none"> • Flat design • Protection IP 67
	ITD89H00	ø70...140 mm (through hollow shaft)	256...8192	-	<ul style="list-style-type: none"> • Very high IP protection • Square-wave signals • Flat design
	ITD89H00 sine	ø70...140 mm (through hollow shaft)	-	-	<ul style="list-style-type: none"> • Very high IP protection • Flat design
	MHGE 100 - HDmag	ø16...80 mm (through hollow shaft)	64...4096	-	<ul style="list-style-type: none"> • Max. 4096 pulses per revolution • Square-wave or sine signals • Protection IP 67 • DNV approval as option


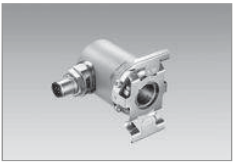








	MHGE 200 - HDmag	ø50...180 mm (through hollow shaft)	128...8192	-	<ul style="list-style-type: none"> • Max. 8192 pulses per revolution • Square-wave or sine signals • Protection IP 67 • DNV approval as option
	MHGE 400 - HDmag	ø70...340 mm (through hollow shaft)	256...16384	-	<ul style="list-style-type: none"> • Max. 16384 pulses per revolution • Square-wave or sine signals • Protection IP 67 • DNV approval as option
	MHGE 800 - HDmag	ø650...740 mm (through hollow shaft)	512...32768	-	<ul style="list-style-type: none"> • Max. 32768 pulses per revolution • Square-wave or sine signals • Protection IP 67 • DNV approval as option
	MHGP 100 - HDmag	ø16...80 mm (through hollow shaft)	64...131072	-	<ul style="list-style-type: none"> • Max. 131072 pulses per revolution • Square-wave or sine signals • Protection IP 67
	MHGP 200 - HDmag	ø50...180 mm (through hollow shaft)	128...262144	-	<ul style="list-style-type: none"> • Max. 262144 pulses per revolution • Square-wave or sine signals • Protection IP 67
	MHGP 400 - HDmag	ø70...340 mm (through hollow shaft)	256...524288	-	<ul style="list-style-type: none"> • Max. 524288 pulses per revolution • Square-wave or sine signals • Protection IP 67
	MHAP 100 - HDmag	ø16...80 mm (through hollow shaft)	1...131072	-	<ul style="list-style-type: none"> • Resolution up to 17 bit • Protection IP 67 • SSI • Additional incremental output












	MHAP 200 - HDmag	ø50...180 mm (through hollow shaft)	1...262144	-	<ul style="list-style-type: none"> • Resolution up to 17 bit • Protection IP 67 • SSI • Additional incremental output
	MHAP 400 - HDmag	ø70...340 mm (through hollow shaft)	1...524288	-	<ul style="list-style-type: none"> • Resolution up to 17 bit • Protection IP 67 • SSI • Additional incremental output
	BMMK 58 flexible - MAGRES	ø12 mm (magnet bore)	-	ST ≤4096 / 12 bit MT ≤262144 / 18 bit	<ul style="list-style-type: none"> • Encoder kit multiturn • CANopen®, DeviceNet, Profibus • EtherCAT, EtherNet/IP • PROFINET, POWERLINK
	BMSK 58 flexible - MAGRES	ø12 mm (magnet bore)	-	ST ≤4096 / 12 bit	<ul style="list-style-type: none"> • Encoder kit singleturn • CANopen®, DeviceNet, Profibus • EtherCAT, EtherNet/IP • PROFINET, POWERLINK
	HG 6	ø12...16 mm (blind hollow shaft)	100...512	-	<ul style="list-style-type: none"> • Fit for high operating speed • Max. 512 pulses per revolution
	HG 16	ø20...45 mm (through hollow shaft)	250...2048	-	<ul style="list-style-type: none"> • Robust and wearless • Fit for high operating speed • Max. 2048 pulses per revolution
	HG 18	ø65...85 mm (through hollow shaft)	250...2500	-	<ul style="list-style-type: none"> • Robust and wearless • Fit for high operating speed • Max. 2500 pulses per revolution












	HG 22	ø90...120 mm (through hollow shaft)	720...4000	-	<ul style="list-style-type: none"> • Robust and wearless • Fit for high operating speed • Max. 4000 pulses per revolution
	HG 21	ø85...95 mm (through hollow shaft)	2500	-	<ul style="list-style-type: none"> • Robust and wearless • Fit for high operating speed • 2500 pulses per revolution
	HG 211	ø85...95 mm (through hollow shaft)	2500	-	<ul style="list-style-type: none"> • Robust and wearless • Fit for high operating speed • Resolution 2500 pulses












Sample picture	Product	Measuring length	Distance/revolution	Features
	GCA5 - analog	4.7 m	-	Analog output
	GCA5 - CANopen®	4.7 m	-	CANopen®
	BMMS K23 CANopen® - MAGRES	2.3 m	-	Cable transducer max. 2.3 m CANopen® Redundant
	BMMS K23 SSI - MAGRES	2.3 m	239.7 ±0.3 mm	Cable transducer max. 2.3 m SSI
	BMMS K34 CANopen® - MAGRES redundant	3.4 m	-	Cable transducer max. 3.4 m CANopen® Redundant
	BMMS K34 SSI - MAGRES	3.4 m	241.9 +1.2/-0.8 mm	Cable transducer max. 2.3 m SSI
	BMMS K50 CANopen® - MAGRES redundant	5 m	-	Cable transducer max. 5 m CANopen® Redundant
	BMMS K50 SSI - MAGRES	5 m	242 ±1 mm	Cable transducer max. 5 m SSI
	BMMS K23 analog / cable-pull - MAGRES redundant	2.3 m	-	Cable transducer max. 2.3 m Analog Redundant
	BMMS K50 analog / cable-pull - MAGRES redundant	5 m	-	Cable transducer max. 5 m Analog Redundant
	BMMS M50 analog / cable-pull - MAGRES redundant	5 m	-	Cable transducer max. 5 m Analog Redundant

	BMMS M75 CANopen® / cable-pull - MAGRES	7.5 m	333.32 ±0.3 mm	Cable transducer max. 7.5 m CANopen®
	BMMS M75 analog / cable-pull - MAGRES redundant	7.5 m	-	Cable transducer max. 7.5 m Analog Redundant
	Cable transducer GCI/GCA4 (3 m)	3 m	260.09 mm	Incremental encoder Absolute encoder Fieldbus interfaces
	Cable transducer GCI/GCA15 (5 m)	5 m	315.07 mm	Incremental encoder Absolute encoder Fieldbus interfaces
	Cable transducer GCI/GCA15 (7.5 m)	7.5 m	315.07 mm	Incremental encoder Absolute encoder Fieldbus interfaces
	Cable transducer GCI/GCA15 (10 m)	10 m	315.07 mm	Incremental encoder Absolute encoder Fieldbus interfaces
	Cable transducer GCI/GCA15 (15 m)	15 m	315.07 mm	Incremental encoder Absolute encoder Fieldbus interfaces
	Cable transducer GCI/GCA50 (30 m)	30 m	500 mm	Incremental encoder Absolute encoder Fieldbus interfaces
	Cable transducer GCI/GCA50 (40 m)	40 m	500 mm	Incremental encoder Absolute encoder Fieldbus interfaces
	Cable transducer GCI/GCA50 (50 m)	50 m	500 mm	Incremental encoder Absolute encoder Fieldbus interfaces

Sample picture	Product family	Size (flange)	Shaft type	Resolution max.	Features
	EAM360 - hollow shaft CANopen® - MAGRES	ø36 mm	ø10...15 mm (blind hollow shaft)	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen®
	EAM360 - hollow shaft SSI - MAGRES	ø36 mm	ø10...15 mm (blind hollow shaft)	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• SSI
	EAM360 - solid shaft CANopen® - MAGRES	ø36 mm	ø10 x 16 mm, solid shaft with flat	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen®
	EAM360 - solid shaft SSI - MAGRES	ø36 mm	ø10 x 16 mm, solid shaft with flat	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• SSI
	EAM360R - hollow shaft CANopen®/SAE J1939 - MAGRES	ø36 mm	ø10...15 mm (blind hollow shaft)	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen® • SAE J1939
	EAM360R - solid shaft CANopen®/SAE J1939 - MAGRES	ø36 mm	ø10 x 16 mm, solid shaft with flat	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen® • SAE J1939
	EAM360R - hollow shaft analog - MAGRES	ø36 mm	ø10...15 mm (blind hollow shaft)	-	• Analog
	EAM360R - solid shaft analog - MAGRES	ø36 mm	ø10 x 16 mm, solid shaft with flat	-	• Analog
	EAM580 - hollow shaft CANopen® - MAGRES	ø58 mm	ø12...15 mm (blind hollow shaft)	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen®
	EAM580 - hollow shaft PROFINET - MAGRES	ø58 mm	ø12...15 mm (blind hollow shaft)	ST ≤16384 / 14 bit MT ≤65536 / 16 bit	• PROFINET IO
	EAM580 - hollow shaft SSI - MAGRES	ø58 mm	ø12...15 mm (blind hollow shaft)	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• SSI




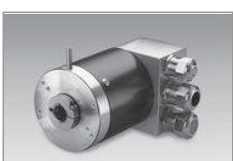






					
	EAM580 - clamping flange CANopen® - MAGRES	ø58 mm	ø10 x20 mm, solid shaft with flat	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen®
	EAM580 - synchro flange CANopen® - MAGRES	ø58 mm	ø6 x 10 mm, solid shaft with flat	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen®
	EAM580 - clamping flange PROFINET - MAGRES	ø58 mm	ø10 x20 mm, solid shaft with flat	ST ≤16384 / 14 bit MT ≤65536 / 16 bit	• PROFINET IO
	EAM580 - synchro flange PROFINET - MAGRES	ø58 mm	ø6 x 10 mm, solid shaft with flat	ST ≤16384 / 14 bit MT ≤65536 / 16 bit	• PROFINET IO
	EAM580 - clamping flange SSI - MAGRES	ø58 mm	ø10 x20 mm, solid shaft with flat	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• SSI
	EAM580 - synchro flange SSI - MAGRES	ø58 mm	ø6 x 10 mm, solid shaft with flat	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• SSI
	EAM580R - hollow shaft CANopen® - MAGRES redundant	ø58 mm	ø12...15 mm (blind hollow shaft)	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen® • SAE J1939
	EAM580R - hollow shaft CANopen®/SAE J1939 - MAGRES	ø58 mm	ø12...15 mm (blind hollow shaft)	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen® • SAE J1939
	EAM580R - hollow shaft analog - MAGRES	ø58 mm	ø12...15 mm (blind hollow shaft)	-	• Analog
	EAM580R - clamping flange CANopen® - MAGRES redundant	ø58 mm	ø10 x20 mm, solid shaft with flat	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen®
	EAM580R - synchro flange CANopen® - MAGRES	ø58 mm	ø6 x 10 mm, solid shaft with flat	ST ≤16384 / 14 bit	• CANopen®










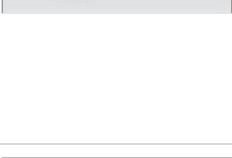
	redundant			MT ≤262144 / 18 bit	
	EAM580R - clamping flange CANopen®/SAE J1939 - MAGRES	ø58 mm	ø10 x 16 mm, solid shaft with flat	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen® • SAE J1939
	EAM580R - synchro flange CANopen®/SAE J1939 - MAGRES	ø58 mm	ø6 x 10 mm, solid shaft with flat	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen® • SAE J1939
	EAM580R - clamping flange analog - MAGRES	ø58 mm	ø10 x 20 mm, solid shaft with flat	-	• Analog
	EAM580R - synchro flange analog - MAGRES	ø58 mm	ø6 x 10 mm, solid shaft with flat	-	• Analog
	EAM360 - Kit SSI - MAGRES	ø36 mm	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• SSI
	EAM360 - Kit CANopen® - MAGRES	ø36 mm	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen®
	EAM360R - Kit CANopen®/SAE J1939 - MAGRES	ø36 mm	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen® • SAE J1939
	EAM360R - Kit analog - MAGRES	ø36 mm	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	-	• Analog
	EAM580 - Kit SSI - MAGRES	ø58 mm	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• SSI
	EAM580 - Kit CANopen® - MAGRES	ø58 mm	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	• CANopen®
	EAM580 - Kit PROFINET - MAGRES	ø58 mm	ø6 mm (magnet bore) ø8 mm (magnet bore)	ST ≤16384 / 14 bit	• PROFINET IO

			ø12 mm (magnet bore)	MT ≤65536 / 16 bit	
	EAM580R - Kit CANopen®/SAE J1939 - MAGRES	ø58 mm	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	ST ≤16384 / 14 bit MT ≤262144 / 18 bit	<ul style="list-style-type: none"> • CANopen® • SAE J1939
	EAM580R - Kit analog - MAGRES	ø58 mm	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)	-	<ul style="list-style-type: none"> • Analog
	EAM280 - solid shaft analog	ø48 mm, housing 28.6 mm	ø6 mm, solid shaft with flat Push-on coupling	-	<ul style="list-style-type: none"> • Singleturn • Analog
	BMMV 58K flexible - MAGRES	ø58 mm	ø10 x20 mm, solid shaft with flat (clamping flange)	ST ≤4096 / 12 bit MT ≤262144 / 18 bit	<ul style="list-style-type: none"> • CANopen®, DeviceNet • EtherCAT, EtherNet/IP • SAEJ1939, PoE, Profibus • PROFINET, POWERLINK
	BMSV 58K flexible - MAGRES	ø58 mm	ø10 x20 mm, solid shaft with flat (clamping flange)	ST ≤4096 / 12 bit	<ul style="list-style-type: none"> • CANopen®, DeviceNet • EtherCAT, EtherNet/IP • SAEJ1939, PoE, Profibus • PROFINET, POWERLINK
	BMMV 58S flexible - MAGRES	ø58 mm	ø6 x 10 mm, solid shaft with flat (synchro flange)	ST ≤4096 / 12 bit MT ≤262144 / 18 bit	<ul style="list-style-type: none"> • CANopen®, DeviceNet • EtherCAT, EtherNet/IP • SAEJ1939, PoE, Profibus • PROFINET, POWERLINK
	BMSV 58S flexible - MAGRES	ø58 mm	ø6 x 10 mm, solid shaft with flat (synchro flange)	ST ≤4096 / 12 bit	<ul style="list-style-type: none"> • CANopen®, DeviceNet • EtherCAT, EtherNet/IP • SAEJ1939, PoE, Profibus • PROFINET, POWERLINK
	BMMH 58 flexible - MAGRES	ø58 mm	ø12 mm (blind hollow shaft) ø15 mm (blind hollow shaft)	ST ≤4096 / 12 bit MT ≤262144 / 18 bit	<ul style="list-style-type: none"> • CANopen®, DeviceNet • EtherCAT, EtherNet/IP • SAEJ1939, PoE, Profibus • PROFINET, POWERLINK
	BMSH 58 flexible - MAGRES	ø58 mm	ø12 mm (blind hollow shaft) ø15 mm (blind hollow shaft)	ST ≤4096 / 12 bit	<ul style="list-style-type: none"> • CANopen®, DeviceNet • EtherCAT, EtherNet/IP • SAEJ1939, PoE, Profibus • PROFINET, POWERLINK
	EAL580-B - blind hollow shaft	ø58 mm	ø10...15 mm (blind hollow shaft)	ST ≤262144 / 18 bit (adjustable) MT ≤65536 / 16 bit (adjustable)	<ul style="list-style-type: none"> • PROFINET I/O











	EAL580-T - through hollow shaft	ø58 mm	ø10...14 mm (through hollow shaft)	ST ≤262144 / 18 bit (adjustable) MT ≤65536 / 16 bit (adjustable)	• PROFINET I/O
	EAL580-SC - clamping flange	ø58 mm	ø10 x 20 mm, solid shaft with flat	ST ≤262144 / 18 bit (adjustable) MT ≤65536 / 16 bit (adjustable)	• PROFINET I/O
	EAL580-SY - synchro flange	ø58 mm	ø6 x 10 mm, solid shaft with flat	ST ≤262144 / 18 bit (adjustable) MT ≤65536 / 16 bit (adjustable)	• PROFINET I/O
	EFL580 - SSI	ø58 mm	ø9,25 mm cone shaft (1:10)	ST 8192 / 13 bit	• SSI • Operating temperature max. +105 °C
	EFL580 - BiSS C	ø58 mm	ø9,25 mm cone shaft (1:10)	ST 8192 / 13 bit	• BiSS C • Operating temperature max. +105 °C
	GM400	ø58 mm	ø10 mm solid shaft	ST ≤16384 / 14 bit MT ≤65536 / 16 bit	• Incremental outputs as option
	GA240 - SSI	ø58 mm	ø10 mm solid shaft	ST ≤16384 / 14 bit	• Gray or binary code
	GM401	ø58 mm	ø6 mm solid shaft	ST ≤16384 / 14 bit MT ≤65536 / 16 bit	• Incremental outputs as option
	GA241 - SSI	ø58 mm	ø6 mm solid shaft	ST ≤16384 / 14 bit	• Gray or binary code
	GXM2S	ø58 mm	ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft) ø15 mm (blind hollow shaft)	ST ≤16384 / 14 bit MT 4096 / 12 bit	• Diagnostic functions
					•

	GXA2S	ø58 mm	ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft) ø15 mm	ST ≤16384 / 14 bit	
	G0M2H	ø58 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	ST ≤16384 / 14 bit MT 4096 / 12 bit	• Diagnostic functions
	G0A2H	ø58 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	ST ≤16384 / 14 bit	• Diagnostic functions
	GXP5W - CANopen®	ø58 mm	ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)	ST ≤8192 / 13 bit MT ≤65536 / 16 bit	• CANopen® • CANopen® Lift • Status indicator
	GXP5S - CANopen®	ø58 mm	ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft) ø15 mm (blind hollow shaft)	ST ≤8192 / 13 bit MT ≤65536 / 16 bit	• CANopen® • LED status indicator
	G0P5H - CANopen®	ø58 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	ST ≤8192 / 13 bit MT ≤65536 / 16 bit	• CANopen® • LED status indicator
	GXP8W - DeviceNet	ø58 mm	ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)	ST ≤8192 / 13 bit MT ≤65536 / 16 bit	• DeviceNet • LED status indicator
	GXM7W - RS485	ø58 mm	ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)	ST 8192 / 13 bit MT 4096 / 12 bit	• RS485
	GXM7S - RS485	ø58 mm	ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft)	ST 8192 / 13 bit MT 4096 / 12 bit	• RS485
	GXM7W - SLIN	ø58 mm	ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)	ST 8192 / 13 bit MT 4096 / 12 bit	• SLIN protocol
	GA240 - parallel	ø58 mm	ø10 mm solid shaft	ST 8192 / 13 bit	• Gray code

	GA241 - parallel	ø58 mm	ø6 mm solid shaft	ST 8192 / 13 bit	• Gray code
	GXMMW	ø58 mm	ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)	ST ≤8192 / 13 bit MT ≤65536 / 16 bit	• CANopen®, DeviceNet • EtherCAT, EtherNet/IP, SSI • SAEJ1939, Profibus • PROFINET, POWERLINK
	GXAMW	ø58 mm	ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)	ST ≤8192 / 13 bit	• CANopen®, DeviceNet • EtherCAT, EtherNet/IP, SSI • SAEJ1939, Profibus • PROFINET, POWERLINK
	GXMMW + incremental	ø58 mm	ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)	ST ≤8192 / 13 bit MT ≤65536 / 16 bit	• CANopen®, DeviceNet • EtherCAT, EtherNet/IP, SSI • SAEJ1939, Profibus • PROFINET, POWERLINK
	GXMMS	ø58 mm	ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft) ø15 mm (blind hollow shaft)	ST ≤8192 / 13 bit MT ≤65536 / 16 bit	• CANopen®, DeviceNet • EtherCAT, EtherNet/IP, SSI • SAEJ1939, Profibus • PROFINET, POWERLINK
	GXAMS	ø58 mm	ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft) ø15 mm (blind hollow shaft)	ST ≤8192 / 13 bit	• CANopen®, DeviceNet • EtherCAT, EtherNet/IP, SSI • SAEJ1939, Profibus • PROFINET, POWERLINK
	GXMMS + incremental	ø58 mm	ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft) ø15 mm (blind hollow shaft)	ST ≤8192 / 13 bit MT ≤65536 / 16 bit	• CANopen®, DeviceNet • EtherCAT, EtherNet/IP, SSI • SAEJ1939, Profibus • PROFINET, POWERLINK
	GOMMH	ø58 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	ST ≤8192 / 13 bit MT ≤65536 / 16 bit	• CANopen®, DeviceNet • EtherNet/IP • Profibus, PROFINET
	G0AMH	ø58 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	ST ≤8192 / 13 bit	• CANopen®, DeviceNet • EtherNet/IP • Profibus, PROFINET
	GBM2W	ø58 mm	ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)	ST 262144 / 18 bit MT 4096 / 12 bit	• Optional incremental outputs
	GBA2W	ø58 mm	ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)	ST ≤262144 / 18 bit	• Diagnostic functions • Incremental outputs as option
	GBM2S	ø58 mm	ø12 mm (blind hollow shaft)	ST 262144 / 18 bit	• Diagnostic functions

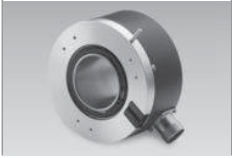
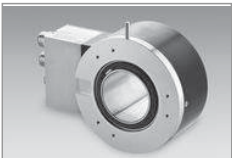









			<p>ø14 mm (blind hollow shaft) ø15 mm (blind hollow shaft)</p>	MT 4096 / 12 bit	
	GBA2S	ø58 mm	<p>ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft) ø15 mm (blind hollow shaft)</p>	ST ≤262144 / 18 bit	<ul style="list-style-type: none"> • Diagnostic functions • Incremental outputs as option
	GBM2H	ø58 mm	<p>ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)</p>	ST 262144 / 18 bit MT 4096 / 12 bit	<ul style="list-style-type: none"> • Diagnostic functions
	GBA2H	ø58 mm	<p>ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)</p>	ST ≤262144 / 18 bit	<ul style="list-style-type: none"> • Diagnostic functions • Incremental outputs as option
	GBP5W - CANopen®	ø58 mm	<p>ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)</p>	ST ≤262144 / 18 bit MT ≤16384 / 14 bit	<ul style="list-style-type: none"> • CANopen® • CANopen® Lift • Status indicator
	GBP5H - CANopen®	ø58 mm	<p>ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)</p>	ST ≤262144 / 18 bit MT ≤16384 / 14 bit	<ul style="list-style-type: none"> • CANopen® • LED status indicator
	GBMMW	ø58 mm	<p>ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)</p>	ST ≤262144 / 18 bit MT ≤8192 / 13 bit	<ul style="list-style-type: none"> • CANopen®, DeviceNet • EtherCAT, EtherNet/IP, SSI • SAEJ1939, Profibus • PROFINET, POWERLINK
	GBAMW	ø58 mm	<p>ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)</p>	ST ≤262144 / 18 bit	<ul style="list-style-type: none"> • CANopen®, DeviceNet • EtherCAT, EtherNet/IP, SSI • SAEJ1939, Profibus • PROFINET, POWERLINK
	GBMMS	ø58 mm	<p>ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft) ø15 mm (blind hollow shaft)</p>	ST ≤262144 / 18 bit MT ≤8192 / 13 bit	<ul style="list-style-type: none"> • CANopen®, DeviceNet • EtherCAT, EtherNet/IP, SSI • SAEJ1939, Profibus • PROFINET, POWERLINK
	GBAMS	ø58 mm	<p>ø12 mm (blind hollow shaft) ø14 mm (blind hollow shaft) ø15 mm (blind hollow shaft)</p>	ST ≤262144 / 18 bit	<ul style="list-style-type: none"> • CANopen®, DeviceNet • EtherCAT, EtherNet/IP, SSI • SAEJ1939, Profibus • PROFINET, POWERLINK
	GBMMH	ø58 mm	<p>ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)</p>	ST ≤262144 / 18 bit MT ≤8192 / 13 bit	<ul style="list-style-type: none"> • Total resolution 31 bit • CANopen®, DeviceNet • EtherNet/IP • Profibus, PROFINET

			shaft)		
	GBAMH	ø58 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	ST ≤262144 / 18 bit	<ul style="list-style-type: none"> • CANopen®, DeviceNet • EtherNet/IP • Profibus, PROFINET
	BMMV 58K SSI - MAGRES hermetic	ø58 mm	ø10 mm solid shaft (clamping flange)	ST 4096 / 12 bit MT 8192 / 13 bit	<ul style="list-style-type: none"> • Material: stainless steel 1.4305 • Protection IP 69K
	BMMV 58K CANopen® - MAGRES hermetic	ø58 mm	ø10 mm solid shaft (clamping flange)	ST ≤4096 / 12 bit MT ≤262144 / 18 bit	<ul style="list-style-type: none"> • Material: stainless steel 1.4305 • Protection IP 69K
	BMMV 58K Profibus-DP - MAGRES hermetic	ø58 mm	ø10 mm solid shaft (clamping flange)	ST ≤8192 / 13 bit MT ≤65536 / 16 bit	<ul style="list-style-type: none"> • Material: stainless steel 1.4305 • Protection IP 69K
	BMMV 58K flexible - MAGRES hermetic	ø58 mm	ø10 mm solid shaft (clamping flange)	ST ≤4096 / 12 bit MT ≤262144 / 18 bit	<ul style="list-style-type: none"> • Protection IP 69K • CANopen®, DeviceNet • EtherCAT, EtherNet/IP • SAEJ1939, Profibus • PROFINET, POWERLINK
	GE244	ø58 mm	ø10 mm solid shaft	ST ≤16384 / 14 bit	<ul style="list-style-type: none"> • Stainless steel design • Gray or binary code
	GE404	ø58 mm	ø10 mm solid shaft	ST ≤16384 / 14 bit MT 4096 / 12 bit	<ul style="list-style-type: none"> • Stainless steel design
	GEMMH	ø58 mm	ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	ST ≤8192 / 13 bit MT ≤65536 / 16 bit	<ul style="list-style-type: none"> • Stainless steel design • CANopen® • DeviceNet • EtherNet-IP • Profibus • PROFINET
	GEMMW	ø58 mm	ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)	ST ≤8192 / 13 bit MT ≤65536 / 16 bit	<ul style="list-style-type: none"> • Stainless steel design • CANopen® • DeviceNet • Profibus
	AMG 71	ø60 mm	ø6 mm solid shaft	ST 8192 / 13 bit MT 4096 / 12 bit	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D

	AMG 81	ø115 mm	ø11 mm solid shaft	ST 8192 / 13 bit MT 4096 / 12 bit	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • SSI, Profibus, CANopen®
	AMG 11	ø115 mm	ø11 mm solid shaft	ST 8192 / 13 bit MT ≤65536 / 16 bit	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • SSI, Profibus, CANopen®, DeviceNet, PROFINET • Multiturn sensing with microGen technologie • Without gears and battery • Special protection against corrosion
	AMG 11 + FSL	ø115 mm	ø11 mm solid shaft	ST 8192 / 13 bit MT ≤65536 / 16 bit	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • SSI, Profibus, CANopen®, DeviceNet • Multiturn sensing with microGen technologie • Without gears and battery • EURO flange B10 • Special protection against corrosion
	HMG 11	ø122 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	ST 8192 / 13 bit MT ≤65536 / 16 bit	<ul style="list-style-type: none"> • ATEX II 3G/3D • SSI, Profibus, CANopen®, DeviceNet, PROFINET • Multiturn sensing with microGen technologie • Without gears and battery • Special protection against corrosion
	HMG10-B - SSI	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	ST 1048576 / 20 bit MT 1048576 / 20 bit	<ul style="list-style-type: none"> • SSI • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-T - SSI	ø105 mm	ø16...20 mm (through hollow shaft)	ST 1048576 / 20 bit MT 1048576 / 20 bit	<ul style="list-style-type: none"> • SSI • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-B - CANopen®	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • CANopen® • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-B - DeviceNet	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • DeviceNet • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-B - Profibus DP	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • Profibus-DPV0 or DPV2 • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-T - CANopen®	ø105 mm	ø16...20 mm (through hollow shaft)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • CANopen® • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-T - DeviceNet	ø105 mm	ø16...20 mm (through hollow shaft)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • DeviceNet • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery











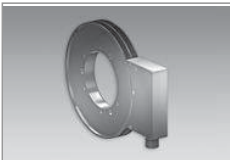
					
	HMG10-T - Profibus DP	ø105 mm	ø16...20 mm (through hollow shaft)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • Profibus-DPV0 or DPV2 • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-B EtherCAT	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • EtherCAT • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-B EtherNet/IP	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • EtherNet/IP • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-B PROFINET	ø105 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • PROFINET • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-T EtherCAT	ø105 mm	ø16...20 mm (through hollow shaft)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • EtherCAT • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-T EtherNet/IP	ø105 mm	ø16...20 mm (through hollow shaft)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • EtherNet/IP • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG10-T PROFINET	ø105 mm	ø16...20 mm (through hollow shaft)	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • PROFINET • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	PMG10 - SSI	ø115 mm	ø11 mm solid shaft	ST 1048576 / 20 bit MT 1048576 / 20 bit	<ul style="list-style-type: none"> • SSI • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	PMG10 - CANopen®	ø115 mm	ø11 mm solid shaft	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • CANopen® • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	PMG10 - DeviceNet	ø115 mm	ø11 mm solid shaft	ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • DeviceNet • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	PMG10 - Profibus DP	ø115 mm	ø11 mm solid shaft	ST 8192 / 13 bit MT 65536 /	<ul style="list-style-type: none"> • Profibus-DPV0 or DPV2 • Protection against corrosion C5-M

					16 bit	<ul style="list-style-type: none"> • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	PMG10 - EtherCAT	ø115 mm	ø11 mm solid shaft		ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • EtherCAT • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	PMG10 - EtherNet/IP	ø115 mm	ø11 mm solid shaft		ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • EtherNet/IP • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	PMG10 - PROFINET	ø115 mm	ø11 mm solid shaft		ST 8192 / 13 bit MT 65536 / 16 bit	<ul style="list-style-type: none"> • PROFINET • Protection against corrosion C5-M • Integrated speed switch • Multiturn sensing with Energy Harvesting technologie • Without gears and battery
	HMG 11 + ESL 90	ø122 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)		ST 8192 / 13 bit MT ≤65536 / 16 bit	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL • SSI, Profibus, CANopen®, DeviceNet • Multiturn sensing with microGen technologie • Without gears and battery • Special protection against corrosion
	HMG 11 + ESL 93	ø122 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)		ST 8192 / 13 bit MT ≤65536 / 16 bit	<ul style="list-style-type: none"> • Encoder combination with electronic speed switch ESL • SSI, Profibus, CANopen®, DeviceNet • Multiturn sensing with microGen technologie • Without gears and battery • Special protection against corrosion
	HMG 11 + FSL	ø122 mm	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)		ST 8192 / 13 bit MT ≤65536 / 16 bit	<ul style="list-style-type: none"> • Encoder combination with centrifugal switch FSL • SSI, Profibus, CANopen®, DeviceNet • Multiturn sensing with microGen technologie • Without gears and battery • Special protection against corrosion
	HMG 161	ø160 mm	ø38...70 mm (through hollow shaft)		ST 8192 / 13 bit MT ≤65536 / 16 bit	<ul style="list-style-type: none"> • ATEX II 3 G / 3 D • SSI, Profibus, CANopen®, DeviceNet • Multiturn sensing with microGen technologie • Without gears and battery • Special protection against corrosion
	G1M2H	ø90 mm	ø25.4 mm (through hollow shaft)		ST 8192 / 13 bit MT 4096 / 12 bit	<ul style="list-style-type: none"> • Diagnostic functions
	G1MMH	ø90 mm	ø16...25.4 mm (through hollow shaft)		ST ≤8192 / 13 bit MT ≤65536 / 16 bit	<ul style="list-style-type: none"> • CANopen® • DeviceNet • Profibus
	G2M2H	ø116 mm	ø50.8 mm (through hollow shaft)		ST 8192 / 13 bit MT 4096 / 12 bit	<ul style="list-style-type: none"> • Diagnostic functions





					
	G2MMH	ø116 mm	ø50.8 mm (through hollow shaft)	ST ≤8192 / 13 bit MT ≤65536 / 16 bit	<ul style="list-style-type: none"> • CANopen® • DeviceNet • Profibus
	X 700 - SSI Multiturn	ø70 mm	ø10 mm solid shaft (clamping flange)	ST 16384 / 14 bit MT 4096 / 12 bit	<ul style="list-style-type: none"> • Ex II 2D/2G (ATEX) • SSI
	X 700 - SSI Singleturn	ø70 mm	ø10 mm solid shaft (clamping flange)	ST 16384 / 14 bit	<ul style="list-style-type: none"> • Ex II 2D/2G (ATEX) • SSI
	X 700 - CANopen®	ø70 mm	ø10 mm solid shaft (clamping flange)	ST ≤262144 / 18 bit MT ≤16384 / 14 bit	<ul style="list-style-type: none"> • Ex II 2D/2G (ATEX) • CANopen®
	X 700 - Profibus	ø70 mm	ø10 mm solid shaft (clamping flange)	ST ≤8192 / 13 bit MT ≤65536 / 16 bit	<ul style="list-style-type: none"> • Ex II 2D/2G (ATEX) • Profibus
	ATD 07S A 4	ø24 mm	ø4 mm (blind hollow shaft)	ST 4096 / 12 bit	<ul style="list-style-type: none"> • SSI • Gray code • Mini encoder
	ATD 2AA 4 Y 7	ø58 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	ST 16384 / 14 bit MT 1024 / 10 bit	<ul style="list-style-type: none"> • Analog output • Multiturn
	ATD 2AB14 Y 1	ø58 mm	ø6 mm solid shaft	ST 16384 / 14 bit	<ul style="list-style-type: none"> • Analog output • Singleturn
	ATD 2S A 4 Y 7	ø58 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	ST ≤16384 / 14 bit MT ≤16777216 / 24 bit	<ul style="list-style-type: none"> • SSI • Diagnostic functions • Incremental outputs as option
	ATD 2S B14 Y21	ø58 mm	ø10 mm solid shaft (clamping flange)	ST 8192 / 13 bit	<ul style="list-style-type: none"> • SSI • Gray code

	ATD 2S B14 Y23	ø58 mm	ø10 mm solid shaft (clamping flange)	ST ≤16384 / 14 bit MT ≤16777216 / 24 bit	<ul style="list-style-type: none"> • SSI • Gray or binary code • Incremental outputs as option
	ATD 2S B14 Y24	ø58 mm	ø10 mm solid shaft	ST 4096 / 12 bit MT 4096 / 12 bit	<ul style="list-style-type: none"> • SSI + Resolver • Gray or binary code • Magnetic sensing
	ATD 4S A4 Y10	ø80 mm	ø20 mm (through hollow shaft) ø22 mm (through hollow shaft) ø25 mm (through hollow shaft) ø27 mm (through hollow shaft)	ST ≤32768 / 15 bit MT ≤16777216 / 24 bit	<ul style="list-style-type: none"> • SSI • Gray or binary code • Incremental outputs as option
	ATD2AH00	ø58 mm	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft)	ST 16384 / 14 bit	<ul style="list-style-type: none"> • Analog output • Singleturn • Flexible cable concept
	BFF CANopen®	ø58 mm	ø12 mm (blind hollow shaft)	ST ≤8192 / 13 bit	<ul style="list-style-type: none"> • Singleturn • CANopen®
	BFF parallel	ø58 mm	ø12 mm (blind hollow shaft)	ST ≤4096 / 12 bit	<ul style="list-style-type: none"> • Singleturn • Parallel
	BFF SSI	ø58 mm	ø12 mm (blind hollow shaft)	ST 4096 / 12 bit	<ul style="list-style-type: none"> • Singleturn • SSI
	BFG CANopen®	ø58 mm	ø12 mm (through hollow shaft)	ST ≤8192 / 13 bit	<ul style="list-style-type: none"> • Singleturn • CANopen®
	BFG parallel	ø58 mm	ø12 mm (through hollow shaft)	ST ≤4096 / 12 bit	<ul style="list-style-type: none"> • Singleturn • Parallel
	BMMS K23 CANopen® - MAGRES	-	-	0.1 mm/step	<ul style="list-style-type: none"> • Cable transducer max. 2.3 m • CANopen® • Redundant
	BMMS K23 SSI - MAGRES	-	-	0.0585 mm/step	<ul style="list-style-type: none"> • Cable transducer max. 2.3 m • SSI

	BMMS K34 CANopen® - MAGRES redundant	-	-	0.1 mm/step	<ul style="list-style-type: none"> • Cable transducer max. 3.4 m • CANopen® • Redundant
	BMMS K34 SSI - MAGRES	-	-	0.0589 mm/step	<ul style="list-style-type: none"> • Cable transducer max. 2.3 m • SSI
	BMMS K50 CANopen® - MAGRES redundant	-	-	0.1 mm/step	<ul style="list-style-type: none"> • Cable transducer max. 5 m • CANopen® • Redundant
	BMMS K50 SSI - MAGRES	-	-	0.0591 mm/step	<ul style="list-style-type: none"> • Cable transducer max. 5 m • SSI
	BFG SSI	ø58 mm	ø12 mm (through hollow shaft)	ST 4096 / 12 bit	<ul style="list-style-type: none"> • Singleturn • SSI
	GXN1H	ø75 mm	ø14 mm (through hollow shaft)	ST ≤4096 / 12 bit MT ≤4096 / 12 bit	<ul style="list-style-type: none"> • 1024 cams • 16 outputs
	GXN1W	ø58 mm	ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)	ST ≤4096 / 12 bit MT ≤4096 / 12 bit	<ul style="list-style-type: none"> • 1024 cams • 16 outputs
	GA210 - parallel	ø58 mm	ø10 mm solid shaft	ST 1024 / 10 bit	<ul style="list-style-type: none"> • Reset input
	GA211 - parallel	ø58 mm	ø6 mm solid shaft	ST 1024 / 10 bit	<ul style="list-style-type: none"> • Reset input
	GXP1H - parallel	ø75 mm	ø14 mm (through hollow shaft)	ST ≤4096 / 12 bit MT ≤4096 / 12 bit	<ul style="list-style-type: none"> • Programmable
	GXP1W - parallel	ø58 mm	ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)	ST ≤4096 / 12 bit MT ≤4096 / 12 bit	<ul style="list-style-type: none"> • Programmable

	GXA1W - parallel	ø58 mm	ø10 mm solid shaft (clamping flange) ø6 mm solid shaft (synchro flange)	ST 2880	<ul style="list-style-type: none"> • Gray excess code
	BMMS K23 analog / cable-pull - MAGRES redundant	-	-	-	<ul style="list-style-type: none"> • Cable transducer max. 2.3 m • Analog • Redundant
	BMMS K50 analog / cable-pull - MAGRES redundant	-	-	-	<ul style="list-style-type: none"> • Cable transducer max. 5 m • Analog • Redundant
	BMMS M50 analog / cable-pull - MAGRES redundant	-	-	-	<ul style="list-style-type: none"> • Cable transducer max. 5 m • Analog • Redundant
	BMMS M75 CANopen® / cable-pull - MAGRES	-	-	0.1 mm/step	<ul style="list-style-type: none"> • Cable transducer max. 7.5 m • CANopen®
	BMMS M75 analog / cable-pull - MAGRES redundant	-	-	-	<ul style="list-style-type: none"> • Cable transducer max. 7.5 m • Analog • Redundant
	MQR 3000F - HDmag flex	-	ø300...3183 mm (through hollow shaft)	-	<ul style="list-style-type: none"> • "Quasi-absolut", i. e. providing a valid absolute position only after initialization • Integrated signal processing • SSI, resolution up to 20 bit • Magnetic sensing • Protection IP 67 • Incremental outputs as option
	MQR 350A - HDmag flex	-	ø90...300 mm (through hollow shaft)	-	<ul style="list-style-type: none"> • "Quasi-absolut", i. e. providing a valid absolute position only after initialization • Integrated signal processing • SSI, resolution up to 20 bit • Magnetic sensing • Protection IP 67 • Incremental outputs as option
	MHAD 50 - HDmag	-	ø30 mm (through hollow shaft)	-	<ul style="list-style-type: none"> • Resolution up to 16 bit • Protection IP 67 • SSI, CANopen® • Incremental outputs as option
	MHAP 100 - HDmag	ø101.3 mm	ø16...80 mm (through hollow shaft)	-	<ul style="list-style-type: none"> • Resolution up to 17 bit • Protection IP 67 • SSI • Additional incremental output
	MHAP 200 - HDmag	ø203.1 mm	ø50...180 mm (through hollow shaft)	-	<ul style="list-style-type: none"> • Resolution up to 17 bit • Protection IP 67 • SSI • Additional incremental output

	<p>MHAP 400 - HDmag</p>	<p>ø406.8 mm</p>	<p>ø70...340 mm (through hollow shaft)</p>	<p>-</p>	<ul style="list-style-type: none"> • Resolution up to 17 bit • Protection IP 67 • SSI • Additional incremental output
	<p>BMMK 58 flexible - MAGRES</p>	<p>ø58 mm</p>	<p>ø12 mm (magnet bore)</p>	<p>ST ≤4096 / 12 bit MT ≤262144 / 18 bit</p>	<ul style="list-style-type: none"> • Encoder kit multiturn • CANopen®, DeviceNet, Profibus • EtherCAT, EtherNet/IP • PROFINET, POWERLINK
	<p>BMSK 58 flexible - MAGRES</p>	<p>ø58 mm</p>	<p>ø12 mm (magnet bore)</p>	<p>ST ≤4096 / 12 bit</p>	<ul style="list-style-type: none"> • Encoder kit singleturn • CANopen®, DeviceNet, Profibus • EtherCAT, EtherNet/IP • PROFINET, POWERLINK

Sample picture	Product family	Dimensions	Shaft type	Features
	BG440 - planetary gearing	ø52 x 155.5 mm (BG440.25) ø52 x 180.5 mm (BG440.50)	ø12 mm solid shaft	• EC-motor with planetary gearing• for automated spindle positioning cycles
	BG650 - planetary gearing	ø52 x 176.5 mm (BG650.25) ø52 x 201.5 mm (BG650.50) ø52 x 226.5 mm (BG650.75)	ø12 mm solid shaft	• EC-motor with planetary gearing• for automated spindle positioning cycles
	GK473	22.6 x 99 x 114.5 mm	-	• Fieldbus interface for spindle position displays• CANopen®, DeviceNet, Profibus-DP
	MSBA42	ø42 mm	ø8 mm solid shaft	• DC motor, brush-type• Absolute multiturn position detection, CANopen®
	MSIA 42 CANopen	42 x 95 mm	ø6 mm solid shaft ø8 mm solid shaft	• DC motor, brushless• Absolute multiturn position detection, CANopen®
	MSIA 42 Profibus	42 x 95 mm	ø6 mm solid shaft ø8 mm solid shaft	• DC motor, brushless• Absolute multiturn position detection, Profibus-DP
	MSIA 68 bevel gear transmission V6 CANopen	ø68 mm	ø12 mm (through hollow shaft)	• DC motor, brushless• Absolute multiturn position detection, CANopen®
	MSIA 68 bevel gear transmission V6 Profibus	ø68 mm	ø12 mm (through hollow shaft)	• DC motor, brushless• Absolute multiturn position detection, Profibus-DP
	MSIA 68 bevel gear transmission W3 CANopen	ø68 mm	ø12 mm (through hollow shaft)	• DC motor, brushless• Absolute multiturn position detection, CANopen®
	MSIA 68 bevel gear transmission W3 Profibus	ø68 mm	ø12 mm (through hollow shaft)	• DC motor, brushless• Absolute multiturn position detection, Profibus-DP
	MSIA 68 planetary gear transmission CANopen	ø68 mm	ø10 mm solid shaft ø14 mm solid shaft	• DC motor, brushless• Absolute multiturn position detection, CANopen®

				
	MSIA 68 planetary gear transmission Profibus	ø68 mm	ø10 mm solid shaft ø14 mm solid shaft	• DC motor, brushless• Absolute multiturn position detection, Profibus-DP
	MSIA 68 spur gear transmission CANopen	ø69 mm	ø10 mm solid shaft	• DC motor, brushless• Absolute multiturn position detection, CANopen®
	MSIA 68 spur gear transmission Profibus	ø69 mm	ø10 mm solid shaft	• DC motor, brushless• Absolute multiturn position detection, Profibus-DP
	N 150	37 x 75 x 45 mm	ø14 mm (through hollow shaft)	• Through hollow shaft max. ø14 mm, manual format alignment• Display LCD two lines, interface RS485
	N 152	37 x 75 x 45 mm	ø14 mm (through hollow shaft)	• Through hollow shaft max. ø14 mm, automated format alignment• Display LCD two lines, interface RS485
	N 155	37 x 75 x 29 mm	-	• Plug-on mount, enter key, manual format alignment• Display LCD two lines, interface RS485
	N 242	144 x 144 x 116.5 mm	-	• Manual and automated format alignment• Display LCD two lines, interface RS485




Sample picture	Product family	Dimensions	Shaft type	Features
	BG440 - planetary gearing	ø52 x 155.5 mm (BG440.25) ø52 x 180.5 mm (BG440.50)	ø12 mm solid shaft	• EC-motor with planetary gearing• for automated spindle positioning cycles
	BG650 - planetary gearing	ø52 x 176.5 mm (BG650.25) ø52 x 201.5 mm (BG650.50) ø52 x 226.5 mm (BG650.75)	ø12 mm solid shaft	• EC-motor with planetary gearing• for automated spindle positioning cycles
	GK473	22.6 x 99 x 114.5 mm	-	• Fieldbus interface for spindle position displays• CANopen®, DeviceNet, Profibus-DP
	MSBA42	ø42 mm	ø8 mm solid shaft	• DC motor, brush-type• Absolute multiturn position detection, CANopen®
	MSIA 42 CANopen	42 x 95 mm	ø6 mm solid shaft ø8 mm solid shaft	• DC motor, brushless• Absolute multiturn position detection, CANopen®
	MSIA 42 Profibus	42 x 95 mm	ø6 mm solid shaft ø8 mm solid shaft	• DC motor, brushless• Absolute multiturn position detection, Profibus-DP
	MSIA 68 bevel gear transmission V6 CANopen	ø68 mm	ø12 mm (through hollow shaft)	• DC motor, brushless• Absolute multiturn position detection, CANopen®
	MSIA 68 bevel gear transmission V6 Profibus	ø68 mm	ø12 mm (through hollow shaft)	• DC motor, brushless• Absolute multiturn position detection, Profibus-DP
	MSIA 68 bevel gear transmission W3 CANopen	ø68 mm	ø12 mm (through hollow shaft)	• DC motor, brushless• Absolute multiturn position detection, CANopen®
	MSIA 68 bevel gear transmission W3 Profibus	ø68 mm	ø12 mm (through hollow shaft)	• DC motor, brushless• Absolute multiturn position detection, Profibus-DP
	MSIA 68 planetary gear transmission CANopen	ø68 mm	ø10 mm solid shaft ø14 mm solid shaft	• DC motor, brushless• Absolute multiturn position detection, CANopen®

				
	MSIA 68 planetary gear transmission Profibus	ø68 mm	ø10 mm solid shaft ø14 mm solid shaft	• DC motor, brushless• Absolute multiturn position detection, Profibus-DP
	MSIA 68 spur gear transmission CANopen	ø69 mm	ø10 mm solid shaft	• DC motor, brushless• Absolute multiturn position detection, CANopen®
	MSIA 68 spur gear transmission Profibus	ø69 mm	ø10 mm solid shaft	• DC motor, brushless• Absolute multiturn position detection, Profibus-DP
	N 150	37 x 75 x 45 mm	ø14 mm (through hollow shaft)	• Through hollow shaft max. ø14 mm, manual format alignment• Display LCD two lines, interface RS485
	N 152	37 x 75 x 45 mm	ø14 mm (through hollow shaft)	• Through hollow shaft max. ø14 mm, automated format alignment• Display LCD two lines, interface RS485
	N 155	37 x 75 x 29 mm	-	• Plug-on mount, enter key, manual format alignment• Display LCD two lines, interface RS485
	N 242	144 x 144 x 116.5 mm	-	• Manual and automated format alignment• Display LCD two lines, interface RS485

Productfinder Acceleration sensors

	GAM900	<ul style="list-style-type: none"> • Analog, CANopen®
	GAM900S	<ul style="list-style-type: none"> • For safety applications according to SIL2/PLd • Analog, CANopen®




Precise and compact inclination sensors

	GIM500R - 1-dimensional	Typ. $\pm 0.1^\circ$	<ul style="list-style-type: none"> • 1-dimensional • Analog • CANopen® • SAE J1939
	GIM500R - 2-dimensional	Typ. $\pm 0.1^\circ$	<ul style="list-style-type: none"> • 2-dimensional • Analog • CANopen® • SAE J1939
	GNAMG	$\pm 0.1^\circ$ (measuring range 15°) $\pm 0.2^\circ$ (measuring range $30^\circ, 60^\circ, 360^\circ$)	<ul style="list-style-type: none"> • 1- and 2-dimensional • CANopen® • Profibus

Industrial cameras



	EXG50	2592 × 1944 px	Aptina MT9P031	1/2.5" progressive scan CMOS, rolling shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	EXG50c	2592 × 1944 px	Aptina MT9P031	1/2.5" progressive scan CMOS, rolling shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	HXC13	1280 × 1024 px	Cypress Lupa-1300-2	1.4" progressive scan CMOS, global shutter	Camera Link [®] Full, connector: 2 x Standard MDR26	Mono
	HXC20	2048 × 1088 px	ams (CMOSIS) CMV2000	2/3" progressive scan CMOS, global shutter	Camera Link [®] Full, connector: 2 x Standard SDR26 (Mini CL)	Mono
	HXC20NI R	2048 × 1088 px	ams (CMOSIS) CMV2000	2/3" progressive scan CMOS, global shutter	Camera Link [®] Full, connector: 2 x Standard SDR26 (Mini CL)	Mono NIR
	HXC20c	2048 × 1088 px	ams (CMOSIS) CMV2000	2/3" progressive scan CMOS, global shutter	Camera Link [®] Full, connector: 2 x Standard SDR26 (Mini CL)	Raw Bayer
	HXC40	2048 × 2048 px	ams (CMOSIS) CMV4000	1" progressive scan CMOS, global shutter	Camera Link [®] Full, connector: 2 x Standard SDR26 (Mini CL)	Mono

	HXC40NI R	2048 × 2048 px	ams (CMOSIS) CMV4000	1" progressive scan CMOS, global shutter	Camera Link [®] Full, connector: 2 x Standard SDR26 (Mini CL)	Mono NIR
	HXC40c	2048 × 2048 px	ams (CMOSIS) CMV4000	1" progressive scan CMOS, global shutter	Camera Link [®] Full, connector: 2 x Standard SDR26 (Mini CL)	Raw Bayer
	HXG20	2048 × 1088 px	ams (CMOSIS) CMV2000	2/3" progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono
	HXG20N IR	2048 × 1088 px	ams (CMOSIS) CMV2000	2/3" progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono NIR
	HXG20c	2048 × 1088 px	ams (CMOSIS) CMV2000	2/3" progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Raw Bayer
	HXG40	2048 × 2048 px	ams (CMOSIS) CMV4000	1" progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono
	HXG40N IR	2048 × 2048 px	ams (CMOSIS) CMV4000	1" progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono NIR

	HXG40c	2048 × 2048 px	ams (CMOSIS) CMV4000	1" progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Raw Bayer
	LXC- 120C	4096 × 3072 px	ams (CMOSIS) CMV12000	APS-C progressive scan CMOS, global shutter	Camera Link® Full, connector: 2 x Standard SDR26 (Mini CL)	Raw Bayer
	LXC- 120M	4096 × 3072 px	ams (CMOSIS) CMV12000	APS-C progressive scan CMOS, global shutter	Camera Link® Full, connector: 2 x Standard SDR26 (Mini CL)	Mono
	LXC- 200C	5120 × 3840 px	ams (CMOSIS) CMV20000	35 mm progressive scan CMOS, global shutter	Camera Link® Full, connector: 2 x Standard SDR26 (Mini CL)	Raw Bayer
	LXC- 200M	5120 × 3840 px	ams (CMOSIS) CMV20000	35 mm progressive scan CMOS, global shutter	Camera Link® Full, connector: 2 x Standard SDR26 (Mini CL)	Mono
	LXC-20C	2048 × 1088 px	ams (CMOSIS) CMV2000 V3	2/3" progressive scan CMOS, global shutter	Camera Link® Full, connector: 2 x Standard SDR26 (Mini CL)	Raw Bayer
	LXC- 20M	2048 × 1088 px	ams (CMOSIS) CMV2000 V3	2/3" progressive scan CMOS, global shutter	Camera Link® Full, connector: 2 x Standard SDR26 (Mini CL)	Mono





	LXC-250C	5120 × 5120 px	ON Semiconductor PYTHON 25K	APS-H progressive scan CMOS, global shutter	Camera Link® Full, connector: 2 x Standard SDR26 (Mini CL)	Raw Bayer
	LXC-250M	5120 × 5120 px	ON Semiconductor PYTHON 25K	APS-H progressive scan CMOS, global shutter	Camera Link® Full, connector: 2 x Standard SDR26 (Mini CL)	Mono
	LXC-40C	2048 × 2048 px	ams (CMOSIS) CMV4000 V3	1" progressive scan CMOS, global shutter	Camera Link® Full, connector: 2 x Standard SDR26 (Mini CL)	Raw Bayer
	LXC-40M	2048 × 2048 px	ams (CMOSIS) CMV4000 V3	1" progressive scan CMOS, global shutter	Camera Link® Full, connector: 2 x Standard SDR26 (Mini CL)	Mono
	LXC-500C	7920 × 6004 px	ams (CMOSIS) CMV50000	35 mm progressive scan CMOS, global shutter	Camera Link® Full, connector: 2 x Standard SDR26 (Mini CL)	Raw Bayer
	LXC-500M	7920 × 6004 px	ams (CMOSIS) CMV50000	35 mm progressive scan CMOS, global shutter	Camera Link® Full, connector: 2 x Standard SDR26 (Mini CL)	Mono
	LXG-120C	4096 × 3072 px	ams (CMOSIS) CMV12000	APS-C progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mb/s/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Raw Bayer

	LXG-120M	4096 × 3072 px	ams (CMOSIS) CMV12000	APS-C progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono
	LXG-120M.3D	4096 × 3072 px	ams (CMOSIS) CMV12000	APS-C progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	LXG-120M.P	4096 × 3072 px	ams (CMOSIS) CMV12000	APS-C progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	LXG-120M.PS	4096 × 3072 px	ams (CMOSIS) CMV12000	APS-C progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	LXG-200C	5120 × 3840 px	ams (CMOSIS) CMV20000	35 mm progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Raw Bayer
	LXG-200M	5120 × 3840 px	ams (CMOSIS) CMV20000	35 mm progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono
	LXG-200M.P	5120 × 3840 px	ams (CMOSIS) CMV20000	35 mm progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono

	LXG-20C	2048 × 1088 px	ams (CMOSIS) CMV2000 V3	2/3" progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Raw Bayer
	LXG-20C.P	2048 × 1088 px	ams (CMOSIS) CMV2000 V3	2/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Raw Bayer
	LXG-20M	2048 × 1088 px	ams (CMOSIS) CMV2000 V3	2/3" progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono
	LXG-20M.3D	2048 × 1088 px	ams (CMOSIS) CMV2000 V3	2/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	LXG-20M.PS	2048 × 1088 px	ams (CMOSIS) CMV2000 V3	2/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	LXG-20NIR	2048 × 1088 px	ams (CMOSIS) CMV2000 V3	2/3" progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono NIR
	LXG-250C	5120 × 5120 px	ON Semiconductor PYTHON 25K	APS-H progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Raw Bayer







	LXG-250M	5120 × 5120 px	ON Semiconductor PYTHON 25K	APS-H progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono
	LXG-40C	2048 × 2048 px	ams (CMOSIS) CMV4000 V3	1" progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Raw Bayer
	LXG-40M	2048 × 2048 px	ams (CMOSIS) CMV4000 V3	1" progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono
	LXG-40M.P	2048 × 2048 px	ams (CMOSIS) CMV4000 V3	1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	LXG-40NIR	2048 × 2048 px	ams (CMOSIS) CMV4000 V3	1" progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono NIR
	LXG-500C	7920 × 6004 px	ams (CMOSIS) CMV50000	35 mm progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Raw Bayer
	LXG-500M	7920 × 6004 px	ams (CMOSIS) CMV50000	35 mm progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono

	LXG-80C	3360 × 2496 px	ams (CMOSIS) CMV8000	4/3" progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Raw Bayer
	LXG-80M	3360 × 2496 px	ams (CMOSIS) CMV8000	4/3" progressive scan CMOS, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono
	MXG02	656 × 490 px	Sony ICX618	1/4" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45)	Mono
	MXG02c	656 × 490 px	Sony ICX618	1/4" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45)	RGB YUV Mono
	MXG12	1288 × 960 px	Sony ICX445	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45)	Mono
	MXG12c	1288 × 960 px	Sony ICX445	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45)	RGB YUV Mono
	MXG20	1624 × 1228 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45)	Mono

	MXG20c	1624 × 1228 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45)	RGB YUV Mono
	MXGC03	640 × 480 px	ams (CMOSIS) CMV300	1/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45)	Mono
	MXGC03 C	640 × 480 px	ams (CMOSIS) CMV300	1/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45)	RGB YUV Mono
	MXGC20	2040 × 1084 px	ams (CMOSIS) CMV2000	2/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45)	Mono
	MXGC20 c	2040 × 1084 px	ams (CMOSIS) CMV2000	2/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45)	RGB YUV Mono
	MXGC40	2040 × 2044 px	ams (CMOSIS) CMV4000	1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45)	Mono
	MXGC40 .2	2040 × 2044 px	ams (CMOSIS) CMV4000 V3	1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45)	Mono








	MXGC40c	2040 × 2044 px	ams (CMOSIS) CMV4000	1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45)	RGB YUV Mono
	MXGC40c.2	2040 × 2044 px	ams (CMOSIS) CMV4000 V3	1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45)	RGB YUV Mono
	MXU02	656 × 490 px	Sony ICX618	1/4" progressive scan CCD, global shutter	USB 3.0, Transfer Rate 5000 Mbits/sec, Connector: USB 3.0 Micro B	Mono
	MXU02c	656 × 490 px	Sony ICX618	1/4" progressive scan CCD, global shutter	USB 3.0, Transfer Rate 5000 Mbits/sec, Connector: USB 3.0 Micro B	RGB YUV Mono
	MXU12	1288 × 960 px	Sony ICX445	1/3" progressive scan CCD, global shutter	USB 3.0, Transfer Rate 5000 Mbits/sec, Connector: USB 3.0 Micro B	Mono
	MXU12c	1288 × 960 px	Sony ICX445	1/3" progressive scan CCD, global shutter	USB 3.0, Transfer Rate 5000 Mbits/sec, Connector: USB 3.0 Micro B	RGB YUV Mono
	MXU20	1624 × 1228 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	USB 3.0, Transfer Rate 5000 Mbits/sec, Connector: USB 3.0 Micro B	Mono

	MXU20c	1624 × 1228 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	RGB YUV Mono
	MXUC20	2044 × 1084 px	ams (CMOSIS) CMV2000	2/3" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono
	MXUC20c	2044 × 1084 px	ams (CMOSIS) CMV2000	2/3" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	RGB YUV Mono
	MXUC40.2	2044 × 2044 px	ams (CMOSIS) CMV4000 V3	1" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono
	MXUC40c.2	2044 × 2044 px	ams (CMOSIS) CMV4000 V3	1" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	RGB YUV Mono
	PXU-120M.Q	4248 × 2832 px	Sony ICX834AL	1" progressive scan CCD, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono
	PXU-60M.Q	2752 × 2200 px	Sony ICX694AL	1" progressive scan CCD, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono





	SXG10	1024 × 1024 px	ON Semiconductor KAI-01050	1.2" progressive scan CCD, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono
	SXG20	1600 × 1200 px	ON Semiconductor KAI-02050	2/3" progressive scan CCD, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono
	SXG21	1920 × 1080 px	ON Semiconductor KAI-02150	2/3" progressive scan CCD, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono
	SXG40	2336 × 1752 px	ON Semiconductor KAI-04050	1" progressive scan CCD, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono
	SXG80	3296 × 2472 px	ON Semiconductor KAI-08050	4/3" progressive scan CCD, global shutter	Dual Gigabit Ethernet, Transfer rate 2000 Mbits/sec, Connector: 2 x 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG02	656 × 494 px	Sony ICX618	1/4" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG02c	656 × 490 px	Sony ICX618	1/4" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono

	TXG03	656 × 494 px	Sony ICX424	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG03- I7	656 × 494 px	Sony ICX424	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: M12 / 8 pins, screwable type	Mono
	TXG03-P	656 × 494 px	Sony ICX424	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG03c	656 × 490 px	Sony ICX424	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	TXG03c- I7	656 × 490 px	Sony ICX424	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: M12 / 8 pins, screwable type	RGB YUV Mono
	TXG03c m3	656 × 490 px	Sony ICX424	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	TXG03m 3	656 × 494 px	Sony ICX424	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono



	TXG04	656 × 494 px	Sony ICX414	1.2" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG04c	656 × 490 px	Sony ICX414	1.2" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	TXG04v2	656 × 494 px	Sony ICX414	1.2" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG06	776 × 582 px	Sony ICX415	1.2" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG06c	776 × 578 px	Sony ICX415	1.2" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	TXG08	1032 × 776 px	Sony ICX204	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG08- 17	1032 × 776 px	Sony ICX204	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: M12 / 8 pins, screwable type	Mono

	TXG08-P	1032 × 776 px	Sony ICX204	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG08c	1032 × 772 px	Sony ICX204	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	TXG08c-I7	1032 × 772 px	Sony ICX204	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: M12 / 8 pins, screwable type	RGB YUV Mono
	TXG08c-P	1032 × 772 px	Sony ICX204	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	TXG12	1296 × 966 px	Sony ICX445	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG12c	1296 × 960 px	Sony ICX445	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	TXG13	1392 × 1040 px	Sony ICX267	1.2" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono

	TXG13-I7	1392 × 1040 px	Sony ICX267	1.2" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: M12 / 8 pins, screwable type	Mono
	TXG13-P	1392 × 1040 px	Sony ICX267	1.2" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG13c	1384 × 1036 px	Sony ICX267	1.2" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	TXG13m3	1392 × 1040 px	Sony ICX267	1.2" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG14	1392 × 1040 px	Sony ICX285	2/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG14NI R	1392 × 1040 px	Sony ICX285	2/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono NIR
	TXG14c	1384 × 1036 px	Sony ICX285	2/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono

	TXG14cf	1384 × 1036 px	Sony ICX285	2/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	TXG14f	1392 × 1040 px	Sony ICX285	2/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG20	1624 × 1236 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG20-I7	1624 × 1236 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: M12 / 8 pins, screwable type	Mono
	TXG20-P	1624 × 1236 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG20c	1624 × 1232 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	TXG20c-I7	1624 × 1232 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: M12 / 8 pins, screwable type	RGB YUV Mono

	TXG20c-P	1624 × 1232 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	TXG20c-m3	1624 × 1232 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	TXG20m-3	1624 × 1236 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG50	2448 × 2050 px	Sony ICX625	2/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG50-I7	2448 × 2050 px	Sony ICX625	2/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: M12 / 8 pins, screwable type	Mono
	TXG50-P	2448 × 2050 px	Sony ICX625	2/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	TXG50c	2448 × 2050 px	Sony ICX625	2/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB

	TXG50c-I7	2448 × 2050 px	Sony ICX625	2/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: M12 / 8 pins, screwable type	RGB
	TXG50c-P	2448 × 2050 px	Sony ICX625	2/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB
	TXG50m3	2448 × 2050 px	Sony ICX625	2/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VCXG-02C	640 × 480 px	ON Semiconductor PYTHON300	1/4" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono Raw Bayer RGB
	VCXG-02M	640 × 480 px	ON Semiconductor PYTHON300	1/4" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VCXG-124C	4096 × 3000 px	Sony IMX304	1.1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono Raw Bayer RGB
	VCXG-124M	4096 × 3000 px	Sony IMX304	1.1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono

	VCXG-13C	1280 × 1024 px	ON Semiconductor PYTHON1300	1/2" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono Raw Bayer RGB
	VCXG-13M	1280 × 1024 px	ON Semiconductor PYTHON1300	1/2" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VCXG-23C	1920 × 1200 px	Sony IMX174	1/1.2" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono Raw Bayer RGB
	VCXG-23M	1920 × 1200 px	Sony IMX174	1/1.2" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VCXG-24C	1920 × 1200 px	Sony IMX249	1/1.2" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono Raw Bayer RGB
	VCXG-24M	1920 × 1200 px	Sony IMX249	1/1.2" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VCXG-25C	1920 × 1200 px	ON Semiconductor PYTHON2000	2/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono Raw Bayer RGB

	VCXG-25M	1920 × 1200 px	ON Semiconductor PYTHON2000	2/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VCXG-32C	2048 × 1536 px	Sony IMX265	1/1.8" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono Raw Bayer RGB
	VCXG-32M	2048 × 1536 px	Sony IMX265	1/1.8" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VCXG-51C	2448 × 2048 px	Sony IMX264	2/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono Raw Bayer RGB
	VCXG-51M	2448 × 2048 px	Sony IMX264	2/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VCXG-53C	2592 × 2048 px	ON Semiconductor PYTHON5000	1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono Raw Bayer RGB
	VCXG-53M	2592 × 2048 px	ON Semiconductor PYTHON5000	1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono

	VCXU-02C	640 × 480 px	ON Semiconductor PYTHON300	1/4" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono Raw Bayer RGB
	VCXU-02M	640 × 480 px	ON Semiconductor PYTHON300	1/4" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono
	VCXU-123C	4096 × 3000 px	Sony IMX253	1.1" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono Raw Bayer RGB
	VCXU-123M	4096 × 3000 px	Sony IMX253	1.1" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono
	VCXU-13C	1280 × 1024 px	ON Semiconductor PYTHON1300	1/2" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono Raw Bayer RGB
	VCXU-13M	1280 × 1024 px	ON Semiconductor PYTHON1300	1/2" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono
	VCXU-23C	1920 × 1200 px	Sony IMX174	1/1.2" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono Raw Bayer RGB

	VCXU-23M	1920 × 1200 px	Sony IMX174	1/1.2" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono
	VCXU-24C	1920 × 1200 px	Sony IMX249	1/1.2" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono Raw Bayer RGB
	VCXU-24M	1920 × 1200 px	Sony IMX249	1/1.2" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono
	VCXU-25C	1920 × 1200 px	ON Semiconductor PYTHON2000	2/3" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono Raw Bayer RGB
	VCXU-25M	1920 × 1200 px	ON Semiconductor PYTHON2000	2/3" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono
	VCXU-31C	2448 × 2048 px	Sony IMX252	1/1.8" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono Raw Bayer RGB
	VCXU-31M	2448 × 2048 px	Sony IMX252	1/1.8" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono

	VCXU-32C	2048 × 1536 px	Sony IMX265	1/1.8" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/Sec, Connector: USB 3.0 Micro B	Mono Raw Bayer RGB
	VCXU-32M	2048 × 1536 px	Sony IMX265	1/1.8" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/Sec, Connector: USB 3.0 Micro B	Mono
	VCXU-50C	2448 × 2048 px	Sony IMX250	2/3" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/Sec, Connector: USB 3.0 Micro B	Mono Raw Bayer RGB
	VCXU-50M	2448 × 2048 px	Sony IMX250	2/3" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/Sec, Connector: USB 3.0 Micro B	Mono
	VCXU-51C	2448 × 2048 px	Sony IMX264	2/3" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/Sec, Connector: USB 3.0 Micro B	Mono Raw Bayer RGB
	VCXU-51M	2448 × 2048 px	Sony IMX264	2/3" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/Sec, Connector: USB 3.0 Micro B	Mono
	VCXU-53C	2592 × 2048 px	ON Semiconductor PYTHON5000	1" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/Sec, Connector: USB 3.0 Micro B	Mono Raw Bayer RGB

	VCXU-53M	2592 × 2048 px	ON Semiconductor PYTHON5000	1" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mbits/sec, Connector: USB 3.0 Micro B	Mono
	VEXG-02C	640 × 480 px	ON Semiconductor PYTHON300	1/4" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Raw Bayer
	VEXG-02M	640 × 480 px	ON Semiconductor PYTHON300	1/4" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VEXG-13C	1280 × 1024 px	ON Semiconductor PYTHON1300	1/2" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Raw Bayer
	VEXG-13M	1280 × 1024 px	ON Semiconductor PYTHON1300	1/2" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VEXG-25C	1920 × 1200 px	ON Semiconductor PYTHON2000	2/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Raw Bayer
	VEXG-25M	1920 × 1200 px	ON Semiconductor PYTHON2000	2/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono


	VEXU-24C	1920 × 1200 px	Sony IMX249	1/1.2" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Raw Bayer
	VEXU-24M	1920 × 1200 px	Sony IMX249	1/1.2" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono
	VLG-02C	656 × 490 px	Sony ICX618	1/4" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mb/s, Fast Ethernet, Transfer Rate 100 Mb/s, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	VLG-02C.I	656 × 490 px	Sony ICX618	1/4" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mb/s, Fast Ethernet, Transfer Rate 100 Mb/s, Connector: SACC-CI-M12FS-8CON-L180-10G	RGB YUV Mono
	VLG-02M	656 × 490 px	Sony ICX618	1/4" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mb/s, Fast Ethernet, Transfer Rate 100 Mb/s, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VLG-02M.I	656 × 490 px	Sony ICX618	1/4" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mb/s, Fast Ethernet, Transfer Rate 100 Mb/s, Connector: SACC-CI-M12FS-8CON-L180-10G	Mono
	VLG-03C	640 × 480 px	ams (CMOSIS) CMV300	1/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mb/s, Fast Ethernet, Transfer Rate 100 Mb/s, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono

	VLG-03M	640 × 480 px	ams (CMOSIS) CMV300	1/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VLG-12C	1288 × 960 px	Sony ICX445	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	VLG-12C.I	1288 × 960 px	Sony ICX445	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: SACC-CI-M12FS-8CON-L180-10G	RGB YUV Mono
	VLG-12M	1288 × 960 px	Sony ICX445	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VLG-12M.I	1288 × 960 px	Sony ICX445	1/3" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: SACC-CI-M12FS-8CON-L180-10G	Mono
	VLG-20C	1624 × 1228 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	VLG-20C.I	1624 × 1228 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: SACC-CI-M12FS-8CON-L180-10G	RGB YUV Mono



	VLG-20M	1624 × 1228 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VLG-20M.I	1624 × 1228 px	Sony ICX274	1/1.8" progressive scan CCD, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: SACC-CI-M12FS-8CON-L180-10G	Mono
	VLG-22C	2040 × 1084 px	ams (CMOSIS) CMV2000	2/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	VLG-22C.I	2040 × 1084 px	ams (CMOSIS) CMV2000	2/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: SACC-CI-M12FS-8CON-L180-10G	RGB YUV Mono
	VLG-22M	2040 × 1084 px	ams (CMOSIS) CMV2000	2/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VLG-22M.I	2040 × 1084 px	ams (CMOSIS) CMV2000	2/3" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: SACC-CI-M12FS-8CON-L180-10G	Mono
	VLG-23C	1920 × 1200 px	Sony IMX174	1/1.2" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono

	VLG-23C.I	1920 × 1200 px	Sony IMX174	1/1.2" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: SACC-CI-M12FS-8CON-L180-10G	RGB YUV Mono
	VLG-23M	1920 × 1200 px	Sony IMX174	1/1.2" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VLG-23M.I	1920 × 1200 px	Sony IMX174	1/1.2" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: SACC-CI-M12FS-8CON-L180-10G	Mono
	VLG-24C	1920 × 1200 px	Sony IMX249	1/1.2" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	VLG-24M	1920 × 1200 px	Sony IMX249	1/1.2" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VLG-40C	2040 × 2044 px	ams (CMOSIS) CMV4000	1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono
	VLG-40C.2	2040 × 2044 px	ams (CMOSIS) CMV4000 V3	1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	RGB YUV Mono


	VLG-40C.2.I	2040 × 2044 px	ams (CMOSIS) CMV4000 V3	1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: SACC-CI-M12FS-8CON-L180-10G	RGB YUV Mono
	VLG-40C.I	2040 × 2044 px	ams (CMOSIS) CMV4000	1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: SACC-CI-M12FS-8CON-L180-10G	RGB YUV Mono
	VLG-40M	2040 × 2044 px	ams (CMOSIS) CMV4000	1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VLG-40M.2	2040 × 2044 px	ams (CMOSIS) CMV4000 V3	1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type	Mono
	VLG-40M.2.I	2040 × 2044 px	ams (CMOSIS) CMV4000 V3	1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: SACC-CI-M12FS-8CON-L180-10G	Mono
	VLG-40M.I	2040 × 2044 px	ams (CMOSIS) CMV4000	1" progressive scan CMOS, global shutter	Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: SACC-CI-M12FS-8CON-L180-10G	Mono
	VLU-02C	656 × 490 px	Sony ICX618	1/4" progressive scan CCD, global shutter	USB 3.0, Transfer Rate 5000 Mbits/sec, Connector: USB 3.0 Micro B	RGB YUV Mono



	VLU-02M	656 × 490 px	Sony ICX618	1/4" progressive scan CCD, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono
	VLU-03C	640 × 480 px	ams (CMOSIS) CMV300	1/3" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	RGB YUV Mono
	VLU-03M	640 × 480 px	ams (CMOSIS) CMV300	1/3" progressive scan CMOS, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono
	VLU-12C	1288 × 960 px	Sony ICX445	1/3" progressive scan CCD, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	RGB YUV Mono
	VLU-12M	1288 × 960 px	Sony ICX445	1/3" progressive scan CCD, global shutter	USB 3.0, Transfer Rate 5000 Mb/s, Connector: USB 3.0 Micro B	Mono







Vision sensors



	VS ID100M03W10RP	752 × 480 px	barcode matrix code	-	-	integrated, LED white	-	10 mm
	VS ID105M03I10RP	752 × 480 px	barcode matrix code	-	-	integrated, LED infrared (860 nm)	-	10 mm




	VS ID100M03W16 RP	752 × 480 px	barcode matrix code	-	-	integrated, LED white	-	16 mm
	VS ID110M03W10 EP	752 × 480 px	barcode matrix code text	part location on text line	-	integrated, LED white	contour comparison	10 mm
	VS ID510M03W12 IP	752 × 480 px	barcode matrix code text	part location on text line	-	integrated, LED white	contour comparison	12 mm
	VS ID110M03I10E P	752 × 480 px	barcode matrix code text	part location on text line	-	integrated, LED infrared (860 nm)	contour comparison	10 mm
	VS ID110M03I10R P	752 × 480 px	barcode matrix code text	part location on text line	-	integrated, LED infrared (860 nm)	contour comparison	10 mm
	VS ID510M03I12I P	752 × 480 px	barcode matrix code text	part location on text line	-	integrated, LED infrared (860 nm)	contour comparison	12 mm
	VS XF105M03I10 EP	752 × 480 px	-	part location on contour s part location on edges part location on circle part	dist anc e circl e angl e cou nt edg es poin t posi	integrated, LED infrared (860 nm)	contour comparison count contour points brightness contrast area size count areas pattern comparison	10 mm

				location on text line	tion edge characteristics			
	VS XF105M03I16 EP	752 × 480 px	-	part location on contours part location on edges part location on circle part location on text line	distance circle angle count edges point position edge characteristics	integrated, LED infrared (860 nm)	contour comparison count contour points brightness contrast area size count areas pattern comparison	16 mm
	VS XF105M03W1 0EP	752 × 480 px	-	part location on contours part location on edges part location on circle part location on text line	distance circle angle count edges point position edge characteristics	integrated, LED white	contour comparison count contour points brightness contrast area size count areas pattern comparison	10 mm
	VS XF205M03I10 EP	752 × 480 px	barcode matrix code text	part location on contours part location on	distance circle angle cou	integrated, LED infrared (860 nm)	contour comparison count contour points brightness contrast area size	10 mm

				edges part location on circle part location on text line	nt edg es poi nt posi tion edg e char acte risti cs		count areas pattern comparison	
	VS XF205M03W1 0EP	752 × 480 px	barcode matrix code text	part location on contour s part location on edges part location on circle part location on text line	dist anc e circl e angl e cou nt edg es poi nt posi tion edg e char acte risti cs	integrated, LED white	contour comparison count contour points brightness contrast area size count areas pattern comparison	10 mm
	VS XF205M03W1 6EP	752 × 480 px	barcode matrix code text	part location on contour s part location on edges part location on circle part location on text line	dist anc e circl e angl e cou nt edg es poi nt posi tion edg e char acte risti cs	integrated, LED white	contour comparison count contour points brightness contrast area size count areas pattern comparison	16 mm




	VS CS100M03W1 0EP	752 × 480 px	-	part location on contour s	dist anc e circl e	integrated, LED white	count contour points contour comparison brightness	10 mm
	VS CS100M03W1 6EP	752 × 480 px	-	part location on contour s	dist anc e circl e	integrated, LED white	count contour points contour comparison brightness	16 mm
	VS CS100M03I10 EP	752 × 480 px	-	part location on contour s	dist anc e circl e	integrated, LED infrared (860 nm)	count contour points contour comparison brightness	10 mm
	VS CS100M03I16 EP	752 × 480 px	-	part location on contour s	dist anc e circl e	integrated, LED infrared (860 nm)	count contour points contour comparison brightness	16 mm
	VS XF100M03W1 0EP	752 × 480 px	-	part location on contour s part location on edges part location on circle part location on text line	dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs	integrated, LED white	count contour points contour comparison brightness contrast area size count areas pattern comparison	10 mm
	VS XF100M03W1 0RP	752 × 480 px	-	part location on contour s part location	dist anc e circl e angl e	integrated, LED white	count contour points contour comparison brightness contrast	10 mm

				on edges part location on circle part location on text line	count edges point position edge characteristics		area size count areas pattern comparison	
	VS XF700M03W1 2IP	752 × 480 px	-	part location on contours part location on edges part location on circle part location on text line	distance circle angle count edges point position edge characteristics	integrated, LED white	count contour points contour comparison brightness contrast area size count areas pattern comparison	12 mm
	VS XF100M03W1 6EP	752 × 480 px	-	part location on contours part location on edges part location on circle part location on text line	distance circle angle count edges point position edge characteristics	integrated, LED white	count contour points contour comparison brightness contrast area size count areas pattern comparison	16 mm



	<p>VS XF100M03W1 6RP</p>	<p>752 × 480 px</p>	<p>-</p>	<p>part location on contours part location on edges part location on circle part location on text line</p>	<p>distance circle angle count edges point position edge characteristics</p>	<p>integrated, LED white</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>16 mm</p>
	<p>VS XF700M03W1 6IP</p>	<p>752 × 480 px</p>	<p>-</p>	<p>part location on contours part location on edges part location on circle part location on text line</p>	<p>distance circle angle count edges point position edge characteristics</p>	<p>integrated, LED white</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>16 mm</p>
	<p>VS XF100M03I10 EP</p>	<p>752 × 480 px</p>	<p>-</p>	<p>part location on contours part location on edges part location on circle part location on text</p>	<p>distance circle angle count edges point position edge</p>	<p>integrated, LED infrared (860 nm)</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>10 mm</p>




				line	char acte risti cs			
	VS XF100M03I10 RP	752 × 480 px	-	part location on contour s part location on edges part location on circle part location on text line	dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs	integrated, LED infrared (860 nm)	count contour points contour comparison brightness contrast area size count areas pattern comparison	10 mm
	VS XF100M03I16 RP	752 × 480 px	-	part location on contour s part location on edges part location on circle part location on text line	dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs	integrated, LED infrared (860 nm)	count contour points contour comparison brightness contrast area size count areas pattern comparison	16 mm
	VS XF700M03I12I P	752 × 480 px	-	part location on contour s part location on edges part location	dist anc e circl e angl e cou nt edg es	integrated, LED infrared (860 nm)	count contour points contour comparison brightness contrast area size count areas pattern	12 mm




				on circle part location on text line	point position edge characteristics		comparison	
	VS XF200M03W1 0EP	752 × 480 px	barcode matrix code text	part location on contours part location on edges part location on circle part location on text line	distance circle angle count edges point position edge characteristics	integrated, LED white	count contour points contour comparison brightness contrast area size count areas pattern comparison	10 mm
	VS XF200M03W1 0RP	752 × 480 px	barcode matrix code text	part location on contours part location on edges part location on circle part location on text line	distance circle angle count edges point position edge characteristics	integrated, LED white	count contour points contour comparison brightness contrast area size count areas pattern comparison	10 mm



	<p>VS XF800M03W1 2IP</p>	<p>752 × 480 px</p>	<p>barcode matrix code text</p>	<p>part location on contour s part location on edges part location on circle part location on text line</p>	<p>dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs</p>	<p>integrated, LED white</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>12 mm</p>
	<p>VS XF200M03W1 6EP</p>	<p>752 × 480 px</p>	<p>barcode matrix code text</p>	<p>part location on contour s part location on edges part location on circle part location on text line</p>	<p>dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs</p>	<p>integrated, LED white</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>16 mm</p>
	<p>VS XF800M03W1 6IP</p>	<p>752 × 480 px</p>	<p>barcode matrix code text</p>	<p>part location on contour s part location on edges part location on circle part location on text</p>	<p>dist anc e circl e angl e cou nt edg es poin t posi tion edg e</p>	<p>integrated, LED white</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>16 mm</p>




	<p>VS XF200M03I10 EP</p>	<p>752 × 480 px</p>	<p>barcode matrix code text</p>	<p>line</p> <p>part location on contour s part location on edges part location on circle part location on text line</p>	<p>char acte risti cs</p> <p>dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs</p>	<p>integrated, LED infrared (860 nm)</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>10 mm</p>
	<p>VS XF800M03I12I P</p>	<p>752 × 480 px</p>	<p>barcode matrix code text</p>	<p>part location on contour s part location on edges part location on circle part location on text line</p>	<p>dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs</p>	<p>integrated, LED infrared (860 nm)</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>12 mm</p>
	<p>VS XF800M03I16I P</p>	<p>752 × 480 px</p>	<p>barcode matrix code text</p>	<p>part location on contour s part location on edges part location</p>	<p>dist anc e circl e angl e cou nt edg es</p>	<p>integrated, LED infrared (860 nm)</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern</p>	<p>16 mm</p>




				on circle part location on text line	point position edge characteristics		comparison	
	VS XC100C03X00 EP	640 × 480 px	-	part location on contours part location on edges part location on circle part location on text line	distance circle angle count edges point position edge characteristics	direct connection (integrated flash controller)	count contour points contour comparison area size count areas pattern comparison color identification color positioning	C-mount
	VS XC100C03X00 RP	640 × 480 px	-	part location on contours part location on edges part location on circle part location on text line	distance circle angle count edges point position edge characteristics	direct connection (integrated flash controller)	count contour points contour comparison area size count areas pattern comparison color identification color positioning	C-mount



	<p>VS XC100M03X00 EP</p>	<p>640 × 480 px</p>	<p>-</p>	<p>part location on contours part location on edges part location on circle part location on text line</p>	<p>distance circle angle count edges point position edge characteristics</p>	<p>direct connection (integrated flash controller)</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>C-mount</p>
	<p>VS XC100M03X00 RP</p>	<p>640 × 480 px</p>	<p>-</p>	<p>part location on contours part location on edges part location on circle part location on text line</p>	<p>distance circle angle count edges point position edge characteristics</p>	<p>direct connection (integrated flash controller)</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>C-mount</p>
	<p>VS XC700C03X00 IP</p>	<p>640 × 480 px</p>	<p>-</p>	<p>part location on contours part location on edges part location on circle part location on text</p>	<p>distance circle angle count edges point position edge</p>	<p>external, available as accessory</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison color identification color positioning</p>	<p>C-mount</p>

	<p>VS XC700M03X00 IP</p>	<p>640 × 480 px</p>	<p>-</p>	<p>line</p>	<p>char acte risti cs</p>	<p>external, available as accessory</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>C- mount</p>
	<p>VS XC100C12X00 EP</p>	<p>1280 × 960 px</p>	<p>-</p>	<p>part location on contour s part location on edges part location on circle part location on text line</p>	<p>dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs</p>	<p>direct connection (integrated flash controller)</p>	<p>count contour points contour comparison area size count areas pattern comparison color identification color positioning</p>	<p>C- mount</p>
	<p>VS XC100C12X00 RP</p>	<p>1280 × 960 px</p>	<p>-</p>	<p>part location on contour s part location on edges part location</p>	<p>dist anc e circl e angl e cou nt edg es</p>	<p>direct connection (integrated flash controller)</p>	<p>count contour points contour comparison area size count areas pattern comparison color identification</p>	<p>C- mount</p>




				on circle part location on text line	point posi tion edge char acte risti cs		color positioning	
	VS XC100M12X00 EP	1280 × 960 px	-	part location on contour s part location on edges part location on circle part location on text line	dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs	direct connection (integrated flash controller)	count contour points contour comparison brightness contrast area size count areas pattern comparison	C- mount
	VS XC100M12X00 RP	1280 × 960 px	-	part location on contour s part location on edges part location on circle part location on text line	dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs	direct connection (integrated flash controller)	count contour points contour comparison brightness contrast area size count areas pattern comparison	C- mount



	<p>VS XC700C12X00 IP</p>	<p>1280 × 960 px</p>	<p>-</p>	<p>part location on contours part location on edges part location on circle part location on text line</p>	<p>distance circle angle count edges point position edge characteristics</p>	<p>external, available as accessory</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison color identification color positioning</p>	<p>C-mount</p>
	<p>VS XC700M12X00 IP</p>	<p>1280 × 960 px</p>	<p>-</p>	<p>part location on contours part location on edges part location on circle part location on text line</p>	<p>distance circle angle count edges point position edge characteristics</p>	<p>external, available as accessory</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>C-mount</p>
	<p>VS XC100M20X00 EP</p>	<p>1600 × 1200 px</p>	<p>-</p>	<p>part location on contours part location on edges part location on circle part location on text</p>	<p>distance circle angle count edges point position edge</p>	<p>direct connection (integrated flash controller)</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>C-mount</p>

				line	char acte risti cs			
	VS XC100M20X00 RP	1600 × 1200 px	-	part location on contour s part location on edges part location on circle part location on text line	dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs	direct connection (integrated flash controller)	count contour points contour comparison brightness contrast area size count areas pattern comparison	C- mount
	VS XC700M20X00 IP	1600 × 1200 px	-	part location on contour s part location on edges part location on circle part location on text line	dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs	external, available as accessory	count contour points contour comparison brightness contrast area size count areas pattern comparison	C- mount
	VS XC200C03X00 RP	640 × 480 px	barcode matrix code text	part location on contour s part location on edges part location	dist anc e circl e angl e cou nt edg es	direct connection (integrated flash controller)	count contour points contour comparison area size count areas pattern comparison color identification	C- mount


				on circle part location on text line	point position edge characteristics		color positioning	
	VS XC200C12X00 RP	1280 × 960 px	barcode matrix code text	part location on contours part location on edges part location on circle part location on text line	distance circle angle count edges point position edge characteristics	direct connection (integrated flash controller)	count contour points contour comparison area size count areas pattern comparison color identification color positioning	C- mount
	VS XC200M03X00 EP	640 × 480 px	barcode matrix code text	part location on contours part location on edges part location on circle part location on text line	distance circle angle count edges point position edge characteristics	direct connection (integrated flash controller)	count contour points contour comparison brightness contrast area size count areas pattern comparison	C- mount

	<p>VS XC200M03X00 RP</p>	<p>640 × 480 px</p>	<p>barcode matrix code text</p>	<p>part location on contour s part location on edges part location on circle part location on text line</p>	<p>dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs</p>	<p>direct connection (integrated flash controller)</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>C- mount</p>
	<p>VS XC800C03X00 IP</p>	<p>640 × 480 px</p>	<p>barcode matrix code text</p>	<p>part location on contour s part location on edges part location on circle part location on text line</p>	<p>dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs</p>	<p>external, available as accessory</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison color identification color positioning</p>	<p>C- mount</p>
	<p>VS XC800M03X00 IP</p>	<p>640 × 480 px</p>	<p>barcode matrix code text</p>	<p>part location on contour s part location on edges part location on circle part location on text</p>	<p>dist anc e circl e angl e cou nt edg es poin t posi tion edg e</p>	<p>external, available as accessory</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>C- mount</p>

	<p>VS XC200M12X00 EP</p>	<p>1280 × 960 px</p>	<p>barcode matrix code text</p>	<p>line</p> <p>part location on contour s part location on edges part location on circle part location on text line</p>	<p>char acte risti cs</p> <p>dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs</p>	<p>direct connection (integrated flash controller)</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>C- mount</p>
	<p>VS XC200M12X00 RP</p>	<p>1280 × 960 px</p>	<p>barcode matrix code text</p>	<p>part location on contour s part location on edges part location on circle part location on text line</p>	<p>dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs</p>	<p>direct connection (integrated flash controller)</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>C- mount</p>
	<p>VS XC800C12X00 IP</p>	<p>1280 × 960 px</p>	<p>barcode matrix code text</p>	<p>part location on contour s part location on edges part location</p>	<p>dist anc e circl e angl e cou nt edg es</p>	<p>external, available as accessory</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>C- mount</p>

				on circle part location on text line	point position edge characteristics		color identification color positioning	
	VS XC800M12X00 IP	1280 × 960 px	barcode matrix code text	part location on contours part location on edges part location on circle part location on text line	distance circle angle count edges point position edge characteristics	external, available as accessory	count contour points contour comparison brightness contrast area size count areas pattern comparison	C- mount
	VS XC200M20X00 EP	1600 × 1200 px	barcode matrix code text	part location on contours part location on edges part location on circle part location on text line	distance circle angle count edges point position edge characteristics	direct connection (integrated flash controller)	count contour points contour comparison brightness contrast area size count areas pattern comparison	C- mount

	<p>VS XC200M20X00 RP</p>	<p>1600 × 1200 px</p>	<p>barcode matrix code text</p>	<p>part location on contour s part location on edges part location on circle part location on text line</p>	<p>dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs</p>	<p>direct connection (integrated flash controller)</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>C- mount</p>
	<p>VS XC800M20X00 IP</p>	<p>1600 × 1200 px</p>	<p>barcode matrix code text</p>	<p>part location on contour s part location on edges part location on circle part location on text line</p>	<p>dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs</p>	<p>external, available as accessory</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>C- mount</p>
	<p>VS XF100M03I16 EP</p>	<p>752 × 480 px</p>	<p>-</p>	<p>part location on contour s part location on edges part location on circle part location on text</p>	<p>dist anc e circl e angl e cou nt edg es poin t posi tion edg e</p>	<p>integrated, LED infrared (860 nm)</p>	<p>count contour points contour comparison brightness contrast area size count areas pattern comparison</p>	<p>16 mm</p>

				line	char acte risti cs			
	VS XF700M031161 P	752 × 480 px	-	part location on contour s part location on edges part location on circle part location on text line	dist anc e circl e angl e cou nt edg es poin t posi tion edg e char acte risti cs	integrated, LED infrared (860 nm)	count contour points contour comparison brightness contrast area size count areas pattern comparison	

Where GenICam is not supported you may use Baumer Camera Link® SDK for configuration and evaluation of LX cameras. It includes a configuration tool for easy camera function testing, configuration and extended functions such as events. This allows for quick evaluation of even complex functions. GenICam™ reference implementation serves camera integration by providing individual, LX functionality-specific examples such as how to apply the checksum.

The matching software for our industrial cameras

„Our product compatibility is your flexibility“

You may use the Baumer GAPI or Camera Link® SDK as well as third party software for evaluation or implementation of the Baumer industrial cameras. With full compliance to GenICam™ and the relevant interface standards and thanks to consistent compatibility tests and close cooperation with providers, Baumer industrial cameras are easy to integrate and offer a high level of flexibility.

"Simple to succeed"

The Baumer Application Suite is the intuitive configuration software for *VeriSens*® vision sensors, which makes it quick and simple for even new users to implement image processing tasks. Starting with the creation of test tasks through to the management of jobs, the program will take you through just a few steps to reach your goal.

Cost free – carry out test tasks offline

The Application Suite offers an Offline mode, which you can use to simulate *VeriSens*® vision sensors in full. If no equipment is available, a simple digital camera will suffice to create application images and then evaluate them with the help of the software. You can get to know *VeriSens*® without spending one red cent.

VeriSens® web interface – configurable user interface for operation

A configurable human-machine interface is already integrated for customers who want to configure *VeriSens*® also during the production process. It is the first user interface of a vision sensor that can be adapted regarding functional range, user groups and design with just a few clicks, saving users standard programming work. The *VeriSens*® web interface runs in standard web browsers and does not require any plug-ins.

"Build a complete system with the right accessories"




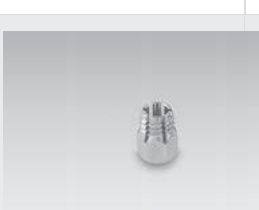
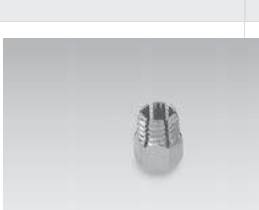

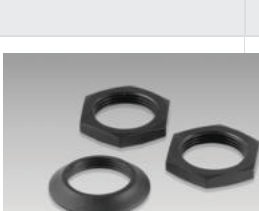

Accessories for industrial cameras and vision sensors









There is more to a high-quality image processing system than just a high-performing industrial camera or intuitive vision sensor. The overall system is always only as good as its individual components. That's why we offer you all you need from one source: Our accessories are specially tested and harmonized to ensure the optimum match. In this way, we support you in the easy and quick integration of our cameras and vision sensors and significantly contribute towards long-term stability and reliability of your image processing application.

Productfinder Accessories








sample picture	product family	description	features
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	<p>MMRN Permanent magnet</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Magnet: Neodymium-Iron-Boron (NdFeB) • Energy product: 280 kJ/m³ • Operating temperature: -40 ... +100 °C • Quantity: 10 pieces
	<p>Adapter for glass fiber optic sensors 30</p> <p>Lenses / apertures / glass covers</p>	<p>Adapter for fiber optic cables type A</p>	<ul style="list-style-type: none"> • Material: POM
	<p>Adapter set MZZA 01 for standard slots</p> <p>Mounting accessories</p>	<p>Adapter set for standard slots</p>	<ul style="list-style-type: none"> • Type 1: C slot sensors in T slots • Type 1: C slot sensors in davetail slots • Type 3: T slot sensors in davetail slots • Type 4: C and T slot sensors with additional fastening clamp or mounting bracket
	<p>Adapter set MZZA 02 for special slots</p> <p>Mounting accessories</p>	<p>Adapter set for special slots</p>	<ul style="list-style-type: none"> • Type 1 - 4: T slot sensors in special slots • Type 5: T slot sensors with additional fastening clamp for round cylinders
	<p>Adjusting plate for glass fiber optic sensors 18 (replace)</p> <p>Lenses / apertures / glass covers</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: PETP • For re-orders when lost • Enclosed with every glass fiber optic of type A
	<p>Bracket for profiles sensor series 04</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Aluminum
	<p>Cap nut for glass fiber optic sensors 15 (replace)</p> <p>Lenses / apertures / glass covers</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Nickel-plated brass • For re-orders when lost • Enclosed with every glass fiber optic of type B
	<p>Cap nut for glass fiber optic sensors 18 (replace)</p> <p>Lenses / apertures / glass covers</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: POM • For re-orders when lost • Enclosed with every glass fiber optic of type A









	<p>Cap nut for photoelectric sensors series 18</p> <p>Lenses / apertures / glass covers</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Nickel-plated brass
	<p>Cap nut for photoelectric sensors series 18</p> <p>Lenses / apertures / glass covers</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Nickel-plated brass
	<p>Cap nut for photoelectric sensors series 30</p> <p>Lenses / apertures / glass covers</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Nickel-plated brass
	<p>Clamping nut for sensors Ø 3 mm</p> <p>Mounting accessories</p>	<p>-</p>	<p>-</p>
	<p>Clamping nut for sensors Ø 4 mm</p> <p>Mounting accessories</p>	<p>-</p>	<p>-</p>
	<p>Clamping nut for sensors Ø 6,5 mm</p> <p>Mounting accessories</p>	<p>-</p>	<p>-</p>
	<p>Clamping nut ZPART-M18.NUT for sensors Ø 18 mm (replace)</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Plastic (ABS TERLURAN) • For re-orders when lost
	<p>Cutting tool</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Delivered with every plastic fiber optic








	<p>Doubling lens for sensors serie 18</p> <p>Lenses / apertures / glass covers</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: PBTP / glass • For double the sensing distance FZAM 18
	<p>Doubling lens for sensors serie 30</p> <p>Lenses / apertures / glass covers</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: PC / glass • For double the sensing distance FZAM 30
	<p>Doubling lens M2,6 (side view version)</p> <p>Lenses / apertures / glass covers</p>	<p>Doubling lens for fiber optic cables</p>	<ul style="list-style-type: none"> • Side view version • Increases the actual range Sb by a factor of 6 • Contents: 2 pieces
	<p>Doubling lens M2,6</p> <p>Lenses / apertures / glass covers</p>	<p>Doubling lens for fiber optic cables</p>	<ul style="list-style-type: none"> • Increases the actual range Sb by a factor of 6 • Contents: 2 pieces
	<p>Doubling lens M3</p> <p>Lenses / apertures / glass covers</p>	<p>Doubling lens for fiber optic cables</p>	<ul style="list-style-type: none"> • Material: brass / glass • Increases the actual range Sb by a factor of 6 • Contents: 2 pieces
	<p>Doubling lens M4</p> <p>Lenses / apertures / glass covers</p>	<p>Doubling lens for fiber optic cables</p>	<ul style="list-style-type: none"> • Material: brass / glass • Increases the actual range Sb by a factor of 6 • Contents: 2 pieces
	<p>ES 14</p> <p>Connectors and mating connectors</p>	<p>Cable socket M12 angular, not pre-assembled</p>	<ul style="list-style-type: none"> • Connector female unshielded • Connector only, no cable supplied • 4 and 5 pin versions
	<p>ES 18</p> <p>Connectors and mating connectors</p>	<p>Cable socket M12 straight, not pre-assembled</p>	<ul style="list-style-type: none"> • Connector female unshielded • Connector only, no cable supplied • 4 and 5 pin versions









	<p>ES 21 Connectors and mating connectors</p>	<p>Cable socket M8 straight, not pre-assembled</p>	<ul style="list-style-type: none"> • Connector female unshielded • Connector only, no cable supplied • 3 and 4 pin version
	<p>ES 22 Connectors and mating connectors</p>	<p>Cable socket M8 angular, not pre-assembled</p>	<ul style="list-style-type: none"> • Connector female unshielded • Connector only, no cable supplied • 3 and 4 pin versions
	<p>ESG 05 Connectors and mating connectors</p>	<p>Connector M5 straight</p>	<ul style="list-style-type: none"> • Connector unshielded • Miniature version • Cable coating PUR
	<p>ESG 05G Connectors and mating connectors</p>	<p>Connector M5 straight, shielded</p>	<ul style="list-style-type: none"> • Connector shielded • Miniature version • Cable coating PUR
	<p>ESG 09 Connectors and mating connectors</p>	<p>Connector Ø 8 mm straight, snap-in</p>	<ul style="list-style-type: none"> • Connector unshielded "snap-in" • 3 pin versions • Cable coating PUR • Halogen-free • Suitable for flexible cable carriers • UL listed, number E315836
	<p>ESG 16/KSG 16 Connection cables</p>	<p>M16 straight connector to M16 straight mating connector</p>	<ul style="list-style-type: none"> • adapter connecting cables, from Denex 7-pins to Scatec 6-pins • Insulation material: halogen-free PUR • In lengths from 0,3 m
	<p>ESG 32/KSG 32AH Connection cables</p>	<p>M8 straight connector to M8 straight mating connector</p>	<ul style="list-style-type: none"> • Unshielded connecting cables, 4- pins • Insulation material: halogen-free PUR • Suitable for flexible cable carriers • In lengths from 0,2 m to 10 m
	<p>ESG 32/KSG 32SH Connection cables</p>	<p>M8 straight connector to M8 straight mating connector</p>	<ul style="list-style-type: none"> • Unshielded connecting cables, 3- pins • Insulation material: halogen-free PUR • Suitable for flexible cable carriers • In lengths from 0,25 m to 5 m







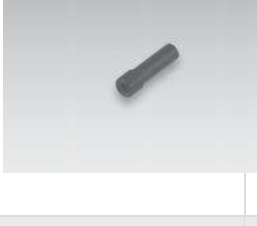

	<p>ESG 32/KSG 34</p> <p>Connection cables</p>	<p>M8 straight connector to M12 straight mating connector</p>	<ul style="list-style-type: none"> • Unshielded connecting cables, 3- and 4- pins • Insulation material: halogen-free PUR • Suitable for flexible cable carriers • In lengths from 0,3 m to 2 m
	<p>ESG 32</p> <p>Connectors and mating connectors</p>	<p>Connector M8 straight</p>	<ul style="list-style-type: none"> • Connector unshielded • 3 and 4 pin versions • Cable coating PUR • Halogen-free • Suitable for flexible cable carriers • UL listed, number E315836 • Meet EN 60079-25 requirements for intrinsically safe ATEX applications
	<p>ESG 32A/KSG 34AU</p> <p>Connection cables</p>	<p>M8 straight connector to M12 straight mating connector</p>	<ul style="list-style-type: none"> • Adapter, from M8 female connector to M12 male connector • 4-pins version • Unshielded • Material of grip body TPU
	<p>ESG 32F</p> <p>Connectors and mating connectors</p>	<p>Connector M8 straight, PVC/V4A</p>	<ul style="list-style-type: none"> • Connector unshielded • 3 pin version • Cable coating PVC • Cap nut material in stainless steel V4A • Suitable for flexible cable carriers
	<p>ESG 32G</p> <p>Connectors and mating connectors</p>	<p>Connector M8 straight, shielded</p>	<ul style="list-style-type: none"> • Connector shielded, screen connected with cap nut • 3 and 4 pin versions • Cable coating PUR • Halogen-free • Suitable for flexible cable carriers • UL listed, number E315836
	<p>ESG 32Y (Food)</p> <p>Connectors and mating connectors</p>	<p>Connector M8 straight, PP/V4A</p>	<ul style="list-style-type: none"> • For food & beverage industry applications • 4 pin unshielded female versions • Cable coating PP • Cap nut material in stainless steel V4A • Ecolab certified and FDA conform • Follows EHEDG design requirements
	<p>ESG 34 (Outdoor)</p> <p>Connectors and mating connectors</p>	<p>Connector M12 straight, PE-X cable</p>	<ul style="list-style-type: none"> • For outdoor applications • 4 pin versions unshielded • Cable coating PE-X • Halogen-free • Cap nut material in high grade steel (1.4401)







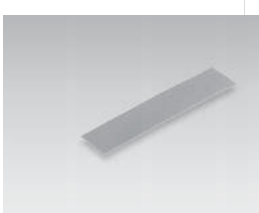

	<p>ESG 34 (Railway)</p> <p>Connectors and mating connectors</p>	<p>Connector M12 straight, shielded, RADOX cable</p>	<ul style="list-style-type: none"> • For railway applications • 4 pin versions shielded • Cable coating RADOX • Cabel according EN 45545-2
	<p>ESG 34/KSG 32</p> <p>Connection cables</p>	<p>M12 straight connector to M8 straight mating connector</p>	<ul style="list-style-type: none"> • Unshielded connecting cables, 3-pins • Insulation material: halogen-free PUR • Suitable for flexible cable carriers • In lengths from 1 m to 5 m
	<p>ESG 34/KSG 34</p> <p>Connection cables</p>	<p>M12 straight connector to M12 straight mating connector</p>	<ul style="list-style-type: none"> • Unshielded connecting cables, 3- and 4- pins • Insulation material: halogen-free PUR • Suitable for flexible cable carriers • In lengths from 0,3 m to 2 m
	<p>ESG 34</p> <p>Connectors and mating connectors</p>	<p>Connector M12 straight</p>	<ul style="list-style-type: none"> • Connector unshielded • 3, 4 and 5 pin versions • Cable coating PUR • Halogen-free • Suitable for flexible cable carriers • UL listed, number E315836
	<p>ESG 34A/KSG 32AU</p> <p>Connection cables</p>	<p>M12 straight connector to M8 straight mating connector</p>	<ul style="list-style-type: none"> • Adapter, from M12 female connector to M8 male connector • 4-pins version • Unshielded • Material of grip body TPU
	<p>ESG 34F</p> <p>Connectors and mating connectors</p>	<p>Connector M12 straight, PVC/V4A</p>	<ul style="list-style-type: none"> • Connector unshielded • 4 pin version • Cable coating PVC • Cap nut material in stainless steel V4A • Ecolab certified and FDA conform • UL listed, number E315836
	<p>ESG 34FG</p> <p>Connectors and mating connectors</p>	<p>Connector M12 straight, shielded TPE/V4A</p>	<ul style="list-style-type: none"> • Connector shielded, screen connected with cap nut • 5 and 8 pin versions • Cable coating TPE • Cap nut material in stainless steel V4A
	<p>ESG 34G (Outdoor)</p> <p>Connectors and mating connectors</p>	<p>Connector M12 straight, shielded, PE-X cable</p>	<ul style="list-style-type: none"> • For outdoor applications • 4 pin versions shielded • Cable coating PE-X • Halogen-free • Cap nut material in high grade steel (1.4401)


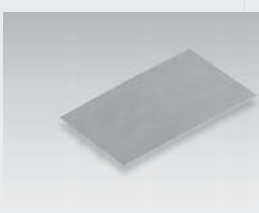



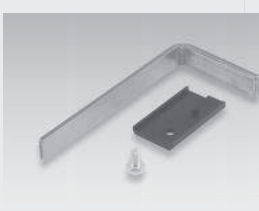
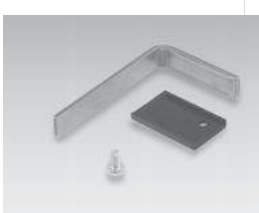

	<p>ESG 34G Connectors and mating connectors</p>	<p>Connector M12 straight, shielded</p>	<ul style="list-style-type: none"> • Connector shielded, screen connected with cap nut • 4, 5 and 8 pin versions • Cable coating PUR • Halogen-free • Suitable for flexible cable carriers • UL listed, number E315836
	<p>ESG 34G Connectors and mating connectors</p>	<p>Connector M12 straight, 12 pin shielded</p>	<ul style="list-style-type: none"> • Connector shielded, screen connected with cap nut • Cable coating PUR • Not halogen-free • Suitable for flexible cable carriers • UL listed, number E315836
	<p>ESG 34X Connectors and mating connectors</p>	<p>Connector M12 straight, only for ATEX applications with sensor IWRM 12I9704/S14X</p>	<ul style="list-style-type: none"> • Connector unshielded • 3 pin versions • Cable coating PUR • Halogen-free • Suitable for flexible cable carriers • UL listed, number E315836
	<p>ESG 34Y (Food) Connectors and mating connectors</p>	<p>Connector M12 straight, PP/V4A</p>	<ul style="list-style-type: none"> • For food & beverage industry applications • 4 pin unshielded female versions • Cable coating PP • Cap nut material in stainless steel V4A • Ecolab certified and FDA conform • Follows EHEDG design requirements
	<p>ESG 62G Connectors and mating connectors</p>	<p>Connector M9 straight, shielded</p>	<ul style="list-style-type: none"> • Connector shielded, screen connected with cap nut • 5 and 8 pin versions • Cable coating PUR • Suitable for flexible cable carriers
	<p>ESW 05 Connectors and mating connectors</p>	<p>Connector M5 angular</p>	<ul style="list-style-type: none"> • Connector unshielded • Miniature version • Cable coating PUR
	<p>ESW 07/KSG 32 Connection cables</p>	<p>Valve connector A angled to M8 straight mating connector</p>	<ul style="list-style-type: none"> • Unshielded connecting cables, 3- pins • Valve connector • Insulation material: halogen-free PUR • In lengths from 0,5 m to 2 m
	<p>ESW 08 Connectors and mating connectors</p>	<p>Connector Ø 8 mm angular, snap-in</p>	<ul style="list-style-type: none"> • Connector unshielded "snap-in" • 3 pin versions • Cable coating PUR • Halogen-free • Suitable for flexible cable carriers • UL listed, number E315836







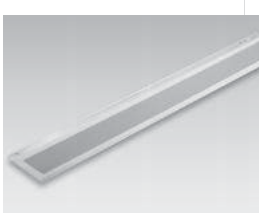
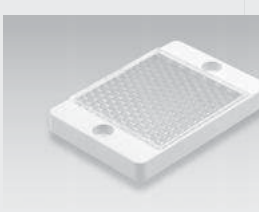
	<p>ESW 16/KSG 16 Connection cables</p>	<p>M16 angled connector to M16 straight mating connector</p>	<ul style="list-style-type: none"> • adapter connecting cables, from Denex 7-pins to Scatec 6-pins • Insulation material: halogen-free PUR • In lengths from 0,3 m
	<p>ESW 31/KSG 34 Connection cables</p>	<p>M8 angled connector to M12 straight mating connector</p>	<ul style="list-style-type: none"> • Unshielded connecting cables, 3- and 4- pins • Insulation material: halogen-free PUR • Suitable for flexible cable carriers • In lengths from 0,6 m to 3,5 m
	<p>ESW 31 Connectors and mating connectors</p>	<p>Connector M8 angular</p>	<ul style="list-style-type: none"> • Connector unshielded • 3 and 4 pin versions • Cable coating PUR • Halogen-free • Suitable for flexible cable carriers • UL listed, number E315836 • Meet EN 60079-25 requirements for intrinsically safe ATEX applications
	<p>ESW 31A/KSG 32 Connection cables</p>	<p>M8 angled connector to M8 straight mating connector</p>	<ul style="list-style-type: none"> • Unshielded connecting cables, 3- and 4- pins • Insulation material: halogen-free PUR • Suitable for flexible cable carriers • In lengths from 0,25 m to 5 m
	<p>ESW 31G Connectors and mating connectors</p>	<p>Connector M8 angular, shielded</p>	<ul style="list-style-type: none"> • Connector shielded, screen connected with cap nut • 3 and 4 pin versions • Cable coating PUR • Halogen-free • Suitable for flexible cable carriers • UL listed, number E315836
	<p>ESW 31S/KSG 32S Connection cables</p>	<p>M8 angled connector to M8 straight mating connector</p>	<ul style="list-style-type: none"> • Unshielded connecting cables, 3-pins • Insulation material: halogen-free PUR • Suitable for flexible cable carriers • In lengths from 0,25 m to 5 m
	<p>ESW 31Y (Food) Connectors and mating connectors</p>	<p>Connector M8 angular, PP/V4A</p>	<ul style="list-style-type: none"> • For food & beverage industry applications • 4 pin unshielded female versions • Cable coating PP • Cap nut material in stainless steel V4A • Ecolab certified and FDA conform • Follows EHEDG design requirements



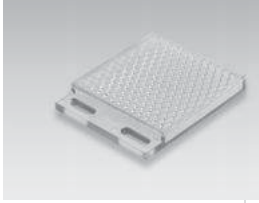
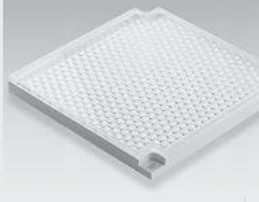




	<p>ESW 33 (Railway)</p> <p>Connectors and mating connectors</p>	<p>Connector M12 angular, shielded, RADOX cable</p>	<ul style="list-style-type: none"> • For railway applications • 4 pin versions shielded • Cable coating RADOX • Cabel according EN 45545-2
	<p>ESW 33/KSG 32</p> <p>Connection cables</p>	<p>M12 angled connector to M8 straight mating connector</p>	<ul style="list-style-type: none"> • Unshielded connecting cables, 3-pins • Insulation material: halogen-free PUR • Suitable for flexible cable carriers • In lengths from 0,5 m to 5 m
	<p>ESW 33/KSG 34</p> <p>Connection cables</p>	<p>M12 angled connector to M12 straight mating connector</p>	<ul style="list-style-type: none"> • Unshielded connecting cables, 3- and 4- pins • Insulation material: halogen-free PUR • Suitable for flexible cable carriers • In lengths from 1 m to 2 m
	<p>ESW 33</p> <p>Connectors and mating connectors</p>	<p>Connector M12 angular</p>	<ul style="list-style-type: none"> • Connector unshielded • 3, 4 and 5 pin versions • Cable coating PUR • Halogen-free • Suitable for flexible cable carriers • UL listed, number E315836
	<p>ESW 33F</p> <p>Connectors and mating connectors</p>	<p>Connector M12 angular, PVC/V4A</p>	<ul style="list-style-type: none"> • Connector unshielded • 4 pin version • Cable coating PVC • Cap nut material in stainless steel V4A • Ecolab certified and FDA conform • UL listed, number E315836
	<p>ESW 33G</p> <p>Connectors and mating connectors</p>	<p>Connector M12 angular, shielded</p>	<ul style="list-style-type: none"> • Connector shielded, screen connected with cap nut • 4, 5 and 8 pin versions • Cable coating PUR • Halogen-free • Suitable for flexible cable carriers • UL listed, number E315836
	<p>ESW 33G</p> <p>Connectors and mating connectors</p>	<p>Connector M12 angular, 12 pin shielded</p>	<ul style="list-style-type: none"> • Connector shielded, screen connected with cap nut • Cable coating PUR • Not halogen-free • Suitable for flexible cable carriers • UL listed, number E315836
	<p>ESW 33X</p> <p>Connectors and mating connectors</p>	<p>Connector M12 angular, only for ATEX applications with sensor IWRM 12I9704/S14X</p>	<ul style="list-style-type: none"> • Connector unshielded • 3 pin versions • Cable coating PUR • Halogen-free • Suitable for flexible cable carriers • UL listed, number E315836

	<p>ESW 33Y (Food)</p> <p>Connectors and mating connectors</p>	<p>Connector M12 angular, PP/V4A</p>	<ul style="list-style-type: none"> • For food & beverage industry applications • 4 pin unshielded female versions • Cable coating PP • Cap nut material in stainless steel V4A • Ecolab certified and FDA conform • Follows EHEDG design requirements
	<p>ESW 61G</p> <p>Connectors and mating connectors</p>	<p>Connector M9 angular, shielded</p>	<ul style="list-style-type: none"> • Connector shielded, screen connected with cap nut • 5 pin version • Cable coating PUR • Suitable for flexible cable carriers
	<p>Fastening clamps MZZB 01 for micro cylinders</p> <p>Mounting accessories</p>	<p>Fastening clamps for micro cylinders</p>	<ul style="list-style-type: none"> • Diameter: \varnothing 8 ... 25 mm • Material: PA AISI 303
	<p>Fastening clamps MZZB 02 for round cylinders</p> <p>Mounting accessories</p>	<p>Fastening clamps for round cylinders</p>	<ul style="list-style-type: none"> • Diameter: \varnothing 11 ... 65 mm • Material: PA AISI 303
	<p>Fiber optic cable extension</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Reduction in range due to fiber optic extension: 2 m = approx. 25% • Reduction in range due to fiber optic extension: 5 m = approx. 60%
	<p>Focusing lens M3 \varnothing 0,1 mm</p> <p>Lenses / apertures / glass covers</p>	<p>Focusing lens for fiber optic cables</p>	<ul style="list-style-type: none"> • Light spot \varnothing 0,1 mm at a distance of 4,6 mm
	<p>Focusing lens M3 \varnothing 0,4 m</p> <p>Lenses / apertures / glass covers</p>	<p>Focusing lens for fiber optic cables</p>	<ul style="list-style-type: none"> • Light spot \varnothing 0,4 mm at a distance of 7 mm
	<p>Focusing lens M3 \varnothing 2 mm</p> <p>Lenses / apertures / glass covers</p>	<p>Focusing lens for fiber optic cables</p>	<ul style="list-style-type: none"> • Light spot \varnothing 2 mm at a distance of 19 mm



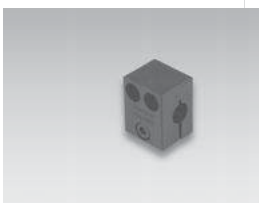



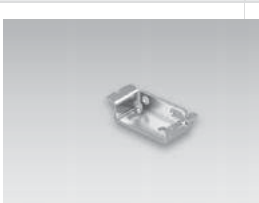

	<p>FTAR 013 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • Micro structure • For Retro-reflective sensors
	<p>FTAR 014 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • For Retro-reflective sensors
	<p>FTAR 019 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • For Retro-reflective sensors
	<p>FTAR 020 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • Micro structure • For Retro-reflective sensors
	<p>FTAR 038 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • For Retro-reflective sensors
	<p>FTDF 005 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • For pocket-size edge sensor PosCon
	<p>FTDF 012 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • For pocket-size edge sensor ParCon
	<p>FTDF 020 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • For pocket-size edge sensor PosCon



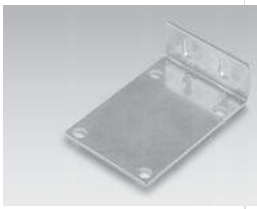





	<p>FTDF 020F Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • For laser light sensors
	<p>FTDF 035 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • For pocket-size edge sensor ParCon
	<p>FTDF 035I Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • For pocket-size edge sensor PosCon
	<p>FTDF 050 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • For pocket-size edge sensor ParCon
	<p>FTDR 005 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method screw mounting • For pocket-size edge sensor PosCon
	<p>FTDR 008/01 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Bracket with reflective tape • For pocket-size edge sensor ParCon
	<p>FTDR 008/21 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Bracket with reflective tape • For pocket-size edge sensor ParCon
	<p>FTDR 010A Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • For Retro-reflective sensors

	<p>FTDR 010D Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • For laser light sensors
	<p>FTDR 015 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • For Retro-reflective sensors
	<p>FTDR 017 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method screw mounting • Micro structure • For Retro-reflective sensors
	<p>FTDR 017W Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Stainless steel reflector for SmartReflect in hygiene design • EHEDG-certified
	<p>FTDR 020 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method screw mounting • For pocket-size edge sensor PosCon
	<p>FTDR 029 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • For Retro-reflective sensors
	<p>FTDR 035 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method screw mounting • For pocket-size edge sensor PosCon
	<p>FTDR 047 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method screw mounting • For Retro-reflective sensors

	<p>FTDR 047W Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Stainless steel reflector for retro-reflective sensor in hygiene design • EHEDG-certified
	<p>FTDR 050 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Stainless steel reflector for SmartReflect in washdown design • Material: Stainless steel V4A
	<p>FTDR 051 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Detergent resistant reflector • Ecolab approved • For Retro-reflective sensors
	<p>FTDR 084 Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method screw mounting • For Retro-reflective sensors
	<p>Glass cover for sensors series 18 Lenses / apertures / glass covers</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: glass
	<p>Glass cover for sensors series 30 Lenses / apertures / glass covers</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: glass
	<p>KSG 32 Connectors and mating connectors</p>	<p>Connector M8 straight</p>	<ul style="list-style-type: none"> • Connector male unshielded • 3 pin versions • Cable coating PUR • Halogen-free • Suitable for flexible cable carriers • UL listed, number E315836
	<p>KSG 34/KSG 45 Connection cables</p>	<p>Ethernet cable; connector M12, straight to RJ45 mating connector</p>	<ul style="list-style-type: none"> • Ethernet connecting cable M12 - RJ45, shielded • Cable coating PUR • Screen connected with cap nut • In lengths from 2 m to 10 m

	<p>KSW 30</p> <p>Connectors and mating connectors</p>	<p>Connector Ø 8 mm angular, snap-in</p>	<ul style="list-style-type: none"> • Connector male unshielded "snap-in" • 2 pin version • Cable coating PVC
	<p>Lens cleaning air nozzle bracket</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Minofix-Mounting kit for MINOS</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: brass nickel-plated
	<p>MMFN Permanentmagnet</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Magnet: Neodymium-Iron-Boron (NdFeB) • Energy product: 280 kJ/m3 • Operating temperature: -40 ... +100 °C • Quantity: 10 pieces
	<p>MMFS Permanentmagnet</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Magnet: Samarium-Cobalt (SmCo5) • Energy product: 190 kJ/m3 • Operating temperature: -40 ... +180 °C • Quantity: 10 pieces
	<p>MMRH Permanentmagnet</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Magnet: Hard ferrite (SrFe) • Energy product: 30 kJ/m3 • Operating temperature: -25 ... +130 °C • Quantity: 5 pieces
	<p>MMRS Permanentmagnet</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Magnet: Samarium-Cobalt (SmCo5) • Energy product: 190 kJ/m3 • Operating temperature: -40 ... +180 °C • Quantity: 10 pieces
	<p>Mounting bracket 1,1 mm</p> <p>Mounting accessories</p>	<p>Mounting bracket for fiber optic cables</p>	<ul style="list-style-type: none"> • Material: Aluminum

	<p>Mounting bracket 2,2 mm</p> <p>Mounting accessories</p>	<p>Mounting bracket for fiber optic cables</p>	<ul style="list-style-type: none"> • Material: Aluminum
	<p>Mounting bracket 20 mm</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Polypropylene (PP)
	<p>Mounting bracket 6,5 mm</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Plastic (PA6)
	<p>Mounting bracket 8 mm</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Plastic (PA6)
	<p>Mounting bracket for adjustment ZADAP-M18.MICRO series 18</p> <p>Mounting accessories</p>	<p>Alignment aid for fine adjustment for sensors series 18</p>	<ul style="list-style-type: none"> • Material: Steel galvanized
	<p>Mounting bracket for adjustment ZADAP-M18.SWING series 18</p> <p>Mounting accessories</p>	<p>Alignment aid for adjustment for sensors series 18</p>	<ul style="list-style-type: none"> • Material: Plastic (ABS TERLURAN)
	<p>Mounting bracket for fiber optic sensors series 12</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Steel • Delivered with every plastic fiber optic sensor series 12
	<p>Mounting bracket for fiber optic sensors series 22</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Steel • Delivered with every plastic fiber optic sensor series 22

	<p>Mounting bracket for fiber optic sensors series 60</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Steel • Must be ordered separately for series 66 and series 67 sensors
	<p>Mounting bracket for fine adjustment series 16</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for Logipal/PosCon</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for sensor OxDM 20</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for sensors O300 (L design)</p> <p>Mounting accessories</p>	<p>Mounting bracket for sensors O300</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for sensors O300</p> <p>Mounting accessories</p>	<p>Mounting bracket - Retrofit for sensors series 20</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for sensors O500/U500 (L design)</p> <p>Mounting accessories</p>	<p>Mounting bracket for sensors O500/U500</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for sensors O500/U500</p> <p>Mounting accessories</p>	<p>Mounting bracket - Retrofit for sensors series 30</p>	<ul style="list-style-type: none"> • Material: Steel









	<p>Mounting bracket for sensors series 10 (L design)</p> <p>Mounting accessories</p>	<p>Mounting bracket for sensors series 10 (L design)</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for sensors series 10 (U design)</p> <p>Mounting accessories</p>	<p>Mounting bracket for sensors series 10 (U design)</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for sensors series 10</p> <p>Mounting accessories</p>	<p>Mounting bracket for sensors series 10</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for sensors series 12</p> <p>Mounting accessories</p>	<p>Mounting bracket for sensors series 12</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for sensors series 13</p> <p>Mounting accessories</p>	<p>Mounting bracket for sensors series 13</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for sensors series 14</p> <p>Mounting accessories</p>	<p>Mounting bracket for sensors series 14</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for sensors series 15</p> <p>Mounting accessories</p>	<p>Mounting bracket for sensors series 15</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for sensors series 16</p> <p>Mounting accessories</p>	<p>Mounting bracket for sensors series 16</p>	<ul style="list-style-type: none"> • Material: Steel







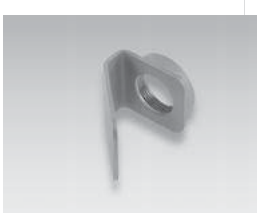

	<p>Mounting bracket for sensors series 18 round (L design)</p> <p>Mounting accessories</p>	<p>Mounting bracket for sensors series 18 (L design)</p>	<ul style="list-style-type: none"> • Material: Steel galvanized
	<p>Mounting bracket for sensors series 18 round (L design)</p> <p>Mounting accessories</p>	<p>Mounting bracket for sensors series 18 (L design)</p>	<ul style="list-style-type: none"> • Material: Steel galvanized
	<p>Mounting bracket for sensors series 18 round</p> <p>Mounting accessories</p>	<p>Mounting bracket for sensors series 18 (L design)</p>	<ul style="list-style-type: none"> • Material: Steel galvanized
	<p>Mounting bracket for sensors series 25</p> <p>Mounting accessories</p>	<p>Mounting bracket for sensors series 25</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for sensors series 26</p> <p>Mounting accessories</p>	<p>Mounting bracket for sensors series 26</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for Verisens (L design)</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for Verisens</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Steel
	<p>Mounting bracket for washdown sensors series 14</p> <p>Mounting accessories</p>	<p>Mounting bracket for washdown sensors series 14</p>	<ul style="list-style-type: none"> • Material: Stainless Steel

	<p>Mounting bracket X7</p> <p>Mounting accessories</p>	<p>Mounting bracket for PosCon and MESAX 70</p>	<ul style="list-style-type: none"> • Fitting for PosCon and MESAX 70 • Mounting at an angle of 90° or 30° • Bracket and mounting hardware incl. Torx wrench
	<p>Mounting brackets MZZC 01/005 for round cylinders with tie rods 5 ... 9 mm</p> <p>Mounting accessories</p>	<p>Mounting brackets for round cylinders with tie rods 5 ... 9 mm</p>	<ul style="list-style-type: none"> • Cylinder: \varnothing 5 ... 9 mm • Material: PA AISI 303 6005A
	<p>Mounting brackets MZZC 01/032 for round cylinders with tie rods 32 ... 40 mm</p> <p>Mounting accessories</p>	<p>Mounting brackets for round cylinders with tie rods 32 ... 40 mm</p>	<ul style="list-style-type: none"> • Cylinder: \varnothing 32 ... 40 mm • Material: PA AISI 303 6005A
	<p>Mounting brackets MZZC 01/050 for round cylinders with tie rods 50 ... 63 mm</p> <p>Mounting accessories</p>	<p>Mounting brackets for round cylinders with tie rods 50 ... 63 mm</p>	<ul style="list-style-type: none"> • Cylinder: \varnothing 50 ... 63 mm • Material: PA AISI 303 6005A
	<p>Mounting brackets MZZC 01/082 for round cylinders with tie rods 82 ... 100 mm</p> <p>Mounting accessories</p>	<p>Mounting brackets for round cylinders with tie rods 82 ... 100 mm</p>	<ul style="list-style-type: none"> • Cylinder: \varnothing 82 ... 100 mm • Material: PA AISI 303 6005A
	<p>Mounting brackets MZZC 01/125 for round cylinders with tie rods 125 mm</p> <p>Mounting accessories</p>	<p>Mounting brackets for round cylinders with tie rods 125 mm</p>	<ul style="list-style-type: none"> • Cylinder: \varnothing 125 mm • Material: PA AISI 303 6005A
	<p>Mounting brad FHDK 04</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Nickel-plated steel
	<p>Mounting HI06-1H for sensors in hygienic design \varnothing 6,5 mm</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Stainless steel V4A • EHEDG-certified




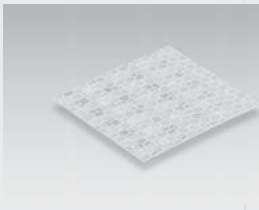

	<p>Mounting HI11-1H for sensors in hygienic design Ø 11 mm</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Stainless steel V4A • EHEDG-certified
	<p>Mounting HI17-1H for sensors in hygienic design Ø 17 mm</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Stainless steel V4A • EHEDG-certified
	<p>Mounting kit for CFDK 25</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • 1 pcs. mounting frame HC25; Material PA 12 • 2 pcs. cable ties 186x4,7 mm • 2 pcs. adhesive pads • 2 pcs. spacer
	<p>Mounting panel for sensors scatec</p> <p>Mounting accessories</p>	<p>mounting plate for mounting on round rod</p>	<ul style="list-style-type: none"> • Material: Aluminum
	<p>Mounting panel for sensors series 10</p> <p>Mounting accessories</p>	<p>-</p>	<p>-</p>
	<p>MSFN Rotor with permanent magnet</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Rotor: Aluminum • Operating temperature: -40 ... +120 °C
	<p>MSFS Rotor with permanent magnet</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Rotor: Aluminum • Operating temperature: -40 ... +200 °C
	<p>PNP pulse converter M12</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Adapter for pulse stretching • For pulse stretching 1 ... 150 ms • For connector M12 - 3 pins

	<p>PNP pulse converter M8</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Adapter for pulse stretching • For pulse stretching 1 ... 150 ms • For connector M8 - 3 pins
	<p>PNP to NPN Converter M12</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • PNP/NPN Converter • For frequencies up to max. 5 kHz • For connector M12 - 3 pins
	<p>PNP to NPN Converter M8</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • PNP/NPN Converter • For frequencies up to max. 5 kHz • For connector M8 - 3 pins
	<p>Power supply for sensor test unit</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Input 90-260 VAC • Output 24 V/0,75 A • Interchangeable plug-Type A, C, G and I
	<p>Protector cap for OxDM 20</p> <p>Lenses / apertures / glass covers</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: PMMA • Self-adhesive
	<p>Reduction tube</p> <p>Lenses / apertures / glass covers</p>	<p>-</p>	<ul style="list-style-type: none"> • Set of 2 • Delivered with every 1 mm diameter plastic fiber optic
	<p>Sensofix-Base module</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Clamps made of stainless steel • Ball pivots made of galvanized steel
	<p>Sensofix-Mounting kit for sensors O300</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Clamps made of stainless steel • Ball pivots made of galvanized steel • Mounting panel made of stainless steel

	<p>Sensofix-Mounting kit for sensors O500/U500</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Clamps made of stainless steel • Ball pivots made of galvanized steel • Mounting panel made of stainless steel
	<p>Sensofix-Mounting kit for sensors series 08 round</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Clamps made of stainless steel • Ball pivots made of galvanized steel • Mounting panel made of stainless steel
	<p>Sensofix-Mounting kit for sensors series 10/20</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Clamps made of stainless steel • Ball pivots made of galvanized steel • Mounting panel made of stainless steel
	<p>Sensofix-Mounting kit for sensors series 12 round</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Clamps made of stainless steel • Ball pivots made of galvanized steel • Mounting panel made of stainless steel
	<p>Sensofix-Mounting kit for sensors series 12</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Clamps made of stainless steel • Ball pivots made of galvanized steel • Mounting panel made of stainless steel
	<p>Sensofix-Mounting kit for sensors series 13</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Clamps made of stainless steel • Ball pivots made of galvanized steel • Mounting panel made of stainless steel
	<p>Sensofix-Mounting kit for sensors series 14</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Clamps made of stainless steel • Ball pivots made of galvanized steel • Mounting panel made of stainless steel
	<p>Sensofix-Mounting kit for sensors series 16</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Mounting panel made of stainless steel • Clamps made of stainless steel • Ball pivots made of galvanized steel

	<p>Sensofix-Mounting kit for sensors series 18 round</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Clamps made of stainless steel • Ball pivots made of galvanized steel • Mounting panel made of stainless steel
	<p>Sensofix-Mounting kit for sensors series 18/20</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Clamps made of stainless steel • Ball pivots made of galvanized steel • Mounting panel made of stainless steel
	<p>Sensofix-Mounting kit for sensors series 30</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Clamps made of stainless steel • Ball pivots made of galvanized steel • Mounting panel made of stainless steel
	<p>Sensofix-Mounting kit for washdown sensors series 14</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Clamps made of stainless steel • Ball pivots made of galvanized steel • Mounting panel made of stainless steel
	<p>Slot aperture stickers series 14</p> <p>Lenses / apertures / glass covers</p>	<p>-</p>	<ul style="list-style-type: none"> • Material: Polyester foil • Contents: 2 pieces • self-adhesive
	<p>Sonic beam deflector for ultrasonic sensors series 10</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Set of 2 included 1 x left, 1 x right
	<p>Sonic beam deflector for ultrasonic sensors series 18 round</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Sonic beam deflector for ultrasonic sensors
	<p>Sonic beam deflector for ultrasonic sensors series 20</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Sonic beam deflector for ultrasonic sensors

	<p>Sonic beam deflector for ultrasonic sensors U500</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Sonic beam deflector for ultrasonic sensors
	<p>Teach Pen</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Local Teach-in of NextGen sensors in hygienic design
	<p>Teach-in Adapter M12</p> <p>Peripherals</p>	<p>-</p>	<p>-</p>
	<p>Test unit for sensors analog & digital</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • Output via display (V or mA) or LED (PNP/NPN) • Teach-in of sensors with integrated Teach-button • Connection for plug in power supply (available as accessory)
	<p>Test unit for sensors digital</p> <p>Peripherals</p>	<p>-</p>	<ul style="list-style-type: none"> • LED (red/green) for digital PNP/NPN signals • Teach-in of sensors with integrated Teach-button • Connection for plug in power supply (available as accessory)
	<p>USB IO-Link Master</p> <p>Peripherals</p>	<p>USB Master for IO-Link sensors</p>	<ul style="list-style-type: none"> • Integration of IO-Link sensors via USB • Including power supply (EU, KOR, USA, AUS, UK) and USB cable
	<p>Velcro strip cut to length for mounting frame HC25</p> <p>Mounting accessories</p>	<p>-</p>	<ul style="list-style-type: none"> • Base material: Polyamide • Overall thickness: 1,8 to 2,2 mm • Breaking strength: > 210 N/cm
	<p>Z-FTDF 005</p> <p>Reflectors</p>	<p>-</p>	<ul style="list-style-type: none"> • Fastening method self-adhesive • For pocket-size edge sensor PosCon

	Z-FTDF 020 Reflectors	-	<ul style="list-style-type: none">• Fastening method self-adhesive• For pocket-size edge sensor PosCon
	Z-FTDF 035 Reflectors	-	<ul style="list-style-type: none">• Fastening method self-adhesive• For pocket-size edge sensor PosCon
	Z-FTDF 050 Reflectors	-	<ul style="list-style-type: none">• Fastening method self-adhesive• For pocket-size edge sensor PosCon
	Z-FTDF 050K Reflectors	-	<ul style="list-style-type: none">• Fastening method self-adhesive• For Retro-reflective sensors
	Z-FTDF 610 Reflectors	-	<ul style="list-style-type: none">• Fastening method self-adhesive• For pocket-size edge sensor PosCon



We offer specific hard and software compilations, termed “Starter Kits”, for quick setup of Baumer cameras or vision sensors. The Baumer GAPI and Camera Link[®] SDK as well as the VeriSens[®] Application Suite enable an immediate evaluation in your application.

- VCXU / VEXU (USB 3.0)
- VCXG / VEXG (GIGE)
- VISILINE[®] / VISILINE[®] IP (GIGE)
- VISILINE[®] (USB 3.0)
- MXG (GIGE)
- MXU (USB 3.0)
- LXG (GIGE)
- LXC (CAMERA LINK[®])
- LXG VISUALAPPLETS (GIGE)
- PXU (USB 3.0)
- HXG (GIGE)
- HXC (CAMERA LINK[®])
- TXG / EXG (GIGE)
- VERISENS[®] VISION SENSORS



ДАТЧИКИ УРОВНЯ

PRODUCT	MEDIUM	MEASURING PRINCIPLE	MATERIAL PROCESS CONNECTION	ACCURACY	MAX MEDIUM TEMPERATURE	OUTPUT SIGNAL	DISPLAY
CFAK 22U9500/AMP	Oil	Point	-	±1 mm (only point level)	< 115 °C	PNP / NPN	Without
CleverLevel - LBFI	Corrosive / aggressive medium Drinking water Granulates Hygienic Oil Powder Solids Ultra pure water	Point	Stainless Steel 1.4404 (316L)	±1 mm (only point level)	< 115 °C < 80 °C	Digital push-pull PNP / NPN Two switching outputs	LED Without
CleverLevel - LBFS	Corrosive / aggressive medium Drinking water Granulates Hygienic Oil Powder Solids Ultra pure water	Point	Stainless Steel 1.4301 (304)	±1 mm (only point level)	< 115 °C < 80 °C	PNP / NPN PWM	LED Without

CleverLevel - LBFS (hanging)	Granulates Powder Solids	Point	PUR Stainless Steel 1.4301 (304)	±1 mm (only point level)	< 85 °C	PNP / NPN PWM	Without
CleverLevel LBFH	Drinking water Granulates Hygienic Oil Powder Solids Ultra pure water	Point	Stainless Steel 1.4404 (316L)	±1 mm (only point level)	< 115 °C < 80 °C	Digital push- pull PNP / NPN Two switching outputs	LED Without
CleverLevel LFFS	Corrosive / aggressive medium Drinking water Granulates Hygienic Oil Powder Solids Ultra pure water	-	Stainless Steel 1.4404 (316L)	±1 mm (only point level)	< 115 °C < 140 °C < 200 °C < 80 °C	PNP / NPN PWM	LED Without
LSKx2x	Corrosive / aggressive medium Drinking water Hygienic	Point	Stainless Steel 1.4404 (316L)	±1 mm (only point level)	< 115 °C < 140 °C < 80 °C	Relay	Without
LSKx5x	Corrosive / aggressive medium Drinking water Hygienic	Point	Stainless Steel 1.4404 (316L)	±1 mm (only point level)	< 115 °C < 140 °C < 80 °C	Relay	Without
LSP	Corrosive / aggressive medium Drinking water Hygienic	Continuous	Stainless Steel 1.4404 (316L)	0.5% FS 1.0% FS	< 115 °C < 140 °C	4 ... 20 mA	Without
PSMN	Corrosive / aggressive medium Drinking water Salt water Ultra pure water	Continuous	Stainless Steel 1.4404 (316L) Stainless Steel 1.4539 (904L)	0.25% FS	< 80 °C	0 ... 10 V 4 ... 20 mA	Without
PSSN	Corrosive / aggressive medium Drinking water Ultra pure water	Continuous	Stainless Steel 1.4404 (316L)	1.0% FS	< 80 °C	0 ... 10 V 4 ... 20 mA	Without

ДАТЧИКИ РАСХОДА

PRODUCT	MEDIUM	MEASURING PRINCIPLE	MATERIAL PROCESS CONNECTION	ACCURACY	MAX MEDIUM TEMPERATURE	OUTPUT SIGNAL	DISPLAY
FlexFlow PF20H	Drink water Ultra pure water Water Water based medias	calorimetric	Stainless steel 1.4404 (316L)	2% MEW	150° C	Digital push-pull PNP / NPN Two switching outputs	without
FlexFlow PF20S	Drink water Ultra pure water Water Water based medias	calorimetric	Stainless steel 1.4404 (316L)	2% MEW	150° C	Digital push-pull PNP / NPN Two switching outputs	without

ДАТЧИКИ ТЕМПЕРАТУРЫ



PRODUCT	TYPE	MEDIUM	ELECTRIC CONNECTION	TEMPERATURE RANGE	INPUT	ACCURACY	OUTPUT SIGNAL	DISPLAY	APPROVALS	MOUNTING
CableSensor 8141 PT100	Sensor	Standard	Cable	-50 ... 205 °C	Pt100 Pt1000	Class A Class B 1/3 Class B 1/6 Class B	Pt100 Pt1000	Without	-	-
CombiTemp TCR6	-	Standard	DIN form B	-50 ... 200 °C -50 ... 205 °C -50 ... 250 °C -50 ... 400 °C	Pt100 Pt1000	Class A Class B ±0,1 °C ±0,25 °C 1/3 Class B 1/6 Class B	HART Pt100 Pt1000 4 ... 20 mA	Without	-	-
CombiTemp TFR5	Room temperature sensor	Air	Ø80 mm, FlexHousing	-40 ... 85 °C	Pt100	Class A Class B ±0,1 °C ±0,25 °C 1/3 Class B 1/6 Class B	HART Pt100 4 ... 20 mA	Graphical colour display LCD Without	ATEX	-
CombiTemp TFRH	Sensor Transmitter	Hygienic	Ø80 mm, FlexHousing	-50 ... 200 °C -50 ... 205 °C -50 ... 250 °C	Pt100	Class A Class B ±0,1 °C ±0,25 °C 1/3 Class B 1/6 Class B	HART Pt100 4 ... 20 mA	Graphical colour display LCD Without	ATEX EHEDG 3-A	-

CombiTemp TFRN	Sensor Transmitter	Standard	Ø80 mm, FlexHousing	-50 ... 200 °C -50 ... 205 °C -50 ... 250 °C -50 ... 400 °C	Pt100	Class A Class B ±0,1 °C ±0,25 °C 1/3 Class B 1/6 Class B	HART Pt100 4 ... 20 mA	Graphical colour display LCD Without	ATEX	-
Conical cable sensor 8155	Sensor	Hygienic	Cable	-50 ... 205 °C	Pt100	Class A Class B 1/3 Class B 1/6 Class B	Pt100	Without	-	-
ETTN YTTN	Sensor	Standard	Plug	-200 ... 400°C	Pt1000	Class B	0 ... 10V MODBUS 4 ... 20 mA	LED	ATEX	-
FlexTemp 2301	Transmitter	-	-	-	Pt100	±0,25 °C	4 ... 20 mA	-	-	DIN-Rail
FlexTemp 2311	Transmitter	-	-	-	Pt100 PT500 Resistance RTD signal T/C	±0,1 °C	4 ... 20 mA	-	-	DIN-Rail
FlexTemp 2321	Transmitter	-	-	-	Pt100 Resistance RTD signal T/C	±0,1 °C	HART 4 ... 20 mA	-	-	DIN-Rail
FlexTop 2202	Transmitter	-	-	-	Pt100	±0,25 °C	4 ... 20 mA	-	ATEX	Head
FlexTop 2203	Transmitter	-	-	-	T/C	±0,25 °C	4 ... 20 mA	-	ATEX	Head
FlexTop 2204	Transmitter	-	-	-	PT500 Resistance	±4 ... 5 °C	4 ... 20 mA	-	ATEX	Head
FlexTop 2211	Transmitter	-	-	-	Pt100 PT500 Resistance RTD signal T/C	±0,1 °C	4 ... 20 mA	-	ATEX	Head
FlexTop 2221	Transmitter	-	-	-	Pt100 PT500 Resistance RTD signal	±0,1 °C	HART 4 ... 20 mA	-	ATEX	Head

					T/C				
TE2	Sensor	Hygienic Standard	Plug	-50 ... 200 °C	Pt100	Class A Class B ±0,25 °C 1/3 Class B 1/6 Class B	HART Pt100 4 ... 20 mA	Without	

PRODUCT	DESCRIPTION	NOMINAL SIZE	IMMERSION TUBE OUTLET	IMMERSION TUBE DIAMETER	INSTALLATION LENGTH	TEMPERATURE RANGE	ACCURACY (EN 13190)
Baumer TSF100 DS EN 1606	Remote measurement gas filled thermometers	100	bottom center back	6 mm 8 mm 11 mm 14 mm	100 - 1000 mm	-200 ... 800°C	Class 1
TB100	Bimetal thermometer, Installed length ≥ 100 mm	100	bottom center back	8 mm	100 - 1000 mm	-30 ... 500°C	$\leq 250^\circ\text{C}$: Class 1 / $> 250^\circ\text{C}$: Class 2
TB160	Bimetal thermometer, Installed length ≥ 100 mm	160	bottom center back	8 mm	100 - 1000 mm	-30 ... 500°C	$\leq 250^\circ\text{C}$: Class 1 / $> 250^\circ\text{C}$: Class 2
TB40	Small size stainless steel thermometer	40	center back	4 mm	60 - 400 mm	-30 ... 500°C	$\leq 250^\circ\text{C}$: Class 1 / $> 250^\circ\text{C}$: Class 2
TB63	Small size stainless steel thermometer	63	center back	4 mm	60 - 400 mm	-30 ... 500°C	$\leq 250^\circ\text{C}$: Class 1 / $> 250^\circ\text{C}$: Class 2
TB80	Bimetal thermometer, Installed length ≥ 100 mm	80	bottom center back	8 mm	100 - 1000 mm	-30 ... 500°C	$\leq 250^\circ\text{C}$: Class 1 / $> 250^\circ\text{C}$: Class 2
TBA72	Pipe mounted thermometer	72	center back	n/a (pipe mounted thermometer)	n/a (pipe mounted thermometer)	-20 ... 120°C	$\pm 1\%$
TBH100	Bimetal thermometer for pipes up to 2"	100	center back	8 mm	48 - 88 mm	-20 ... 250°C	Class 1
TBH80	Bimetal thermometer for pipes up to 2"	80	center back	8 mm	48 - 88 mm	-20 ... 250°C	Class 1

TBHA100	Pipe mounted thermometer for isolated pipes up to 2"	100	center back	n/a (pipe mounted thermometer)	n/a (pipe mounted thermometer)	-20 ... 160°C	Class 1
TBHA80	Bimetal thermometer for pipes up to 2"	80	center back	n/a (pipe mounted thermometer)	n/a (pipe mounted thermometer)	-20 ... 160°C	Class 1
TBHI100	Bimetal thermometer Heavy-Duty, IP68	100	bottom center back Center back, every angle	6 mm 8 mm	100 - 1000 mm	-70 ... 600°C	Class 1
TBHI130	Bimetal thermometer Heavy-Duty, IP68	130	bottom center back Center back, every angle	6 mm 8 mm	100 - 1000 mm	-70 ... 600°C	Class 1
TBI100	Bimetal thermometer for process applications	100	bottom center back Center back, every angle	6 mm 8 mm	100 - 1000 mm	-70 ... 600°C	<=250°C: Class 1 / >250°C: Class 2
TBI130	Bimetal thermometer for process applications	130	bottom center back Center back, every angle	6 mm 8 mm	100 - 1000 mm	-70 ... 600°C	<=250°C: Class 1 / >250°C: Class 2
TBI160	Bimetal thermometer for process applications	160	bottom center back Center back, every angle	6 mm 8 mm	100 - 1000 mm	-70 ... 600°C	<=250°C: Class 1 / >250°C: Class 2
TBI80	Bimetal thermometer for process applications	80	bottom center back Center back, every angle	6 mm 8 mm	100 - 1000 mm	-70 ... 600°C	<=250°C: Class 1 / >250°C: Class 2
TBL100	Bimetal thermometer for airducts in ventilation systems	100	center back	8 mm	165 mm	-30 ... 80°C	-
TBW100	Bimetal thermometer with conical immersion tube, IP65	100	center back	konisch	62 mm	-20 ... 250°C	Class 1
TBX100	Bimetal thermometer with conical immersion tube,	100	bottom center back	konisch	62 mm	-20 ... 250°C	Class 1

	IP50						
TBX160	Bimetal thermometer with conical immersion tube, IP50	160	center back	konisch	62 mm	-20 ... 250°C	Class 1
TBX80	Bimetal thermometer with conical immersion tube, IP50	80	bottom center back	konisch	62 mm	-20 ... 250°C	Class 1
TSF160	Remote measurement gas filled thermometers	160	bottom center back	6 mm 8 mm 11 mm 14 mm	100 - 1000 mm	-200 ... 800°C	Class 1
TSF250	Remote measurement gas filled thermometers	250	bottom center back	6 mm 8 mm 11 mm 14 mm	100 - 1000 mm	-200 ... 800°C	Class 1
TSF63	Remote measurement gas filled thermometers	63	bottom	6 mm 8 mm 11 mm 14 mm	100 - 1000 mm	-200 ... 800°C	Class 1
TSF80	Remote measurement gas filled thermometers	80	bottom center back	6 mm 8 mm 11 mm 14 mm	100 - 1000 mm	-200 ... 800°C	Class 1
TSFE100	Remote measurement gas filled thermometers with contacts	100	bottom center back	6 mm 8 mm 11 mm 14 mm	100 - 1000 mm	-200 ... 800°C	Class 1
TSFE160	Remote measurement gas filled thermometers with contacts	160	bottom center back	6 mm 8 mm 11 mm 14 mm	100 - 1000 mm	-200 ... 800°C	Class 1
TSS100	Direct reading gas filled thermometers	100	bottom center back	6 mm 8 mm 11 mm 14 mm	100 - 1000 mm	-200 ... 800°C	Class 1
TSS160	Direct reading gas filled thermometers	160	bottom center back	6 mm 8 mm 11 mm	100 - 1000 mm	-200 ... 800°C	Class 1

				14 mm			
TSS250	Direct reading gas filled thermometers	250	bottom center back	6 mm 8 mm 11 mm 14 mm	100 - 1000 mm	-200 ... 800°C	Class 1
TSS63	Direct reading gas filled thermometers	63	bottom center back	6 mm 8 mm 11 mm 14 mm	100 - 1000 mm	-200 ... 800°C	Class 1
TSS80	Direct reading gas filled thermometers	80	bottom center back	6 mm 8 mm 11 mm 14 mm	100 - 1000 mm	-200 ... 800°C	Class 1
TSSE100	Direct reading gas filled thermometers with contacts	100	bottom center back	6 mm 8 mm 11 mm 14 mm	100 - 1000 mm	-200 ... 800°C	Class 1
TSSE160	Direct reading gas filled thermometers with contacts	160	bottom center back	6 mm 8 mm 11 mm 14 mm	100 - 1000 mm	-200 ... 800°C	Class

ДАТЧИКИ ДАВЛЕНИЯ



PRODUKT	MEDIUM/ANWENDUNG	MATERIAL PROZESSAN SCHLUSS	DRUCKBE REICH	GENAUIG KEIT	MAXIMALE MEDIENTEM PERATUR	AUSGANGSSIGNA L	DISPLAY	ZULASSUN G
(Y)TED	Chemieindustri e Energieversorg ung Pumpen und Kompressoren Wasser <input type="checkbox"/> Industrie Gase	Edelstahl 1.4404 (316L) Keramik (96 % Al2O3)	Negativ 0...40 bars 40...400 bars	0.5% FS	< 80 °C < 100 °C	0...10 V Modbus Zwei galvanisch getrennte Schaltausgänge (PNP) Zwei Schaltausgänge (PNP) 4...20 mA	Drehbar Standard	ATEX
(Y)TED hygienic	Getränkeindust rie Nahrungsmittel industrie	Edelstahl 1.4404 (316L)	Negativ 0...25 bars	0.5% FS	< 80 °C < 100 °C	0...10 V Modbus Zwei galvanisch getrennte Schaltausgänge (PNP) Zwei Schaltausgänge (PNP) 4...20 mA	Drehbar Standard	ATEX 3-A
CombiPres s PFMH	Getränkeindust rie Nahrungsmittel industrie Pharmaindustri	Edelstahl 1.4404 (316L) Hastelloy	Negativ 0...40 bars 40...400 bars	0.1% FS 0.25% FS	< 80 °C < 100 °C < 125 °C < 200 °C	HART Zwei galvanisch getrennte Schaltausgänge (PNP)	Drehbar Ohne Standard	ATEX EHEDG 3-A

	e					4...20 mA		
CombiPres s PFMN	Chemieindustri e Getränkeindust rie Nahrungsmittel industrie Wasser	Edelstahl 1.4404 (316L) Hastelloy	Negativ 0...40 bars 40...400 bars	0.1% FS 0.25% FS	< 80 °C < 100 °C < 125 °C < 200 °C	HART Zwei galvanisch getrennte Schaltausgänge (PNP) 4...20 mA	Drehbar Ohne Standard	ATEX EHEDG
CPX	Pneumatik Wasser	Edelstahl 1.4404 (316L) Keramik (96 % Al2O3)	Negativ 0...40 bars 40...400 bars	0.5 % FS (BFSL)	< 80 °C < 100 °C	Zwei Schaltausgänge (PNP)	Ohne	-
CTX / CTL	Energieversorg ung Fabrikautomati sierung HLK Landwirtschaftl iche Fahrzeuge Pneumatik	Edelstahl 1.4404 (316L) Keramik (96 % Al2O3) Messing	Negativ 0...40 bars 40...400 bars	0.5 % FS (BFSL)	< 80 °C < 100 °C	0...10 V 0.5...4.5 V ratiometrisch 1 ... 5 V 4...20 mA	Ohne	-
EF6	Nutzfahrzeuge Schienenfahrz euge	Edelstahl 1.4404 (316L) Keramik (96 % Al2O3)	Negativ 0...40 bars 40...400 bars	0.5% FS	< 80 °C < 100 °C	0...10 V 4...20 mA	Ohne	Eisenbahn
PBM4	Fabrikautomati sierung Hydraulik	Edelstahl 1.4301 (304) Edelstahl 1.4548 (630)	40...400 bars 400...1000 bars	0.5% FS	< 80 °C < 100 °C < 125 °C < 150 °C	0 ... 5 V 0...10 V 0.5...4.5 V ratiometrisch 1 ... 6 V 4...20 mA	Ohne	-
PBMH Hygienic	Getränkeindust rie Nahrungsmittel industrie Pharmaindustri e	Edelstahl 1.4404 (316L) Edelstahl 1.4435 (316L) Hastelloy	Negativ 0...40 bars	0.1% FS 0.25% FS	< 80 °C < 100 °C < 125 °C < 200 °C	0 ... 5 V 0...10 V 0.5 ... 4.5 V 1 ... 5 V 4...20 mA	Ohne	ATEX EHEDG 3-A
PBMN Flush	Chemieindustri e Getränkeindust rie Nahrungsmittel industrie Wasser	Edelstahl 1.4404 (316L) Hastelloy	Negativ 0...40 bars 40...400 bars	0.1% FS 0.25% FS 0.5% FS	< 80 °C < 100 °C < 125 °C < 200 °C	0 ... 5 V 0...10 V 0.5 ... 4.5 V 1 ... 5 V 4...20 mA	Ohne	ATEX
PBMN industrial High	Hydraulik □ Industrie Gase	Edelstahl 1.4301 (304) Edelstahl	40...400 bars 400...1600	0.1% FS 0.25% FS 0.5% FS	< 80 °C < 100 °C < 125 °C	0 ... 5 V 0...10 V 0.5 ... 4.5 V 1 ... 5 V	Ohne	ATEX

Pressure		1.4542 (630)	bars			4...20 mA		
PBMN industrial Low Pressure	Chemieindustri e Pneumatik Wasser	Edelstahl 1.4404 (316L)	Negativ 0...40 bars 40...400 bars	0.1% FS 0.25% FS 0.5% FS	< 80 °C < 100 °C < 125 °C	0 ... 5 V 0...10 V 0.5 ... 4.5 V 1 ... 5 V 4...20 mA	Ohne	ATEX UL/CSA
PBSN	Chemieindustri e Fabrikautomati sierung Pneumatik Wasser <input type="checkbox"/> Industrie Gase	Edelstahl 1.4404 (316L) Keramik (96 % Al2O3)	Negativ 0...40 bars 40...600 bars	0.5% FS 0.7% FS	< 80 °C < 100 °C < 125 °C	0 ... 5 V 0...10 V 0.5 ... 4.5 V 1 ... 5 V 4...20 mA	Ohne	-
PDRx	Fabrikautomati sierung Hydraulik	Edelstahl 1.4301 (304) Edelstahl 1.4542 (630)	40...400 bars 400...1600 bars	0.3% FS 0.5% FS	< 80 °C	0...10 V 4...20 mA	Ohne	-
X91	Explosionsgefä hrdete Umgebung	Edelstahl 1.4404 (316L) Keramik (96 % Al2O3)	Negativ 0...40 bars 40...400 bars	0.3 % FS (BFSL)	< 80 °C < 100 °C	0...10 V 4...20 mA	Ohne	ATEX
Y91	Chemieindustri e Energieversorg ung Pneumatik Schiffbau Wasser <input type="checkbox"/> Industrie Gase	Edelstahl 1.4404 (316L) Keramik (96 % Al2O3)	Negativ 0...40 bars 40...600 bars	0.3 % FS (BFSL)	< 80 °C < 100 °C	0...10 V 4...20 mA	Ohne	ATEX Marine


PRODUKT	DURCHMESSER	GEHÄUSE MATERIAL	FEHLERGR ENZE	SICHERHEITS KLASSE	VERFÜGBAR MIT ÖLFÜLLUNG	SCHUTZART	ZULASSUNG
DPC100	100 mm	Edelstahl	Klasse 1.6	-	Ja	IP65	ATEX
MAN	150 mm	Edelstahl	Klasse 0.5 Klasse 0.6 Klasse 1.0	S3	-	IP52	ATEX
MAT1	40 mm	Stahlblech, schwarz	Klasse 2.5	-	-	-	-
MAT2	50 mm	Stahlblech,	Klasse 2.5	-	-	-	-





		schwarz					
MAT3	63 mm	Stahlblech, schwarz	Klasse 2.5	-	-	-	-
MAT5	100 mm	Stahlblech, schwarz	Klasse 1.6	-	-	-	-
MCD7	150 mm	Edelstahl	Klasse 1.6	-	-	IP65	ATEX
MCX5	100 mm	Edelstahl	Klasse 1.6	S1	-	IP65	ATEX
MCX7	150 mm	Edelstahl	Klasse 1.6	S1	-	IP65	ATEX
MEM3	63 mm	Edelstahl	Klasse 1.0 Klasse 1.6	S1	Ja	IP65	ATEX
MEM5	100 mm	Edelstahl	Klasse 0.5 Klasse 0.6 Klasse 1.0	S1	Ja	IP65	ATEX
MEP5	100 mm	Edelstahl	Klasse 0.5 Klasse 0.6 Klasse 1.0	S3	Ja	IP67	ATEX
MEX2	50 mm	Edelstahl	Klasse 1.0 Klasse 1.6	S1	Ja	IP65	ATEX
MEX3	63 mm	Edelstahl	Klasse 1.0 Klasse 1.6	S1	Ja	IP65	ATEX
MEX5	100 mm	Edelstahl	Klasse 1.0 Klasse 1.6	S1	Ja	IP65	ATEX
MEX8	160 mm	Edelstahl	Klasse 0.5 Klasse 0.6 Klasse 1.0	-	Ja	IP65	ATEX
MIM7	150 mm	Edelstahl	Klasse 0.5 Klasse 0.6 Klasse 1.0	S1	Ja	IP65	ATEX
MIT3	63 mm	Edelstahl	Klasse 2.5	-	Ja	-	-
MIT5	100 mm	Edelstahl	Klasse 2.5	-	Ja	-	-
MIX7	150 mm	Edelstahl	Klasse 0.5 Klasse 0.6 Klasse 1.0	S1	Ja	IP65	ATEX
MJX	150 mm	Edelstahl	Klasse 0.5 Klasse 0.6	S1	-	IP65	ATEX



			Klasse 1.0				
MMJ	150 mm	Edelstahl	Klasse 0.5 Klasse 0.6 Klasse 1.0	S1	-	IP65	ATEX
MMN5	100 mm	Edelstahl	Klasse 0.5 Klasse 0.6 Klasse 1.0	S3	Ja	IP67	ATEX
MMX1	40 mm	Edelstahl	Klasse 2.5	-	-	-	-
MPE	130 mm	Phenolharz	Klasse 0.5 Klasse 0.6 Klasse 1.0	S3	Ja	IP65	ATEX
MPF	130 mm	Phenolharz	Klasse 0.5 Klasse 0.6 Klasse 1.0	S3	Ja	IP65	ATEX
MPG	130 mm	Phenolharz	Klasse 0.5 Klasse 0.6 Klasse 1.0	S3	Ja	IP67	ATEX
MPJ	130 mm	Phenolharz	Klasse 0.5 Klasse 0.6 Klasse 1.0	S3	Ja	IP65	ATEX
MTA2	50 mm	Edelstahl	Klasse 1.6	-	-	-	-
MTA3	63 mm	Edelstahl	Klasse 1.6	-	-	-	-
MTA5	100 mm	Edelstahl	Klasse 1.6 Klasse 2.5	-	-	-	-

ДАТЧИКИ ПРОВОДИМОСТИ, ТЕНЗОДАТЧИКИ







sample picture	<u>product family</u>	<u>product description</u>
	DLRP L001 Compression Load cells	<ul style="list-style-type: none"> • Characteristic curve deviation 0,5% • Nominal force 5...10 kN • Output signal 1mV/V • Protection class IP 67 • Load transmission compression
	DLRP L002 Compression Load cells	<ul style="list-style-type: none"> • Characteristic curve deviation 0,3% • Nominal force 0,5...10 kN • Output signal 2 mV/V • Protection class IP 67 • Load transmission compression
	DLRP L002 Tension/Compression Load cells	<ul style="list-style-type: none"> • Characteristic curve deviation 0,3% • Nominal force 0,5...10 kN • Output signal 2 mV/V • Protection class IP 67 • Load transmission tension / compression

	<p>DLRP L003 Tension/Compression</p> <p>Load cells</p>	<ul style="list-style-type: none"> • Characteristic curve deviation 0,3% • Nominal force 10...100 kN • Output signal 2 mV/V • Protection class IP 67 • Load transmission tension / compression
	<p>DLRx L001 Compression</p> <p>Load cells</p>	<ul style="list-style-type: none"> • Characteristic curve deviation 0,5% • Nominal force 5...10 kN • Output signal 0 ... 10 V / 4 ... 20 mA • Protection class IP 65 • Load transmission compression
	<p>DLRx L002 Compression</p> <p>Load cells</p>	<ul style="list-style-type: none"> • Characteristic curve deviation 0,3% • Nominal force 0,5...10 kN • Output signal 0 ... 10 V / 4 ... 20 mA • Protection class IP 65 • Load transmission compression
	<p>DLRx L002 Tension/Compression</p> <p>Load cells</p>	<ul style="list-style-type: none"> • Characteristic curve deviation 0,3% • Nominal force 0,5...10 kN • Output signal ± 10 V / 4 ... 20 mA • Protection class IP 65 • Load transmission tension / compression
	<p>DLRx L003 Tension/Compression</p> <p>Load cells</p>	<ul style="list-style-type: none"> • Characteristic curve deviation 0,3% • Nominal force 10...100 kN • Output signal ± 10 V / 4 ... 20 mA • Protection class IP 65 • Load transmission tension / compression



sample picture	product family	product description
	<p>DSRC ST</p> <p>Strain Rings</p>	<ul style="list-style-type: none"> • Strain ring with radial cable connector for tension, compression or torsion measurement • Installation without surface preparation • Strain measurement on shafts, axes and cylinders • For cyclical applications
	<p>DSRC BT</p> <p>Strain Rings</p>	<ul style="list-style-type: none"> • Strain ring with radial cable exit for tension and compression measurement • Installation without surface preparation • Ideal for permanent installation • For cyclical applications


sample picture	product family	product description
	DSRK I Strain Probes	<ul style="list-style-type: none"> • Strain measurement in deep holes • Very robust design • Increased lifetime with glued strain gauges • Maintenance free • Integrated amplifier with current output
	DSRK U Strain Probes	<ul style="list-style-type: none"> • Strain measurement in deep holes • Very robust design • Increased lifetime with glued strain gauges • Maintenance free • Integrated amplifier with voltage output

sample picture	product family	product description
	DSRT 22DD Strain Links	<ul style="list-style-type: none"> • For cyclical and static measurements, with integrated amplifier • Voltage output ± 10 VDC • Excellent signal to noise ratio • High sensitivity
	DSRT 22DJ Strain Links	<ul style="list-style-type: none"> • For cyclical and static measurements, with integrated amplifier • CANopen • Excellent signal to noise ratio • High sensitivity
	DSRT 22DA Strain Links	<ul style="list-style-type: none"> • For cyclical and static measurements, without amplifier • Output signal mV/V • S/G full bridge • High repeatability • High sensitivity



sample picture	product family	product description
	DABU AD2T-FB Bridge Amplifiers	<ul style="list-style-type: none"> • Bridge amplifier for S/G full bridge • Voltage output • Protection class IP 65

	<p>DABI AD2T-FB</p> <p>Bridge Amplifiers</p>	<ul style="list-style-type: none"> • Bridge amplifier for S/G full bridge • Current output • Protection class IP 65
	<p>DABU AD2T-2Q</p> <p>Bridge Amplifiers</p>	<ul style="list-style-type: none"> • Bridge amplifier for 2 x 1/4 S/G bridge • Voltage output • Protection class IP 65
	<p>DABI AD2T-2Q</p> <p>Bridge Amplifiers</p>	<ul style="list-style-type: none"> • Bridge amplifier for 2 x 1/4 S/G bridge • Current output • Protection class IP 65
	<p>DABx MP4M</p> <p>Bridge Amplifiers</p>	<ul style="list-style-type: none"> • Bridge amplifier, selectable configuration (2 x 1/4 S/G bridge and full bridge) • Voltage or current output • Peak value and two limit switches • Enclosure for DIN rail installation

sample picture	product family	product description
	<p>DDBF 2-SC</p> <p>Displaybox</p>	<ul style="list-style-type: none"> • Display box for strain rings, 2-channel • Contemporaneous measurement and display of 2 channels • 2 analogue outputs • Including analysis software InspectMaster
	<p>DDBF 4-SC</p> <p>Displaybox</p>	<ul style="list-style-type: none"> • Display box for strain rings, 4-channel • Contemporaneous measurement and display of 4 channels • 2 analogue outputs • Including analysis software InspectMaster

sample picture	product family	product description
	<p>DLPP 8MO</p> <p>Piezo Electric Force Sensors</p>	<ul style="list-style-type: none"> • Quartz miniature force sensor 250 N • Capacity 0...+250 N • Cable with or without connector • Sensor diameter 3,5 mm

	<p>DLPP 6MO Piezo Electric Force Sensors</p>	<ul style="list-style-type: none"> • Quartz miniature force sensor • Capacity 0...+2,5 kN • Connector thread M4 x 0,35 • Sensor diameter 6 mm
	<p>DLPP 7MO Piezo Electric Force Sensors</p>	<ul style="list-style-type: none"> • Quartz force sensor • Capacity 0...+10 kN • Connector thread M4 x 0,35 • Sensor diameter 12,6 mm
	<p>DLPP 4MO Piezo Electric Force Sensors</p>	<ul style="list-style-type: none"> • Quartz force sensor • Capacity 0...+30 kN • Connector thread UNF 10 - 32 • Sensor diameter 25 mm

sample picture	product family	product description
	<p>DACU 800 Charge Amplifier</p>	<ul style="list-style-type: none"> • Charge amplifier for piezo electric sensors • 14 selectable ranges • 2 limit switches with switching output • Peak value • Voltage output • RS 232 interface
	<p>DACU 820 Charge Amplifier</p>	<ul style="list-style-type: none"> • Charge amplifier for piezo electric strain sensors (DSPN) • 2 analogue outputs • 4 selectable ranges per channel • 2 limit switches with switching output • Peak value • Voltage output • RS 232 interface

sample picture	product family	product description
	<p>DPPC DS02.5 Cavity Pressure Sensors</p>	<ul style="list-style-type: none"> • Cavity pressure sensor for direct measurement • Capacity 0...2000 bar • Connector thread M4 x 0,35 • Sensor diameter 2,5 mm



DPPC DS04.0

Cavity Pressure Sensors

- Cavity pressure sensor for direct measurement
- Capacity 0...2000 bar
- Connector thread M4 x 0,35
- Sensor diameter 4 mm

СЧЕТЧИКИ










Sample picture	Product family	Voltage supply	Housing	Features
	B 148	18...26 VAC / 50 Hz 110...120 VAC / 50 Hz 220...240 VAC / 50 Hz 350...400 VAC / 50 Hz 110...127 VAC / 60 Hz 220...240 VAC / 60 Hz	Built-in housing Surface mount housing Surface mount DIN rail housing EN 50022	• DIN dimensions
	B 160	10...80 VDC	Built-in housing Surface mount DIN rail housing EN 50022	• DIN dimensions
	F 102	24/110 VAC ±10 % (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC ±10 %	Built-in housing	• Mini series 32 x 21.5 mm • Screw mount









	F 112	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Mini series 32 x 21.5 mm • Screw mount
	F 122	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Mini series 32 x 21.5 mm • Spring clip
	F 304	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Socket box	<ul style="list-style-type: none"> • Module 50 x 25 mm • Socket box
	F 314	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Module 50 x 25 mm • Screw mount
	F 324	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Module 50 x 25 mm • Spring clip
	F 364	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Module 50 x 25 mm • Screw mount
	F 503	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 12/24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Mini series 36 x 24 mm • Screw mount
	F 504	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Socket box	<ul style="list-style-type: none"> • Module 50 x 25 mm • Socket box

	F 513	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 12/24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Mini series 36 x 24 mm • Screw mount
	F 514	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Module 50 x 25 mm • Screw mount
	F 523	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 12/24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Mini series 36 x 24 mm • Spring clip
	F 524	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Module 50 x 25 mm • Spring clip
	FE304	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Socket box	<ul style="list-style-type: none"> • Module 50 x 50 mm • Socket box
	FE314	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Module 50 x 50 mm • Screw mount
	FE324	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Module 50 x 50 mm • Spring clip
	FE504	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Socket box	<ul style="list-style-type: none"> • Module 50 x 50 mm • Socket box





	FE514	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Module 50 x 50 mm • Screw mount
	FE524	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Module 50 x 50 mm • Spring clip
	FS218	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Large design series • Front 144 x 72 mm • Subtracting
	FS219	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Large design series • Front 144 x 72 mm • Subtracting • Electric reset
	FS304	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Socket box	<ul style="list-style-type: none"> • Module 50 x 50 mm • Socket box • Subtracting
	FS309	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Socket box	<ul style="list-style-type: none"> • Module 50 x 50 mm • Socket box • Subtracting • Permanent precontact • Electric reset
	FS314	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Module 50 x 50 mm • Screw mount • Subtracting
	FS319	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC +6/-10 % (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Module 50 x 50 mm • Screw mount • Subtracting • Permanent precontact









				<ul style="list-style-type: none"> • Electric reset
	FS324	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC $+6/-10\%$ (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Module 50 x 50 mm • Spring clip • Subtracting
	FS329	24/110 VAC $\pm 10\%$ (50/60 Hz) 230 VAC $+6/-10\%$ (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Module 50 x 50 mm • Spring clip • Subtracting • Permanent precontact • Electric reset
	H 126	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Stroke counter 5-digits • Adding • Base plate horizontal
	H 127	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Stroke counter 5-digits • Adding • Base plate vertical
	H 300	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Stroke counter 6-digits • Adding • Base plate vertical
	H 310	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Stroke counter 5-digits • Adding • Base plate horizontal
	H 400	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Stroke counter 7-digits • Adding • Base plate horizontal








	H 410	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Stroke counter 5-digits • Adding • Base plate horizontal
	ISI30	Lithium battery (approx. 8 years at 20 °C)	Built-in housing	<ul style="list-style-type: none"> • Impulse counter • Adding or subtracting
	ISI31	Lithium battery (approx. 8 years at 20 °C)	Built-in housing	<ul style="list-style-type: none"> • Difference counter • A-B or A with up/down
	ISI32	Lithium battery (approx. 8 years at 20 °C)	Built-in housing	<ul style="list-style-type: none"> • Up/down counter with • Direction signal
	ISI33	Lithium battery (approx. 8 years at 20 °C)	Built-in housing	<ul style="list-style-type: none"> • Up/down counter with • A90°B evaluation • Position display
	ISI34	Lithium battery (approx. 8 years at 20 °C)	Built-in housing	<ul style="list-style-type: none"> • LCD display 8-digits • Keylock
	ISI35	Lithium battery (approx. 8 years at 20 °C)	Built-in housing	<ul style="list-style-type: none"> • LCD display 8-digits • Keylock
	ISI36	Lithium battery (approx. 8 years at 20 °C)	Built-in housing	<ul style="list-style-type: none"> • Count frequency max. 12 kHz




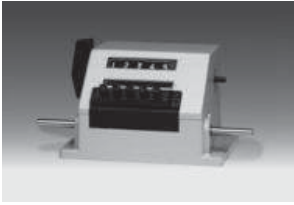
	M 300	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Meter counter 6-digits • adding • Base plate vertical
	M 310.A	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Meter counter 5-digits • PTB approved • Base plate horizontal
	M 310	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Meter counter 5-digits • adding • Base plate horizontal
	M 400	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Meter counter 7-digits • adding • Base plate horizontal
	M 410.A	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Meter counter 5-digits • PTB approved • Base plate horizontal
	M 410	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Meter counter 5-digits • adding • Base plate vertical
	M 411	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Drive shaft at bottom • Meter counter 5-digits • adding • Base plate vertical
	ME102	-	Surface mount housing	<ul style="list-style-type: none"> • Meter counter 4-digits • 1 preset • Subtracting • Option: precontact

	ME230	-	Surface mount housing	<ul style="list-style-type: none"> • Large meter counter • 1 preset • Subtracting • Option: precontact
	ME280 PTB	-	Surface mount housing	<ul style="list-style-type: none"> • Large meter counter • PTB approved • 1 preset • Adding
	ME280	-	Surface mount housing	<ul style="list-style-type: none"> • Large meter counter • 1 or 2 presets • Adding
	ME282 PTB	-	Surface mount housing	<ul style="list-style-type: none"> • Large meter counter • PTB approved • 1 or 2 presets • Adding
	N 208	12...24 VDC	Built-in housing	<ul style="list-style-type: none"> • Totalizer • Difference counter • Position display
	N 214	24/48 VAC $\pm 10\%$ (50/60 Hz) 115/230 VAC $\pm 10\%$ (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • LED display 14 mm • Position display • Programmable • Serial interfaces
	NA214	85...265 VAC (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • SSI display • 3 relay outputs • Serial interfaces
	NE210	24/48 VAC $\pm 10\%$ (50/60 Hz) 85...265 VAC (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Preset counter • programmable as • Time meter • Time relay

	NE212	24/48 VAC $\pm 10\%$ (50/60 Hz) 85...265 VAC (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Multifunctional • Totalizer 8-digits • Integrated batch counter • Serial interfaces
	NE214	24/48 VAC $\pm 10\%$ (50/60 Hz) 115/230 VAC $\pm 10\%$ (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • LED display 14 mm • Totalizer 6-digits • Integrated batch counter • Serial interfaces
	NE215	115 VAC $\pm 10\%$ (50/60 Hz) 230 VAC $\pm 10\%$ (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Meter counter with • PTB approved • Display in mm or cm • Integrated batch counter • Serial interfaces
	NE216	24/48 VAC $\pm 10\%$ (50/60 Hz) 85...265 VAC (50/60 Hz) 12...30 VDC	Built-in housing	<ul style="list-style-type: none"> • 2 presets • Step presets • Trailing preset • Totalizer or time meter • Interface RS485
	NE218	24/48 VAC $\pm 10\%$ (50/60 Hz) 115/230 VAC $\pm 10\%$ (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • LED display 14 mm • Totalizer 6-digits • Integrated auxiliary counter • Serial interfaces
	NE230	14...28 VAC (50/60 Hz) 85...265 VAC (50/60 Hz) 10...30 VDC	Surface mount housing	<ul style="list-style-type: none"> • Housing for DIN rail • Totalizer 6-digits • Integrated auxiliary counter • Serial interfaces
	PCD41	24/48 VAC $\pm 10\%$ (50/60 Hz) 115/230 VAC $\pm 10\%$ (50/60 Hz) 12...30 VDC	Built-in housing	<ul style="list-style-type: none"> • Offset for measured values • 2 limits with relay • Serial interfaces

	T 120	-	Housing with retaining ring	<ul style="list-style-type: none"> • Hand-held piece counter • With retaining ring • Housing of metal
	T 123	-	Housing with ground plate (table mount)	<ul style="list-style-type: none"> • Hand-held piece counter • With base mounting plate • Housing of metal
	T 124	-	Housing with mounting plate (wall mount)	<ul style="list-style-type: none"> • Hand-held piece counter • With wall mounting plate • Housing of metal
	T 127	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Piece counter 4-digits • With lever
	T 130	-	Housing with retaining ring	<ul style="list-style-type: none"> • Hand-held piece counter • With retaining ring • Housing of plastic
	T 134	-	Plug-on housing for table and wall mount	<ul style="list-style-type: none"> • Hand-held piece counter • With base/wall mounting plate • Housing of plastic
	TA200	24/48 VAC $\pm 10\%$ (50/60 Hz) 115/230 VAC $\pm 10\%$ (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Count frequency max. 40 kHz • Measuring units 1/h, 1/min, 1/s • Scaling factor
	TA201	24/48 VAC $\pm 10\%$ (50/60 Hz) 115/230 VAC $\pm 10\%$ (50/60 Hz) 24 VDC $\pm 10\%$	Built-in housing	<ul style="list-style-type: none"> • Count frequency max. 40 kHz • Ratio display

	TA202	24/48 VAC ±10 % (50/60 Hz) 115/230 VAC ±10 % (50/60 Hz) 24 VDC ±10 %	Built-in housing	<ul style="list-style-type: none"> • 2 limits • Count frequency max. 40 kHz • Ratio display • Serial interfaces • Analog output
	U 126	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Revolution counter • adding, 5-digits • Base plate horizontal
	U 127	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Revolution counter • adding, 5-digits • Base plate vertical
	U 300	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Revolution counter • adding, 5-digits • Base plate vertical
	U 310	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Revolution counter • adding, 5-digits • Base plate horizontal
	U 400	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Revolution counter • adding, 7-digits • Base plate horizontal
	U 401	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Drive shaft at bottom • Revolution counter • adding, 5-digits • Base plate horizontal

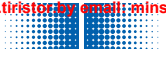
	U 410	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Revolution counter • adding, 5-digits • Base plate horizontal
	U 411	-	Surface mount housing with mounting plate	<ul style="list-style-type: none"> • Drive shaft at bottom • Revolution counter • adding, 5-digits • Base plate horizontal
	UE102	-	Surface mount housing	<ul style="list-style-type: none"> • Revolution counter • 1 preset, 4 digits • subtracting • Option: precontact
	UE230	-	Surface mount housing	<ul style="list-style-type: none"> • Revolution counter • 1 preset • subtracting • Option: precontact
	UE280	-	Surface mount housing	<ul style="list-style-type: none"> • Large meter counter • 1 or 2 presets • adding

СРЕДСТВА ВИЗУАЛИЗАЦИИ



PRODUCT	TYPE	MEDIUM	ELECTRIC CONNECTION	TEMPERATURE RANGE	INPUT	ACCURACY	OUTPUT SIGNAL	DISPLAY	APPROVALS	MOUNTING
CombiTemp TFR5	Room temperature sensor	Air	Ø80 mm, FlexHousing	-40 ... 85 °C	Pt100	Class A Class B ±0,1 °C ±0,25 °C 1/3 Class B 1/6 Class B	HART Pt100 4 ... 20 mA	Graphical colour display LCD Without	ATEX	-
CombiTemp TFRH	Sensor Transmitter	Hygienic	Ø80 mm, FlexHousing	-50 ... 200 °C -50 ... 205 °C -50 ... 250 °C	Pt100	Class A Class B ±0,1 °C ±0,25 °C 1/3 Class B 1/6 Class B	HART Pt100 4 ... 20 mA	Graphical colour display LCD Without	ATEX EHEDG 3-A	-
CombiTemp TFRN	Sensor Transmitter	Standard	Ø80 mm, FlexHousing	-50 ... 200 °C -50 ... 205 °C -50 ... 250 °C -50 ... 400 °C	Pt100	Class A Class B ±0,1 °C ±0,25 °C 1/3 Class B 1/6 Class B	HART Pt100 4 ... 20 mA	Graphical colour display LCD Without	ATEX	-

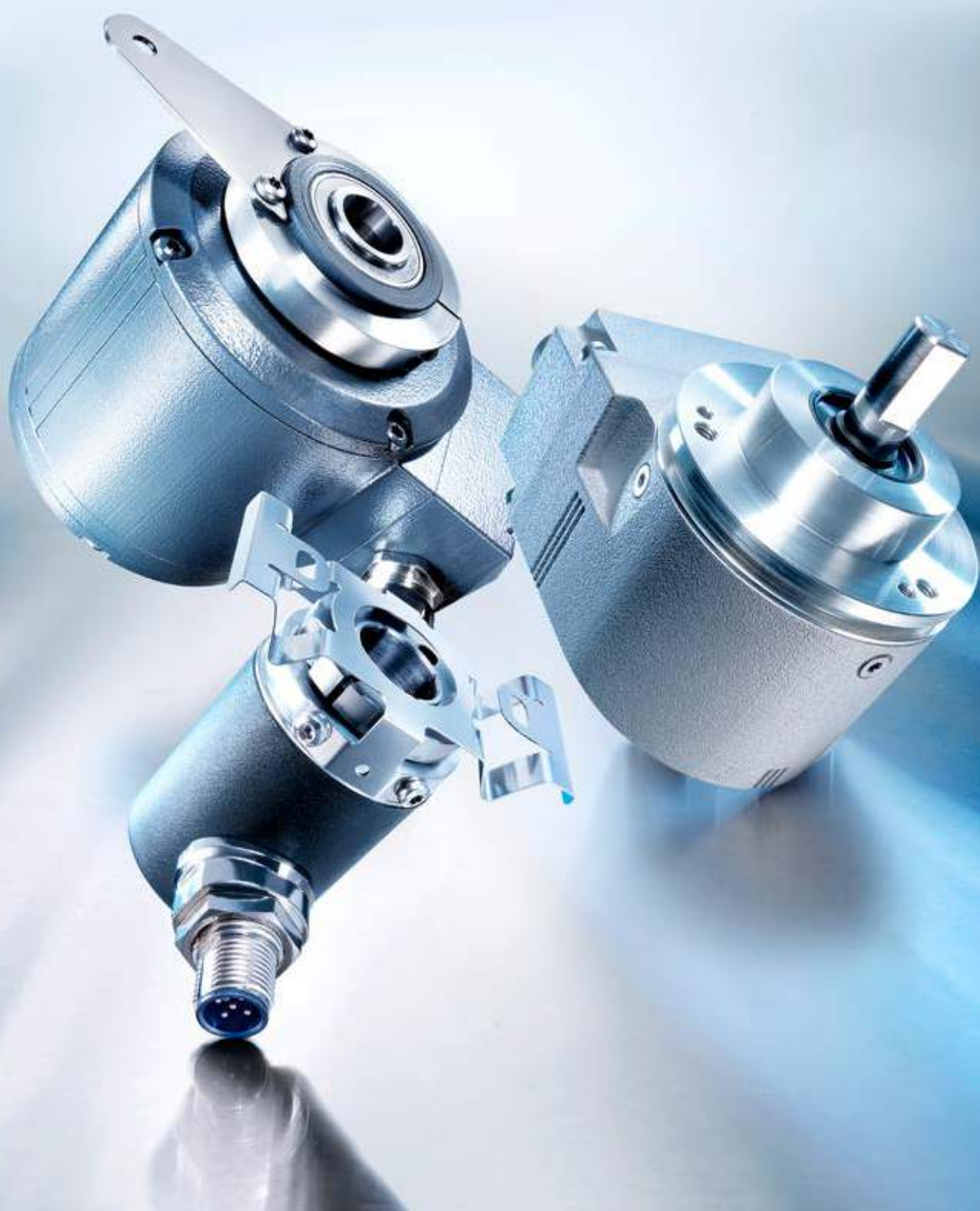
PRODUCT	MEDIUM	MATERIAL PROCESS CONNECTIO N	PRESSURE RANGE	ACCURACY	MAX MEDIUM TEMPERATU RE	OUTPUT SIGNAL	DISPLAY	APPROVALS
CombiPress PFMH	Beverage Food Pharmaceutical	Hastelloy Stainless Steel 1.4404 (316L)	Negative 0 ... 40 bar 40 ... 400 bar	0.1% FS 0.25% FS	< 80 °C < 100 °C < 125 °C < 200 °C	HART Two galvanically isolated switching outputs (PNP) 4 ... 20 mA	Rotatable Standard Without	ATEX EHEDG 3-A
CombiPress PFMN	Beverage Chemicals Food Water	Hastelloy Stainless Steel 1.4404 (316L)	Negative 0 ... 40 bar 40 ... 400 bar	0.1% FS 0.25% FS	< 80 °C < 100 °C < 125 °C < 200 °C	HART Two galvanically isolated switching outputs (PNP) 4 ... 20 mA	Rotatable Standard Without	ATEX EHEDG



Encoders and angle measurement

Flexible, robust, precise

Product overview – Edition 2017



Partnership.
Precise.
Pioneering.

Visibly better: Baumer sensors.

The Baumer Group is leading at the international level in the development and production of sensors, shaft encoders, measuring instruments as well as components for automatic image processing. As an owner-managed family business, we employ about 2300 workers worldwide in 37 subsidiaries and 19 countries. With marked customer orientation, consistently high quality and vast innovation potential worldwide, Baumer develops specific solutions for many industries and applications.

Our standards – your benefits.

- Passion coupled with expertise – both have made us a sensor pioneer and technology leader
- Our range of services is hard to beat – we have the right product, developed by our own team, for every task
- Inspiring through innovation – a challenge Baumer employees take on every day
- Reliability, precision and quality – our customers' requirements are what drives us
- Partnership from the start – together with our customers we develop suitable solutions
- Always a step ahead – thanks to our production depth, our flexibility and our delivery reliability
- Available worldwide – Baumer is present across the globe





Baumer sensors – precise, compacte and reliable.

Baumer offers a broad portfolio of standard products based on a multitude of sensor technologies. Our customers benefit from the comprehensive consultation and reliable service we provide around the world. In close collaboration with them we develop specific solutions with distinct advantages in cost and performance. Our customers benefit from our international development teams, the considerable diversity of our production facilities and optimized business processes, which guarantee maximum flexibility and promptness in the implementation of customer requirements.



Learn more.
Detailed technical information, data sheets, tutorials and the Baumer product finder can be found at:
www.baumer.com



Content.

Incremental encoders	5	Cable transducers	73
Size 24...40 mm	6	Absolute & Incremental	74
Size 58 mm	8	For very special applications	77
Large hollow shaft	12	Motor feedback encoders	78
Programmable	14	Encoders for hazardous environments	80
Sine/Cosine	16	Redundant absolute encoders	82
Inch size	18	SIL encoders incremental and absolute	83
Other designs	19	Stainless steel encoders	84
Absolute encoders	22	Offshore encoders	86
Robust magnetic sensing	22	Signal processing	88
Precise optical sensing	26	Inclination & acceleration sensors	93
HeavyDuty	33	Inclination sensors	94
Incremental encoders	34	Acceleration sensors	95
Incremental encoders – Sine/Cosine	40	Accessories	96
Absolute encoders	42	Index	98
Speed switches	44		
Encoders with speed switch	46		
Tachogenerators & Resolvers	50		
Combinations	54		
Bearingless encoders	59		
Incremental & quasi-absolute	60		
Absolute	66		
Magnetic rotary encoders	70		
Linear bearingless encoders	71		

Flexible, robust and precise.



OptoPulse® EIL580-SC
with clamping flange and M23 connector

Incremental encoders



Incredibly versatile.

From cost-efficient standard products on to high-resolution variants with 320 000 pulses per revolution: In our portfolio you always will encounter the matching incremental encoder. Our passion for sensors lays the groundwork for innovative products available in different designs and variants – with robust magnetic or precise optical sensing, optional HTL, TTL or sine signals and with all common mechanical interfaces.

The product portfolio comprises particularly compact designs of mere 24 mm in diameter on to large hollow shaft diameters up to 85 mm. Configurable encoders allow for maximum flexibility in a wide range of applications. In doing so, they contribute towards cutting down on costs in maintenance and inventory.



Service

OptoPulse® – quickly available and reliable delivery times.

OptoPulse® sets new benchmarks also in ways of delivery. Many stock items are supplied within 24 hours - one working day. More standard items up to the quantity of 10 are available within 5 working days thanks to optimum process harmonization.

Incremental encoders

Size 24...40 mm

Precise optical sensing.
Up to 2048 pulses per revolution.

- Solid shaft, blind or through hollow shaft
- Ideal where space is tight



Features	<ul style="list-style-type: none"> ■ Size 24 mm ■ Solid shaft with synchro flange 	<ul style="list-style-type: none"> ■ Size 24 mm ■ Blind hollow shaft 	<ul style="list-style-type: none"> ■ Size 30 mm ■ Solid shaft with synchro flange 	<ul style="list-style-type: none"> ■ Size 40 mm ■ Blind hollow or through hollow shaft
Product family	ITD 01 B14	ITD 01 A4	BDK 16	BHK 16
Sensing method	Optical			
Size (housing)	ø24 mm		ø30 mm	ø40 mm
Voltage supply	5 VDC ±5 %, 8...30 VDC		5 VDC ±10 %, 10...30 VDC	
Output stage				
- TTL/RS422	■	■	■	■
- HTL/push-pull	■	■	■	■
Output signals	A 90° B, N + inverted			
Shaft type				
- Solid shaft	ø4 mm	–	ø5 mm	–
- Blind hollow shaft	–	ø4 mm	–	ø12 mm
- Through hollow shaft	–	–	–	ø6 mm
Connection				
- Flange connector M9	–	–	Radial	
- Cable	Radial / axial	Radial	Radial / axial	Radial
Pulses per revolution	30...1024		10...2048	
Operating temperature	-20...+85 °C			
Protection	IP 54		IP 42, IP 65	
Operating speed	≤18 000 rpm	≤10 000 rpm	≤12 000 rpm (IP 42) ≤6000 rpm (IP 65)	≤12 000 rpm
Max. shaft load	≤5 N axial, ≤8 N radial	–	≤10 N axial, ≤10 N radial	–

Incremental encoders

Size 24...40 mm

Robust magnetic sensing.
Up to 1024 pulses per revolution.

- Solid shaft or blind hollow shaft
- Ideal where space is tight

EcoMag



Features	<ul style="list-style-type: none"> ■ Size 30 mm ■ Solid shaft with synchro flange 	<ul style="list-style-type: none"> ■ Size 30 mm ■ Solid shaft with synchro flange ■ High protection IP 67 	<ul style="list-style-type: none"> ■ Size 40 mm ■ Blind hollow shaft
Product family	BRIV 30 - <i>EcoMag</i>	BRIV 30R - <i>EcoMag</i>	BRIH 40 - <i>EcoMag</i>
Sensing method	Magnetic		
Size (housing)	ø30 mm	ø30 mm	ø40 mm
Voltage supply	5 VDC ±10 %, 20...28 VDC		
Output stage			
- TTL/RS422	■	■	■
- HTL/push-pull	■	■	■
Output signals	A 90° B, N + inverted		
Shaft type			
- Solid shaft	ø5 mm	ø6 mm, ø8 mm	–
- Blind hollow shaft	–	–	ø6 mm, ø12 mm
Connection			
- Flange connector M9	Radial	Radial / axial	Radial
- Cable	Radial / axial	Radial / axial	Radial
Pulses per revolution	2...1024		
Operating temperature	-20...+65 °C -20...+85 °C (5 VDC)	-40...+65 °C -40...+85 °C (5 VDC)	-20...+65 °C -20...+85 °C (5 VDC)
Protection	IP 65	IP 67	IP 65
Operating speed	≤6000 rpm		
Max. shaft load	≤10 N axial, ≤10 N radial	≤30 N axial, ≤50 N radial	–

EcoMag

EcoMag – robust incremental encoders with resilient magnetic sensing.

Incremental encoders

Size 58 mm

Precise optical sensing.
Max. 5000 pulses per revolution.

- Solid shaft, blind or through hollow shaft
- Robust all-metal housing



OptoPulse® – the new benchmark for encoders

OptoPulse®



Features	■ Solid shaft with clamping flange	■ Solid shaft with synchro flange	■ Blind hollow shaft	■ Through hollow shaft
Product family	EIL580-SC - <i>OptoPulse®</i>	EIL580-SY - <i>OptoPulse®</i>	EIL580-B - <i>OptoPulse®</i>	EIL580-T - <i>OptoPulse®</i>
Sensing method	Optical			
Size (housing)	ø58 mm			
Voltage supply	5 VDC ±5 %, 8...30 VDC, 4.75...30 VDC			
Output stage				
- TTL/RS422	■	■	■	■
- HTL/push-pull	■	■	■	■
Output signals	A 90° B, N + inverted			
Shaft type				
- Solid shaft	ø10 mm	ø6 mm	–	–
- Blind hollow shaft	–	–	ø8...15 mm	–
- Through hollow shaft	–	–	–	ø8...15 mm
Connection				
- Flange connector M12, M23	Radial / axial		Radial	
- Cable	Radial / axial / tangential		Radial / tangential	
Pulses per revolution	100...5000			
Operating temperature	-40...+85 °C (option: +100 °C)			
Protection	IP 65, IP 67			
Operating speed	≤12 000 rpm (IP 65) ≤6000 rpm (IP 67)	≤8000 rpm (IP 65) ≤6000 rpm (IP 67)	≤6000 rpm (IP 65) ≤3000 rpm (IP 67)	
Max. shaft load	≤40 N axial, ≤80 N radial		–	
Option	Square flange, programmable		Isolated hollow shaft, hybrid bearings, programmable	

OptoPulse®

The innovative optical sensing method utilized by *OptoPulse®* incremental encoders ensures ultra-high accuracy and consistently high signal quality throughout the entire temperature range. The heart of this technology is a monolithic OptoASIC with high integration density particularly conceived for high-precision encoders. Thanks to the limited number of discrete components, reliability in the application is decisively improved when it comes to shocks and vibrations.

Incremental encoders

Size 58 mm

Robust magnetic sensing.

Max. 2048 pulses per revolution.

- Solid shaft, blind or through hollow shaft
- Robust all-metal housing

EcoMag



Features	■ Solid shaft with clamping flange	■ Solid shaft with synchro flange	■ Blind hollow shaft	■ Through hollow shaft
Product family	BRIV 58K - <i>EcoMag</i>	BRIV 58S - <i>EcoMag</i>	BRIH 58S - <i>EcoMag</i>	BRID 58S - <i>EcoMag</i>
Sensing method	Magnetic			
Size (housing)	ø58 mm			
Voltage supply	5 VDC ±10 %, 10...30 VDC			
Output stage				
- TTL/RS422	■	■	■	■
- HTL/push-pull	■	■	■	■
Output signals	A 90° B, N + inverted			
Shaft type				
- Solid shaft	ø10 mm	ø6 mm	–	–
- Blind hollow shaft	–	–	ø12 mm	–
- Through hollow shaft	–	–	–	ø12 mm
Connection				
- Flange connector M12, M23	Radial			
- Cable	Radial			
Pulses per revolution	64...2048			
Operating temperature	-20...+85 °C			
Protection	IP 42, IP 65			
Operating speed	≤12 000 rpm (IP 42), ≤6000 rpm (IP 65)			
Max. shaft load	≤40 N axial, ≤60 N radial		–	–



ShaftLock

The *ShaftLock* locking collar prevents the large high-quality bearing pack from any misalignment by high axial shaft loads during operation or at installation. The *ShaftLock* technology ensures maximum precision and improved service life, keeps code disc and sensing unit safe from damage and avoids cost-intensive downtime.

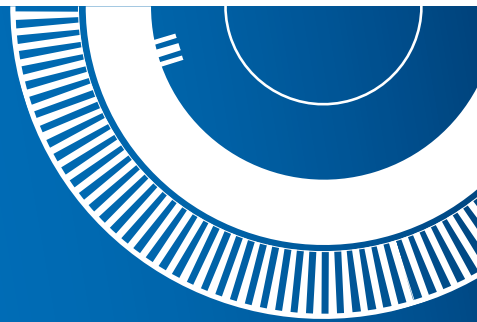
Incremental encoders

Size 58 mm

Precise optical sensing.

Max. 320 000 pulses per revolution.

- Solid shaft with clamping or synchro flange
- Robust all-metal housing



Features	■ Solid shaft with clamping or synchro flange		■ Solid shaft with clamping or synchro flange		■ Solid shaft with clamping flange ■ Max. 320 000 pulses per revolution		■ Solid shaft with synchro flange ■ Max. 320 000 pulses per revolution	
Product family	GI355	GI356	G0355	G0356	BDH HighRes	BDT HighRes		
Sensing method	Optical							
Size (housing)	ø58 mm							
Voltage supply	5 VDC ±10 %, 4.75...30 VDC, 10...30 VDC				5 VDC ±10 %, 10...30 VDC			
Output stage								
- TTL/RS422	■		■		■		■	
- HTL/push-pull	■		■		■		■	
Output signals	A 90° B, N + inverted							
Shaft type								
- Solid shaft	ø10 mm	ø6 mm	ø10 mm	ø6 mm	ø10 mm	ø6 mm		
Flange	Clamping flange	Synchro flange	Clamping flange	Synchro flange	Clamping flange		Synchro flange	
Connection								
- Flange connector M23	Radial / axial				Radial			
- Cable	Radial / axial				Radial			
Pulses per revolution	5...6000		6000...80 000		7200...320 000			
Operating temperature	-20...+85 °C (-20...+100 °C)				-20...+85 °C			
Protection	IP 54, IP 65				IP 42, IP 65			
Operating speed	≤10 000 rpm				≤6000 rpm			
Max. shaft load	≤20 N axial, ≤40 N radial				≤40 N axial, ≤60 N radial		≤10 N axial, ≤20 N radial	
Options	SIL2 certification GI357		—		—		—	

Incremental encoders

Size 58 mm

Precise optical sensing.
Max. 320 000 pulses per revolution.

- Blind hollow or through hollow shaft
- Robust all-metal housing

HighRes – max. 320 000
pulses per revolution



Features	■ Through hollow shaft	■ Through hollow shaft ■ Tangential cable outlet	■ Blind hollow shaft ■ Max. 320 000 pulses per revolution	■ Through hollow shaft ■ Max. 320 000 pulses per revolution
Product family	G0333	ITD21H00	BHF HighRes	BHG HighRes
Sensing method	Optical			
Size (housing)	ø58 mm			
Voltage supply	5 VDC ±10 %, 4.75...30 VDC, 10...30 VDC		5 VDC ±10 %, 10...30 VDC	
Output stage				
- TTL/RS422	■	■	■	■
- HTL/push-pull	■	■	■	■
Output signals	A 90° B, N + inverted			
Shaft type				
- Blind hollow shaft	–	–	ø12 mm	–
- Through hollow shaft	ø12...14 mm	ø10...14 mm	–	ø12 mm
Connection				
- Flange connector M23	Radial / axial	–	Radial	
- Cable	Radial	Tangential	Radial	
Pulses per revolution	6000...80 000	100...80 000	4096...320 000	
Operating temperature	-25...+85 °C	-30...+100 °C	-20...+85 °C	
Protection	IP 54	IP 54, IP 65	IP 42, IP 65	
Operating speed	≤6000 rpm			
Options	Stainless steel variant GE333	Operating temperature -30...+120 °C	–	–

Incremental encoders

Large hollow shaft 20...27 mm

Precise optical sensing.
Max. 80 000 pulses per revolution.

- Blind hollow or through hollow shaft
- Easy installation

HighRes – max. 80 000 pulses per revolution



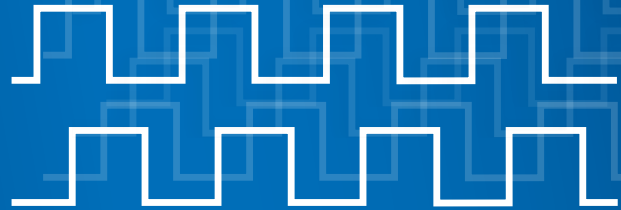
Features	<ul style="list-style-type: none"> ■ Through hollow shaft ■ Torque support ■ Max. 2048 pulses per revolution 	<ul style="list-style-type: none"> ■ Through hollow shaft ■ Max. 10 000 pulses per revolution 	<ul style="list-style-type: none"> ■ Blind hollow or through hollow shaft ■ Max. 16 384 pulses per revolution 	<ul style="list-style-type: none"> ■ Through hollow shaft ■ Protection up to IP 67 ■ Max. 80 000 pulses per revolution ■ Isolated shaft
Product family	ITD 40	ITD 41	G110H G110S	HS35F
Sensing method	Optical			
Size (housing)	ø80 mm		ø75 mm	ø3.15" (ø80 mm)
Voltage supply	5 VDC ±5 %, 8...30 VDC		5 VDC ±10 % 4.75...30 VDC	4.75...30 VDC
Output stage				
- TTL/RS422	■	■	■	■
- HTL/push-pull	■	■	■	■
Output signals	A 90° B, N + inverted			
Shaft type				
- Blind hollow shaft	–	–	–	ø20 mm, ø25 mm
- Through hollow shaft	ø17...27 mm	ø17...30 mm	ø20, ø25 or ø25.4 mm	ø0.375...1" (ø9.525...25.4 mm)
Connection				
- Flange connector M23	–	–	Radial	–
- Flange connector MIL	–	–	–	Radial
- Cable	Radial			
Pulses per revolution	200...2048	2000...10 000	1024...16 384	1024...80 000
Operating temperature	-20...+70 °C, -20...+100 °C		-20...+85 °C	-40...+100 °C (-40...+212 °F)
Protection	IP 65		IP 54	IP 54, IP 65, IP 67
Operating speed	≤5000 rpm, ≤3000 rpm (>70 °C)		≤3800 rpm	≤5000 rpm
Options	Torque support with electric isolation Stainless steel variant		–	–

Incremental encoders

Large hollow shaft 30...85 mm

Precise optical sensing.
Max. 4096 pulses per revolution.

- Through hollow shaft
- Easy installation



Features	<ul style="list-style-type: none"> ■ Through hollow shaft max. \varnothing50 mm ■ Very flat design ■ Clamping at B side 	<ul style="list-style-type: none"> ■ Through hollow shaft max. \varnothing65 mm ■ Clamping at B side 	<ul style="list-style-type: none"> ■ Through hollow shaft max. \varnothing85 mm ■ Bearingless
Product family	ITD 61	ITD 70	ITD 75
Sensing method	Optical		
Size (housing)	\varnothing 120 mm	\varnothing 150 mm	
Voltage supply	4.75...30 VDC	5 VDC \pm 5 %, 8...30 VDC	
Output stage			
- TTL/RS422	■	■	■
- HTL/push-pull	■	■	■
Output signals	A 90° B, N + inverted		
Shaft type			
- Through hollow shaft	\varnothing 30...50 mm	\varnothing 38...65 mm	\varnothing 60...85 mm
Connection			
- Flange connector M23	–	Radial	–
- Cable	Radial		
Pulses per revolution	1024...4096	1000...2500	
Operating temperature	-20...+85 °C	-20...+70 °C	
Protection	IP 54		
Operating speed	\leq 4000 rpm (+70 °C) \leq 3000 rpm (+85 °C)	\leq 3000 rpm	
Options	Stainless steel variant Cable with connector	Cable with connector	

Incremental encoders

Programmable

Precise optical sensing.

Max. 320 000 pulses per revolution.

- Configurable by programming software, switch or external programming tool
- Solid shaft, blind or through hollow shaft
- Configurable electric interface level (TTL or HTL)



Features	■ Solid shaft max. $\varnothing 6$ mm	■ Through hollow shaft max. $\varnothing 12$ mm ■ Max. 320 000 pulses per revolution	■ Blind hollow shaft max. $\varnothing 12$ mm ■ Max. 320 000 pulses per revolution	■ Through hollow shaft max. $\varnothing 14$ mm ■ Detachable cable
Product family	BNIV	BHG HighRes	BHF HighRes	ITD2PH00
Configurable parameters	Pulses per revolution			Pulses per revolution, output stage HTL or TTL, zero pulse, signal sequence
Configuration	HEX switch	Programming software, programming tool		
Sensing method	Optical			
Size (housing)	$\varnothing 40$ mm			
Voltage supply	4.75...30 VDC	5 VDC $\pm 10\%$, 10...30 VDC		4.75...30 VDC
Output stage				
- TTL/RS422	■	■	■	–
- HTL/push-pull	■	■	■	■
Output signals	A 90° B, N + inverted			
Shaft type				
- Solid shaft	$\varnothing 6$ mm	–	–	–
- Blind hollow shaft	–	–	$\varnothing 12$ mm	–
- Through hollow shaft	–	$\varnothing 12$ mm	–	$\varnothing 10$ mm, $\varnothing 12$ mm, $\varnothing 14$ mm
Connection				
- Flange connector M12	Radial	–	Radial	–
- Flange connector M23	–	Radial	–	–
- Cable	Radial	–	–	Tangential
Pulses per revolution	100...25 000	4096...320 000		1...65536
Operating temperature	-20...+85 °C			-30...+100 °C
Protection	IP 64	IP 42, IP 65		IP 65
Operating speed	≤ 3000 rpm	≤ 6000 rpm		–
Max. shaft load	≤ 10 N axial, ≤ 40 N radial	–	–	–

Incremental encoders

Programmable

Maximum flexibility by versatile configuration options.

HighRes – max. 320 000 pulses per revolution



Features	<ul style="list-style-type: none"> Through hollow shaft max. $\varnothing 25.4$ mm 	<ul style="list-style-type: none"> Solid shaft with clamping flange max. $\varnothing 10$ mm or synchro flange max. $\varnothing 6$ mm 	<ul style="list-style-type: none"> Blind or through hollow shaft max. $\varnothing 15$ mm
Product family	HS35P	EIL580P-SC EIL580P-SY	EIL580P-B EIL580P-T
Configurable parameters	Pulses per revolution, output stage HTL or TTL, zero pulse	Pulses per revolution, output stage HTL or TTL, zero pulse, signal sequence	
Configuration	Programming software, programming tool		
Sensing method	Optical		
Size (housing)	$\varnothing 3.15''$ ($\varnothing 80$ mm)	$\varnothing 58$ mm	
Voltage supply	4.75...30 VDC		
Output stage			
- TTL/RS422	■	■	■
- HTL/push-pull	■	■	■
Output signals	A 90° B, N + inverted	A 90° B, R + inverted	
Shaft type			
- Solid shaft	–	$\varnothing 10$ mm	$\varnothing 6$ mm
- Blind hollow shaft	–	–	$\varnothing 8...15$ mm
- Through hollow shaft	$\varnothing 0.375...1''$ ($\varnothing 9.525...25.4$ mm)	–	$\varnothing 8...15$ mm
Connection			
- Flange connector M23	–	Radial / axial	
- Flange connector MIL	Radial	–	Radial
- Cable	Radial	Radial / axial / tangential	
			Radial / tangential
Pulses per revolution	1...8192	1...65536	
Operating temperature	-40...+100 °C (-40...+212 °F)	-40...+100 °C	
Protection	IP 65, IP 67		
Operating speed	≤ 5000 rpm	$\leq 12\,000$ rpm (IP 65) ≤ 6000 rpm (IP 67)	≤ 8000 rpm (IP 65), ≤ 6000 rpm (IP 67)
			≤ 6000 rpm (IP 65), ≤ 3000 rpm (IP 67)
Max. shaft load	–	≤ 40 N axial, ≤ 80 N radial	
Option	–	Isolated hollow shaft, flange variant, connector variant	

Incremental encoders

Sine/Cosine



Precise optical sensing.
Highest signal quality.

- Size $\varnothing 58 \dots 80$ mm
- Maximum speed 12 000 rpm
- Robust all-metal housing



Features	■ Solid shaft with synchro flange	■ Blind hollow shaft up to $\varnothing 12$ mm	■ Through hollow shaft	■ Blind hollow shaft up to $\varnothing 10$ mm ■ Inside flexible coupling
Product family	BDT Sine	BHF Sine	BHG Sine	BHT Sine
Sensing method	Optical			
Size (housing)	$\varnothing 58$ mm			
Voltage supply	5 VDC ± 5 %			
Output stage	SinCos 1 Vpp			
Shaft type				
- Solid shaft	$\varnothing 6$ mm	–	–	–
- Blind hollow shaft	–	$\varnothing 12$ mm	–	$\varnothing 9.52$ mm, $\varnothing 10$ mm
- Through hollow shaft	–	–	$\varnothing 12$ mm	–
Connection				
- Flange connector M12	–	Radial		
- Flange connector M23	Radial / axial	Radial		
- Cable	Radial / axial	Radial		
Sine waves per revolution	1000...5000			
Operating temperature	$-20 \dots +85$ °C			
Protection	IP 42, IP 65			IP 65
Operating speed	$\leq 12\,000$ rpm (IP 42), ≤ 6000 rpm (IP 65)			≤ 6000 rpm
Max. shaft load	≤ 10 N axial, ≤ 20 N radial	–	–	–

Incremental encoders

Sine/Cosine

Precise optical sensing.
Highest signal quality.

- Size $\varnothing 58...80$ mm
- Maximum speed 12 000 rpm
- Robust all-metal housing



Features	<ul style="list-style-type: none"> ■ Through hollow shaft ■ Tangential cable outlet 	<ul style="list-style-type: none"> ■ Through hollow shaft ■ Inch size ■ Protection up to IP 67 	<ul style="list-style-type: none"> ■ Through hollow shaft
Product family	ITD22H00	HS355	ITD 42 A4 Y79
Sensing method	Optical / <i>LowHarmonics</i>		
Size (housing)	$\varnothing 58$ mm	$\varnothing 3.15''$ ($\varnothing 80$ mm)	$\varnothing 80$ mm
Voltage supply	5 VDC ± 10 %	4.75...30 VDC	5 VDC ± 10 %, 8...30 VDC
Output stage	SinCos 1 Vpp		
Shaft type			
- Through hollow shaft	$\varnothing 10$ mm, $\varnothing 12$ mm, $\varnothing 14$ mm	$\varnothing 0.375...1''$ ($\varnothing 9.525...25.4$ mm)	$\varnothing 20...27$ mm
Connection			
- Flange connector MIL	–	Radial	–
- Cable	Tangential	Radial	Radial
Sine waves per revolution	1024...2048	1024...5000	1024...2048
Operating temperature	-30...+100 °C	-40...+100 °C (-40...+212 °F)	-20...+85 °C
Protection	IP 65	IP 65, IP 67	IP 65
Operating speed	≤ 6000 rpm	≤ 5000 rpm (IP 65) ≤ 3000 rpm (IP 67)	≤ 5000 rpm

LowHarmonics

LowHarmonics is leading cutting-edge technology by generating sine signals with negligible harmonic content. Sine encoders with *LowHarmonics* ensure improved control quality, less drive heating and higher energy efficiency.

Incremental encoders

Inch size

Precise optical sensing.
Max. 80 000 pulses per revolution.

- Solid shaft, blind or through hollow shaft
- Robust all-metal housing
- Protection up to IP 67



Features	<ul style="list-style-type: none"> ■ Solid shaft with square flange ■ Inch size ■ Max. 6000 pulses per revolution 	<ul style="list-style-type: none"> ■ Solid shaft with square flange ■ Inch size ■ Max. 5000 pulses per revolution 	<ul style="list-style-type: none"> ■ Blind or through hollow shaft ■ Max. 5000 pulses per revolution 	<ul style="list-style-type: none"> ■ Through hollow shaft ■ Inch size ■ Max. 80 000 pulses per revolution ■ Isolated shaft 	
Product family	G25	EIL580-SQ - <i>OptoPulse</i> ®	EIL580-B	EIL580-T	HS35
Sensing method	Optical				
Size (housing)	2.5 x 2.5" (63.5 x 63.5 mm)	2.5 x 2.5" (63.5 x 63.5 mm)	2.28" (ø58 mm)	ø3.15" (ø80 mm)	
Voltage supply	5 VDC ±10 % 4.75...30 VDC	5 VDC ±5 % 8...30 VDC 4.75...30 VDC	5 VDC ±5 % 8...30 VDC 4.75...30 VDC	4.75...30 VDC	
Output stage					
- TTL/RS422	■	■	■	■	
- HTL/push-pull	■	■	■	■	
Output signals	A, B, Z + inverted	A 90° B, R + inverted		A 90° B, N + inverted	
Shaft type					
- Solid shaft	ø0.375" (ø9.52 mm)	ø10 mm	–	–	
- Blind hollow shaft	–	–	ø0.315-0.591" (ø8...15 mm)	–	–
- Through hollow shaft	–	–	–	ø0.315-0.591" (ø8...15 mm)	ø0.375...1" (ø9.525...25.4 mm)
Connection					
- Flange connector MIL	Radial	–	–	Radial	
- Flange connector M12, M23	–	Radial / axial	Radial / axial	Radial	–
- Cable	Radial	Radial / axial / tangential	Radial / axial / tangential	Radial / tangential	–
Pulses per revolution	5...6000	100...5000	–	1024...80 000	
Sine waves per revolution	–	–	–	1024...5000	
Operating temperature	-30...+100 °C (5 VDC) -30...+85 °C (24 VDC)	-40...+85 °C (optional +100 °C)		-40...+100 °C (-40...+212 °F)	
Protection	IP 54 (without shaft seal) IP 67 (with shaft seal)	IP 65, IP 67		IP 54, IP 65, IP 67	
Operating speed	≤10 000 rpm (IP 54) ≤6000 rpm (IP 67)	≤8000 rpm (IP 65) ≤6000 rpm (IP 67)		≤5000 rpm	
Max. shaft load	≤80 lbs (350 N) axial/radial ≤100 lbs (450 N) axial or ≤150 lbs (670 N) radial	–	–	–	
Options	–	Programmable	Programmable Isolated hollow shaft	Programmable	

Incremental encoders

Other designs



Solid shaft with EURO flange B10.
Measuring wheel encoder for length measurement.

- More product variants or customer-specific designs on request.



Features	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Max. 5000 pulses per revolutions 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Max. 2048 pulses per revolution 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Max. 6000 pulses per revolution 	<ul style="list-style-type: none"> ■ Measuring wheel encoder comprising encoder, tether arm and measuring wheel ■ Contact pressure fully adjustable
Product family	EIL580-S1 - <i>OptoPulse</i> ®	ITD 40 B10	ITD 41 B10	MA20
Configurable parameters	–	–	–	16 pre-defined resolutions
Configuration	–	–	–	HEX switch
Sensing method	Optical			
Size (housing)	ø58 mm	ø82 mm		ø40 mm (encoder)
Voltage supply	5 VDC ±5 % 8...30 VDC 4.75...30 VDC	5 VDC ±5 % 8...30 VDC		4.75...30 VDC
Output stage				
- TTL/RS422	■	–	–	–
- HTL/push-pull	■	■	■	■
Output signals	A 90° B, R + inverted	A 90° B, N + inverted		A 90° B
Shaft type				
- Solid shaft	ø11 mm			ø6 mm
Connection				
- Flange connector M12	Radial	–	–	Radial
- Flange connector M23	Radial	–	–	–
- Cable	Radial			
Pulses per revolution	100...5000	200...2048	1000...6000	100...25 000
Operating temperature	-40...+85 °C (optional +100 °C)	-20...+70 °C (-20...+100 °C)		-20...+85 °C
Protection	IP 65, IP 67	IP 65		IP 64
Operating speed	≤12 000 rpm (IP 65) ≤6000 rpm (IP 67)	≤12 000 rpm	≤6000 rpm	≤3000 rpm
Max. shaft load	≤40 N axial, ≤80 N radial	≤40 N axial, ≤60 N radial		–
Options	–	Seawater resistant Cable with connector		Measuring wheels available with different rubber surface

Absolute flexibility.



Absolute encoders in $\varnothing 58$ mm size:
EAL580 with clamping flange

Absolute encoders



All current interfaces, device-integrated or by modular bus covers.

With Baumer, you will always encounter the absolute encoder that is just right for your requirements – with conventional point-to-point interface or realtime EtherNet, with precise optical or robust magnetic sensing, from compact $\varnothing 30$ mm size on to large hollow shafts of $\varnothing 50$ mm. The products are optimized for maximum performance and hence predestined for demanding applications where they measurably contribute towards increased productivity.

Reliable quality and flexible delivery times for any interface or mechanical product variant: This involves qualified and committed people, intelligent technologies and the latest production methods.



Sensing technologies



Optical or magnetic sensing

Optical encoders ensure ultimate precision and maximum magnetic field immunity in parallel.

They allow for resolutions up to 18 bits per turn at an accuracy as high as $\pm 0.01^\circ$. Magnetic encoders of the *MAGRES* series are particularly robust and always provide reliable operation even under heavy shocks and vibrations or where there is dew and condensation.

Absolute encoders

Size up to 36 mm

Robust magnetic precise sensing.
Integrated interface.

- Solid shaft and blind hollow shaft
- Compact housing where space is tight
- Shock resistant up to 500 g
- Angular accuracy up to $\pm 0.15^\circ$

CANopen

SAE J1939

SSI

MAGRES

New



New



New



New



Features	■ Solid shaft with flat mounting flange	■ Solid shaft with synchro flange	■ Solid shaft with synchro flange ■ E1 compliant design ■ Corrosion protection C5-M	■ Blind hollow shaft
Product family	EAM280	EAM360 - MAGRES	EAM360R - MAGRES	EAM360 - MAGRES

Interface

- SSI	–	■	–	■
- Analog	■	–	■	–
- CANopen® / redundant	– / ■	■ / –	■ / –	■ / –
- CANopen® Lift	–	■	–	■
- SAE J1939	–	–	■	–

Function principle	Singleturn	Multiturn	Singleturn	Multiturn	Singleturn	Multiturn	Singleturn
Sensing method	Magnetic						
Size (housing)	ø28.6 mm		ø36 mm				
Voltage supply	10...30 VDC (CANopen®) 12...30 VDC (Analog) 5 VDC $\pm 5\%$ (Analog)		4.5 ... 30 VDC (CANopen®, SAE J1939, SSI) 8 ... 30 VDC / 14 ... 30 VDC (Analog - depending on type)				

Shaft type

- Solid shaft	ø6 mm	ø10 mm	ø10 mm	–
- Blind hollow shaft	–	–	–	ø12 mm, ø14 mm, ø15 mm

Connection

- Flange connector M12	Radial	Radial	Radial	Radial
- Cable	Radial	Radial (0.14 mm ²)	Radial (0.5 mm ²)	Radial (0.14 mm ²)

Total resolution	≤ 12 bit (Analog) ≤ 14 bit (CANopen®)	≤ 32 bit	≤ 14 bit	≤ 32 bit	≤ 14 bit	≤ 32 bit	≤ 14 bit
Steps per turn	4096/12 bit (Analog) 16384/14 bit (CANopen®)	$\leq 16384/14$ bit	$\leq 16384/14$ bit	$\leq 16384/14$ bit	$\leq 16384/14$ bit	$\leq 16384/14$ bit	$\leq 16384/14$ bit
Number of turn	–	$\leq 262144/18$ bit	–	$\leq 262144/18$ bit	–	$\leq 262144/18$ bit	–
Absolute accuracy	$\pm 1.8^\circ$	Up to $\pm 0.25^\circ$ (+25 °C)					
Operating temperature	-40...+85 °C						
Protection	IP 65, IP 67	IP 65, IP 67		IP 67		IP 65, IP 67	
Operating speed	≤ 800 rpm	≤ 6000 rpm					
Max. shaft load	≤ 25 N axial, ≤ 25 N radial	≤ 40 N axial, ≤ 80 N radial					
Options	Cable with Deutsch connector	Additional incremental signals (SSI, CANopen®)		Additional incremental signals (SSI, CANopen®) Cable with Deutsch connector		Additional incremental signals (SSI, CANopen®)	

Absolute encoders

Size up to 36 mm

Robust magnetic precise sensing.
Integrated interface.

- Solid shaft and blind hollow shaft
- Compact housing where space is tight
- Shock resistant up to 500 g
- Angular accuracy up to $\pm 0.15^\circ$

New

MAGRES



Features	<ul style="list-style-type: none"> ■ Blind hollow shaft ■ E1 compliant design ■ Corrosion protection C5-M 	
Product family	EAM360R - MAGRES	
Interface		
- Analog	■	
- CANopen® / redundant	■ / –	
- SAE J1939	■	
Function principle		
	Multiturn	Singleturn
Sensing method	Magnetic	
Size (housing)	ø36 mm	
Voltage supply	4.5 ... 30 VDC (CANopen®, SAE J1939, SSI) 8 ... 30 VDC / 14 ... 30 VDC (Analog - depending on type)	
Shaft type		
- Blind hollow shaft	ø12 mm, ø14 mm, ø15 mm	
Connection		
- Flange connector M12	Radial	
- Cable	Radial (0.5 mm ²)	
Total resolution	≤32 bit	≤14 bit
Steps per turn	≤16384/14 bit	≤16384/14 bit
Number of turn	≤262144/18 bit	–
Absolute accuracy	Up to $\pm 0.25^\circ$ (+25 °C)	
Operating temperature	-40...+85 °C	
Protection	IP 67	
Operating speed	≤6000 rpm	
Max. shaft load	≤40 N axial, ≤80 N radial	
Options	Additional incremental signals (SSI, CANopen®) Cable with Deutsch connector	

MAGRES

The MAGRES absolute encoders operate on both magnetic singleturn and multiturn sensing – entirely non-contact and with high resolutions up to 14 bit singleturn.

Absolute encoders

Size 58 mm

Robust magnetic precise sensing.
Integrated interface.

- Solid shaft and blind hollow shaft
- Compact housing where space is tight
- Shock resistant up to 500 g
- Angular accuracy up to $\pm 0.15^\circ$

PROFINET

SSI

SAE J1939

CANopen

MAGRES



New



New



New



New

Features	<ul style="list-style-type: none"> ■ Solid shaft with clamping or synchro flange 	<ul style="list-style-type: none"> ■ Solid shaft with clamping or synchro flange ■ E1 compliant design ■ Corrosion protection C5-M 	<ul style="list-style-type: none"> ■ Blind hollow shaft 	<ul style="list-style-type: none"> ■ Blind hollow shaft ■ E1 compliant design ■ Corrosion protection C5-M
Product family	EAM580 - MAGRES	EAM580R - MAGRES	EAM580 - MAGRES	EAM580R - MAGRES

Interface

- SSI	■	–	■	–
- Analog	–	■	–	■
- CANopen® / redundant	■ / –	■ / ■	■ / –	■ / ■
- CANopen® Lift	■	–	■	–
- SAE J1939	–	■	–	■
- Profinet	■	–	■	–

Function principle	Multiturn	Singleturn	Multiturn	Singleturn	Multiturn	Singleturn	Multiturn	Singleturn
Sensing method	Magnetic							
Size (housing)	ø58 mm							
Voltage supply	4.5 ... 30 VDC (CANopen, SAE J1939, SSI) 8 ... 30 VDC / 14 ... 30 VDC (Analog - depending on type) 10 ... 30 VDC (Ethernet)							

Shaft type

- Solid shaft	ø6 mm, ø10 mm	–
- Blind hollow shaft	–	ø12 mm, ø14 mm, ø15 mm

Connection

- Flange connector M12	Radial	Radial	Radial	Radial
- Flange connector M23	Radial	–	Radial	–
- Cable	Radial (0.14 mm ²)	Radial (0.5 mm ²)	Radial (0.14 mm ²)	Radial (0.5 mm ²)
Total resolution ¹⁾	≤32 bit ≤14 bit	≤32 bit ≤14 bit	≤32 bit ≤14 bit	≤32 bit ≤14 bit
Steps per turn	≤16384/14 bit ≤16384/14 bit	≤16384/14 bit ≤16384/14 bit	≤16384/14 bit ≤16384/14 bit	≤16384/14 bit ≤16384/14 bit
Number of turn	≤262144/18 bit –	≤262144/18 bit –	≤262144/18 bit –	≤262144/18 bit –
Absolute accuracy	Up to $\pm 0.25^\circ$ (+25 °C)			
Operating temperature	-40...+85 °C			
Protection	IP 65, IP 67	IP 67	IP 65, IP 67	IP 67
Operating speed	≤6000 rpm			
Max. shaft load	≤40 N axial, ≤80 N radial			
Options	Additional incremental signals (SSI, CANopen®)	Additional incremental signals (SSI, CANopen®) Cable with Deutsch connector	Additional incremental signals (SSI, CANopen®)	Additional incremental signals (SSI, CANopen®) Cable with Deutsch connector

Absolute encoders

Size 58 mm

Robust magnetic sensing.
Integrated interface and modular bus covers.

- Solid shaft with clamping and synchro flange
- Blind hollow shaft
- Operating temperature down to -40 °C
- Hermetically sealed, compliance up to IP 69K
- Stainless steel design



MAGRES



Features	<ul style="list-style-type: none"> ■ Solid shaft with clamping or synchro flange ■ Modular bus cover 		<ul style="list-style-type: none"> ■ Blind hollow shaft ■ Modular bus cover 		<ul style="list-style-type: none"> ■ Solid shaft with clamping flange ■ Multiturn ■ Hermetically sealed ■ Integrated interfaces 		<ul style="list-style-type: none"> ■ Solid shaft with clamping flange ■ Multiturn ■ Hermetically sealed ■ Modular bus cover 	
Product family	BMMV 58 flexible	BMSV 58 flexible	BMMH 58 flexible	BMSH 58 flexible	BMMV 58 - MAGRES hermetic	BMMV 58 flexible - MAGRES hermetic		

Interface

- SSI	–	–	–	–	–	–
- CANopen®	■	■	■	■	■	■
- DeviceNet	■	■	■	–	–	■ ²⁾
- Profibus-DP	■	■	■	■	■	■
- SAE J1939	■	■	■	–	–	■
- EtherCAT/PoE	■	■	■	–	–	■ ²⁾
- EtherNet/IP	■	■	■	–	–	■
- Powerlink	■	■	■	–	–	■ ²⁾
- Profinet	■	■	■	–	–	■

Function principle	Multiturn	Singleturn	Multiturn	Singleturn	Multiturn	Multiturn
Sensing method	Magnetic					
Size (housing)	ø58 mm					
Voltage supply	10...30 VDC					
Shaft type						
- Solid shaft	ø6 mm, ø10 mm		–		ø10 mm	
- Blind hollow shaft	–		ø12 mm		–	
Connection	Bus cover with cable gland				Flange connector M12	
Total resolution ¹⁾	≤30 bit	≤12 bit	≤30 bit	≤12 bit	≤29 bit	≤30 bit
Steps per turn	≤4096/12 bit				≤4096/12 bit ≤8192/13 bit (Profibus)	≤4096/12 bit
Number of turn	≤262144/18 bit	–	≤262144/18 bit	–	≤65536/16 bit (Profibus) ≤262 144/18 bit	≤65536/16 bit ≤262 144/18 bit (CANopen®)
Absolute accuracy	±1°					
Operating temperature	-40...+85 °C					
Protection	IP 65, IP 67				IP 68, IP 69 K	
Operating speed	≤6000 rpm					
Max. shaft load	≤40 N axial, ≤80 N radial		–		≤120 N axial, ≤280 N radial	

1) depending on interface
2) on request

Absolute encoders

Size 58 mm

Precise optical sensing.
Integrated interface.

- Resolution up to 13 bit per turn
- High accuracy up to $\pm 0.025^\circ$
- Operating temperature down to -40°C
- Additional incremental signals



Features	■ Solid shaft with clamping flange		■ Solid shaft with synchro flange		■ Blind hollow shaft		■ Through hollow shaft	
Interface	Product family							
- SSI or (SSI / incremental)	GM400	GA240	GM401	GA241	GXM2S	GXA2S	G0M2H	G0A2H
- RS485	GXM7W	GXA7W	GXM7W	GXA7W	GXM7S	–	–	–
- Analog	–	–	–	ATD 2A B14	–	–	ATD 2A A4	ATD2AH00
- Parallel	GXP1W	GA240	GXP1W	GA241	–	–	–	–
- CANopen®	GXP5W	G XU5W	GXP5W	G XU5W	GXP5S	–	G0P5H	–
- DeviceNet	GXP8W	–	GXP8W	–	–	–	–	–
- Profinet	EAL580-SC		EAL580-SY		EAL580-B		EAL580-T	
Function principle	Multiturn	Singleturn	Multiturn	Singleturn	Multiturn	Singleturn	Multiturn	Singleturn
Sensing method	Optical							
Size (housing)	ø58 mm							
Voltage supply	10...30 VDC							
Shaft type								
- Solid shaft	ø10 mm		ø6 mm		–		–	
- Blind hollow shaft	–		–		ø10...15 mm		–	
- Through hollow shaft	–		–		–		ø10...14 mm	
Connection	Flange connector M12, M23, M27, D-SUB or cable (depending on product and variant)							
Total resolution ¹⁾	≤29 bit	≤13 bit	≤29 bit	≤13 bit	≤29 bit	≤13 bit	≤29 bit	≤13 bit
Steps per turn	≤8192/13 bit							
Number of turn	≤65536/16 bit –		≤65536/16 bit –		≤65536/16 bit –		≤65536/16 bit –	
Absolute accuracy	±0.025°							
Protection	IP 65				IP 54			
Operating temperature	-40...+85 °C (depending on product and variant)							
Operating speed	≤6000 rpm							
Max. shaft load	≤20 N axial, ≤40 N radial				–			
Options	Stainless steel, Offshore		–		–		Protection IP 65	

Absolute encoders

Size 58 mm

Precise optical sensing.
Integrated interface.

- High resolution up to 18 bit per turn
- High accuracy $\pm 0.01^\circ$
- Operating temperature down to -40°C
- Additional incremental signals

HighRes – up to 18 bit
singleturn resolution



Features	<ul style="list-style-type: none"> ■ Solid shaft with clamping flange ■ High resolution 		<ul style="list-style-type: none"> ■ Solid shaft with synchro flange ■ High resolution 		<ul style="list-style-type: none"> ■ Blind hollow shaft ■ High resolution 		<ul style="list-style-type: none"> ■ Through hollow shaft ■ High resolution 	
Interface	Product family							
- SSI or (SSI / incremental)	GBM2W	GBA2W	GBM2W	GBA2W	GBM2S	GBA2S	GBM2H	GBA2H
- RS485	GBM7W ²⁾	–	GBM7W ²⁾	–	GBM7S ²⁾	–	–	–
- CANopen®	GBP5W	GBU5W	GBP5W	GBU5W	GBP5S	–	GBP5H	–
- EtherCAT	ATD 2B B14	–	ATD 2B B14	–	ATD 2B A4	–	ATD 4B A4	–
- BiSS C	GBPAW	GBUAW	GBPAW	GBUAW	GBPAS	GBUAS	GBPAH	GBUAH
- Profinet	EAL580-SC		EAL580-SY		EAL580-B		EAL580-T	
Function principle	Multiturn	Singleturn	Multiturn	Singleturn	Multiturn	Singleturn	Multiturn	Singleturn
Sensing method	Optical							
Size (housing)	ø58 mm							
Voltage supply	10...30 VDC							
Shaft type								
- Solid shaft	ø10 mm		ø6 mm		–		–	
- Blind hollow shaft	–		–		ø10...15 mm		–	
- Through hollow shaft	–		–		–		ø10...14 mm	
Connection	Flange connector M12, M23, D-SUB or cable (depending on product and variant)							
Total resolution ¹⁾	≤32 bit	≤18 bit	≤32 bit	≤18 bit	≤32 bit	≤18 bit	≤32 bit	≤18 bit
Steps per turn	≤262144/18 bit							
Number of turn	≤16384/14 bit –		≤16384/14 bit –		≤16384/14 bit –		≤16384/14 bit –	
Absolute accuracy	±0.01°							
Protection	IP 65				IP 54 (IP 65 optional)		IP 54	
Operating temperature	-40...+85 °C (depending on product and variant)							
Operating speed	≤6000 rpm							
Max. shaft load	≤20 N axial, ≤40 N radial				–			

1) depending on interface
2) on request

Absolute encoders

Size 58 mm

Precise optical sensing.
Modular bus cover.

- Resolution up to 14 bit per turn
- High accuracy $\pm 0.025^\circ$
- Operating temperature down to -40°C
- Additional incremental signals



Features	■ Solid shaft with clamping flange		■ Solid shaft with synchro flange		■ Blind hollow shaft		■ Through hollow shaft	
Product family	GXMMW	GXAMW	GXMMW	GXAMW	GXMMS	GXAMS	G0MMH	G0AMH

Interface

- SSI	■	■	■	■	■	■	■	■
- CANopen®	■	■	■	■	■	■	■	■
- DeviceNet	■	■	■	■	■	■	■	■
- Profibus-DP	■	■	■	■	■	■	■	■
- SAE J1939	■	■	■	■	■	■	■	■
- EtherCAT	■	■	■	■	■	■	■	■
- EtherNet/IP	■	■	■	■	■	■	■	■
- Powerlink	■	■	■	■	■	■	■	■

Function principle	Multiturn	Singleturn	Multiturn	Singleturn	Multiturn	Singleturn	Multiturn	Singleturn
Sensing method	Optical							
Size (housing)	ø58 mm							
Voltage supply	10...30 VDC							
Shaft type								
- Solid shaft	ø10 mm		ø6 mm		-		-	
- Blind hollow shaft	-		-		ø12...14 mm		-	
- Through hollow shaft	-		-		-		ø12...14 mm	
Connection	Bus cover with M12 or cable gland (depending on product and variant)							
Total resolution	≤29 bit	≤13 bit	≤29 bit	≤13 bit	≤29 bit	≤13 bit	≤29 bit	≤13 bit
Steps per turn	≤8192/13 bit							
Number of turn	≤65536/16 bit -		≤65536/16 bit -		≤65536/16 bit -		≤65536/16 bit -	
Absolute accuracy	±0.025°							
Protection	IP 54, IP 65						IP 54	
Operating speed	≤6000 rpm							
Operating temperature	-25...+85 °C							
Max. shaft load	≤20 N axial, ≤40 N radial				-		-	
Options	Incremental outputs Stainless steel variant Operating temperature -40...+85 °C						Protection IP 69K Stainless steel variant Operating temperature -40...+85 °C	

Absolute encoders

Size 58 mm

Precise optical sensing.
Modular bus cover.

- High resolution up to 18 bit per turn
- High accuracy $\pm 0.01^\circ$
- Operating temperature down to -40°C
- Additional incremental signals



HighRes – up to 18 bit singleturn resolution



Features	<ul style="list-style-type: none"> ■ Solid shaft with clamping flange ■ High resolution 	<ul style="list-style-type: none"> ■ Solid shaft with synchro flange ■ High resolution 	<ul style="list-style-type: none"> ■ Blind hollow shaft ■ High resolution 	<ul style="list-style-type: none"> ■ Through hollow shaft ■ High resolution
Product family	GBMMW GBAMW	GBMMW GBAMW	GBMMS GBAMS	GBMMH GBAMH

Interface				
- SSI	■	■	■	–
- CANopen®	■	■	■	■
- DeviceNet	■	■	■	■
- Profibus-DP	■	■	■	■
- SAE J1939	■	■	■	–
- EtherCAT	■	■	■	–
- EtherNet/IP	■	■	■	■
- Powerlink	■	■	■	–

Function principle	Multiturn	Singleturn	Multiturn	Singleturn	Multiturn	Singleturn	Multiturn	Singleturn
Sensing method	Optical							
Size (housing)	ø58 mm							
Voltage supply	10...30 VDC							
Shaft type								
- Solid shaft	ø10 mm	ø6 mm	–	–	–	–	–	–
- Blind hollow shaft	–	–	–	–	ø12...14 mm	–	–	–
- Through hollow shaft	–	–	–	–	–	–	ø12...14 mm	–
Connection	Bus cover with M12 or cable gland (depending on product and variant)							
Total resolution	≤31 bit	≤18 bit	≤31 bit	≤18 bit	≤31 bit	≤18 bit	≤31 bit	≤18 bit
Steps per turn	≤262144/18 bit		≤262144/18 bit		≤262144/18 bit		≤262144/18 bit	
Number of turn	≤8192/13 bit	–	≤8192/13 bit	–	≤8192/13 bit	–	≤8192/13 bit	–
Absolute accuracy	±0.01°							
Protection	IP 54, IP 65						IP 54	
Operating speed	≤6000 rpm							
Operating temperature	-25...+85 °C							
Max. shaft load	≤20 N axial, ≤40 N radial				–		–	
Options	Incremental outputs Operating temperature -40...+85 °C						Protection IP 69K Stainless steel variant Operating temperature -40...+85 °C	

Absolute encoders

Large hollow shafts 20...50.8 mm

Precise optical sensing.
SSI interface.

- Shallow installation depth
- Easy installation
- Wide range of accessories



Features	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 25.4$ mm ■ Integrated interface SSI 	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 50.8$ mm ■ Integrated interface SSI 	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 27$ mm ■ Integrated interface SSI and optional incremental signals
Product family	G1M2H	G2M2H	ATD 4S A4
Interface			
- SSI / SSI/incremental	■ / -	■ / -	■ / ■
Function principle	Multiturn		Singleturn / Multiturn
Sensing method	Optical		
Size (housing)	$\varnothing 90$ mm	$\varnothing 116$ mm	$\varnothing 80$ mm
Voltage supply	10...30 VDC		
Shaft type			
- Through hollow shaft	$\varnothing 25.4$ mm	$\varnothing 50.8$ mm	$\varnothing 20...27$ mm
Connection			
- Flange connector M23	Radial		
- Cable	-	-	Radial
Total resolution	≤ 25 bit		
Steps per turn	$\leq 8192/13$ bit		
Number of turn	$\leq 4096/12$ bit		
Absolute accuracy	$\pm 0.025^\circ$		$\pm 0.02^\circ$
Operating temperature	-25...+85 °C		-20...+85 °C
Protection	IP 54		IP 65
Operating speed	≤ 3800 rpm	≤ 2000 rpm	≤ 5000 rpm
Options	Operating temperature -40...+85 °C Protection IP 65		Incremental signals: HTL, TTL, or sine Resolution: Steps per turn max. 15 bit Number of turn max. 24 bit

Absolute encoders

Large hollow shaft 20...50.8 mm

Precise optical sensing.
Realtime EtherNet and fieldbus.

- Shallow installation depth
- Easy installation
- Wide range of accessories

CANopen®

DeviceNet™

EtherCAT™

PROFI[®]
BUS



Features	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 25.4$ mm ■ Modular bus cover 	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 50.8$ mm ■ Modular bus cover 	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 27$ mm ■ Integrated interface EtherCAT
Product family	G1MMH	G2MMH	ATD 4B A4 Y11
Interface			
- CANopen®	■	■	–
- DeviceNet	■	■	–
- Profibus-DP	■	■	–
- EtherCAT	–	–	■
Function principle	Multiturn		
Sensing method	Optical		
Size (housing)	$\varnothing 90$ mm	$\varnothing 116$ mm	$\varnothing 80$ mm
Voltage supply	10...30 VDC		
Shaft type			
- Through hollow shaft	$\varnothing 25.4$ mm	$\varnothing 50.8$ mm	$\varnothing 20...27$ mm
Connection	Bus cover with M12 or cable gland (depending on product and variant)		
Total resolution	≤ 29 bit		
Steps per turn	$\leq 8192/13$ bit	$\leq 131072/17$ bit	
Number of turn	$\leq 65536/16$ bit		
Absolute accuracy	$\pm 0.025^\circ$	$\pm 0.02^\circ$	
Operating temperature	$-25...+85$ °C	$-20...+85$ °C	
Protection	IP 54	IP 65	
Operating speed	≤ 3800 rpm	≤ 2000 rpm	≤ 5000 rpm
Configurable parameters	Steps per turn Number of turn Rotational direction Preset	Steps per turn Number of turn Rotational direction Operating modes	
Options	Operating temperature $-40...+85$ °C Protection IP 65	–	

Tough where it's rough. Precise during operation.



Incremental encoder
HOG 10 with blind
hollow shaft



HeavyDuty encoders, speed switches, tachogenerators and combinations.

For decades, Baumer HeavyDuty encoders have been proving unrivalled reliability under most adverse conditions. Whether at gantry cranes, vertical lift bridges, steel plants or windpower stations – these encoders are extremely robust, failsafe and durable. Product combinations merging several sensing methods or twin encoders can take over specific tasks and safety functions. In drive applications where besides the speed information additional control signals are required, HeavyDuty product combinations of encoders, tachogenerators and speed switches will

provide you with the decisive impulse thanks to their integrated additional functions.

Durable and reliable thanks to proven HeavyDuty technology.

- Solid aluminium or stainless steel housing
- Dual bearings
- HeavyDuty connection technology
- Isolated against shaft currents
- Explosion protection against gases and dust
- Protected against sea and tropical climate

HUBNER
BERLIN
A Baumer Brand

Baumer Hübner

Hübner Berlin, now Baumer Hübner, is the Baumer Group competence center for HeavyDuty sensors particularly conceived for drive engineering. We have been world-leading in this industry for more than 50 years, setting new benchmarks for reliable encoders, tachogenerators and speed switches in HeavyDuty technology. Our unrivalled resilient products are optimized to match your individual application and merge longtime branch expertise with cutting-edge technology. For dependable operation you can always rely on.

HeavyDuty

Incremental encoders

Size 58...120 mm.

Solid shaft from $\varnothing 6...11$ mm.

- Precision signals in drive engineering
- Robust electrical and mechanical design
- Synchro or EURO flange B10
- Redundant sensing
- Integrated function monitoring EMS



Features	<ul style="list-style-type: none"> ■ Solid shaft with synchro flange 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Shallow installation depth <70 mm 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Corrosion protection C4 ■ Housing uncoated (POG 86E) 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Pulses per revolution up to 5000 		
Product family	OG 71	OG 9	POG 86E	POG 86	POG 9	
Sensing method	Optical					
Size (housing)	$\varnothing 58$ mm		$\varnothing 115$ mm			
Voltage supply	5 VDC $\pm 5\%$, 9...26 VDC		5 VDC $\pm 5\%$, 9...30 VDC			
Output stage						
- TTL/RS422	■	■	■	■	■	
- HTL/push-pull	■	–	–	–	–	
- HTL-P (Power Linedriver)	–	■	■	■	■	
- LWL (fiber-optic interface)	With fiber-optic transducer (Outdoor-Box)					
Output signals	K1, K2, K0 + inverted					
Shaft type						
- Solid shaft	$\varnothing 6$ mm		$\varnothing 11$ mm			
Flange	Synchro flange		EURO flange B10			
Connection	Terminals		Terminal box			
Pulses per revolution	100...1024		1...1250	512...2500	500...5000	300...5000
Operating temperature	-20...+85 °C		-30...+100 °C		-40...+100 °C	-30...+100 °C
Protection	IP 66		IP 55		IP 56	
Operating speed	$\leq 10\,000$ rpm		$\leq 12\,000$ rpm			
Max. shaft load	≤ 30 N axial, ≤ 40 N radial		≤ 250 N axial, ≤ 450 N radial			
Explosion protection	Ex II 3G IIC / 3D IIC (ATEX)					
Options	–		–		Function monitoring EMS Dual shaft Centrifugal switch (FSL)	Function monitoring EMS Dual shaft Speed switches (FSL, ESL) Twin encoder POG 9 G

HTL/TTL

To ensure optimum HTL or TTL signal quality via RS422 even at extended cable length we deploy short circuit proof power drivers with max. 300 mA peak current. This allows for direct TTL signal supply in extended transmission length of more than 500 m and yet extremely compact housings. The high-current power drivers HTL-P are fully compatible to HTL/push-pull and allow for long-distance lines up to 350 m.

HeavyDuty Incremental encoders

Unrivalled longevity and reliability thanks to proven HeavyDuty technology.

- Solid aluminium or stainless steel housing
- Dual bearings
- Explosion protection against gases and dust
- HeavyDuty connection technology
- Isolated against shaft currents
- Protected against sea and tropical climate



Features	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Pulses per revolution up to 5000 ■ High protection IP 66 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Corrosion protection C5-M 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Pulses per revolution up to 10000 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ IECEx certification
Product family	POG 10	POG 11	POG 90	EEx OG 9
Sensing method	Optical			
Size (housing)	ø115 mm			ø120 mm
Voltage supply	5 VDC ±5 %, 9...30 VDC			
Output stage				
- TTL/RS422	■	■	■	■
- HTL-P (Power Linedriver)	■	■	■	■
- LWL (fiber-optic interface)	With fiber-optic transducer (Outdoor-Box)			
Output signals	K1, K2, K0 + inverted			
Shaft type				
- Solid shaft	ø11 mm			
Flange	EURO flange B10			
Connection	Terminal box, rotatable			
Pulses per revolution	300...5000		1024...10000	25...5000
Operating temperature	-40...+100 °C -50...+100 °C (option)		-20...+85 °C	-40...+55 °C (<500 pulses) -50...+55 °C (<500-2500 pul.) -25...+55 °C (>3072 pulses)
Protection	IP 66	IP 67	IP 66	IP 56
Operating speed	≤12 000 rpm			
Max. shaft load	≤300 N axial, ≤450 N radial			≤200 N axial, ≤350 N radial
Explosion protection	Ex II 3G IIC / 3D IIIC (ATEX)			Ex II 2G IIC (ATEX/IECEx)
Options	Function monitoring EMS Redundant (POG 10M) Housing foot B3	Function monitoring EMS Redundant (POG 11M) Housing foot B3	Dual shaft Centrifugal switch (FSL) Speed switch (ESL) Housing foot B3	—

EURO flange B10

EURO flange B10 is the world-wide mounting standard for HeavyDuty shaft encoders.

HeavyDuty

Incremental encoders

Size 60...105 mm.

Hollow shaft $\varnothing 8...26$ mm or cone shaft $\varnothing 17$ mm.

- Precision signals in drive engineering
- Robust electrical and mechanical design
- Redundant sensing
- Integrated function monitoring EMS



Features	<ul style="list-style-type: none"> ■ Blind hollow shaft ■ High shock and vibration resistance 	<ul style="list-style-type: none"> ■ Cone shaft or through hollow shaft 	<ul style="list-style-type: none"> ■ Cone shaft or blind hollow shaft ■ Rotatable terminal box ■ Concentrated on the essential – pure functionality 	<ul style="list-style-type: none"> ■ Cone shaft or blind hollow shaft ■ Rotatable terminal box
Product family	HOG 71	HOG 75	HOG 86E	HOG 86
Sensing method	Optical			
Size (housing)	$\varnothing 60$ mm	$\varnothing 75$ mm	$\varnothing 99$ mm	$\varnothing 99$ mm
Voltage supply	5 VDC $\pm 5\%$, 9...26 VDC			
Output stage				
- TTL/RS422	■	■	■	■
- HTL/push-pull	■	–	–	–
- HTL-P (Power Linedriver)	–	■	■	■
- LWL (fiber-optic interface)	With fiber-optic transducer (Outdoor-Box)			
Output signals	K1, K2, K0 + inverted			
Shaft type				
- Cone shaft 1:10	–	$\varnothing 17$ mm		
- Blind hollow shaft	$\varnothing 8...12$ mm	–	$\varnothing 12...16$ mm	
- Through hollow shaft	–	$\varnothing 12...26$ mm	–	–
Connection	Terminals		Terminal box, rotatable, flange connector M23	Terminal box, rotatable, flange connector M23 or cable
Pulses per revolution	64...2048	250...2500	512...2500	500...5000
Operating temperature	-20...+85 °C	-30...+85 °C	-40...+100 °C	
Protection	IP 66	IP 65	IP 66	
Operating speed	$\leq 10\,000$ rpm	$\leq 12\,000$ rpm		
Max. shaft load	≤ 30 N axial, ≤ 40 N radial	≤ 30 N axial, ≤ 40 N radial	≤ 350 N axial, ≤ 450 N radial	≤ 30 N axial, ≤ 40 N radial
Explosion protection	Ex II 3G IIC / 3D IIIC (ATEX)			
Options	–	Hybrid bearings	–	Function monitoring EMS Hybrid bearings Redundant (HOG 86M)

Redundant sensing

Encoders with two sensing units for redundant signal acquisition ensure ever-present availability in demanding applications.

HeavyDuty Incremental encoders

50 years of HeavyDuty expertise brought into being encoder platform HOG 86, a complete product family with outstanding flexibility in selection and mounting options.



Features	<ul style="list-style-type: none"> ■ Cone shaft or blind hollow shaft ■ Pulses per revolution up to 5000 	<ul style="list-style-type: none"> ■ Cone shaft or blind hollow shaft ■ Pulses per revolution up to 5000 ■ Hybrid bearings as standard 	<ul style="list-style-type: none"> ■ Cone shaft or blind hollow shaft ■ Corrosion protection C5-M ■ Hybrid bearings as standard ■ Protection class IP 67 	<ul style="list-style-type: none"> ■ Cone shaft or blind hollow shaft ■ Pulses per revolution up to 10 000 ■ Hybrid bearings as standard
Product family	HOG 9	HOG 10	HOG 11	HOG 100
Sensing method	Optical			
Size (housing)	ø97 mm	ø105 mm		
Voltage supply	5 VDC ±5 %, 9...30 VDC			5 VDC ±5 %, 9...26 VDC, 9...30 VDC
Output stage				
- TTL/RS422	■	■	■	■
- HTL/push-pull	—	—	—	—
- HTL-P (Power Linedriver)	■	■	■	■
- LWL (fiber-optic interface)	With fiber-optic transducer (Outdoor-Box)			
Output signals	K1, K2, K0 + inverted			
Shaft type				
- Cone shaft 1:10	ø17 mm			
- Through hollow shaft	ø12...16 mm	ø12...20 mm		
Connection	Flange connector M23		Terminal box axial, radial	
Pulses per revolution	300...5000			1024...10 000
Operating temperature	-30...+100 °C		-40...+100 °C (-50...+100 °C option)	
Protection	IP 56	IP 66	IP 67	IP 66
Operating speed	≤10 000 rpm		≤12 000 rpm	
Max. shaft load	≤400 N axial, ≤500 N radial		≤450 N axial, ≤600 N radial	
Explosion protection	Ex II 3G IIC / 3D IIIC (ATEX)			
Options	—	Function monitoring EMS Redundant (HOG 10M)	Function monitoring EMS Redundant (HOG 11M) DNV certification	Centrifugal switch (FSL) Speed switch (ESL) Redundant (HOG 100M)

EMS

Enhanced Monitoring System EMS in incremental encoders monitors all crucial encoder functionalities throughout the encoder's entire speed range. EMS will signal connection errors and speed up commissioning. During operation, EMS facilitates error tracking and prevents cost-intensive downtime.

HeavyDuty

Incremental encoders

Size 130...165 mm.
Hollow shaft $\varnothing 16...75$ mm.

- Precise optical encoders for large drive shafts
- Through hollow shaft
- Outstanding high mechanical reserve capacity
- For use in permanently oily-wet environments
- Hybrid bearings as standard



Features	<ul style="list-style-type: none"> ■ Through hollow shaft ■ Corrosion protection C5-M ■ Integrated lightning protection ■ Axial torque plate 	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 38$ mm 	<ul style="list-style-type: none"> ■ Through hollow shaft ■ Rotatable terminal box ■ Operating speed max. 6000 rpm ■ Pulses per revolution up to 5000 	<ul style="list-style-type: none"> ■ Through hollow shaft with keyway ■ Corrosion protection C5-M ■ Protection IP 67 ■ Pulses per revolution up to 8192
Product family	HOG 131	HOG 16	HOG 163	HOG 165
Sensing method	Optical			
Size (housing)	$\varnothing 130$ mm	$\varnothing 158$ mm	$\varnothing 158$ mm	$\varnothing 165$ mm
Voltage supply	5 VDC $\pm 5\%$, 9...30 VDC			
Output stage				
- TTL/RS422	■	■	■	■
- HTL-P (Power Linedriver)	■	■	■	■
- LWL (fiber-optic interface)	With fiber-optic transducer (Outdoor-Box)			
Output signals	K1, K2, K0 + inverted			
Shaft type				
- Through hollow shaft	$\varnothing 16...36$ mm	$\varnothing 20...38$ mm	$\varnothing 38...75$ mm	$\varnothing 20...38$ mm
Connection	Terminal box		Terminal box, rotatable	
Pulses per revolution	2048...3072	250...2500	250...5000	1024...8192
Operating temperature	-40...+100 °C	-20...+85 °C	-30...+85 °C	-30...+100 °C
Protection	IP 56	IP 66	IP 56	IP 67
Operating speed	≤ 6000 rpm			
Max. shaft load	≤ 300 N axial, ≤ 500 N radial	≤ 450 N axial, ≤ 600 N radial	≤ 300 N axial, ≤ 500 N radial	≤ 500 N axial, ≤ 650 N radial
Explosion protection	Ex II 3G IIC / 3D IIIC (ATEX)			
Options	Redundant (HOG 131M)	Redundant (HOG 16M)	Redundant (HOG 163M)	Redundant (HOG 165M) Long torque arm Surface protection in harsh environments

Hybrid bearings

Hybrid bearings consist of a steel race hosting high-strength ceramic balls. Hybrid bearings enable 5 times the service life of conventional steel bearings. In parallel, hybrid bearings provide high-voltage proof isolation of the encoder shaft.

HeavyDuty Incremental encoders

Size 227...287 mm.
Hollow shaft $\varnothing 80...150$ mm.

- Precise optical encoders for large drive shafts
- Through hollow shaft
- Outstanding high mechanical reserve capacity
- Insulated shaft



Features	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 115$ mm ■ Rotatable terminal box ■ Robust light-metal housing ■ Pulses per revolution up to 2048 	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 115$ mm ■ Rotatable terminal box ■ Robust light-metal housing ■ Pulses per revolution up to 4000 	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 150$ mm ■ Plug-in electronics for quick exchange, no need to uninstall ■ With crane eye for easy handling
Product family	HOG 220	HOG 22	HOG 28
Sensing method	Optical		
Size (housing)	$\varnothing 227$ mm		$\varnothing 287$ mm
Voltage supply	5 VDC $\pm 5\%$, 9...30 VDC		5 VDC $\pm 5\%$, 9...26 VDC
Output stage			
- TTL/RS422	■	■	■
- HTL-P (Power Linedriver)	■	■	■
- LWL (fiber-optic)	With fiber-optic transducer (Outdoor-Box)		
Output signals	K1, K2, K0 + inverted		
Shaft type			
- Through hollow shaft	$\varnothing 80...115$ mm	$\varnothing 120...150$ mm	
Connection	Terminal box radial, rotatable	Terminal box radial, rotatable, mating connector M23	
Pulses per revolution	1024, 2048	720...4000	1024...2048
Operating temperature	-30...+85 °C		
Protection	IP 56	IP 54	IP 56
Operating speed	≤ 3800 rpm		≤ 3600 rpm
Max. shaft load	≤ 450 N axial, ≤ 700 N radial		≤ 550 N axial, ≤ 800 N radial
Explosion protection	Ex II 3G IIC / 3D IIIC (ATEX)		
Options	Redundant (HOG 220M) Isolated hollow shaft	Redundant (HOG 22M) Protection IP 56	Redundant (HOG 28M)

Corrosion protection

For onshore or offshore applications in a high-corrosive environment, Baumer provides sensors with long-term protection by durable coating compliant to categories C4 or C5M according to EN ISO 12944. External salt spray tests proved these products corrosion-proof and standard compliant. Non-coated products of the HeavyDuty class fulfil C4 requirements even in their standard variant, whereas stainless steel designs or nickel-plated sensors provide C5M protection.

HeavyDuty

Incremental encoders – Sine/Cosine

Size 58...115 mm.

Solid shaft $\varnothing 6...11$ mm, hollow shaft $\varnothing 12...26$ mm or cone shaft $\varnothing 17$ mm.

- Precise optical sensing
- Extremely high signal quality



Features	<ul style="list-style-type: none"> ■ Solid shaft with synchro flange 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Sine waves per revolution up to 5000 	<ul style="list-style-type: none"> ■ Blind hollow shaft up to $\varnothing 14$ mm ■ High resistance against shocks and vibrations ■ Patented expansion anchor for fan guard assembly 	<ul style="list-style-type: none"> ■ Cone shaft or through hollow shaft up to $\varnothing 26$ mm ■ Hybrid bearings as standard
Product family	OGS 71	POGS 90	HOGS 71	HOGS 75
Sensing method	Optical			
Size (housing)	$\varnothing 58$ mm	$\varnothing 115$ mm	$\varnothing 60$ mm	$\varnothing 75$ mm
Voltage supply	5 VDC $\pm 10\%$, 9...30 VDC			
Output stage	<ul style="list-style-type: none"> - SinCos 1 Vpp 			
Output signals	K1, K2, K0 + inverted			
Shaft type	<ul style="list-style-type: none"> - Solid shaft - Cone shaft 1:10 - Blind hollow shaft - Through hollow shaft 			
Flange	Synchro flange	EURO flange B10	–	–
Connection	Connecting terminal in the housing	Terminal box, rotatable	Connecting terminal in the housing	
Sine waves per revolution	1024...5000	720...5000	1024...5000	1024...2048
Operating temperature	-20...+85 °C			-20...+70 °C
Protection	IP 66			IP 56
Operating speed	$\leq 10\,000$ rpm			
Max. shaft load	≤ 30 N axial, ≤ 40 N radial	≤ 250 N axial, ≤ 350 N radial	≤ 30 N axial, ≤ 40 N radial	≤ 80 N axial, ≤ 150 N radial ≤ 170 N axial, ≤ 250 N radial (cone shaft)
Explosion protection	Ex II 3G IIC / 3D IIIC (ATEX)			
Options	–	Dual shaft	–	Cable outlet

HeavyDuty

Incremental encoders – Sine/Cosine

Size 105...168 mm.

Solid shaft $\varnothing 12...75$ mm or cone shaft $\varnothing 17$ mm.

- Precise optical sensing
- Extremely high signal quality



Features	<ul style="list-style-type: none"> ■ Cone shaft or blind hollow shaft up to $\varnothing 20$ mm 	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 75$ mm 	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 70$ mm ■ Axial torque plate ■ Clamping set
Product family	HOGS 100	HOGS 14	HOGS 151
Sensing method	Optical		
Size (housing)	$\varnothing 105$ mm	$\varnothing 158$ mm	$\varnothing 168$ mm
Voltage supply	5 VDC ± 10 %, 9...30 VDC		
Output stage	<ul style="list-style-type: none"> - SinCos 1 Vpp 		
Output signals	K1, K2, K0 + inverted		A+, B+, R+, A-, B-, R-
Shaft type	<ul style="list-style-type: none"> - Cone shaft 1:10 - Blind hollow shaft - Through hollow shaft 		
Connection	Terminal box, rotatable		Round connector, cable
Sine waves per revolution	720...5000	1024...5000	
Operating temperature	-20...+85 °C		
Protection	IP 66	IP 55	IP 54
Operating speed	$\leq 10\,000$ rpm	≤ 6300 rpm	
Max. shaft load	≤ 450 N axial, ≤ 600 N radial	≤ 150 N axial, ≤ 200 N radial	≤ 350 N axial, ≤ 500 N radial
Explosion protection	Ex II 3G IIC / 3D IIIC (ATEX)		
Options	Dual shaft Centrifugal switch (FSL) Speed switch (ESL) Redundant (HOGS 100M)	–	–

LowHarmonics

LowHarmonics is leading cutting-edge technology by generating sine signals with negligible harmonic content. Sine encoders with *LowHarmonics* ensure improved control quality, less drive heating and higher energy efficiency.

HeavyDuty

Absolute encoders

Size 60...160 mm.

Solid shaft, hollow shaft or cone shaft.

- EURO flange B10
- Operating temperature bis +100 °C
- Power-autonomous *MicroGen* revolution counter
- Extremely robust thanks to bearings at both shaft ends
- Additional incremental signals with zero pulse



New



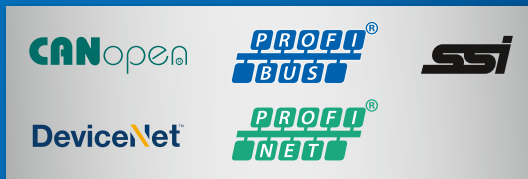
New

Features	<ul style="list-style-type: none"> ■ Solid shaft with synchro flange 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Axial bus cover 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Corrosion & seawater proof ■ Double-sided mounting 	<ul style="list-style-type: none"> ■ Cone shaft, blind or through hollow shaft ■ Corrosion & seawater proof ■ Double-sided mounting
Product family	AMG 71	AMG 81	PMG 10	HMG 10

Interface				
- SSI	■	■	■	■
- CANopen®	–	■	■	■
- Profibus-DP	–	■	■	■
- Profinet	–	–	■	■
- EtherCAT	–	–	■	■
Function principle	Singleturn / Multiturn			
Sensing method	Optical		Magnetic	
Size (housing)	ø60 mm	ø115 mm	ø115 mm	ø105 mm
Voltage supply	7...30 VDC		9...30 VDC	
Shaft type				
- Solid shaft	ø6 mm	ø11 mm	ø11 mm	–
- Cone shaft 1:10	–	–	–	ø17 mm
- Blind hollow shaft	–	–	–	ø12...20 mm
- Through hollow shaft	–	–	–	ø12...20 mm
Flange	Synchro flange	EURO flange B10	EURO flange B10	–
Connection	Terminal cover with cable gland	Axial bus cover Mating connector M23	Bus cover Terminal box Mating connector M12 or M23	
Total resolution	≤29 bit		≤40 Bit	
Steps per turn	≤8192/13 bit		≤1 048 576/20 bit	
Number of turn	≤4096/12 Bit ≤65 536/16 Bit		≤1 048 576/20 bit	
Protection	IP 66	IP 55	IP 66, IP 67	
Operating temperature	-20...+85 °C		-40...+100 °C	
Operating speed	≤5000 rpm	≤3500 rpm	≤12000 rpm	
Max. shaft load	≤50 N axial, ≤120 N radial	≤50 N axial, ≤60 N radial	≤450 N axial, ≤650 N radial	
Explosion protection	Ex II 3G IIC / 3D IIIC (ATEX)			
Options	SinCos signal Additional incremental signals	Additional incremental signals	Integrated speed switch (programmed ex works) Additional incremental signals with zero pulse	

HeavyDuty Absolute encoders

Robust mechanics and innovative technology – our absolute HeavyDuty encoders are ultra-reliable and durable in parallel excel with unique *MicroGen* technology. *MicroGen* is completely wear-free and this way opens up new application potential.



Features	<ul style="list-style-type: none"> ■ Through hollow shaft ■ Corrosion & seawater proof ■ Isolated bearings ■ Axial torque plate
Product family	HMG 161
Interface	
- SSI	■
- CANopen®	■
- DeviceNet	■
- Profibus-DP	■
Sensing method	Optical
Size (housing)	ø160 mm
Voltage supply	9...30 VDC
Shaft type	
- Through hollow shaft	ø38...70 mm
Connection	Bus cover Terminal box
Total resolution	≤29 bit
Steps per turn	≤8192/13 bit
Number of turn	≤65 536/16 bit
Protection	IP 66
Operating temperature	-20...+85 °C
Operating speed	≤5000 rpm
Max. shaft load	≤350 N axial, ≤500 N radial
Explosion protection	Ex II 3G IIC / 3D IIIC (ATEX)
Options	Additional incremental signals

MicroGen

Patented revolution counter *MicroGen* is the heartbeat in the next generation of gearless absolute multiturn encoders without battery. *MicroGen* uses the motion of the encoder shaft for autonomous energy generation. *MicroGen* excels with outstanding robustness and a simplified design, is free from wear and immune to magnetic fields throughout a wide temperature range.

HeavyDuty

Speed switches

Mechanical and electronic speed switches.

- Mechanical centrifugal switches without auxiliary power supply
- Electronic speed switch, energy-autonomous by tacho principle
- Electronic speed switches, up to three outputs
- Solid shaft
- EURO flange B10



Features	<ul style="list-style-type: none"> ■ Mechanical centrifugal switch ■ Operating temperature max. +130 °C 	<ul style="list-style-type: none"> ■ Electronic speed switch ■ Speed up to 6000 rpm 	<ul style="list-style-type: none"> ■ Electronic speed switch ■ 3 outputs 	<ul style="list-style-type: none"> ■ Electronic speed switch
Product family	FS 90	ES 90	ES 93	ES 100
Voltage supply	–	–	–	–
Switching outputs	1 output, speed-controlled	1 output, speed-controlled	3 outputs, speed-controlled	1 output, speed-controlled
Output switching capacity	≤6 A / 230 VAC ≤1 A / 125 VDC	≤6 A / 250 VAC ≤1 A / 48 VDC	–	≤6 A / 250 VAC ≤1 A / 48 VDC
Minimum switching current	50 mA	100 mA	40 mA	100 mA
Size (housing)	ø115 mm			
Shaft type				
- Solid shaft	ø11 mm			
Flange	EURO flange B10			
Connection	Terminal box			
Operating temperature	-30...+130 °C		-20...+85 °C	
Protection	IP 55			
Operating speed (n)	≤1.25 x ns	≤6000 rpm	≤5000 rpm	≤500 rpm
Switching speed range (ns) ¹	850...4900 rpm	650...6000 rpm	200...5000 rpm	110...500 rpm
Max. shaft load	≤150 N axial, ≤250 N radial			
Options	Product combination with encoder or tachogenerator			

1) Any selected switching speed as a permanent factory setting

HeavyDuty Speed switches

Digital speed switch as stand-alone product.

- HTL/TTL signal evaluation
- Integrated speed display
- Robust housing for surface mount

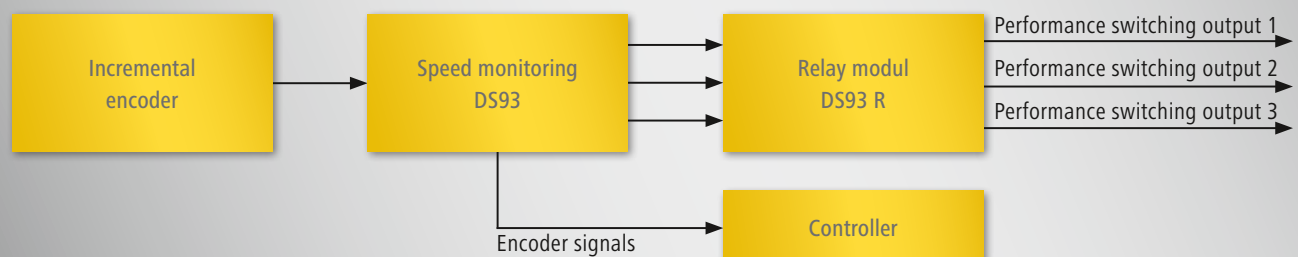


New

Features	<ul style="list-style-type: none"> ■ Configurable speed monitoring ■ Outdoor housing ■ With speed display 	<ul style="list-style-type: none"> ■ Relay modul for DS 93 and encoder with DSL-R ■ High switching performance ■ DIN rail mount 	<ul style="list-style-type: none"> ■ Speed monitor with SIL3 and PLe certification ■ Inputs for incremental encoder and proximity switch (SinCos, TTL, HTL, PNP)
Product family	DS 93	DS 93 R	GMM230S, GMM236S GMM240S, GMM246S
Voltage supply	15...26 VDC	–	18...30 VDC
Switching outputs	3 outputs, speed-controlled	3 floating relay change-over contacts	1 relay-, 1 analog- and 4 control outputs HTL
Output switching capacity	High: 12 V, Low: 0 V ≤40 mA	≤6 A at 250 VAC or ≤1 A at 48 VC each output	Relay 5...36 V (5 mA...5 A) Analog 4...20 mA (≤270 Ω) HTL (≤30 mA each output)
Size (housing)	122 x 122 x 80 mm	50 x 75 x 55 mm	50 x 100 x 65 mm
Connection	Terminals with cable gland		Screw terminal and connector D-SUB
Operating temperature	-20...+70 °C	-20...+50 °C	-20...+55 °C
Protection	IP 65	IP 20	IP 20
Switching speed range (ns)	≤20 000 rpm	≤20 000 rpm	–
Options	Relay module with three floating relay contacts	–	Programming unit

SAFETY

Besides the encoder itself, mechanical or electronic *SAFETY* speed switches can perform decisive safety-relevant functions at excess or insufficient speed. For applications in the field of functional safety, Baumer offers sensors approved by the German Technical Inspection Agency (TÜV). The portfolio is subject to continuous expansion.



HeavyDuty

Encoders with speed switch

Incremental encoders
with digital speed switch.

- Encoder-integrated for a space-saving solution
- Fully configurable switch on/off speed
- Up to three switching outputs



Features	<ul style="list-style-type: none"> ■ Blind hollow shaft ■ 2 switching outputs 	<ul style="list-style-type: none"> ■ Blind hollow shaft ■ 3 switching outputs 	<ul style="list-style-type: none"> ■ Through hollow shaft ■ 2 switching outputs 	<ul style="list-style-type: none"> ■ Through hollow shaft ■ 3 switching outputs
Product family	HOG 10+DSL.E	HOG 10+DSL.R	HOG 165+DSL.E	HOG 165+DSL.R
Sensing method	Optical			
Size (housing)	ø105 mm		ø165 mm	
Voltage supply	9...30 VDC	15...30 VDC	9...30 VDC	15...30 VDC
Output stage				
- TTL/RS422	■	■	■	■
- HTL-P (Power Linedriver)	■	■	■	■
Output signals	K1, K2, K0 + inverted			
Shaft type				
- Blind hollow shaft	ø16 mm		-	-
- Through hollow shaft	-	-	ø25 mm	
Connection	Terminal box			
Pulses per revolution	512...2500		512...4096	
Operating temperature	-30...+85 °C			
Protection	IP 66		IP 67	
Operating speed (n)	≤6000 rpm			
Switching speed range (ns)	3...6000 rpm			
Max. shaft load	≤250 N axial, ≤450 N radial		≤150 N axial, ≤200 N radial	
Switching outputs	2 relay outputs, each with its individual attack value, 1 relay output as control output	3 transistor outputs, each with its individual attack value	2 relay outputs, each with its individual attack value, 1 relay output as control output	3 transistor outputs, each with its individual attack value
Output switching capacity	≤0.25 A at 230 VAC/VDC at each output	High: 12 V, Low: 0 V ≤20 mA	≤0.25 A at 230 VAC/VDC at each output	High: 12 V, Low: 0 V ≤20 mA
Explosion protection	Ex II 3G IIC / 3D IIIC (ATEX)			
Options	-	Relay module DS 93 R with three floating relay contacts	-	Relay module DS 93 R with three floating relay contacts

HeavyDuty

Encoders with speed switch

Incremental encoders with digital speed switch.

- Encoder-integrated for a space-saving solution
- Fully configurable switch on/off speed
- Up to three switching outputs

Configurable by
PC software



Features	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ 2 switching outputs 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ 3 switching outputs
Product family	POG 10+DSL.E	POG 10+DSL.R
Sensing method	Optical	
Size (housing)	ø120 mm	
Voltage supply	15...26 VDC	
Output stage		
- TTL/RS422	■	■
- HTL-P (Power Linedriver)	■	■
Output signals	K1, K2, K0 + inverted	
Shaft type		
- Solid shaft	ø11 mm	
Flange	EURO flange B10	
Connection	Terminal box	
Pulses per revolution	512...2500	
Operating temperature	-30...+85 °C	
Protection	IP 66	
Operating speed (n)	≤6000 rpm	
Switching speed range (ns)	3...6000 rpm	
Max. shaft load	≤300 N axial, ≤450 N radial	
Switching outputs	2 relay outputs, each with its individual attack value, 1 relay output as control output	3 transistor outputs, each with its individual attack value
Output switching capacity	≤0.25 A at 230 VAC/VDC at each output	High: 12 V, Low: 0 V ≤40 mA
Explosion protection	Ex II 3G IIC / 3D IIIC (ATEX)	
Options	-	Relay module DS 93 R with three floating relay contacts

HeavyDuty

Encoder with speed switches

Incremental encoders
with digital speed switch.

- Encoder-integrated for a space-saving solution
- Fully configurable switch on/off speed
- Operating temperature -40...+100 °C
- Additional incremental signals with zero pulse
- Corrosion & seawater proof



Features	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ 1 transistor output 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ 1 relay output 	<ul style="list-style-type: none"> ■ Cone shaft or blind hollow shaft ■ 1 transistor output 	<ul style="list-style-type: none"> ■ Cone shaft or blind hollow shaft ■ 1 relay output
Product family	PMG 10D	PMG 10D	HMG 10D	HMG 10D

Interface				
- SSI	■	■	■	■
- CANopen®	■	■	■	■
- DeviceNet	■	■	■	■
- Profibus-DP	■	■	■	■
- EtherCAT	■	■	■	■
- ProfiNet	■	■	■	■

Function principle	Singleturn / Multiturn			
Sensing method	Magnetic			
Size (housing)	ø115 mm		ø105 mm	
Voltage supply	9...30 VDC			
Shaft type				
- Solid shaft	ø11 mm		-	
- Cone shaft 1:10	-		ø17 mm	
- Blind hollow shaft	-		ø12...20 mm	
Flange	EURO flange B10		-	
Connection	Bus cover, terminal box, mating connector M12 or mating connector M23			
Total resolution	≤40 bit			
Steps per turn	≤1 048 576/20 bit			
Number of turn	≤1 048 576/20 bit			
Protection	IP 66, IP 67			
Operating temperature	-40...+100 °C			
Operating speed (n)	≤12000 rpm			
Switching speed range (ns)	2...12000 rpm			
Max. shaft load	≤450 N axial, ≤650 N radial		-	
Switching outputs	1 transistor output, each with its individual attack value	1 relay output, each with its individual attack value	1 transistor output, each with its individual attack value	1 relay output, each with its individual attack value
Output switching capacity	≤50 mA at 30 VDC	≤100 mA at 60 VDC	High: 12 V, Low: 0 V ≤20 mA	≤0.25 A at 230 VAC/VDC at each output
Explosion protection	Ex II 3G IIC / 3D IIIC (ATEX)			
Options	Relay module DS 93 R with three floating relay contacts Additional incremental signals with zero pulse	Additional incremental signals with zero pulse	Relay module DS 93 R with three floating relay contacts Additional incremental signals with zero pulse	Additional incremental signals with zero pulse

HeavyDuty

Encoder with speed switches



HeavyDuty

Tachogenerators

Solid shaft with EURO flange B10 or flange B10.
Idle voltage up to 200 mV/rpm.

- Ultimate lifetime thanks to *LongLife* commutator with embedded silver track
- Real-time acquisition of speed and rotational direction
- Operating temperature max. +130 °C



Features	■ Solid shaft with EURO flange B10		■ Solid shaft with flange B10, ø85 mm ■ Redundant output (TDPZ)		■ Solid shaft with EURO flange B10 ■ Redundant output (TDPZ)		■ Solid shaft with EURO flange B10 ■ Redundant output (TDPZ)	
Product family	GTF 7.08	GTF 7.16	TDP 0.09	TDPZ 0.09	TDP 0.2	TDPZ 0.2	TDP 13	TDPZ 13
Voltage supply	No							
Size (housing)	ø115 mm		ø85 mm		ø115 mm		ø120...175 mm	
Shaft type	- Solid shaft							
	ø11 mm		ø6 mm		ø7...14 mm		ø14...18 mm	
Flange	EURO flange B10		Flange B10		EURO flange B10		Flange B10	
Idle voltage	10...60 mV per rpm		10...60 mV per rpm		10...150 mV per rpm		20...100 mV per rpm	
Performance								
- Speed ≥5000 rpm	0.3 W		0.6 W		-		-	
- Speed ≥3000 rpm	-		-		1.2 W		2 x 0.3 W	
- Speed ≥2000 rpm	-		-		-		-	
Rotor moment of inertia	0.4 kgcm ²		0.6 kgcm ²		0.25 kgcm ²		0.29 kgcm ²	
	1.1 kgcm ²		1.2 kgcm ²		0.4 kgcm ²		0.2 kgcm ²	
Connection	Screw terminals				Terminal box			
Operating temperature	-30...+130 °C							
Protection	IP 56				IP 55			
Operating speed	≤9000 rpm		≤10 000 rpm		≤10 000 rpm		≤6000 rpm	
Max. shaft load	≤150 N axial, ≤250 N radial		≤40 N axial, ≤60 N radial		≤60 N axial, ≤80 N radial		≤80 N axial, ≤100 N radial	
Options	-				Sea/tropical climate protection Dual shaft Protection IP 56		-	

HeavyDuty Tachogenerators

Analog tachogenerators by Baumer stand out by ultra-accurate conversion of tacho voltage throughout the entire speed range. *LongLife* transmission technology contributes a major share.



Features	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Ex-approved 	<ul style="list-style-type: none"> ■ Solid shaft with flange B10 ■ Redundant output (TDPZ)
Product family	EEx GP 0.2	TG74
Voltage supply	No	
Size (housing)	ø126 mm	
Shaft type		
- Solid shaft	ø11 mm	ø14 mm
Flange	EURO flange B10	Flange B10
Idle voltage	20...150 mV per rpm	
Performance		
- Speed ≥5000 rpm	12 W	
Rotor moment of inertia	1.15 kgcm ²	
Connection	Screw terminals	
Operating temperature	-20...+55 °C	
Protection	IP 54	
Operating speed	2800...8000 rpm	
Max. shaft load	≤60 N axial, ≤80 N radial	
Explosion protection	ATEX II 2G Ex de IIC T6 Gb	–



LongLife

LongLife technology in HeavyDuty tachogenerators is based on a commutator-embedded silver track which reduces wear virtually to zero. *LongLife* tachogenerators combine very high signal quality for optimum dynamic control with outstanding resilience and unrivalled longevity.

HeavyDuty

Tachogenerators

Bearingless hollow shaft or cone shaft designs.
Idle voltage up to 60 mV per rpm.

- Ultimate longevity thanks to *LongLife* commutator with embedded silver track
- Operating temperature up to +130 °C
- Very high accuracy throughout the entire speed range



Features	<ul style="list-style-type: none"> ■ Tachogenerator ■ Bearingless ■ Blind hollow shaft 	<ul style="list-style-type: none"> ■ Tachogenerator ■ Bearingless ■ Blind hollow shaft 	<ul style="list-style-type: none"> ■ Tachogenerator ■ Bearingless ■ Blind hollow shaft 	<ul style="list-style-type: none"> ■ Tachogenerator ■ Bearingless ■ Blind hollow shaft
Product family	GT 5	GT 7.08 GT 7.16	GT 9	GTB 9.06 GTB 9.16
Voltage supply	No			
Size (housing)	ø52 mm	ø85 mm	ø89 mm	ø95 mm
Shaft type				
- Cone shaft 1:10	–	–	ø17 mm	ø17 mm
- Blind hollow shaft	ø8...12 mm	ø12...16 mm	ø7...14 mm	ø12...16 mm
Idle voltage	7...10 mV per rpm	10...60 mV per rpm	10...20 mV per rpm	10...20 mV per rpm 16...60 mV per rpm
Performance				
- Speed ≥5000 rpm	0.075 W	0.3 W 0.6 W	0.3 W	0.3 W
Rotor moment of inertia	0.05 kgcm ²	0.4 kgcm ² 0.55 kgcm ²	0.95 kgcm ²	0.95 kgcm ²
Connection	Plug-in terminals	Screw terminals	Plug-in terminals	Connector
Operating temperature	-30...+130 °C			
Protection	IP 20	IP 55	IP 20	IP 68
Operating speed	≤10 000 rpm	≤9000 rpm		
Options	–	Protection IP 44 with Protective cover	Protection IP 44 with Protective cover	–

HeavyDuty Tachogenerators & Resolver

Resolvers.

Resolvers are the classical feedback systems for harsh environments and also very robust against mechanical impact.

- Encoder-compatible
- Operating temperature up to +100 °C
- Precision analog signals



Features	<ul style="list-style-type: none"> ■ Tachogenerator ■ Bearingless ■ Blind hollow shaft 	<ul style="list-style-type: none"> ■ Tachogenerator ■ Blind hollow shaft 	<ul style="list-style-type: none"> ■ Resolver ■ Solid shaft with synchro flange 	<ul style="list-style-type: none"> ■ Resolver ■ Blind hollow shaft
Product family	GTR 9	KTD 3 KTD 4	RTD 1 B14 Y1	RTD 4 A4 Y2
Voltage supply/frequency	No		7 Vms / 10 kHz	7 Vms / 10 kHz
Size (housing)	ø95 mm	ø100 mm ø86 mm	ø58 mm	ø80 mm
Shaft type				
- Solid shaft	–	–	ø6 mm	–
- Blind hollow shaft	ø16 mm	ø14 mm ø10...16 mm	–	ø10...16 mm
Idle voltage	20...60 mV per rpm	20...60 mV per rpm 10...60 mV per rpm	–	–
Performance				
- Speed ≥5000 rpm	0.9 W	–	–	–
Rotor moment of inertia	1.95 kgcm ²	600-900 kgcm ² 600 kgcm ²	≤0.01 Nm (+20 °C)	≤0.015 Nm (+20 °C)
Connection	Connector	Screw terminals Cable, radial	Connector M23	Connector M23
Operating temperature	-30...+130 °C	-25...+100 °C -15...+100 °C	-20...+100 °C	-40...+100 °C
Protection	IP 56	IP 54	IP 65	IP 65
Operating speed	≤9000 rpm	≤6000 rpm	≤10 000 rpm	≤8000 rpm
Options	–	– Operating temperature -30 °C	–	–

HeavyDuty Combinations

Incremental twin encoders.
Solid, blind hollow or cone shaft.

- Two encoders on a common shaft
- Every encoder with optional redundant sensing
- Integrated function monitoring EMS



Features	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Speed up to 12 000 rpm 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Corrosion protection C5-M 	<ul style="list-style-type: none"> ■ Cone shaft or blind hollow shaft ■ Speed up to 10 000 rpm 	<ul style="list-style-type: none"> ■ Cone shaft or blind hollow shaft ■ Corrosion protection C5-M
Product family	POG 86 G POG 9 G	POG 10 G POG 11 G	HOG 9 G	HOG 10 G HOG 11 G
Sensing method	Optical			
Size (housing)	ø115 mm	ø115 mm	ø97 mm	ø105 mm
Voltage supply	5 VDC ±5 %, 9...30 VDC			
Output stage				
- TTL/RS422	■	■	■	■
- HTL-P (Power Linedriver)	■	■	■	■
Shaft type				
- Solid shaft	ø11 mm	ø11 mm	–	–
- Cone shaft	–	–	ø17 mm	ø17 mm
- Blind hollow shaft	–	–	ø16 mm	ø16...20 mm
Flange	EURO flange B10	EURO flange B10	–	–
Connection	Terminal box		Flange connector M23	Terminal box
Pulses per revolution	300...5000	300...5000	300...5000	300...5000
Operating temperature	-40...+100 °C -25...+100 °C (>3072 ppr)			
Protection	IP 56	IP 66 IP 67	IP 56	IP 66 IP 67
Operating speed	≤12 000 rpm	≤6000 rpm	≤10 000 rpm	≤6000 rpm
Max. shaft load	≤250 N axial, ≤350 N radial	≤300 N axial, ≤450 N radial	≤400 N axial, ≤500 N radial	≤450 N axial, ≤600 N radial
Explosion protection	Ex II 3G IIC / 3D IIC (ATEX)			
Options	Function monitoring EMS	Function monitoring EMS Redundant sensing system, two terminal boxes each encoder	Function monitoring EMS	Function monitoring EMS Redundant sensing system, two terminal boxes each encoder

1 + 1 = 1

1 + 1 = 1 translates into HeavyDuty product combinations where HeavyDuty encoders, tachogenerators and speed switches are combined into a robust unit. Hence, besides speed feedback, the application may involve more signals for drive regulation. In parallel, HeavyDuty combinations provide different output signals and sharing a common shaft to save space, they excel with ultimate reliability and longevity.

Tachogenerator.

With speed switch or incremental encoder.

- Energy-autonomous speed switch
- Electronic speed switch ESL with 1 or 3 switching outputs
- Mechanical centrifugal switch FSL with one switching output



Features	<ul style="list-style-type: none"> ■ Tachogenerator with integrated mechanical centrifugal switch ■ Solid shaft with flange B10 	<ul style="list-style-type: none"> ■ Tachogenerator with integrated mechanical centrifugal switch ■ Solid shaft with EURO flange B10 	<ul style="list-style-type: none"> ■ Tachogenerator with electronic speed switch ■ Solid shaft with EURO flange B10 	<ul style="list-style-type: none"> ■ Tachogenerator with encoder ■ Solid shaft with EURO flange B10
Product family	TDP 0.09+FSL	TDP 0,2+FSL TDPZ 0,2+FSL	TDP 0,2+ESL TDPZ 0,2+ESL	TDP 0,2+OG9
Sensing method	Optical			
Size (housing)	ø85 mm	ø115 mm		
With centrifugal switch	■	■	–	–
With speed switch	–	–	■	–
Voltage supply	No	No	12 VDC ±10 % (only TDP 0.2 +ESL 93)	5 VDC ±5 % 8...30 VDC
Idle voltage	10...60 mV per rpm	10...150 mV per rpm	0...100 mV per rpm	10...150 mV per rpm
Performance (Speed >3000 rpm)	1.2 W	12 W	2 x 3 W	12 W
Shaft type				
- Solid shaft	ø6 mm	ø7...14 mm	ø7...14 mm	ø11 mm
Flange	Flange B10	EURO flange B10		
Connection	Terminal box			
Operating temperature	-30...+130 °C	-30...+130 °C	-25...+85 °C	-30...+100 °C -25...+100 °C (>3072 ppr)
Protection	IP 56	IP 55	IP 55	IP 56
Operating speed (n)	≤1.25 x ns	≤1.25 x ns	≤6000 rpm	≤10 000 rpm
Switching speed range (ns) ¹	850...4900 rpm	850...4900 rpm	200...600 rpm	–
Max. shaft load	≤40 N axial, ≤60 N radial	≤60 N axial, ≤80 N radial		
Switching outputs (speed-controlled)	1 output	1 output	1 or 3 outputs	–
Output circuit	Normally open / Normally closed	Normally open / Normally closed	Transistor outputs: High: 12 V, Low: 0 V ≤40 mA	–
Options	–	Redundant output (TDPZ)	Redundant output (TDPZ)	–

1) Any selected switching speed as a permanent factory setting

HeavyDuty Combinations

Incremental encoders with speed switch.
Solid shaft $\varnothing 11$ mm.

- Energy-autonomous speed switch
- Electronic speed switch ESL with one or three switching outputs
- Mechanical centrifugal switch FSL with one switching output



Features	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Pulses per revolution 500...5000 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Pulses per revolution 300...5000 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Special sealing against ingress of solids 	<ul style="list-style-type: none"> ■ Solid shaft with EURO flange B10 ■ Corrosion protection C5-M ■ For use in salty, oily-wet environments
Product family	POG 86+FSL	POG 9+FSL POG 9+ESL	POG 10+FSL POG 10+ESL	POG 11+FSL POG 11+ESL
Sensing method	Optical			
Size (housing)	$\varnothing 115$ mm			
With centrifugal switch	■	■	–	■
With speed switch	–	–	■	–
Voltage supply	5 VDC ± 5 %, 9...30 VDC			
Output stage				
- TTL/RS422	■	■	■	■
- HTL-P (Power Linedriver)	■	■	■	■
Output signals	K1, K2, K0 + inverted			
Shaft type				
- Solid shaft	$\varnothing 11$ mm			
Flange	EURO flange B10			
Connection	Terminal box			
Pulses per revolution	500...5000	300...5000		
Operating temperature	-30...+100 °C	-30...+100 °C -20...+85 °C	-40...+100 °C -25...+85 °C	-40...+100 °C -25...+85 °C
Protection	IP 56	IP 56	IP 66	IP 67
Operating speed	≤ 6000 rpm			
Switching speed range (ns) ¹⁾	850...4900 rpm (FSL), 200...6000 rpm (ESL)			
Max. shaft load	≤ 300 N axial, ≤ 450 N radial			
Switching outputs (speed-controlled)	1 output	1 output	1 or 3 outputs	1 output
Output circuit	Norm. open/ Norm. closed	Norm. open/ Norm. closed	Transistor outputs	Norm. open/ Norm. closed
Options	Function monitoring EMS		Function monitoring EMS Redundant sensing	

1) Any selected switching speed as a permanent factory setting

Incremental encoders with speed switch. Hollow shaft or cone shaft.

- Energy-autonomous speed switch
- Electronic speed switch ESL with one or three switching outputs
- Mechanical centrifugal switch FSL with one switching output



Features	■ Cone shaft or blind hollow shaft	■ Cone shaft or blind hollow shaft ■ Special sealing against ingress of solids	■ Cone shaft or blind hollow shaft ■ Corrosion protection C5-M ■ For use in salty, oily-wet environments
Product family	HOG 86+FSL	HOG 10+FSL HOG 10+ESL	HOG 11+FSL HOG 11+ESL
Sensing method	Optical		
Size (housing)	ø99 mm	ø105 mm	
With centrifugal switch	■	■ –	■ –
With speed switch	–	– ■	– ■
Voltage supply	5 VDC ±5 %, 9...30 VDC		
Output stage			
- TTL/RS422	■	■	■
- HTL-P (Power Linedriver)	■	■	■
Output signals	K1, K2, K0 + inverted		
Shaft type			
- Cone shaft 1:10	ø17 mm		
- Blind hollow shaft	ø16 mm	ø16...20 mm	
Connection	Terminal box		
Pulses per revolution	500...5000	300...5000	
Operating temperature	-40...+100 °C	-40...+100 °C -20...+85 °C	-40...+100 °C -20...+85 °C
Protection	IP 56	IP 66	IP 67
Operating speed	≤6000 rpm		
Switching speed range (ns) ¹⁾	850...4900 rpm	850...4900 rpm (FSL) 200...6000 rpm (ESL)	850...4900 rpm (FSL) 200...6000 rpm (ESL)
Max. shaft load	≤350 N axial, ≤450 N radial		
Switching outputs (speed-controlled)	1 output	1 output 1 or 3 outputs	1 output 1 or 3 outputs
Output circuit	Norm. open/ Norm. closed	Norm. open/ Norm. closed Transistor outputs	Norm. open/ Norm. closed Transistor outputs
Options	Function monitoring EMS Redundant sensing		

Durable and space-saving.



Bearingless absolute encoder:
MHAD 50

Bearingless encoders



Non-contact, wear-free and compact.

Bearingless encoders by Baumer operate on the non-contact method, most utilize magnetic sensing and virtually all are free from wear. No dust, dirt or condensation will impair their reliable operation. They even withstand harmful fibres dominating any environment in the textile industry. Our bearingless encoders are particularly resistant to shocks and vibrations with a virtually unlimited service life.

Forgoing any mechanical components prone to wear, these encoders master also highspeed applications. The portfolio comprises incremental encoders with square wave and sinusoidal signals as well as absolute product variants with most common interfaces.

Fit into the smallest gap

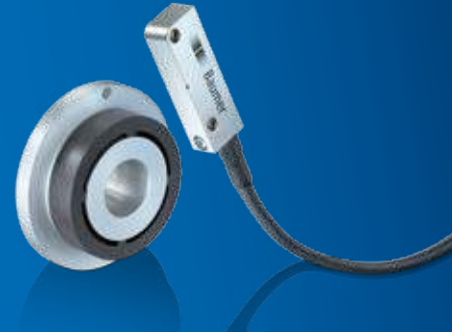
Their extremely shallow installation depth, sometimes less than 20 mm, makes bearingless encoders with ring magnet and sensor an ideal solution where installation space is very limited – whether on shafts with 6 or 600 mm diameter. The narrow ring magnet and the lean sensor head even allow for attachment to the A-end of the shaft, for example between gearing and the machine part to be driven.

Bearingless encoders

Incremental

Hollow shaft up to $\varnothing 150$ mm.
Up to 8192 pulses per revolution.

- Square wave and sine signals
- High protection on to IP 67
- Compact designs



Features	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 43.5$ mm ■ Up to 1024 pulses per revolution 	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 43.5$ mm ■ Up to 4096 pulses per revolution ■ Sensor housing made of zinc die cast 	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 45$ mm ■ Up to 50 pulses per revolution 	<ul style="list-style-type: none"> ■ Through hollow shaft up to $\varnothing 28$ mm ■ Up to 2048 pulses per revolution 	
Product family	MDFK 08	MIR 10	ITD 67	ITD49H00 ITD49H00 Sine	
Sensing method	Magnetic				
Magnetic wheel diameter	$\varnothing 30.5 \dots 56$ mm	$\varnothing 30.5 \dots 56$ mm	$\varnothing 72$ mm	$\varnothing 40$ mm	
Dimensions (sensing head)	15 x 8.5 x 45.5 mm	10 x 15 x 45.5 mm	20 x 11 x 75 mm	12 x 16 x 48 mm	
Voltage supply	8...30 VDC 5 VDC ± 5 %	10...30 VDC 5 VDC ± 5 %	8...26 VDC	5 VDC ± 5 % 8...26 VDC	5 VDC ± 10 %
Output stage					
- TTL/RS422	■	■	–	■	–
- HTL/push-pull	■	■	■	■	–
- SinCos 1 Vpp	–	–	–	–	■
Output signals	A 90° B, N + inverted	A 90° B, N + inverted	A, B	A 90° B, N / A 90° B, N + inv.	
Output frequency	≤ 250 kHz	≤ 350 kHz	≤ 160 kHz	≤ 300 kHz (TTL) ≤ 180 kHz ≤ 160 kHz (HTL)	
Shaft type					
- Through hollow shaft	$\varnothing 6 \dots 43.5$ mm	$\varnothing 6 \dots 43.5$ mm	$\varnothing 10 \dots 45$ mm	$\varnothing 9 \dots 28$ mm	
Connection					
- Cable	Radial				
Pulses per revolution	256...1024	320...4096	20, 50	64...2048	–
Sine waves per revolution	–	–	–	–	64
Operating temperature	-25...+85 °C	-40...+85 °C	-20...+85 °C	-40...+100 °C	
Protection	IP 67	IP 66, IP 67	IP 67	IP 67	
Operating speed	$\leq 20\,000$ rpm	$\leq 20\,000$ rpm	$\leq 10\,000$ rpm	$\leq 30\,000$ rpm	
Options	–	–	Redundant variant	Cable with connector Several installation options	

Bearingless encoders

Incremental

Bearingless encoders by Baumer operate on non-contact sensing technology and are virtually wearfree. They withstand shocks and vibrations and are predestined for applications where space is tight.



Features	<ul style="list-style-type: none"> Through hollow shaft up to $\varnothing 65$ mm Up to 4095 pulses per revolution 		<ul style="list-style-type: none"> Through hollow shaft up to $\varnothing 150$ mm Up to 8192 pulses per revolution 	
Product family	ITD69H00	ITD69H00 Sine	ITD89H00	ITD89H00 Sine
Sensing method	Magnetic			
Magnetic wheel diameter	$\varnothing 81$ mm		$\varnothing 162$ mm	
Dimensions (sensing head)	12 x 16 x 48 mm			
Voltage supply	5 VDC ± 5 % 8...26 VDC	5 VDC ± 10 %	5 VDC ± 5 % 8...26 VDC	5 VDC ± 10 %
Output stage				
- TTL/RS422	■	–	■	–
- HTL/push-pull	■	–	■	–
- SinCos 1 Vpp	–	■	–	■
Output signals	A 90° B, N / A 90° B, N + inverted			
Output frequency	≤ 300 kHz (TTL) ≤ 160 kHz (HTL)	≤ 180 kHz	≤ 300 kHz (TTL) ≤ 160 kHz (HTL)	≤ 180 kHz
Shaft type				
- Through hollow shaft	$\varnothing 40$...65 mm		$\varnothing 70$... $\varnothing 150$ mm	
Connection				
- Cable	Radial			
Pulses per revolution	128...4096	–	256...8192	–
Sine waves per revolution	–	128	–	246
Operating temperature	-40...+100 °C			
Protection	IP 67			
Operating speed	$\leq 15\,000$ rpm		$\leq 7\,500$ rpm	
Options	Cable with connector Several installation options			

Bearingless encoders

Incremental

Hollow shaft up to $\varnothing 740$ mm.
Up to 32 768 pulses per revolution.

- Square wave and SinCos signals
- Optional with DNV certification
- Wear-free
- Wide axial backlash ± 3 mm
- For any shaft the matching installation principle

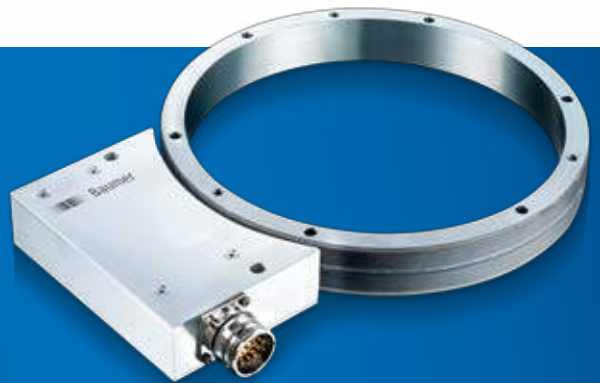


Features	<ul style="list-style-type: none"> ■ Through hollow shaft $\varnothing 16...80$ mm ■ Installation depth ≤ 30 mm ■ Stainless steel wheel 	<ul style="list-style-type: none"> ■ Through hollow shaft $\varnothing 50...180$ mm ■ Installation depth ≤ 30 mm ■ Stainless steel wheel 	<ul style="list-style-type: none"> ■ Through hollow shaft $\varnothing 70...340$ mm ■ Installation depth ≤ 30 mm ■ Stainless steel wheel 	<ul style="list-style-type: none"> ■ Through hollow shaft $\varnothing 650...740$ mm ■ Installation depth ≤ 30 mm
Product family	MHGE 100	MHGE 200	MHGE 400	MHGE 800
Sensing method	Magnetic			
Magnetic wheel diameter	$\varnothing 99.9$ mm	$\varnothing 201.7$ mm	$\varnothing 405.4$ mm	$\varnothing 813$ mm
Dimensions (sensing head)	100 x 40 x 65 mm			
Voltage supply	Rectangular: 4.75...30 VDC, Sine: 5 VDC			
Output stage				
- TTL/RS422	■	■	■	■
- HTL/push-pull	■	■	■	■
- SinCos 1 Vpp	■	■	■	■
Output signals	A+, B+, R+, A-, B-, R-			
Output frequency	≤ 300 kHz			
Shaft type				
- Through hollow shaft	$\varnothing 16...80$ mm	$\varnothing 50...180$ mm	$\varnothing 70...340$ mm	$\varnothing 650...740$ mm
Connection				
- Flange connector M23	Radial			
Pulses per revolution	64...4096	128...8192	256...16384	512...32768
Sine waves per revolution	64	128	256	512
Operating temperature	-40...+100 °C			
Protection	IP 66, IP 67			
Operating speed	≤ 8000 rpm	≤ 4000 rpm	≤ 2000 rpm	≤ 100 rpm
Options	DNV certification			DNV certification Stainless steel wheel

Bearingless encoders Incremental

Hollow shaft up to $\varnothing 340$ mm.
Up to 524288 pulses per revolution.

- Square wave and SinCos signals
- Particularly high resolution
- Wear-free
- Wide axial backlash ± 3 mm
- For any shaft the matching installation principle
- Outstanding signal quality thanks to FPGA signal processing



Features	<ul style="list-style-type: none"> ■ Through hollow shaft $\varnothing 16...80$ mm ■ Installation depth ≤ 35 mm ■ Stainless steel wheel 	<ul style="list-style-type: none"> ■ Through hollow shaft $\varnothing 50...180$ mm ■ Installation depth ≤ 35 mm ■ Stainless steel wheel 	<ul style="list-style-type: none"> ■ Through hollow shaft $\varnothing 70...340$ mm ■ Installation depth ≤ 35 mm ■ Stainless steel wheel
Product family	MHGP 100	MHGP 200	MHGP 400
Sensing method	Magnetic		
Magnetic wheel diameter	$\varnothing 99.9$ mm	$\varnothing 201.7$ mm	$\varnothing 405.4$ mm
Dimensions (sensing head)	120 x 30 x 90 mm		
Voltage supply	4.5...30 VDC		
Output stage			
- TTL/RS422	■	■	■
- HTL/push-pull	■	■	■
- SinCos 1 Vpp	■	■	■
Output signals	A+, B+, R+, A-, B-, R-		
Output frequency	≤ 2 MHz		
Shaft type			
- Through hollow shaft	$\varnothing 16...80$ mm	$\varnothing 50...180$ mm	$\varnothing 70...340$ mm
Connection			
- Flange connector M23	Radial		
Pulses per revolution	64...131 072	128...262 144	256...524 288
Sine waves per revolution	8192	16384	32768
Operating temperature	$-20...+85$ °C		
Protection	IP 66, IP 67		
Operating speed	≤ 8000 rpm	≤ 4000 rpm	≤ 2000 rpm

HDmag

The bearingless *HDmag* encoders operate on high-resolution sensing of a precision magnetic measure combined with digital signal processing in real time. *HDmag* encoders are available as incremental and absolute variants, provide outstanding high resolution and fit virtually any shaft diameter.

Bearingless encoders

Incremental & quasi-absolute



Hollow shaft $\varnothing 3183$ mm.
Up to 131 072 pulses per revolution.

- Square wave, sine and SSI interface
- Position and speed signals via SSI
- Any shaft diameter as standard
- Wear-free
- Wide axial backlash ± 5 mm
- Radial air gap up to 3 mm

HDmag flex

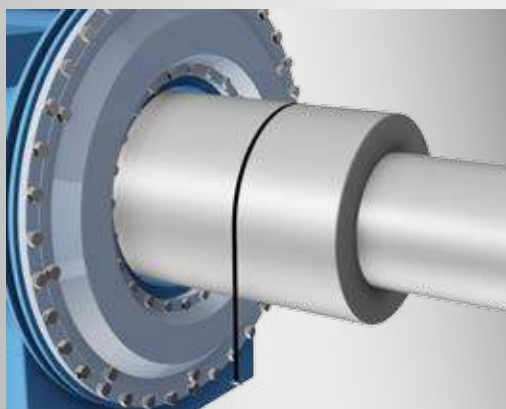


Features	<ul style="list-style-type: none"> ■ Magnetic belt encoder ■ Incremental ■ Pulses per revolution up to 131 072 	<ul style="list-style-type: none"> ■ Magnetic belt encoder ■ Quasi-absolute ■ Resolution up to 24 bit singleturn
Product family	MIR 3000F	MQR 3000F
Sensing method	Magnetic	
Dimensions (sensing head)	165 x 25 x 93 mm	
Voltage supply	4.75...30 VDC	
Output stage		
- TTL/RS422	■	■
- HTL/push-pull	■	■
- SinCos 1 Vpp	■	■
- SSI	—	Linedriver RS485
Output signals	A+, B+, R+, A-, B-, R-	0...24 bit singleturn 0...24 bit speedsignal
Shaft type		
- Magnetic belt	$\varnothing 300...3183$ mm	
Connection	Flange connector M23	
Pulses per revolution	512...131 072	1024...4096
Sine waves per revolution	512...16 384	1024...4096
Operating temperature	-40...+85 °C	
Protection sensing head	IP 66, IP 67	
Operating speed	≤ 1850 rpm	
Options	—	Additional incremental signals

HDmag flex

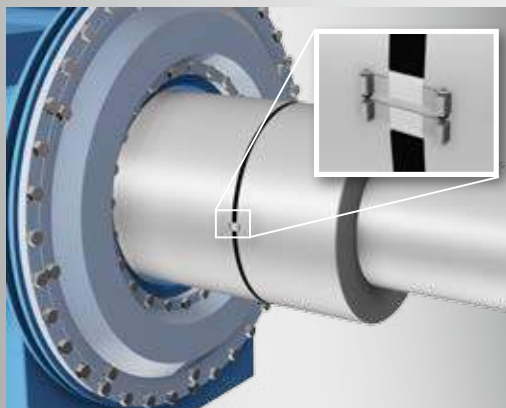
HDmag flex magnetic belt encoders operate on the proven HDmag technology. The sensor head will fit any shaft diameter thanks to both sensing elements being permanently aligned at the factory. The magnetic measure is buckled on the shaft like a belt. HDmag flex magnetic belt encoders provide: short lead times and easy installation, absolute robustness and reliability, precise position and speed feedback, high signal resolution

Bearingless encoders Incremental & quasi-absolute



Installed in no time at all.

The adjustable magnetic strap is buckled like a belt on the drive or generator shaft and thus allows to work with even the largest diameters.



The lock is welded securely to the magnetic belt for maximum tractive force, holding the belt securely on the shaft.



The sensing head allows for very high resolutions and large mechanical backlash.

Bearingless encoders

Absolute

Hollow shaft max. $\varnothing 340$ mm.
Singleturn variants.

- SSI and CANopen® interface
- Additional square wave and sine signals
- Wide axial backlash ± 3 mm
- For any shaft the matching installation principle



HDmag



Features	<ul style="list-style-type: none"> ■ Wearfree encoder ■ Through hollow shaft $\varnothing 30$ mm 	<ul style="list-style-type: none"> ■ Wearfree encoder ■ Through hollow shaft $\varnothing 16...80$ mm ■ Stainless steel wheel 	<ul style="list-style-type: none"> ■ Wearfree encoder ■ Through hollow shaft $\varnothing 50...180$ mm ■ Stainless steel wheel 	<ul style="list-style-type: none"> ■ Wearfree encoder ■ Through hollow shaft $\varnothing 70...340$ mm ■ Stainless steel wheel
Product family	MHAD 50	MHAP 100	MHAP 200	MHAP 400
Interface				
- SSI	■	■	■	■
- CANopen®	■	—	—	—
Function principle	Singleturn			
Sensing method	Magnetic			
Magnetic wheel diameter	$\varnothing 50$ mm	$\varnothing 101.3$ mm	$\varnothing 203.1$ mm	$\varnothing 406.8$ mm
Dimensions (sensing head)	55 x 36 x 20 mm	120 x 30 x 90 mm	120 x 30 x 78 mm	120 x 30 x 78 mm
Voltage supply	4.5...30 VDC			
Output stage				
- TTL/RS422	■	■	■	■
- HTL/push-pull	■	■	■	■
- SinCos 1 Vpp	—	■	■	■
Output signals	A+, B+, A-, B-			
Shaft type				
- Through hollow shaft	$\varnothing 30$ mm	$\varnothing 16...80$ mm	$\varnothing 50...180$ mm	$\varnothing 70...340$ mm
Connection				
- Flange connector M12	Radial	—	—	—
- Flange connector M23	—	Radial	—	—
- Cable	Radial	—	—	—
Total resolution	$\leq 65\,536 / 16$ bit	$\leq 131\,072 / 17$ bit	—	—
Absolute accuracy	$\pm 0.3^\circ (-40...+85^\circ\text{C})$ $\pm 0.25^\circ (+20^\circ\text{C})$	—	—	—
Pulses per revolution	1024...8192	1...131 072	1...262 144	1...524 288
Sine waves per revolution	—	1...8192	1...16 384	1...32 768
Operating temperature	-40...+85 °C	-20...+85 °C	—	—
Protection	IP 67	IP 66, IP 67	—	—
Operating speed	≤ 6000 rpm	≤ 8000 rpm	≤ 4000 rpm	≤ 2000 rpm

Bearingless encoders

Absolute

Compact kit design $\varnothing 30$ and $\varnothing 58$ mm.
Singleturn and multiturn variants.

- Bearingless design without mechanical wear-free
- Integrated interface
- Hollow shaft $\varnothing 6...12$ mm



New



New



New



New

Features	<ul style="list-style-type: none"> ■ Encoder kit – size $\varnothing 36$ mm 	<ul style="list-style-type: none"> ■ Encoder kit – size $\varnothing 36$ mm ■ E1 compliant design ■ Corrosion protection C5-M 	<ul style="list-style-type: none"> ■ Encoder kit – size $\varnothing 58$ mm 	<ul style="list-style-type: none"> ■ Encoder kit – size $\varnothing 58$ mm ■ E1 compliant design ■ Corrosion protection C5-M
Product family	EAM360 Kit - MAGRES	EAM360R Kit - MAGRES	EAM580 Kit - MAGRES	EAM580R Kit - MAGRES
Interface				
- SSI	■	–	■	–
- Analog	–	■	–	■
- CANopen®	■	■	■	■
- SAE J1939	–	■	–	■
- Profinet	–	–	■	–
Function principle	Singleturn/Multiturn			
Sensing method	Magnetic			
Size (housing)	$\varnothing 36$ mm		$\varnothing 58$ mm	
Voltage supply	4.5 ... 30 VDC (CANopen, SAE J1939, SSI) 8 ... 30 VDC / 14 ... 30 VDC (Analog - depending on type) 10 ... 30 VDC (Ethernet)			
Shaft type				
- Ring magnet bore	$\varnothing 6$ mm, $\varnothing 8$ mm, $\varnothing 12$ mm			
Connection				
- Flange connector M12	Radial			
- Flange connector M12	–	–	Radial	–
- Cable	Radial (0.14 mm ²)	Radial (0.5 mm ²)	Radial (0.14 mm ²)	Radial (0.5 mm ²)
Total resolution	$\leq 16\ 384/14$ bit			
Steps per turn	$\leq 16\ 384/14$ bit			
Number of turn	$\leq 262\ 144/18$ bit			
Operating temperature	-40...+85 °C			
Protection	IP 67			
Operating speed	≤ 6000 rpm			
Options	Additional incremental signals (SSI, CANopen®)	Additional incremental signals (SSI, CANopen®) Cable with Deutsch connector	Additional incremental signals (SSI, CANopen®)	Additional incremental signals (SSI, CANopen®) Cable with Deutsch connector

Bearingless encoders

Absolute

Compact kit design $\varnothing 50$ and $\varnothing 55$ mm.
Singleturn variants.

- Bearingless design without mechanical wear-free
- Integrated interface
- Hollow shaft $\varnothing 5...8$ mm



Features	<ul style="list-style-type: none"> ■ Encoder kit – size $\varnothing 50$ mm ■ Integrated interfaces ■ Singleturn 	<ul style="list-style-type: none"> ■ Encoder kit – size $\varnothing 55$ mm ■ Integrated interfaces ■ Singleturn
Product family	EAM500	BMSK 55 - MAGRES

Interface

- Analog	■	–
- CANopen® redundant	■	–
- SSI	–	■

Function principle Singleturn

Sensing method Magnetic

Size (housing) $\varnothing 50$ mm $\varnothing 55$ mm

Voltage supply 10...30 VDC (CANopen®)
12...30 VDC (Analog)
5 VDC $\pm 5\%$ (Analog) 10...30 VDC (on request)
5 VDC $\pm 10\%$

Shaft type

- Ring magnet bore $\varnothing 5...8$ mm

Connection

- Cable Radial

Total resolution ≤ 12 bit (Analog) 12 bit
 ≤ 14 bit (CANopen®)

Steps per turn 4096/12 bit (Analog) 4096/12 bit
16384/14 bit (CANopen®)

Number of turn –

Absolute accuracy $\pm 1.8^\circ$ $\pm 1^\circ$

Operating temperature $-40...+85^\circ\text{C}$ $-20...+85^\circ\text{C}$

Protection IP 67 IP 67

Operating speed ≤ 800 rpm ≤ 6000 rpm

Bearingless encoders Absolute

Compact kit design $\varnothing 58$ mm.
Singleturn and multiturn variants.

- All common fieldbus & EtherNet interfaces
- Modular bus covers
- Hollow shaft $\varnothing 12$ mm

MAGRES



Features	<ul style="list-style-type: none"> ■ Encoder kit – size $\varnothing 58$ mm ■ Modular bus cover ■ Multiturn 	<ul style="list-style-type: none"> ■ Encoder kit – size $\varnothing 58$ mm ■ Modular bus cover ■ Singleturn
Product family	BMMK 58 flexible	BMSK 58 flexible
Interface		
- CANopen®	■	■
- DeviceNet	■	■
- Profibus-DP	■	■
- SAE J1939	■	■
- EtherCAT	■	■
- EtherNet/IP	■	■
- Powerlink	■	■
- Profinet	■	■
Function principle	Multiturn	Singleturn
Sensing method	Magnetic	
Size (housing)	$\varnothing 58$ mm	
Voltage supply	10...30 VDC	
Shaft type		
- Ring magnet bore	$\varnothing 12$ mm	
Connection		
- Bus cover	Radial	
Total resolution	≤ 30 bit	≤ 12 bit
Steps per turn	$\leq 4096/12$ bit	
Number of turn	$\leq 262144/18$ bit	–
Absolute accuracy	$\pm 1^\circ$	
Operating temperature	$-20...+85$ °C	
Protection	IP 67	
Operating speed	≤ 6000 rpm	

Magnetic rotary encoders

Magnetic angle sensors

Miniature designs down to 20 mm.
Angular range through 360°.

- Linearized analog output signals
- Max. resolution 0.09°
- With magnet rotor
- Absolute



Features	<ul style="list-style-type: none"> ■ Sensor housing M18x1 ■ Linear angular range 270° ■ Output signal 4...20 mA 	<ul style="list-style-type: none"> ■ Sensor housing M18x1 ■ Linear angular range 360° linear ■ Output signal 0...4.3 VDC 	<ul style="list-style-type: none"> ■ Sensor housing rectangular ■ Linear angular range 270° ■ Output signal 4...20 mA 	<ul style="list-style-type: none"> ■ Sensor housing rectangular ■ Linear angular range 360° ■ Output signal 0...4.3 VDC
Product family	MDRM 18 (I-Type270°)	MDRM 18 (U-Type360°)	MDFM 20 (I-Type270°)	MDFM 20 (U-Type360°)
Sensor housing	Cylindrical threaded		Rectangular	
Dimensions (sensing head)	18 mm		20 x 30 x 8 mm	
Sensing distance	5 mm (with magnet rotor MSFS)		4 mm (with magnet rotor MSFS)	
Output circuit	Current output	Voltage output	Current output	Voltage output
Output signal	4...20 mA	0...4.3 VDC	4...20 mA	0...4.3 VDC
Angular range	270° linear	360° linear	270° linear	360° linear
Total resolution	1.41°		0.09°	
Response time	<2 ms		<4 ms	
Connection	Cable 2 m Mating connector M12		Cable 2 m Mating connector M8	Cable 2 m Mating connector M12
Voltage supply	15...30 VDC	4.7...7.5 VDC	15...30 VDC	4.7...7.5 VDC
Operating temperature	-40...+85 °C			
Protection	IP 67			

Linear bearingless encoders

Incremental

Size 10 mm.

Unlimited measuring range.

- Square wave output signals
- Max. resolution 0.02 mm
- With magnetic belt



Features	<ul style="list-style-type: none"> ■ Linear measuring system ■ Output signals A 90° B with index pulse ■ Output circuit push-pull or RS422
Product family	MIL10
Size (sensing head)	Rectangular
Dimensions (sensing head)	10 x 15 x 45.5 mm
Sensing distance	0.1...0.6 mm
Interpolation	Factor 20, 50, 100
Movement speed	<ul style="list-style-type: none"> <5 m/s (resolution 5 µm) <10 m/s (resolution 10 µm) <25 m/s (resolution 25 µm)
Output circuit	HTL/Push-pull TTL/RS422
Output signal	A 90° B
Total resolution	<ul style="list-style-type: none"> 5 µm (factor 4 evaluation) 10 µm (factor 4 evaluation) 25 µm (factor 4 evaluation)
System-Accuracy	±(0.02 mm +0.04 mm x magnetic belt length)
Connection	<ul style="list-style-type: none"> Cable 2 m Cable 0.3 m with connector M12
Voltage supply	10...30 VDC, 5 VDC ±5 %
Operating temperature	-40...+85 °C
Protection	IP 66, IP 67

Linear measurement made easy.



Absolute cable transducer BMMS K50
with max. 5 m measuring length.

Cable transducers



Easy attachment – reliable results.

Baumer cable transducers are the easiest and most reliable solution to acquire linear distance and position. Linear measurement covers virtually the entire range up to 50 meters. Particularly conceived for industrial applications, the high-quality cable-pulls are extremely durable. They always provide reliable measuring results and allow for both

system integration and retrofit. Cable-pulls go together with virtually any encoder. You have the choice – the cable-pull with optimum measuring length used in combination with the matching incremental encoder or absolute interface.

Redundant variants

MAGRES BMMS redundant encoders utilize two robust magnetic sensing systems. Each provides an individual output signal to ensure ultimate signal availability. An integrated monitoring system compares these two values and will output an error message in the event of failure. The monitoring system will relieve the master control, simultaneously cutting down on cabling effort and cost.

Cable transducers

Absolute

Size up to 120 mm.

Measuring length up to 12 m.

- Cable-pulls with absolute multiturn encoder
- Analog, CANopen® and SSI
- Compact housing



New

Features	<ul style="list-style-type: none"> ■ Measuring length up to 5 m ■ Non-contact magnetic sensing 	<ul style="list-style-type: none"> ■ Measuring length up to 7.5 m ■ Non-contact magnetic sensing 	<ul style="list-style-type: none"> ■ Measuring length up to 4.7 m ■ Non-contact magnetic sensing ■ Dirt skimmer ■ Three-chamber structure 	<ul style="list-style-type: none"> ■ Measuring length up to 12 m ■ Absolute potentiometer sensing ■ Dirt skimmer ■ Three-chamber structure
Product family	BMMS K34 BMMS K50	BMMS M75	GCA5	GCA8 GCA12

Interface

- SSI	■	■	–	–
- Analog / redundant	■/■	■/■	■/■	■/■
- CANopen® / redundant	■/■	■/■	–/■	–/■
Sensing method	Magnetic			Potentiometric
Size	88 x 88 x 66 mm	120 x 120 x 70 mm	104 x 104 x 65 mm	104 x 110 x 80 mm 126 x 124 x 92 mm
Voltage supply	8...30 VDC		8...30 VDC (Analog) 10...30 VDC (CANopen®)	10...30 VDC

Connection

- Flange connector M12	Radial				
- Cable	Radial				
Measuring length	3400 mm	5000 mm	7500 mm	4700 mm	8000 mm 12 000 mm

Resolution

- SSI, CANopen®	0.1 mm/step				
- Analog	12 bit				
Linearity	±0.6 %	±0.5 %	±0.2 %	±1 %	±1 %

Operating temperature

Protection	IP 65 (encoder, except cable outlet)			IP 67 (housing) IP 54 (cable outlet)	IP 67 (housing) IP 54 (cable outlet)
Materials	Cable-pull housing: plastic Encoder: Aluminium Cable: Stainless steel with coating			Housing: plastic Cable: Stainless steel with coating	Housing: plastic Cable: Stainless steel with coating

Cable transducers Absolute & incremental

Size up to 200 mm.

Measuring length up to 50 m.

- Utmost flexibility in the combination of encoder and cable-pull
- High operational reliability and longlife
- Highest resolution and linearity



Features	<ul style="list-style-type: none"> ■ Measuring length 2.1 m ■ Absolute or incremental encoder 		<ul style="list-style-type: none"> ■ Measuring length 3 m ■ Absolute or incremental encoder 		<ul style="list-style-type: none"> ■ Measuring length 5...15 m ■ Absolute or incremental encoder 		<ul style="list-style-type: none"> ■ Measuring length 30...50 m ■ Absolute or incremental encoder 	
Product family	GCI2	GCA2	GCI4	GCA4	GCI15	GCA15	GCI50	GCA50
Interface								
- SSI	–	■	–	■	–	■	–	■
- BiSS-C	–	■	–	■	–	■	–	■
- CANopen® / SAE J1939	–	■ / ■	–	■ / ■	–	■ / ■	–	■ / ■
- DeviceNet	–	■	–	■	–	■	–	■
- Profibus-DP	–	■	–	■	–	■	–	■
- EtherCAT	–	■	–	■	–	■	–	■
- EtherNet/IP	–	■	–	■	–	■	–	■
- Powerlink	–	■	–	■	–	■	–	■
- Profinet	–	■	–	■	–	■	–	■
Function principle	Incremental	Absolute	Incremental	Absolute	Incremental	Absolute	Incremental	Absolute
Sensing method	Optical							
Size	60 x 60 mm		96 x 96 x 56 mm		115 x 115 x 82.5 - 180.5 mm		200 x 200 x 268 - 333.5 mm	
Voltage supply	5 VDC 4.75...30 VDC	10...30 VDC	5 VDC 4.75...30 VDC	10...30 VDC	5 VDC 4.75...30 VDC	10...30 VDC	5 VDC 4.75...30 VDC	10...30 VDC
Output stage								
- TTL/RS422	■	–	■	–	■	–	■	–
- HTL/push-pull	■	–	■	–	■	–	■	–
Connection								
- Flange connector M12, M23	Radial, axial							
- Cable	Radial, axial							
- Bus cover	Radial							
Measuring length	2100 mm		3000 mm		5000...15 000 mm		30 000...50 000 mm	
Pulses per revolution	≤80 000	–	≤80 000	–	≤80 000	–	≤80 000	–
Total resolution	–	≤36 bit	–	≤36 bit	–	≤36 bit	–	≤36 bit
Linearity	±0.01 %		±0.02 % (3...7.5 m), ±0.01 % (10...50 m)					
Operating temperature	-20...+85 °C							
Protection (encoder)	IP 65							
Materials	Cable-pull housing: plastic Encoder: Aluminium Cable: Stainless steel with coating		Cable-pull housing: Aluminium Encoder: Aluminium Cable: Stainless steel with coating					
Options	Operating temperature -40...+85 °C							

Solutions for every scenario.



Absolute encoder / ATEX
X 700 with bus cover

For very special applications



SIL, Ex, stainless steel, motor feedback and offshore encoders, signal processing.

Whether in hazardous areas, extremely corrosive environments or for demanding functional safety requirements – we are your strong partner.

Baumer is competent in all fields of application, for example offshore oil rigs or wind turbines. This expertise is confirmed by relevant certifications of compliance to SIL, ATEX, IECEx, DNV and UL standards approved by recognized testing institutes.

Certifications

Ever-extending IECEx certification of our explosion-protected HeavyDuty incremental encoders ensures compliance to most demanding international safety directives. Hence, the encoders are approved for use throughout all 30 countries supporting the IECEx standard. International certification provides particular benefit to OEMs when exporting their machines and systems.

For very special applications

Motor feedback encoder

Size 36 mm or 58 mm.

Precise optical sensing.

- Add-on and built-in variations
- Resolution up to 21 bit per turn
- All-digital acquisition of the rotor position
- SSI and BiSS C interface



Features	<ul style="list-style-type: none"> ■ Built-in encoder ■ For small and medium servo motors ■ Multiturn 	<ul style="list-style-type: none"> ■ Built-in encoder ■ For small and medium servo motors ■ Singleturn 	<ul style="list-style-type: none"> ■ Add-on encoder ■ For large servo motors ■ Singleturn ■ With stator coupling 	<ul style="list-style-type: none"> ■ Add-on encoder ■ For large servo motors ■ Singleturn ■ With expanding ring coupling
Product family	EFL360-MT	EFL360-ST	EFL580	EFL580
Interface				
- SSI	–	–	■	■
- BiSS C	■	■	■	■
Function principle				
Function principle	Multiturn	Singleturn	Singleturn	Singleturn
Sensing method				
Sensing method	Optical / magnetic	Optical	Optical	Optical
Size (housing)				
Size (housing)	ø36 mm		ø58 mm	
Voltage supply				
Voltage supply	5 VDC ±10%		5 VDC ±10%	
Shaft type				
- Cone shaft	–		ø9.25 mm	
- Blind hollow shaft	ø6 mm		–	
Connection				
Connection	PCB connector		Cable with connector	
Total resolution				
Total resolution	37 bit	21 bit	13 bit (SSI) 21 bit (BiSS C)	13 bit (SSI) 21 bit (BiSS C)
Steps per turn				
Steps per turn	2 097 152/21 bit	2 097 152/21 bit	8192/13 bit (SSI) 2 097 152/21 bit (BiSS C)	8192/13 bit (SSI) 2 097 152/21 bit (BiSS C)
Number of turn				
Number of turn	65 536/16 bit	–	–	–
Protection				
Protection	IP 00		IP 64	
Operating temperature				
Operating temperature	-20...+115 °C		-25...+105 °C	
Operating speed				
Operating speed	≤8000 rpm		≤6000 rpm	
Options				
Options	Cone shaft Temperature sensor Elektronik lable		Sin/Cos 2048 sine waves Temperature sensor	

For very special applications

Motor feedback encoder

Size 36 mm or 58 mm.
Precise optical sensing.

- Add-on and built-in variations
- Resolution up to 21 bit per turn
- All-digital acquisition of the rotor position
- SSI and BiSS C interface



BiSS C – the open standard

Highspeed protocol BiSS C is ideal for demanding applications with fast isochrone data transmission and high demands on safety.

Benefits of the BiSS C interface:

- All-digital position acquisition without sine signals
- Bi-directional communication for acquisition and preset of the absolute rotor position
- Fast transmission rates at clock frequencies up to 10 MHz
- Protected transmission by CRC sum
- Open, nonproprietary standard
- Fast, flexible interfacing



For very special applications

Encoders for hazardous environments

Zone 0, 1, 2 | Zone 20, 21, 22 | Class I Division 1, Class 2 Division 1.
ATEX, IECEx, IEC (UL).

- Size 58...160 mm
- Square wave and sine signals
- SSI, CANopen®, RS485, Profibus-DP



Features	<ul style="list-style-type: none"> ■ Incremental encoder ■ Solid shaft with EURO flange B10 ■ ATEX-/IECEx certification ■ SinCos signal with <i>LowHarmonics</i> 	<ul style="list-style-type: none"> ■ Incremental encoder ■ Through hollow shaft ■ ATEX-/IECEx certification 	<ul style="list-style-type: none"> ■ Incremental encoder ■ Solid shaft with clamping or synchro flange ■ Blind or through hollow shaft ■ ATEX certification 	<ul style="list-style-type: none"> ■ Incremental encoder ■ Solid shaft with clamping flange ■ Stainless steel housing ■ ATEX certification
Product family	EEx OG 9 EEx OG 9 S	EEx HOG 161	ExEIL580 - <i>OptoPulse</i> ®	X 700 - incremental

Sensing method	Optical				
Size (housing)	ø120 mm	ø120 mm	ø160 mm	ø58 mm	ø70 mm
Voltage supply	5 VDC ±5 % 9...26 VDC 9...30 VDC	5 VDC ±5 % 9...30 VDC	5 VDC ±5 % 9...26 VDC 9...30 VDC	5 VDC ±5 % 8...30 VDC 4.75...30 VDC	4.75...30 VDC
Output stage					
- TTL/RS422	■	—	■	■	■
- HTL/push-pull	■	—	■	■	■
- SinCos 1 Vpp	—	■	—	—	—
Output signals	K1, K2, K0 + inverted			A 90° B, N + inverted	
Shaft type					
- Solid shaft	ø11 mm	—	—	ø6 mm, ø10 mm	ø10 mm
- Blind hollow shaft	—	—	—	ø8...15 mm	—
- Through hollow shaft	—	—	ø30...70 mm	ø8...15 mm	—
Flange	EURO flange B10		—	Clamping/synchro flange	Clamping flange
Connection					
- Terminal box	Radial			—	—
- Flange connector M12, M23	—			Radial / axial	—
- Cable	—			Radial / axial / tangential	Axial
Pulses per revolution	1...5000	—	250...2500	100...5000	5...5000
Sine waves per revolution	—	1024...2048	—	—	—
Operating temperature	-50...+55°C -40...+55°C -25...+55°C	-20...+55°C	-20...+58°C (IP 56) -20...+66°C (IP 54)	-40...+85°C	-25...+70°C
Protection	IP 56		IP 54, IP 56	IP 65, IP 67	IP 67
Operating speed	≤5600 rpm		≤5600 rpm	≤12 000 rpm (IP 65) ≤6000 rpm (IP 67)	≤6000 rpm
Max. shaft load	≤200 N axial, ≤350 N radial		≤450 N axial, ≤650 N radial	≤40 N axial, ≤80 N radial	≤60 N axial, ≤50 N radial
Explosion protection	Ex II 2G (ATEX/IECEx)		Ex II 2G (ATEX/IECEx)	Ex II 3D (ATEX)	Ex II 2D/2G (ATEX)
Options	Cable gland M16, M20, M25x1,5	—	Cable gland M20x1.5	—	—

For very special applications Encoders for hazardous environments

Zone 0, 1, 2 | Zone 20, 21, 22 | Class I Division 1, Class 2 Division 1.
ATEX, IECEx, IEC (UL).

- Size 58...160 mm
- Square wave and sine signals
- SSI, CANopen®, RS485, Profibus-DP



Features	<ul style="list-style-type: none"> ■ Incremental encoder ■ Solid shaft with square flange ■ ATEX-/IECEX, NEC (UL) certification ■ Safety barrier mandatory 	<ul style="list-style-type: none"> ■ Incremental encoder ■ Through hollow shaft ■ ATEX-/IECEX, NEC (UL) certification ■ Safety barrier mandatory 	<ul style="list-style-type: none"> ■ Absolute encoder ■ Solid shaft with clamping flange ■ Stainless steel housing ■ ATEX certification 	<ul style="list-style-type: none"> ■ Absolute encoder ■ Solid shaft with clamping flange ■ Stainless steel housing ■ ATEX certification
Product family	ExG25	ExHS35	X 700 - RS485 X 700 - SSI	X 700 - CANopen® X 700 - Profibus-DP

Interface						
- SSI / RS485	–	–	■ / ■	–		
- CANopen® / Profibus-DP	–	–	–	■ / ■		
Function principle	–	–	Multiturn	Singleturn	Multiturn	Singleturn
Sensing method	Optical		Optical			
Size (housing)	ø58 mm	ø80 mm	ø70 mm			
Voltage supply	8.9 VDC		10...30 VDC			
Output signals	A, B, Z + invertiert		–		–	
Shaft type						
- Solid shaft	ø9.52 mm	–	ø10 mm			
- Through hollow shaft	–	ø9.525...25.4 mm	–			
Flange	Square flange		–		Clamping flange	
Connection						
- Cable gland	Radial	Radial	Axial		Bus cover, radial	
- MIL connector	Radial	Radial	–		–	
- Flange connector M23	Radial	–	–		–	
Total resolution	–	–	≤25 bit	≤14 bit	≤25 bit	≤14 bit
Steps per turn	–	–	≤8192/13 bit	≤16384/14 bit	≤8192/13 bit	≤16384/14 bit
Number of turn	–	–	≤4096/12 bit	–	≤4096/12 bit	–
Pulses per revolution	5...6000	1024...5000	–		–	
Absolute accuracy	–	–	±0.025°			
Operating temperature	-25...+60 °C	-30...+70 °C	-25...+60 °C			
Protection	IP 65		IP 67			
Operating speed	≤6000 rpm	≤3000 rpm	≤6000 rpm			
Max. shaft load	≤450 N axial, ≤670 N radial		–		≤60 N axial, ≤50 N radial	
Explosion protection	Ex II 1G/1D (ATEX/IECEX) Class I Div. 1 / Class II Div. 1 (NEC 505)		Ex II 2D/2G (ATEX)			
Options	Safety barrier		–			

For very special applications

Redundant absolute encoders

Two sensing systems.
For maximum application availability.

- Size 28...58 mm
- SSI, CANopen®, analog



Features	<ul style="list-style-type: none"> ■ Absolute encoders ■ Solid shaft with flat mounting flange 	<ul style="list-style-type: none"> ■ Absolute encoders ■ Solid shaft with clamping or synchro flange ■ Blind hollow shaft 	<ul style="list-style-type: none"> ■ Absolute encoders ■ Solid shaft with clamping flange ■ SSI / integrated resolver 	<ul style="list-style-type: none"> ■ Bearingless encoders with two sensor heads ■ Through hollow shaft ø30 mm 	
Product family	EAM280	BMMV 58 BMSV 58	BMMH 58 BMSH 58	ATD 2S B14 Y24	MHAD 50 - <i>HDmag</i>
Interface					
- Analog redundant	■	■	–	–	–
- SSI redundant	–	–	–	–	■
- SSI + Resolver	–	–	■	–	–
- CANopen® redundant	■	■	–	–	■
Function principle	Singleturn	Multiturn or Singleturn	Multiturn or Singleturn	Multiturn or Singleturn	Singleturn
Sensing method	Magnetic				
Size (housing)	ø28.6 mm	ø58 mm	ø58 mm	ø58 mm	ø55 x 36 x 20 mm
Voltage supply	10...30 VDC, 12...30 VDC 5 VDC ±5 %	8...30 VDC	10...30 VDC	10...30 VDC	4.5...30 VDC
Shaft type					
- Solid shaft	ø6 mm	ø6 / ø10 mm	–	ø10 mm	–
- Blind hollow shaft	–	–	ø12 mm	–	–
- Through hollow shaft	–	–	–	–	ø30 mm
Connection					
- Flange connector M12	Radial	Radial	–	–	Radial
- Flange connector M23	–	–	Radial	–	–
- Cable	Radial	Radial	–	–	Radial
Total resolution	≤12 or 14 bit	≤30 bit	≤24 bit	–	≤16 bit
Steps per turn	4096/12 bit (Analog) 16384/14 bit (CANopen®)	≤4096/12bit	4096/12 bit	–	≤65 536/16 bit
Number of turn	–	≤262 144/18 bit	4096/12 bit	–	–
Absolute accuracy	±1.8°	±1°	–	–	±0.3° (-40...+85 °C) ±0.25° (+20 °C)
Operating temperature	-40...+85 °C	-20...+65 °C	-30...+85 °C	–	-40...+85 °C
Protection	IP 65				IP 67
Operating speed	≤800 rpm	≤6000 rpm	≤5000 rpm	–	≤6000 rpm
Max. shaft load	≤25 N axial, ≤25 N radial	≤40 N axial, ≤60 N radial	–	≤40 N axial, ≤60 N radial	–

For very special applications SIL encoders incremental and absolute

With SIL2 and SIL3 certification.
For quick implementation of your system concepts.

- Size 58...105 mm
- Square wave and sine signals

PL
SIL



Functional Safety



Features	<ul style="list-style-type: none"> ■ Sine encoders ■ Through hollow shaft ■ SIL2/SIL3 approval 	<ul style="list-style-type: none"> ■ Incremental encoders ■ Solid shaft with clamping or synchro flange ■ SIL2 approval 	<ul style="list-style-type: none"> ■ Sine encoders ■ Cone shaft ■ Blind hollow shaft ■ Pld/SIL2 approval
Product family	ITD22H00 SIL	GI357	HOGS 100S
Sensing method	Optical		
Size (housing)	ø58 mm	ø58 mm	ø105 mm
Voltage supply	5 VDC ±10 %	24 VDC +20/-50 %	5 VDC ±10 % 7...30 VDC
Output stage			
- TTL/RS422	–	■	–
- HTL/push-pull	–	■	–
- SinCos 1 Vpp	■	–	■
Output signals	A, B, N	A 90° B + inverted	K1 (A+), K2 (B+), K0 (R+) + inverted
Shaft type			
- Cone shaft 1:10	–	–	ø17 mm
- Solid shaft	–	ø6 mm / ø10 mm	–
- Blind hollow shaft	–	–	ø16 mm
- Through hollow shaft	ø10, ø12, ø14 mm	–	–
Flange	–	Clamping or synchro flange	–
Connection			
- Terminal box	–	–	Radial
- Flange connector M12, M23	–	Radial, axial	–
- Cable	Tangential	–	–
Pulses per revolution	–	5...5000	–
Sine waves per revolution	1024, 2048	–	1024...5000
Operating temperature	-30...+100 °C	-25...+85 °C	-25...+85 °C
Protection	IP 65	IP 54 (without shaft seal) IP 65 (with shaft seal)	IP 66
Operating speed	≤6000 rpm	≤10 000 rpm	≤10 000 rpm
Max. shaft load	–	≤20 N axial, ≤40 N radial	≤250 N axial, ≤400 N radial
Approval	SIL2 or SIL3 compliant in redundant use	SIL2 compliant to IEC 61508	Pld/SIL2 approval
Other	Suitable to safety speed switches GMM2xxS		

For very special applications

Stainless steel incremental encoders



V2A and V4A.
 Max. 10 000 pulses per revolution.
 ■ Size 58...89 mm
 ■ Square wave and sine signals



Features	<ul style="list-style-type: none"> ■ Through hollow shaft ■ Max. 6000 pulses per revolution 	<ul style="list-style-type: none"> ■ Solid shaft with clamping flange ■ Max. 6000 pulses per revolution 	<ul style="list-style-type: none"> ■ Blind hollow shaft ■ Max. 6000 pulses per revolution 	<ul style="list-style-type: none"> ■ Blind hollow shaft ■ Max. 10 000 pulses per revolution ■ Sine waves per revolution 1024...2048
Product family	GE333	GE355 GF355	ITD21 A4 Y65	ITD 40 A4 ITD 42 A4 Y141
Sensing method	Optical			
Size (housing)	ø58 mm			ø89 mm
Voltage supply	5 VDC ±10 %, 4.75...30 VDC, 10...30 VDC		5 VDC ±5 %, 8...30 VDC	
Output stage				
- TTL/RS422	■	■	■	■ –
- HTL/push-pull	■	■	■	■ –
- SinCos 1 Vpp	–	–	–	– ■
Output signals	A 90° B, N + inverted			A, B, N + inv. A, B, N
Shaft type				
- Solid shaft	–	ø10 mm	–	– –
- Blind hollow shaft	–	–	–	ø20...27 mm –
- Through hollow shaft	ø12 mm	–	ø10...14 mm	– ø20...27 mm
Connection				
- Cable	Radial	Radial / axial	Radial	Radial
Pulses per revolution	5...6000	5...6000	200...6000	2000...10 000 –
Sine waves per revolution	–	–	–	– 1024...2048
Operating temperature	-25...+100 °C (5 VDC) -25...+85 °C (24 VDC)	-25...+85 °C	-20...+85 °C	-20...+70 °C -20...+85 °C
Protection	IP 65	IP 67	IP 66	IP 67
Operating speed	≤6000 rpm	≤10 000 rpm	≤3000 rpm	≤2500 rpm
Max. shaft load	–	≤20 N axial, ≤40 N radial	–	–
Material	Stainless steel: 1.4305	Stainless steel: 1.4305 Stainless steel: 1.4404	Stainless steel: 1.4305	Stainless steel: 1.4305 Stainless steel 1.4305
Options	–	–	Cable with connector	Cable with connector

For very special applications Stainless steel absolute encoders

V2A and V4A.

- Size 58 mm
- SSI, fieldbus, real time EtherNet



MAGRES
hermetic



Features	<ul style="list-style-type: none"> ■ Solid shaft with clamping flange ■ Integrated interfaces 		<ul style="list-style-type: none"> ■ Solid shaft with clamping or synchro flange ■ Through hollow shaft ■ Modular bus cover 		<ul style="list-style-type: none"> ■ Solid shaft with clamping flange ■ Hermetically sealed ■ Integrated interfaces 		<ul style="list-style-type: none"> ■ Solid shaft with clamping flange ■ Hermetically sealed ■ Modular bus cover 	
Product family	GE244	GE404	GEMMW	GEMMH	BMMV 58 - MAGRES hermetic		BMMV 58 flexible - MAGRES hermetic	

Interface						
- SSI	■	—	—	■	—	—
- CANopen®	—	—	■	■	—	■
- DeviceNet	—	—	■	—	—	■ ¹⁾
- Profibus-DP	—	—	■	■	—	■
- SAE J1939	—	—	■ ¹⁾	—	—	■
- EtherCAT	—	—	■ ¹⁾	—	—	■ ¹⁾
- EtherNet/IP	—	—	■ ¹⁾	—	—	■
- Powerlink	—	—	■ ¹⁾	—	—	■ ¹⁾
- Profinet	—	—	■ ¹⁾	—	—	■
Function principle						
	Singleturn	Multiturn	Multiturn	Multiturn	Multiturn	Multiturn
Sensing method						
	Optical			Magnetic		
Size (housing)						
	ø58 mm					
Voltage supply						
	10...30 VDC					
Shaft type						
- Solid shaft	ø10 mm		ø6, ø10 mm	—	ø10 mm	
- Through hollow shaft	—		—	ø12...14 mm	—	
Connection						
	M23 radial		Bus cover cable gland		Bus cover M12	
Total resolution						
	14 bit	26 bit	29 bit		≤29 bit	≤30 bit
Steps per turn						
	≤16384/14 bit	≤4096/12 bit	≤8192/13 bit		≤8192/13 bit	≤4096/12 bit
Number of turn						
	—	≤16384/14 bit	≤65 536/16 bit		≤65 536/16 bit	≤262 144/18 bit
Absolute accuracy						
	±0.025°			±1°		
Operating temperature						
	-25...+85 °C			-40...+85 °C		
Protection						
	IP 67			IP 68, IP 69 K		
Operating speed						
	≤6000 rpm					
Max. shaft load						
	≤20 N axial ≤40 N radial		≤20 N axial ≤40 N radial	—	≤120 N axial (combined), ≤280 N radial (combined) ≤270 N axial (single load)	
Material						
	Stainless steel: 1.4305 / 1.4404		Stainless steel: 1.4305			

1) on request

For very special applications

Offshore incremental encoders

For use in C5-M environments.

- Size $\varnothing 58...800$ mm
- Square wave and sine signals



Features	<ul style="list-style-type: none"> ■ Solid shaft with clamping or synchro flange 	<ul style="list-style-type: none"> ■ Cone shaft or blind hollow shaft ■ High protection IP 67 	<ul style="list-style-type: none"> ■ Through hollow shaft 	<ul style="list-style-type: none"> ■ Through hollow shaft ■ Bearingless encoders ■ Max. 32 768 pulses per revolution
Product family	GI355-C GI356-C	HOG 11	HOG 131	MHGE 100 - HDmag MHGE 800 - HDmag
Sensing method	Optical			Magnetic
Size (housing)	$\varnothing 58$ mm	$\varnothing 105$ mm	$\varnothing 130$ mm	100 x 40 x 65 mm
Size (magnetic wheel)				$\varnothing 99.9...813$ mm
Voltage supply	5 VDC $\pm 10\%$ 4.75...30 VDC 10...30 VDC	5 VDC $\pm 5\%$ 9...30 VDC	5 VDC $\pm 5\%$ 9...26 VDC 9...30 VDC	Rectangular: 4.75...30 VDC Sine: 5 VDC
Output stage				
- TTL/RS422	■	■	■	■
- HTL/push-pull	■	–	–	–
- HTL-P (Power Linedriver)	–	■	■	■
- SinCos 1 Vpp	–	–	–	■
Output signals	A 90° B, N + inverted	K1, K2, K0 + inverted	K1, K2, K0 + inverted	A+, B+, R+, A-, B-, R-
Output frequency	≤ 150 kHz	≤ 120 kHz	≤ 120 kHz	≤ 300 kHz
- Solid shaft	$\varnothing 10$ mm $\varnothing 6$ mm	–	–	–
- Cone shaft 1:10	–	$\varnothing 17$ mm	–	–
- Blind hollow shaft	–	$\varnothing 12...20$ mm	–	–
- Through hollow shaft	–	–	$\varnothing 16...36$ mm	$\varnothing 16...80$ mm $\varnothing 650...740$ mm
Flange	Clamping flange Synchro flange	–	–	–
Connection				
- Flange connector M23	Radial / axial	–	–	Radial
- Cable	Radial / axial	–	–	–
- Terminal box	–	Radial	Radial	–
Pulses per revolution	5...6000	300...2500	2048...3072	64...4096 512...32 768
Sine waves per revolution	–	–	–	64 512
Operating temperature	-25...+85 °C (-25...+100 °C)	-30...+85 °C	-40...+100 °C	-40...+100 °C
Protection	IP 54, IP 65	IP 67	IP 56	IP 67 (sensor head)
Operating speed	$\leq 10\,000$ rpm	≤ 6000 rpm	≤ 6000 rpm	≤ 8000 rpm ≤ 1000 rpm
Max. shaft load	≤ 20 N axial, ≤ 40 N radial	≤ 250 N axial, ≤ 400 N radial	≤ 300 N axial, ≤ 500 N radial	–
Explosion protection	–	Ex II 3G IIC / 3D IIIC (ATEX)	Ex II 3G IIC / 3D IIIC (ATEX)	–
Corrosion protection	Corrosion protection C5-M	Corrosion and seawater proof		
Options	With SIL2 certification: GI357	DNV certification	–	DNV certification

For very special applications Offshore absolute encoders

For use in C5-M environments.

- Size $\varnothing 58...122$ mm
- SSI, fieldbus, real time EtherNet



New

Features	■ Solid shaft with clamping or synchro flange		■ Through hollow shaft		■ Solid shaft with clamping or synchro flange		■ Cone, solid, blind or through hollow shaft ■ Double-sided mounting	
Product family	GM400-C	GM401-C	GOM2H-C	G0A2H-C	GXMMW ¹⁾	PMG 10	HMG 10	

Interface

- SSI / SSI with incremental	■ / ■		■ / ■		■ / ■	■ / ■	■ / ■	
- CANopen®	—		—		■	■	■	■
- DeviceNet	—		—		■	■	■	■
- Profibus-DP	—		—		■	■	■	■
- EtherCAT	—		—		■	■	■	■
- Profinet	—		—		■	■	■	■

Function principle	Multiturn		Multiturn	Singleturn	Multiturn	Multiturn / Singleturn		
Sensing method	Optical							
Size (housing)	$\varnothing 58$ mm		$\varnothing 58$ mm		$\varnothing 58$ mm		$\varnothing 115$ mm	$\varnothing 105$ mm
Voltage supply	10...30 VDC		10...30 VDC		10...30 VDC		9...30 VDC	
Shaft type								
- Solid shaft	$\varnothing 10$ mm	$\varnothing 6$ mm	—		$\varnothing 6$ mm, $\varnothing 10$ mm		$\varnothing 11$ mm	—
- Cone shaft 1:10	—		—		—		—	$\varnothing 17$ mm
- Blind hollow shaft	—		—		—		—	$\varnothing 12...20$ mm
- Through hollow shaft	—		$\varnothing 12-14$ mm		—		—	$\varnothing 12...20$ mm
Flange	Clamping flange	Synchro flange	—		Clamping flange, synchro flange		EURO flange B10	—
Connection	Flange connector M23 cable		Flange connector M23 cable		Bus cover with M12 or cable gland		Bus cover, terminal box, connector M12 or M23	
Total resolution	≤ 30 bit		≤ 26 bit	≤ 14 bit	≤ 28 bit		≤ 40 bit	
Steps per turn	$\leq 16384/14$ bit		$\leq 16384/14$ bit	$\leq 16384/14$ bit	$\leq 8192/13$ bit		$\leq 1\,048\,576/20$ bit	
Number of turn	$\leq 65536/16$ bit		$\leq 4096/12$ bit	—	$\leq 65\,536/16$ bit		$\leq 1\,048\,576/20$ bit	
Absolute accuracy	$\pm 0.025^\circ$		$\pm 0.025^\circ$		$\pm 0.025^\circ$		—	
Protection	IP 54, IP 65		IP 54 (IP 65 option)		IP 54, IP 65		IP 66, IP 67	
Operating temperature	$-25...+85^\circ\text{C}$		$-25...+85^\circ\text{C}$		$-25...+85^\circ\text{C}$		$-40...+100^\circ\text{C}$	
Operating speed	≤ 6000 rpm		≤ 6000 rpm		≤ 6000 rpm		$\leq 12\,000$ rpm	
Max. shaft load	≤ 20 N axial, ≤ 40 N radial		—		≤ 20 N axial, ≤ 40 N radial		≤ 450 N axial, ≤ 650 N radial	
Corrosion protection	Corrosion protection C5-M				Corrosion and seawater proof			
Options	Additional incremental signals							

1) on request

For very special applications

Signal processing

Digital converters.

- Level conversion and potential separation
- For extended signal transmission length
- TTL, HTL and SinCos



Features	<ul style="list-style-type: none"> ■ Conversion TTL to TTL ■ Signal regeneration 	<ul style="list-style-type: none"> ■ Conversion HTL to TTL ■ Signal regeneration 	<ul style="list-style-type: none"> ■ Conversion TTL to HTL ■ Signal regeneration 	<ul style="list-style-type: none"> ■ Conversion HTL to HTL ■ Signal regeneration
Product family	HEAG 151	HEAG 152	HEAG 153	HEAG 154
Size	DIN rail housing 50 x 75 x 55 mm			
Voltage supply	5 VDC ±5%		9...26 VDC	
Inputs				
- Number	1	1	1	1
- TTL/RS422	■	–	■	–
- HTL/push-pull	–	■	–	■
Outputs				
- Number	1	1	1	1
- TTL/RS422	■	■	–	–
- HTL/push-pull	–	–	■	■
Input signals	K1, K2, K0 + inverted			
Output signals	K1, K2, K0 + inverted			
Output circuit	Optocoupler			
Connection	Screw terminals			
Consumption	≤5 mA			
Input frequency	200 kHz	120 kHz	200 kHz	120 kHz
Operating temperature	-20...+50 °C			
Protection	IP 20			

For very special applications

Signal processing

Precision interpolators and signal converter.

- Enhanced resolution and signal interpolation
- Up to three signal outputs
- TTL, HTL and SinCos



Features	<ul style="list-style-type: none"> ■ Precision interpolator ■ Splitter for signal conversion SinCos to TTL/HTL ■ Additional signal interpolation 	<ul style="list-style-type: none"> ■ Precision sine multiplier ■ Converter SinCos to multiple SinCos 	<ul style="list-style-type: none"> ■ Precision interpolator ■ Precision splitter ■ Converter SinCos to multiple SinCos ■ Additional HTL or TTL signal interpolation
Product family	HEAG 158	HEAG 159	HEAG 160
Size	Surface mount housing 122 x 122 x 80 mm		
Voltage supply	10...30 VDC	5 VDC \pm 5%, 10...30 VDC	
Inputs			
- Number	2	2	2
- TTL/RS422	–	–	–
- HTL/push-pull	–	–	–
- SinCos 1 Vpp	■	■	■
Outputs			
- Number	3	2	4
- TTL/RS422	■	–	■
- HTL/push-pull	■	–	■
- SinCos 1 Vpp	–	■	■
- Error output	■	–	■
Input signals	A+, A-, B+, B-, R+, R-		
Output signals	A+, A-, B+, B-, R+, R-		
Connection	Mating 3-pin connector M23		
Consumption	\leq 150 mA (15 VDC)	\leq 500 mA (5 VDC), \leq 300 mA (10...30 VDC)	
Input frequency	400 kHz		
Operating temperature	0...+50 °C		
Protection	IP 65		
Options	A+, A-, B+, B-, R+, R-, Error		

For very special applications

Signal processing

Fiber-optic transmitter.

- Interference-resistant fiber-optic transmitter
- For long-distance transmission and EMC-critical environments
- TTL and HTL



Features	<ul style="list-style-type: none"> ■ Signal conversion TTL to LWL ■ For EMC-critical environments 	<ul style="list-style-type: none"> ■ Signal conversion HTL to LWL ■ For EMC-critical environments 	<ul style="list-style-type: none"> ■ Signal conversion LWL to TTL ■ For EMC-critical environments 	<ul style="list-style-type: none"> ■ Signal conversion LWL to HTL ■ For EMC-critical environments
Product family	HEAG 171	HEAG 172	HEAG 173	HEAG 174
Size	Surface mount housing 122 x 122 x 80 mm		DIN rail housing 50 x 75 x 55 mm	
Voltage supply	5 VDC ±5%, 9...26 VDC	9...26 VDC	5 VDC ±5%	10...30 VDC
Inputs				
- Number	4	4	3	3
- TTL/RS422	■	—	—	—
- HTL/push-pull	—	■	—	—
- LWL	—	—	■	■
Outputs				
- Number	4	4	3	3
- TTL/RS422	—	—	■	—
- HTL/push-pull	—	—	—	■
- LWL	■	■	—	—
Input signals	K1, K2, K3, K4 + inverted		LWL 1, 2, 3	
Output signals	LWL 1, 2, 3, 4		K1, K2, K3 + inverted	
Connection				
- Screw terminals	—	—	■	■
- Cable gland M16	■	■	—	—
- Cable gland M20	■	■	—	—
Max. load current	200 mA		60 mA	
Operating temperature	-20...+70 °C		-20...+50 °C	
Protection	IP 65		IP 20	

For very special applications

Signal processing

Fiber-optic transmitter.

- Interference-resistant fiber-optic transmitter
- For long-distance transmission and EMC-critical environments
- TTL and HTL



Features	<ul style="list-style-type: none"> ■ Signal conversion TTL to LWL ■ For EMC-critical environments 	<ul style="list-style-type: none"> ■ Signal conversion HTL to LWL ■ For EMC-critical environments
Product family	HEAG 175	HEAG 176
Size	DIN rail housing 50 x 75 x 55 mm	
Voltage supply	5 VDC ±5%, 9...26 VDC	9...26 VDC
Inputs		
- Number	3	3
- TTL/RS422	■	—
- HTL/push-pull	—	■
- LWL	—	—
Outputs		
- Number	3	3
- TTL/RS422	—	—
- HTL/push-pull	—	—
- LWL	■	■
Input signals	K1, K2, K3 + inverted	
Output signals	LWL 1, 2, 3	
Connection		
- Screw terminals	■	■
- Cable gland M16	—	—
- Cable gland M20	—	—
Max. load current	75 mA	
Operating temperature	-20...+50 °C	
Protection	IP 20	

A secure hold during tilt and vibration.



Inclination sensor GIM500.

Inclination & acceleration sensors



Absolute precise and robust.

Baumer inclination sensors of the GIM series detect the inclination angle towards the horizontal line at machines and machine equipment. Typical applications are construction or agricultural vehicles in mobile automation. As particular construction benefit, an accessible rotary shaft during installation is not required. To meet the ever-growing requirements in mobile automation, the Baumer GIM inclination sensors provide versatile interface options such as CANopen®, SAE J1939 or analog current and voltage outputs. Besides the very robust mechanical design, GIM500 excels with outstanding electromagnetic capability and E1 type approval compliant to automotive directive 2006/28/EG.

Baumer acceleration sensors of the GAM900 series supply the master control with precise acceleration information via CANopen® or analog interface. SIL2/PLD-certified acceleration sensor GAM900S acts as a two-in one device replacing conventional sensorics for monitoring shock and vibration, for example in wind turbines: acceleration sensors to detect vibration in three-axis direction and mechanical limit switches with relay contact as link in the safety chain. Thanks to SIL2/PLD-certified limit monitoring, GAM900S will simplify the equipment's safety assessment and implementation of machine directive 2006/42/EG including „vibration monitoring“ as safety function requirement.

MEMS technology

Baumer inclination and acceleration sensors are working with sensor elements based on MEMS technology (micro electro mechanical system). Compared with conventional technologies, the MEMS sensor elements excel with their compact design, high cost efficiency and ultimate durability under harsh conditions. The MEMS sensor elements used by Baumer have been specially qualified for the use in harsh industrial environments, and their long-term availability is ensured.

Inclination sensors

Application-specific scaling

One and two-dimensional.
Compact design.

- Analog, CANopen®, Profibus-DP and SAE J1939
- Robust metal or plastic housing
- MEMS technology



New



Features	<ul style="list-style-type: none"> ■ Sensing range: 0...360° (1-dimensional) Up to ±90° (2-dimensional) ■ Corrosion protection C5-M ■ E1 compliant design 	<ul style="list-style-type: none"> ■ Sensing range: 0...360° (1-dimensional) Up to ±60° (2-dimensional)
Product family	GIM500	GNAMG
Interface		
- Analog	■	–
- CANopen®	■	■
- SAE J1939	■	–
- Profibus-DP	–	■
Sensing method	MEMS	MEMS
Size (housing)	48 x 24 x 52 mm	99 x 60 x 5 mm
Voltage supply	8...36 VDC	10...30 VDC
Connection	Cable Flange connector M12	Cable gland Flange connector M12
Total resolution	0.025°	0.1°
Accuracy		
- Sensing range 0...360°	±0.1°	±0.2°
- Sensing range ±10°	±0.1°	±0.1°
- Sensing range ±30°, ±60°	±0.1°	±0.2°
- Sensing range ±90°	±0.1°	–
Operating temperature	-40...+85 °C	-25...+85 °C
Protection	IP 69K	IP 66 (flange connector M12) IP 67 (cable gland)
Options	Cable with Deutsch connector	Stainless steel Operating temperature -40...+85 °C

Measuring inclination even in harsh environments

Inclination sensors detect the angle of inclination towards the horizontal line at machines and equipment. Acting as electronic water scale, they are ideal for measuring inclination angles, particularly where rotation shafts are difficult to access. Baumer inclination sensors significantly contribute towards improved safety, for example at cranes. The robust and saltwater-proof, IP 69K-rated aluminium die cast housing makes them ideal for industrial use in a rough ambience.

Acceleration sensors

Measuring precision and safety

Vibration and shock detection in three-axis direction.

- Redundant diversified sensing
- Offshore capable
- Analog and CANopen®
- Individually configurable filters



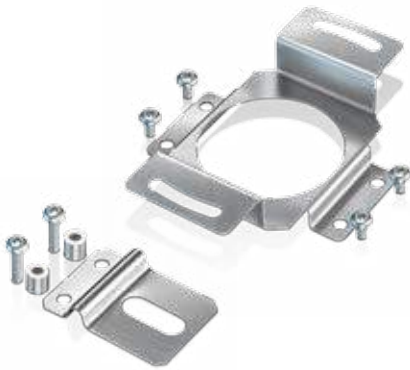
Features	<ul style="list-style-type: none"> ■ Up to two relay outputs for limit monitoring ■ 3 axes detection, MEMS based 	<ul style="list-style-type: none"> ■ Safe limit monitoring by relay output ■ Redundante 3 axes detection, MEMS based ■ SIL2/PLd approval
Product family	GAM900	GAM900S
Interface		
- Analog	■	■
- CANopen®	■	■
Sensing method	MEMS	2 x MEMS
Size (housing)	55 x 30 x 90 mm	
Voltage supply	10...30 VDC	
Connection	Flange connector 1x or 2x M12	
Frequency bands	6 (configurable)	4 (configurable)
Total resolution	<4 mg	
Accuracy 3σ (with band pass filtering)	=35 mg (range ±1000 mg) =10 mg (range ±250 mg)	=60 mg (range ±1000 mg) =15 mg (range ±250 mg)
Measuring range	±2 g	
Operating temperature	-40...+85 °C	
Protection	IP 67	
Material	Aluminium or glass-fiber reinforced plastic	
Optionen	Filter up to 150 Hz	



Functional safety with certificate

The EC type-examination of the acceleration sensor GAM900S by the notified body TÜV Rheinland certifies the compliance with the increased requirements of the conformity assessment procedure according to the Machinery Directive. Further SIL2/PLd certified encoders complete the Baumer portfolio and simplify safety certification of the installation.

Accessories



Mounting accessories for hollow shaft encoders

Matching accessories for hollow shaft mount

- Stator couplings for ultra-precise mount with maximum installation flexibility
- Safe and easy anti-torsion spring washers and pins
- Torque supports for industry and HeavyDuty variants



Mounting accessories for solid shaft encoders

Matching accessories for solid shaft mount

- Shaft couplings to link drive shaft and encoder shaft
- Mounting clamp to secure encoder flange
- Adaptor flange and mounting angle for quick and safe encoder mount
- Flange adaptor, for example to change a clamping flange into a synchro flange



Programming and diagnostic tools

For encoder commissioning and configuration

- Signal processing for interpolation, conversion, regenerating and as a switching relay, HTL, TTL, SinCos and fiber-optic
- Programming tools with GSD-/EDS-/XML files as well as instruction manuals, USB adaptor and PC software
- Testing equipment for incremental encoders for consistent monitoring of encoder data
- PC software for display and evaluation

Encoders and angular sensors

Several mechanical and electric interface concepts as well as increasingly demanding applications call for appropriate accessories. With Baumer you will always encounter the matching mounting accessories like torque supports, spring washers, connectors and cables.

Deployed in conjunction with incremental encoders, measuring wheels perform the task of length measurement or speed monitoring. Learn more at: www.baumer.com



Varied connectors and cables

Matching all encoders and angular sensors

- Mating connector M12, M23, MIL and other standards
- Mating connector pre-assembled or for self-assembly
- Different cables, non-assembled



Small and large measuring wheels

Measuring wheels – for any surface the optimum grip

- Wheel material and surface profile depending on the application
- Circumference 20 or 50 cm
- For shaft diameters from 4 to 12 mm



Motor earthing units with hollow shaft

To discharge parasitic shaft currents

- For use in potentially explosive areas
- Hollow shafts from $\varnothing 20$ to $\varnothing 42$ mm

Index

AMG 71	42	EAM360R Kit	67	GBAMS	29
AMG 81	42	EAM500	68	GBAMW	29
ATD 2A A4	26	EAM580	24	GBM2H	27
ATD 2A B14	26	EAM580 Kit	67	GBM2S	27
ATD2AH00	26	EAM580R	24	GBM2W	27
ATD 2B A4	27	EAM580R Kit	67	GBM7S	27
ATD 2B B14	27	EEx GP 0,2	51	GBM7W	27
ATD 2S B14 Y24	82	EEx HOG 161	80	GBMMH	29
ATD 4B A4	27	EEx OG 9	35, 80	GBMMS	29
ATD 4B A4 Y11	31	EEx OG 9 S	80	GBMMW	29
ATD 4S A4	30	EFL360	78	GBP5H	27
BDH HighRes	10	EFL580	78	GBP5S	27
BDK 16	6	EIL580P-B	15	GBP5W	27
BDT HighRes	10	EIL580P-SC	15	GBPAH	27
BDT Sine	16	EIL580P-SY	15	GBPAS	27
BHF HighRes	11, 14	EIL580P-T	15	GBPAW	27
BHF Sine	16	EIL580-B	8, 18	GBU5W	27
BHG HighRes	11, 14	EIL580-S1	19	GBUAH	27
BHG Sine	16	EIL580-SC	8	GBUAS	27
BHK 16	6	EIL580-SQ	18	GBUAW	27
BHT Sinus	16	EIL580-SY	8	GCA2	75
BMMH 58	82	EIL580-T	8, 18	GCA4	75
BMMH 58 flexible	25	ES90	44	GCA5	74
BMMK 55	68	ES93	44	GCA8	74
BMMK 58 flexible	69	ES100	44	GCA12	74
BMMS K34	74	ExEIL580	80	GCA15	75
BMMS K50	74	ExG25	81	GCA50	75
BMMS M75	74	ExHS35	81	GCI2	75
BMMV 58	82	FS90	44	GCI4	75
BMMV 58 flexible	25	G0333	11	GCI15	75
BMMV 58 flexible - hermetic	25, 85	G0355	10	GCI50	75
BMMV 58 - hermetic	25, 85	G0356	10	GE244	85
BMSH 58	82	GOA2H	26	GE333	84
BMSH 58 flexible	25	GOA2H-C	87	GE355	84
BMSK 55	68	GOAMH	28	GE404	85
BMSK 58 flexible	69	GOM2H	26	GEMMH	85
BMSV 58	82	GOM2H-C	87	GEMMW	85
BMSV 58 flexible	25	GOMMH	28	GF355	84
BNIV	14	GOP5H	26	G1355	10
BRID 58S	9	G110H	12	G1355-C	86
BRIH40	7	G110S	12	G1356	10
BRIH 58S	9	G1M2H	30	G1356-C	86
BRIV30	7	G1MMH	31	G1357	83
BRIV30 R	7	G2M2H	30	GIM500	94
BRIV 58K	9	G2MMH	31	GM400	26
BRIV 58S	9	G25	18	GM400-C	87
DS93	45	GA240 Parallel	26	GM401	26
DS 93 R	45	GA240 SSI	26	GM401-C	87
EAL580-B	26, 27	GA241 Parallel	26	GMM230S	45
EAL580-SC	26, 27	GA241 SSI	26	GMM236S	45
EAL580-SY	26, 27	GAM900	95	GMM240S	45
EAL580-T	26, 27	GAM900S	95	GMM246S	45
EAM280	22, 82	GBA2H	27	GNAMG	94
EAM360	22	GBA2S	27	GT 5	52
EAM360 Kit	67	GBA2W	27	GT 7.08	52
EAM360R	22, 23	GBAMH	29	GT 7.16	52

GT 9	52	POG 9+ESL	56	MHGE 200	62
GTB 9.06	52	POG 9+FSL	56	MHGE 400	62
GTB 9.16	52	HOG 9 G	54	MHGE 800	62, 86
GTF 7.08	50	HOG 131	38, 86	MHGP 100	63
GTF 7.16	50	HOG 163	38	MHGP 200	63
GTR 9	53	HOG 165	38	MHGP 400	63
GXA2S	26	HOG 165+DSL.E	46	MIL10	71
GXA7W	26	HOG 165+DSL.R	46	MIR 10	60
GXAMS	28	HOG 220	39	MIR 3000F	64
GXAMW	28	HOGS 14	41	MQR 3000F	64
GXM2S	26	HOGS 71	40	OG 9	34
GXM7S	26	HOGS 75	40	OG 71	34
GXM7W	26	HOGS 100	41	OGS 71	40
GXMMS	28	HOGS 100S	83	PMG 10	42, 87
GXMMW	28, 87	HOGS 151	41	PMG 10D	48
GXP1W	26	HS35	17, 18	POG 10	35
GXP5S	26	HS35F	12	POG 10+DSL.E	47
GXP5W	26	HS35P	15	POG 10+DSL.R	47
GXP8W	26	HS35S	17	POG 10+ESL	56
GXU5W	26	ITD 01 A4	6	POG 10+FSL	56
HEAG 151	88	ITD 01 B14	6	POG 10 G	54
HEAG 152	88	ITD2PH00	14	POG 11	35
HEAG 153	88	ITD21 A4 Y65	84	POG 11+ESL	56
HEAG 154	88	ITD21H00	11	POG 11+FSL	56
HEAG 158	89	ITD22H00	17	POG 11 G	54
HEAG 159	89	ITD22H00 SIL	83	POG 86	34
HEAG 160	89	ITD 40	12	POG 86E	34
HEAG 171	90	ITD 40 A4	84	POG 86+FSL	56
HEAG 172	90	ITD 40 B10	19	POG 86 G	54
HEAG 173	90	ITD 41	12	POG 9	37
HEAG 174	90	ITD 41 B10	19	POG 9 G	54
HEAG 175	91	ITD 42 A4 Y79	17	POG 90	35
HEAG 176	91	ITD 42 A4 Y141	84	POGS 90	40
HMG 10	42, 87	ITD49H00	60	RTD 1 B14 Y1	53
HMG 10D	48	ITD49H00 Sine	60	RTD 4 A4 Y2	53
HMG 161	43	ITD 61	13	TDP 0,2	50
HOG 10	37	ITD 67	60	TDP 0,2+ESL	55
HOG 10+DSL.E	46	ITD69H00	61	TDP 0,2+FSL	55
HOG 10+DSL.R	46	ITD69H00 Sine	61	TDP 0,2+OG9	55
HOG 10+ESL	57	ITD 70	13	TDP 0,09	50
HOG 10+FSL	57	ITD 75	13	TDP 0.09+FSL	55
HOG 10 G	54	ITD89H00	61	TDP 13	50
HOG 11	37, 86	ITD89H00 Sine	61	TDPZ 0,2	50
HOG 11+ESL	57	KTD 3	53	TDPZ 0,2+ESL	55
HOG 11+FSL	57	KTD 4	53	TDPZ 0,2+FSL	55
HOG 11 G	54	MA20	19	TDPZ 0,09	50
HOG 16	38	MDFK 08	60	TDPZ 13	50
HOG 22	39	MDFM 20 (I-Type270°)	70	TG74	51
HOG 28	39	MDFM 20 (U-Type360°)	70	X 700 - CANopen	81
HOG 71	36	MDRM 18 (I-Type270°)	70	X 700 - incremental	80
HOG 75	36	MDRM 18 (U-Type360°)	70	X 700 - Profibus-DP	81
HOG 86	36	MHAD 50	66, 82	X 700 - RS485	81
HOG 86E	36	MHAP 100	66	X 700 - SSI	81
HOG 86+FSL	57	MHAP 200	66		
HOG 100	37	MHAP 400	66		
HOG 9	37	MHGE 100	62, 86		

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Represented by:

multi**con** система рационального позиционирования шпинделей



Переустановка шпинделя

Линейная переустановка шпинделя принадлежит к наиболее часто встречающимся операциям на производстве, а также при наладке или переоснащении машин. Это достаточно сложное действие часто выполняется вручную с помощью штурвалов и рукояток. Системы от фирмы IVO **multi**con**** и **multi**con**Drive** представляют собой новое поколение рационального, ручного или моторного позиционирования шпинделя. Система состоит из электронного указателя позиции шпинделя с руководством пользователя, интегрированного управления мотором, а также контролера с простым программированием и запоминанием специфических рецептов установок. Со всем этим можно выполнять переустановки одного или многих шпинделей более рационально и избегать при этом издержек времени и ошибок.

Что было важно для этой разработки

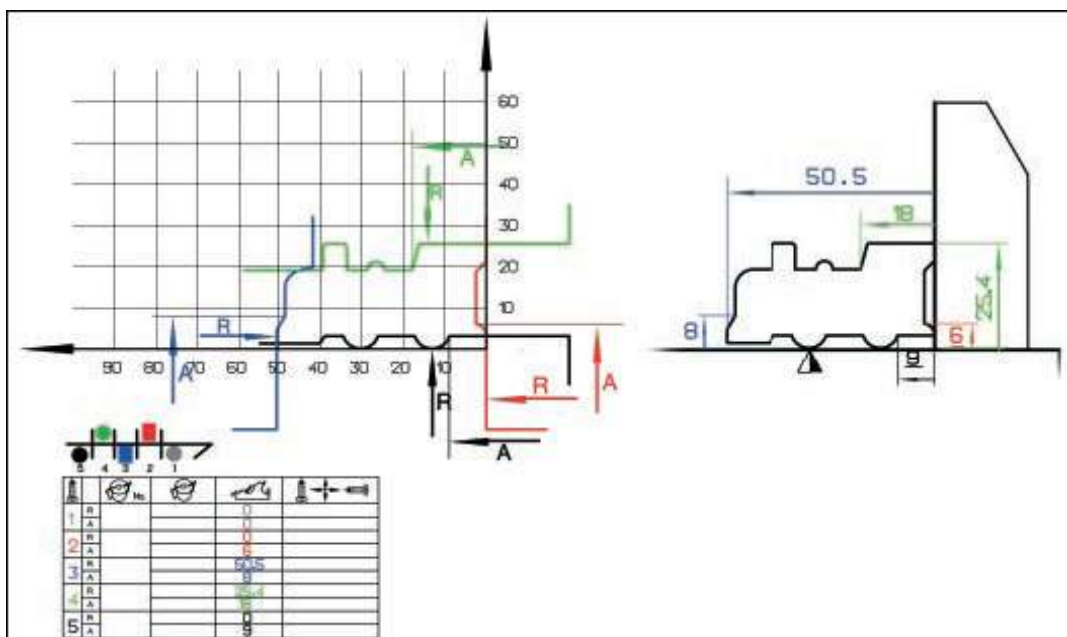
В самых различных отраслях машины и механизмы должны приспособляться к производству таким образом, чтобы устанавливаемые позиции осей вращения, начало, ход и окончание процесса были на любом этапе контролируемы и управляемы. При этом степень автоматизации этих регулируемых осей преимущественно зависит от соотношения издержек и



извлекаемой из автоматизации пользы. Поэтому ручное перемещение осей является сегодня типичным состоянием техники на многих машинах во многих отраслях. Именно это обстоятельство подтолкнуло инженеров фирмы IVO к созданию автоматизированной системы переустановки шпинделей.

Как это было до multi^{con}

Приемлемая для мелкого и среднего производства автоматизация ограничивается в большинстве случаев цифровыми механическими позиционными указателями, по которым наладчик может считывать фактическое значение позиции. Заданные значения прописаны черным по белому как "рецептура". Наладчик получает список заданных значений (позиций) для каждого шпинделя, далее обходит все точки и вручную устанавливает требуемые положения шпинделей для производства каждого продукта и нормальной работы каждого процесса.



При большой монотонности ручного процесса и при большом количестве объектов, как правило, возникают ошибки, например, сползание строк, ошибка номера позиции ит.д. При этом ошибочно вручную установленный шпиндель означает всегда, что будет производиться брак, до тех пор пока ошибка не будет найдена и исправлена. Это стоит времени, сил, средств и вызывает ненужные издержки, так как данные при каждом переоснащении считываются вновь.



Время и ошибки стоят денег

Во всем мире каждый год сдается в эксплуатацию много машин со шпинделями, устанавливаемыми вручную. Это приводит к миллионам ручных переустановок со всеми вытекающими убытками. Поэтому конструкторы и машиностроители ищут решения по автоматизации производимой вручную установки, наладки и переоборудования машин.



multicon** для ручного позиционирования**

С системой **multi**con**** открывается большой потенциал рационализации и очень значительно упрощается обработка процессов. При этом не требуется компьютер или SPS.

multi^{con}Drive - децентрализованное моторное позиционирование



При системе **multi^{con}Drive** можно полностью отказаться от штурвалов и приводных рукояток на шпинделях. Позиционные указатели непосредственно соединены с соответствующим приводом и управляют им соответственно

заданному значению и алгоритму. Автоматические циклические проходы для коррекции и многие другие параметры системы существенно облегчают наладку машин.

Поддержка электроники упрощает ручную установку

Система позиционирования шпинделей построена в принципе очень просто. Она состоит из насаживаемого на шпindel модуля указателя позиции с маленьким дисплеем и запоминающего устройства с клавиатурой, так называемого Memory Controller.



К контроллеру может подключаться до 32 указателей позиции шпинделя, связанных с ним по интерфейсу RS485. Простой монтаж системы - это один из главных аргументов для использования ее в самых разных машинах и устройствах. К тому же существуют и другие преимущества - отсутствие изнашивающихся деталей и функция абсолютного контроля позиции.

Адресация шпинделей при монтаже позиционных указателей также очень проста. Контроллер автоматически предлагает номер, который подтверждается наладчиком и присваивается простым коротким вращением шпинделя. Так как положение контролируется абсолютной многооборотной измерительной системой, то никакие значения позиции шпинделя не теряются даже и в обесточенном состоянии или при нарушении электроснабжения. В случае необходимости позиционные указатели и контроллеры можно заменять независимо друг от друга. При этом существующие ранее установки перенимаются от контроллера к позиционному указателю или наоборот посредством простого нажатия кнопки.

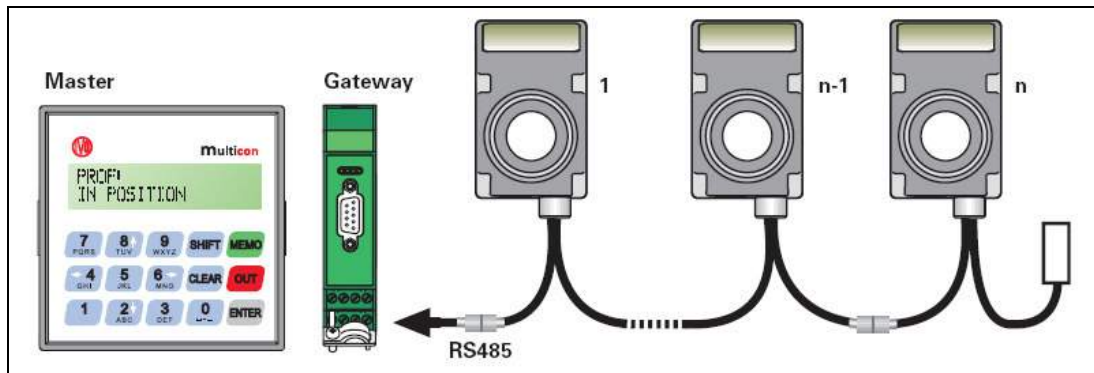
Ручное позиционирование

Позиционные указатели **multi**con для переустановки шпинделя со штурвалом предлагаются в 2-х типовых размерах. Серия N150 для диаметров вала до 14 мм. Для больших валов подходит наш N140 с диаметром до 25 мм. Новая система **multi**con функционирует так же просто, как повторный набор по телефону:



однажды сделанные установки шпинделя, точки остановки и пуска машины можно записывать в память и в любое время снова вызывать нажатием кнопки. Соответствующие позиционные значения отдельных элементов регулировки показываются непосредственно на дисплее. С вращением приводной рукоятки устанавливаемая позиция изменяется до тех пор, пока заданная позиция не будет достигнута. Это экономит пробные проходы машины и вместе с тем предотвращает стартовый брак при изменении продукта.

Многочисленные know-how, открытые при разработке и производстве датчиков угла поворота и приборов отображения информации, дали возможность инженерам фирмы IVO разработать существенно более рациональную и экономичную систему переустановки шпинделя. С **multicon** можно отказаться от очень дорогой полной автоматизации в этой области применения, что экономит значительные средства при достижении аналогичных результатов.



Указатель позиции шпинделя

Позиционные указатели с интегрированным абсолютным многооборотным датчиком угла поворота без передаточного механизма предназначены для монтажа полых валов. Они могут крепиться непосредственно на соответствующем шпинделе и фиксироваться винтом. Опорой крутящего



момента служит маленький штифт, который просто впрессовывается в предусмотренное для этого отверстие. Электроснабжение позиционных указателей происходит через контролер или другое управляющее устройство. На двухстрочном дисплее показывается как текущее, так и соответствующее заданное значение. Маленькая стрелка сигнализирует при этом наладчику о необходимом

направлении вращения. Установочные ошибки почти исключены полным электронным управлением. Так как логика подсказывает наладчику всегда начинать вращение в одном и том же направлении, то механические отклонения прецизионно компенсируются электроникой.

Фронтальный 7-сегментный дисплей имеет подсветку и может поворачиваться соответственно программному обеспечению на 180°. Вместе с тем эти позиционные указатели можно монтировать в любых положениях.



Управление сотней рецептов

Контроллер хранит до 100 рецептов с разными позиционными установками от 1 до 32 шпинделей. Отдельным программам также могут быть присвоены имена. Работа с клавиатурой не сложнее, чем отправка SMS с мобильного телефона. Заданные значения позиции особенно практично перенимаются посредством процесса Teach-In, фактически, самообучения. Наладчик позиционирует шпиндель, например, по образцу. При старте важной функции Teach-In контроллер автоматически распознает, какой шпиндель сейчас позиционируется. Значение позиции закрепляется за соответствующим шпинделем и запоминается в рецептуре. Если шпиндель переустанавливается снова с тем, чтобы приспособить точки старта и остановки, а также рабочие операции к

новому продукту или процессу, то все позиционные установки контроллера пересылаются нажатием кнопки через интерфейс к позиционным указателям на объекте. Интегрированные в контроллере и позиционных указателях функции открывают множество практических возможностей. С Gateway



С Gateway

система может подключаться к шине и может интегрироваться таким образом в любую систему управления, в том числе и систему более высокого уровня.

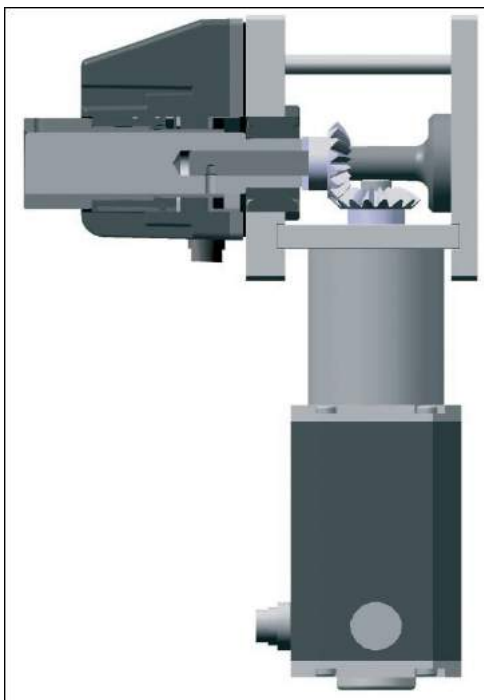
Без рукояток и штурвалов – электроприводное позиционирование

Система **multiconDrive** разработана, как децентрализованное моторное позиционирование шпинделя, которое предоставляет большую гибкость в конструировании, планировании, процессе наладки и работы как машиностроителям, так и пользователям. В этой системе интегрированы как указатель позиции, так и управление приводным мотором. Основу системы образуют указатели позиции шпинделя для монтажа с полым валом, которые позволяют



посредством двух клавиш непосредственно управлять приводными ЕС-моторами. По сети RS485 позиционные указатели связаны и с контроллером. Как при наладке и установке нового профиля, так и при повторении

сохраненных установок машин можно системой **multiconDrive** экономить значительное время и избегать ошибок. Значения позиционирования от отдельных программ можно перенимать, к примеру, посредством процесса Teach-In. С помощью двух клавиш на позиционном указателе наладчик может управлять движением шпинделя и позиционировать таким образом, например, некий образец. При старте функции Teach-In контроллер автоматически распознает, какой шпиндель сейчас позиционируется.



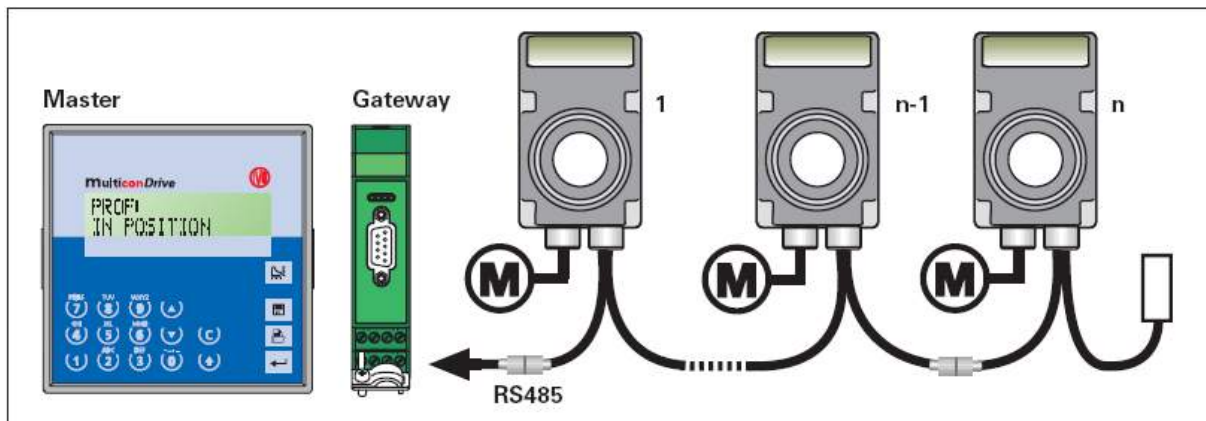
Централизованное или децентрализованное позиционирование – выбор пользователя

В сравнении с привычными централизованными решениями автоматизации, где приводы соединены в единую сеть, пользователь **multiConDrive** имеет большое преимущество.



Он может в любое время вмешиваться в происходящее и вносить изменения в процессы не только с контроллера или с пульта системы управления, но и непосредственно на месте установки шпинделя.

При выборе приводов конструктор и машиностроитель достаточно свободен. Единственная предпосылка: ЕС-моторы привода должны понимать цифровые исходные сигналы позиционного указателя. Через интерфейс мотора проходят сигналы: влево, вправо, быстрее, медленнее. Установочный мотор может монтироваться не только там, где стоит указатель позиции, но и с другой стороны шпинделя.



Если нет места для монтажа установочного мотора, то можно применить угловые или иные редукторы, а также найти нестандартные решения.

Коммуникация указателей позиции шпинделя с электроприводом

Указатели позиции шпинделя, предназначенные для монтажа полых валов могут крепиться непосредственно на соответствующем шпинделе и фиксироваться винтом с внутренним шестигранником. При этом возможно любое положение при монтаже, так как текст на дисплее можно программно поворачивать на 180°. Если шпиндель переустанавливается, чтобы приспособить его к новому продукту или процессу, то все данные позиционирования, сохраненные в контроллере, пересылаются по шине позиционным указателям на месте. На двухстрочном дисплее отображается как текущее, так и соответствующее заданное значение. При необходимости пользователь может вносить изменения и улучшения, которые сразу будут записаны в соответствующий профиль. Так как система измеряет абсолютные величины, то данные не пропадают даже при нарушении электроснабжения, или если в это время шпиндель переустанавливается вручную.

Простая адаптация системы к объекту и технологии

Система выдает программируемые параметры, которые позволяют применять превосходные качества указателей позиции шпинделя в разных практических приложениях. Это действительно для стрелок направления вращения, направления счета, коэффициента округления, единиц измерения (миллиметр или дюйм) или направления позиционирования. Последнее необходимо для того, чтобы изменение позиции всегда могло начинаться в том же направлении, что и шпиндель, чтобы скомпенсировать его движение. Значения позиционирования для переключения между быстрым и замедленным ходом или для повторения движений при трогании с места также программируемы. Система подходит вместе с тем для разнообразных требований заказчика. При устаревших механических решениях для этого было бы необходимо множество сложных вариантов.



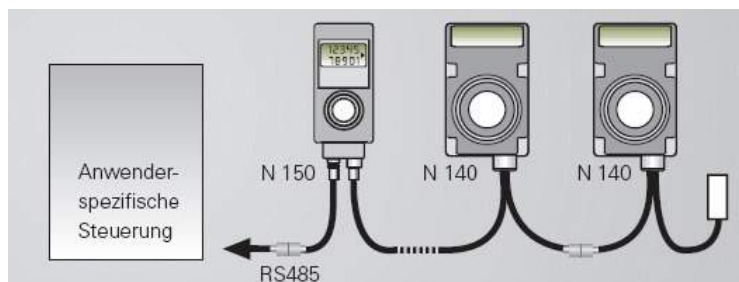
Решения автоматизации с возможностью воздействия на процесс

Фронтально монтируемый контроллер предназначен для управления и сохранения данных. В памяти можно хранить до 100 профилей с разными установками для 32 шпинделей и пересылать их к позиционным указателям простым нажатием кнопки. Регулируемые параметры делают возможными превосходное согласование контроллера с различными приложениями. К этому принадлежит адаптация к разным группам отклонений для процессов или определение конкретных групп шпинделей, которые следуют по очереди друг за другом. Эти и последующие связанные с изделием данные можно задавать просто посредством клавиатуры и вызывать снова для пересылки. Клавиатура контроллера столь же проста в применении, как отправка SMS с мобильного телефона. Можно выбрать отображение данных на дисплее на одном из 5-и языков, имеющих в меню.

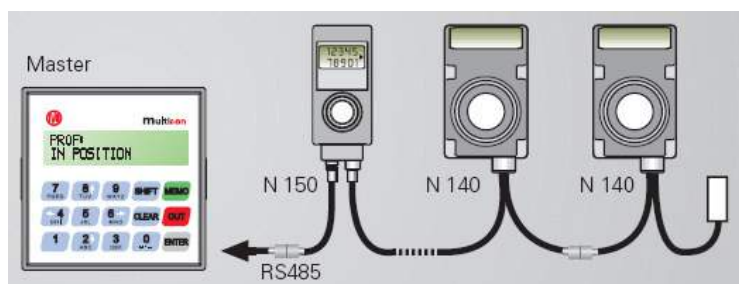


Система отвечает высоким требованиям надежности: параметрируемая область отклонений ограничивает рабочее поле соответствующего шпинделя, чтобы избежать аварии. Кроме того при составлении профилей можно образовывать до 5 групп, скомплектованных по любым признакам. Соответствующие шпиндели могут быть временно переведены на другие процессы. Таким образом имеет смысл сначала только удалить инструменты, а устанавливать начало движения шпинделя уже во вторую очередь. При необходимости можно комбинировать систему с указателями позиции уже известной системы **multicon**, которая разрабатывалась, как электронная поддержка производимого вручную позиционирования шпинделя.

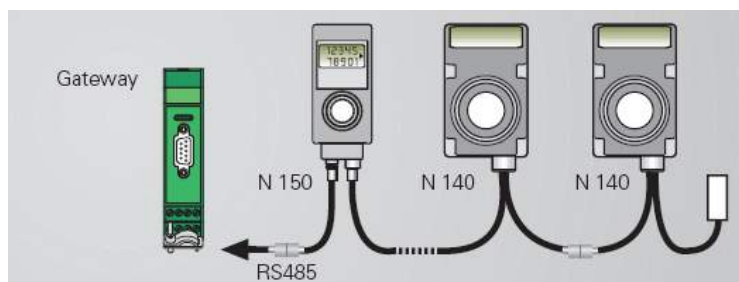
multi^{con} - комбинации для переустановки шпинделя рукояткой



Работа со специфицированной заказчиком системой управления. Оба указателя позиции шпинделей N140 и N150 могут управляться через интерфейс RS485 непосредственно от специализированного заказчиком блока управления.

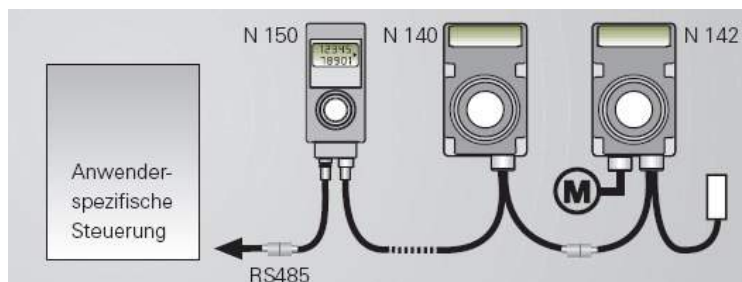


Работа с контроллером от IVO. Оба указателя позиции шпинделя N140 и N150 подсоединены к нашему контроллеру N240.

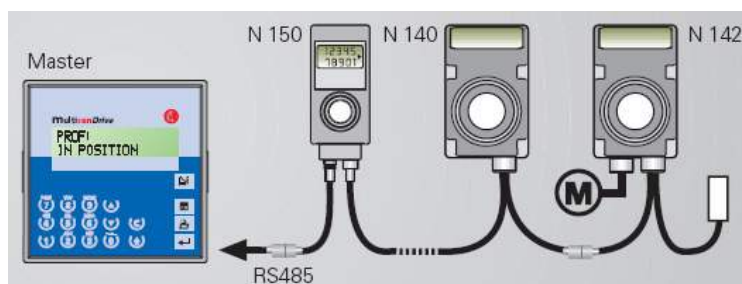


Работа с Gateway от IVO. Оба указателя позиции шпинделя N140 и N150 посредством Gateway подсоединены к специализированному заказчиком блоку управления. С Gateway multi^{con}-система способна работать через шинный интерфейс. Gateway передает поток данных с шины через RS485 на указатель позиции шпинделя и наоборот.

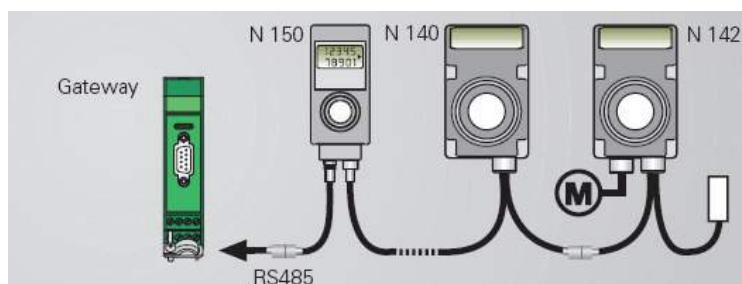
multiConDrive - комбинации для автоматизированной и ручной переустановки шпинделя



Работа со специфицированной заказчиком системой управления. Указатели позиции шпинделей N140, N142 и N150 могут быть связаны через интерфейс RS485 непосредственно со специализированным заказчиком блоком управления.



Работа с контроллером от IVO. Указатели позиции шпинделя N140, N142 и N150 связаны с нашим контроллером N242.



Работа с Gateway от IVO. Указатели позиции шпинделя N140, N142 и N150 посредством Gateway подсоединены к специализированному заказчиком блоку управления. С Gateway multiCon-система способна работать через шинный интерфейс. Gateway передает поток данных с шины через RS485 на указатель позиции шпинделя и наоборот.

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