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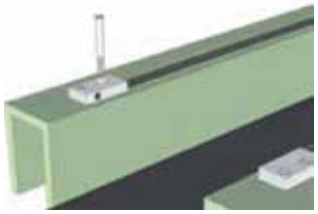
Square Shape Sensor Heads

The fiber heads in square shaped housing provide fast and easy installation on flat surfaces.

- Models with sensing direction in X, Y or Z axis
- 3 or 4 mm thick housings for minimal height requirement
- Standard or high-flex fibers

Sensor type	Size (mm)	Sensing distance (mm)*1		Model	
		Standard Fiber	High-flex Fiber	Standard Fiber	High-flex Fiber
Through-beam	15 x 8 x 3	760	560	E32-T15X 2M	E32-T15XR 2M
Through-beam	15 x 8 x 3	460	210	E32-T15Y 2M	E32-T15YR 2M
Through-beam	15 x 8 x 3	460	480	E32-T15Z 2M	E32-T15ZR 2M
Diffuse-reflective	15 x 10 x 3	300	170	E32-D15X 2M	E32-D15XR 2M
Diffuse-reflective	15 x 10 x 3	100	40	E32-D15Y 2M	E32-D15YR 2M
Diffuse-reflective	15 x 10 x 3	100	60	E32-D15Z 2M	E32-D15ZR 2M
Through-beam	24.5 x 10 x 3	890	—	E32-A03-1 2M	—
	20.5 x 2 x 2	340	—	E32-A04-1 2M	—

*1 Sensing distance measured with E3X-DA-SE-S family. Longer sensing distances can be achieved with the E3X-HD and E3NX-FA.



Space saving and fast mounting without additional brackets

Precise positioning during manufacturing for 90° optics to achieve minimal tolerance variations in optical output axis angle

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Miniature Sensor Heads

The miniature fiber heads provide high accuracy in smallest spaces and reliable detection of miniature objects.

- Sizes from 500 µm diameter to 3 mm diameter
- Side view models with precision axis alignment for highest accuracy
- Bendable sleeves for precision positioning

Sensor type	Size	Sensing distance (mm)*1		Model	
		Standard Fiber	High-flex Fiber	Standard Fiber	High-flex Fiber
Through-beam	3 mm dia	750	530	E32-T12 2M	E32-T12R
	2 mm dia	220	130	E32-T22	E32-T22R 2M
	1.5 mm dia	220	130	E32-T222 2M	E32-T222R 2M
	1 mm dia	—	130	—	E32-T223R 2M
Through-beam	3 mm dia	460	210	E32-T14L	E32-T14LR
	2 mm dia	340	—	E32-A04	—
Through-beam	1 mm dia	130	50	E32-T24	E32-T24R
Through-beam	1.2 mm dia	750	530	E32-TC200B	E32-TC200BR
	0.9 mm dia	220	130	E32-TC200F	E32-TC200FR
Diffuse-reflective	3 mm dia	80	30	E32-D22 2M	E32-D22R
	2 mm dia	75	40	E32-D32	E32-D32R 2M
	1.5 mm dia	—	30	—	E32-D22B
Diffuse-reflective	2 mm dia	30	15	E32-D24	E32-D24R
Diffuse-reflective	2.5 mm dia	300	170	E32-DC200B *3	E32-DC200BR *3
	1.2 mm dia	80	30	E32-DC200F	E32-DC200FR
Diffuse-reflective	0.8 mm dia	—	16	—	E32-D33
	0.5 mm dia	—	3	—	E32-D331

*1 Sensing distance measured with E3X-DA-SE-S family. Longer sensing distances can be achieved with the E3X-HD and E3NX-FA.
*2 Models with 40 mm sleeve instead of 90 mm sleeve are available by adding '4' to the order code at the end, e.g. E32-TC200B4
*3 Sleeve cannot be bent

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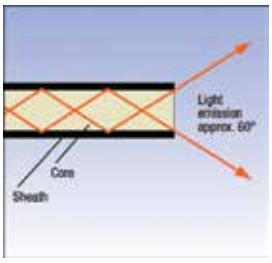
Longer Distance Sensor Heads

With built-in focal lenses the longer distance fiber heads provide enhanced operational stability in dusty environments or long distance applications

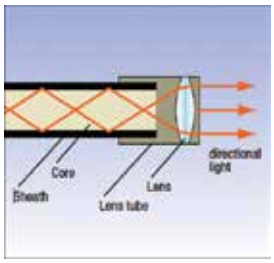
- Sensing distance up to 20 m
- Built-in focal lens
- Sizes from 2 mm dia to M14 dia

Sensor type	Size	Sensing distance (mm)*1	Model
Through-beam	M14	20000	E32-T17L
Through-beam	25.2 x 10.5 x 8 mm	3400	E32-T14
Through-beam	M4	1330	E32-T11L
	M3	680	E32-TC200A
Through-beam	3 mm dia	1330	E32-T12L
	2 mm dia	440	E32-T22L
Convergent-reflective	21.4 x 27 x 10 mm	1500 *2	E32-R16
Diffuse-reflective	22 x 17.5 x 9 mm	700	E32-D16
Diffuse-reflective	M6	400	E32-D11L
	M4	130	E32-D21L
Diffuse-reflective	3 mm dia	450	E32-D12

*1 Sensing distance measured with E3X-DA-SE-S family. Longer sensing distances can be achieved with the E3X-HD and E3NX-FA.
*2 Measured with E39-R1



Light emission of conventional fibers



With built-in focal lenses, longer sensing distances can be achieved up to 5 times longer compared to conventional sensors

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Built-in Lens Sensor Heads

- Achieve high power, focused beam detection without the need to attach a lens
- 15° beam aperture angle
- Standard or Flexible fiber options
- M4 through-beams and M6 Diffuse reflective fibers

Sensor type	Size	Sensing distance (mm)*1	Model
Through-beam	M4	4,000	E32-LT11 2M
		4,000	E32-LT11R 2M
	M4 Hex Shape	4,000	E32-LT11N 2M
Diffuse-reflective	M6	860	E32-LD11 2M
		840	E32-LD11R 2M
	M6 Hex Shape	840	E32-LD11N 2M

*1 Sensing distance measured with E3X-HD family. Longer sensing distances can be achieved with the E3NX-FA.

E32 Fiber-optic Sensor Heads

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Robot Application Sensor Heads

For applications on frequently or fast moving parts, the robot fibers reduce the risk of fiber breakage with a guaranteed operational life of more than 1 million bending cycles

- Free moving multicore fibers for more than 1 million bending cycles
- Square shapes for easy surface installation
- Cylindrical sizes from 1.5 mm dia to M6

Sensor type	Size	Sensing distance (in mm)*1	Model
Through-beam	M4	680	E32-T11
	M3	200	E32-T21
Through-beam	3 mm dia	680	E32-T12B 2M
	2 mm dia	200	E32-T221B 2M
	1.5 mm dia	200	E32-T22B
Through-beam	15 x 18 x 3 mm	680	E32-T15XB
Diffuse-reflective	M6	170	E32-D11
	M4	70	E32-D21B
	M3	30	E32-D21
Diffuse-reflective	1.5 mm dia	30	E32-D22B
Diffuse-reflective	15 x 10 x 3 mm	170	E32-D15XB 2M

*1 Sensing distance measured with E3X-DA-SE-S family. Longer sensing distances can be achieved with the E3X-HD and E3NX-FA.

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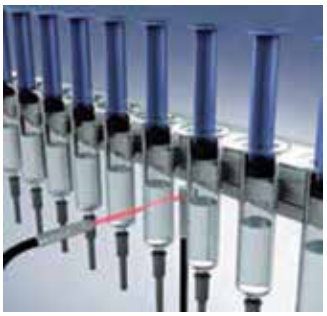
Chemical Resistant Sensor Heads

The chemical resistant fibers provide long sensor lifetime in areas with frequent cleaning, usage of chemicals and higher temperatures.

- Fluoroplastic cover for highest chemical resistance
- Temperature resistance up to 200°C

Sensor type	Size	Sensing distance (mm)*1	Cover material	Model
Through-beam	M4	680	Fluororesin coating	E32-T11U
Through-beam	5 mm dia	3,000	Fluororesin cover	E32-T12F
Through-beam	5 mm dia	1,400	Fluororesin cover	E32-T14F
Diffuse-reflective	M6	170	Fluororesin coating	E32-D11U
Diffuse-reflective	6 mm dia	85	Fluororesin cover	E32-D12F
Diffuse-reflective	6 mm dia	40	Fluororesin cover	E32-D14F
Through-beam	6 mm dia	700	Fluororesin cover Heat resistant to 200°C	E32-T81F-S
Through-beam	5 mm dia	3,000	Fluororesin cover Heat resistant to 150°C	E32-T51F

*1 Sensing distance measured with E3X-DA-SE-S family. Longer sensing distances can be achieved with the E3X-HD and E3NX-FA.



The fluororesin cover provides highest chemical resistance for longest lifetime in frequently cleaned environments like aseptic filling in pharmaceutical applications

Enhanced temperature resistant models

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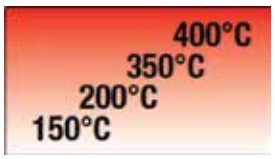
Heat Resistant Sensor Heads

The wide range of heat resistant fibers provides long sensor lifetime with highest protection in demanding environments

- Heat resistant up to 400°C
- Sizes from 2 mm dia to M6
- Models for long distances or high detection accuracy

Sensor type	Size	Sensing distance (mm)*1	Temperature Range	Model	
				For E3X-DA-S teachable amplifier	For E3X-NA amplifier with potentiometer adjustment
Through-beam	M4	450	-40°C to 150°C	E32-T51	
	M4	280	-40°C to 200°C	E32-T81R-S	
	M4	450	-60°C to 350°C	E32-T61-S	
Through-beam	2 mm dia	230	-40°C to 150°C	E32-T54	
Through-beam	3 mm dia	1300	-40°C to 200°C	E32-T84S-S	
Diffuse-reflective	M6	230	-40°C to 150°C	E32-D51	
Diffuse-reflective	M6	280	-40°C to 200°C	E32-D81R-S	E32-D81R
Diffuse-reflective	M6	150	-60°C to 350°C	E32-D61-S	E32-D61
Diffuse-reflective	M4	60	-40°C to 400°C	E32-D73-S	E32-D73
Diffuse-reflective	23 x 20 x 9 mm	35	-40°C to 150°C	E32-A09H 2M	
	30 x 24 x 9 mm	25	-40°C to 300°C	E32-A09H2 2M	
Diffuse-reflective	36 x 18 x 5 mm	18	-40 to 300°C	E32-L66	

*1 Sensing distance measured with E3X-DA-SE-S family. Longer sensing distances can be achieved with the E3X-HD and E3NX-FA.



The temperature range optimized material selection provides best application fit and value - performance ratio.

Stainless steel spiral coating for flexibility with highest mechanical protection.

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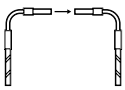
Vacuum Resistant Sensor Heads

For applications in cleanest and hot environments the vacuum resistant fibers and connecting flanges provide long operational lifetime and vacuum integrity.

- Leakage rate of $1X10^{-10}$ $Pa*M^3/s$ max
- Heat resistance up to 200°C
- Detergent resistant fluororesin or stainless steel fiber sheath

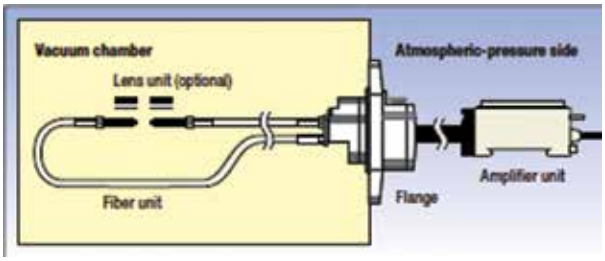
Sensor

Sensor type	Size	Sensing distance (mm)*1	Temperature Range	Model
Through-beam	M4	200	-40°C to 120°C	E32-T51V 1M
 Through-beam	3 mm dia	130	-40°C to 120°C	E32-T54V 1M
	3 mm dia	480	-60°C to 200°C	E32-T84SV 1M

*1 Sensing distance measured with E3X-DA-SE-S family. Longer sensing distances can be achieved with the E3X-HD and E3NX-FA.

Flange

Type	Size	Model
4 channel flange	80 x 80 x 49 mm	E32-VF4
1 channel flange	96 x 30 dia mm max.	E32-VF1
Flange-to-amplifier connection fiber	2 m length	E32-T10V 2M



The vacuum resistant fiber heads and flanges are sealed to prevent gas leakage into vacuum areas

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Precision Detection Sensor Heads

Highest precision in design and manufacturing of the fibers and focal lenses ensure highest beam and spot accuracy allowing the detection of smallest objects and height differences of less than 100 µm.

- Coaxial fibers with focal lenses for spot diameters of 100 µm
- Through-beam models with highly focused beam and precise optical axis alignment
- Limited reflective models for height difference detection of less than 100 µm

Sensor type	Preferred usage	Size	Key feature	Sensing distance (mm) *1	Model
Through-beam	Precise thin object detection / accurate positioning	3 mm dia	- High precision optical axis adjustment - Very focused beam	1900	E32-T22S
Through-beam		3 mm dia		890	E32-A03 2M
		3 mm dia		340	E32-A04 2M
Diffuse-reflective	Very small object detection	M6	—	300	E32-CC200 *2
		M3	Spot dia 0.5 mm	20	E32-C31 2M
		M3	Spot dia 0.2 mm	17	E32-C41 + E39-F3B
		M3	Spot dia 0.1 mm	7	E32-C41 + E39-F3A-5
Diffuse-reflective		3 mm dia	—	150	E32-D32L
		2 mm dia	—	75	E32-D32 *2
Diffuse-reflective		M6	- 90° cable exit - Hexagonal back	170	E32-C11N 2M
		M3		25	E32-C31N 2M
Diffuse-reflective		2 mm dia	Spot dia 0.5 to 1 mm	6-15 mm adjustable	E32-D32 + E39-F3A
		2 mm dia	Spot dia 0.1 to 0.6 mm	6-15 mm adjustable	E32-C42 + E39-F3A
Diffuse-reflective	Precision height difference detection / flat surface detection	23 x 20 x 9 mm	—	35	E32-A09 2M
Convergent-reflective		16 x 18 x 4 mm	—	7.2	E32-L25L *2
		20 x 20 x 5 mm	—	3.3	E32-L25
Diffuse-reflective		18 x 20 x 4 mm	Precise spot e.g. for detection of a flat / reflective surface	4	E32-L24L *2
Diffuse-reflective	Object detection in front of background	20.5 x 14 x 3.8 mm	Wide beam e.g. for object detection on a flat surface	15	E32-L16-N 2M

*1 Sensing distance measured with E3X-DA-SE-S family. Longer sensing distances can be achieved with the E3X-HD and E3NX-FA.
*2 A high flex cable version is available. Add 'R' to the order code, e.g. E32-CC200R

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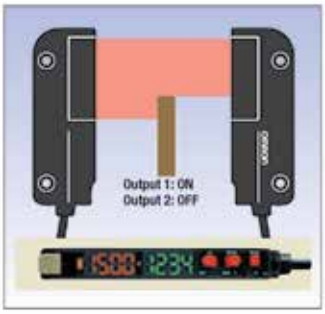
Area Monitoring Sensor Heads

The area monitoring fibers allow the detection of objects passing anywhere through the detection range and can be used for height comparisons of different objects.

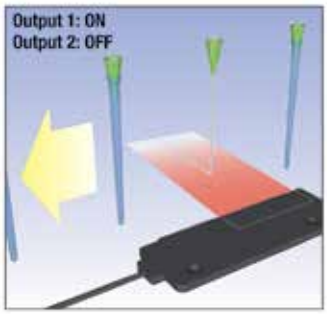
- Area monitoring up to 70 mm height
- Multi-beam sensor with 4 separate heads for flexible detection points
- Standard or high flex fibers

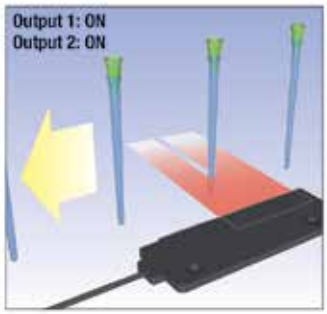
Sensor type	Area height (mm)	Sensing distance (mm)*1		Model	
		Standard Fiber	High-flex Fiber	Standard Fiber	High-flex Fiber
Through-beam	10	2800	–	E32-T16	–
Through-beam	11	1100	840	E32-T16P	E32-T16PR
Through-beam	30	1800	1300	E32-T16W	E32-T16WR
	50	–	1800	–	E32-ET16WR-2
	70	–	2000	–	E32-ET16WR-1
Through-beam	11	1000	750	–	E32-T16JR
Through-beam	4 separate M3 heads	610	–	E32-M21	–
Diffuse-reflective	11	–	150	–	E32-D36P1

*1 Sensing distance measured with E3X-DA-SE-S family. Longer sensing distances can be achieved with the E3X-HD and E3NX-FA.



The two outputs of the E3X-DA-S can be used to detect two different light levels





In combination with the twin output function of the E3X-DA-S amplifier, the diffuse reflective area monitoring fibers can detect very small objects (e.g. needles) and a second state (e.g. cover present). The area beam compensates for position variations at high speed.

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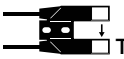
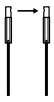
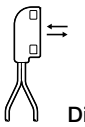
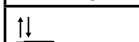
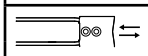
Special Application Sensor Heads

For a wide range of special applications, the task optimized fiber heads provide best fitting sensing performance and adaptation to environmental requirements.

- Detection of special objects (liquids, labels on foils, etc.)
- Fiber heads ideal for color mark detection
- Fiber heads optimized for special tasks (wafer mapping, flat glass, etc.)

Sensor type		Size	Sensing distance (mm) *1	Comment	Model
 Through-beam	Fork shape	36 x 24 x 8 mm	10	–	E32-G14
Through-beam	Oil-resistant	M8	4000	IP68 oil resistance - Vacuum resin filling and fluororesin cable	E32-T11NF 2M
Through-beam	Wafer mapping	3 mm dia	1900	–	E32-T22S
		3 mm dia	1300	–	E32-T24S
 Through-beam		3 mm dia	890	–	E32-A03 2M
		2 mm dia	340	–	E32-A04 2M
	Liquid level sensor	6 mm dia	Liquid contact	Liquid level contact	E32-D82F1
 Diffuse-reflective		15 x 23.5 x 5 mm	Tube contact	Liquid level detection through transparent tube or container	E32-D36T 2M
Diffuse-reflective	Glass detection	21 x 16.5 x 4 mm	8 mm	Metal housing	E32-A10 2M
		20.5 x 14 x 3.8 mm	15 mm	Plastic housing	E32-L16-N 2M
	Glass detection in hot environment	36 x 18 x 5.5 mm	18 mm	Heat resistant up to 300°C	E32-L66
Convergent-reflective	Glass detection in wet processes	38.5 x 39 x 17.5 mm	8 to 20 (recommended: 11 mm)	- Heat resistant up to 85°C - Recommended usage with 'tough mode' of E3X-DA-S	E32-L11FS 2M
Convergent-reflective	Label detection	20 x 20 x 5 mm	7.2	–	E32-L25L
 Diffuse-reflective		18 x 20 x 4 mm	4	–	E32-L24L
Diffuse-reflective	Color/print mark detection	M6	300	Recommended for standard color and color mark detection	E32-CC200
 Diffuse-reflective		29 x 25.5 x 11.2	55	Recommended for challenging color and color mark detection	E32-L15 2M
		23 x 20 x 9 mm	35		E32-A09 2M

*1 Sensing distance measured with E3X-DA-SE-S family. Longer sensing distances can be achieved with the E3X-HD and E3NX-FA.

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Easy-Teach Digital Amplifier

Fiber-optic amplifier provides ultra-stable performance and smart tuning for high-speed, reliable input to open protocol industrial networks.

- Simple one-button smart tuning for sensor threshold and light intensity
- Confirm settings, status with dual display and indicators on control buttons
- Automatic compensation for large objects and low reflectance dark targets
- Smart power control function compensates for grime build-up and LED deterioration
- EtherCAT and CompoNet high-speed open network communication interfaces available

Sensor Amplifiers

Item	Maximum connectable units	Connection method	NPN output model	PNP output model
Standard models	16 units	Pre-wired, 2 m cable	E3X-HD11 2M	E3X-HD41 2M
	16 units	Wire-saving connector	E3X-HD6	E3X-HD8
M8 models	16 units	M8 4-pin connector (XS3F Series)	E3X-HD14	E3X-HD44
Network models	16 units (E3X-CRT CompoNet); 30 units (E3X-ECT EtherCAT)	Communications unit	E3X-HD0	

Wire-saving Connectors

Item	Cable length	Number of conductors	Function	Model
Master connector	2 m	3	First amplifier, with power line	E3X-CN11
Slave connector		1	Second and subsequent amplifiers	E3X-CN12
Cordless slave connector	--	--	Use with amplifiers connected to a communication interface unit	E3X-CN02

Network Communication Interface Units

Network type	Applicable Fiber Amplifiers	Model
CompoNet	E3X-HD0, E3X-MDA0, E3X-DA0-S	E3X-CRT
EtherCAT		E3X-ECT

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E3NX-FA Fiber-optic Sensors

Quick Link B345 omron247.com

Advanced Functionality Amplifier

The E3NX-FA amplifier is the best choice for even the most challenging fiber applications in terms of long sensing distance, small object detection or high speed processes.

- Easy calibration with Smart Tune allows for quick and stable setup
- New N-Smart technology provides significant improvements in sensing distance, minimum object detection and speed
- Straightforward sensor status information with Solution Viewer and Change Finder function
- EtherCAT communication unit for high-speed field bus connectivity

Sensor Amplifiers

Item	Connection method	Inputs/outputs	Model	
			NPN output	PNP output
Standard models	Pre-wired (2 m)	1 output	E3NX-FA11 2M	E3NX-FA41 2M
	Wire-saving connector	1 output	E3NX-FA6	E3NX-FA8
Advanced models	Pre-wired (2 m)	2 outputs + 1 input	E3NX-FA21 2M	E3NX-FA51 2M
	Wire-saving connector	1 output + 1 input	E3NX-FA7	E3NX-FA9
		2 outputs	E3NX-FA7TW	E3NX-FA9TW
Model for sensor communications unit	Connector for sensor communications unit	2 outputs	E3NX-FA0	

Wire-saving Connectors

Item	Cable length	Number of conductors	Applicable Fiber Amplifier Units	Model
Master connector	2 m	4	E3NX-FA7, E3NX-FA7TW, E3NX-FA9, E3NX-FA9TW	E3X-CN21
Slave connector		2		E3X-CN22
Master connector		3	E3NX-FA6, E3NX-FA8	E3X-CN11
Slave connector		1		E3X-CN12

Network Communication Interface Units

Type	Model
Sensor communications unit for EtherCAT	E3NW-ECT
Sensor dispersion unit	E3NW-DS

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E3X-NA Fiber-optic Sensors

Quick Link B328 omron247.com

Simple, Easy-to-Read Amplifier with Bar Graph Display

- Streamlined features provide basic sensing immediately after plug-in
- Easy push button teach with or without workpiece
- Pre-wired (2 m cable) and wire-saving connector models available
- IP66 water-resistant models available

Ordering Information

Type	Item	Model	
		NPN output	PNP output
Pre-wired (2 m)	Standard	E3X-NA11	E3X-NA41
Pre-wired (2 m)	Enhanced water resistance	E3X-NA11V 2M	E3X-NA41V 2M
Connector	Standard (fiber amplifier connector)*1	E3X-NA6	E3X-NA8
Connector	Enhanced water resistance (M8 4-pin connector)	E3X-NA14V	E3X-NA44V

*1 Order connector separately, see E3X-DA-S.

E3X-SD Fiber-optic Sensors

Quick Link B334 omron247.com

High Performance Amplifier with Single Digital Display

- Large, 6 mm wide digital display provides read-out of incident and operating level
- Incident settings and management can be performed reliably with fine tune adjustment
- Connectivity for up to 16 amplifiers
- Rated IP50

Ordering Information

Type	Item	Model	
		NPN output	PNP output
Pre-wired (2 m)	Standard	E3X-SD21 2M	E3X-SD51 2M
Connector	Standard (fiber amplifier connector)*1	E3X-SD6	E3X-SD8

*1 Order connector separately, see E3X-DA-S.

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E3X-DA-S Fiber-optic Sensors

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High Function Digital Amplifier

Advanced timing, LED power control and signal processing functionality providing highest detection accuracy and stability even for the most challenging objects and settings.

- Power tuning function to adjust the received light to a maximum, minimum or pre-defined value
- Auto power and threshold adjustment functions for highest operational stability
- Two outputs for window monitoring or two level detections (e.g. object + object state change)

Amplifier

Item	Function								Model	
	Power Tuning	Timer	Auto-threshold compensation (ATC)	Twin output	External input	Differential operation	Wet process 'tough mode'	Power saving 'Eco' functions (display/LED off)	NPN output	PNP output
Pre-wired	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	E3X-DA21-S 2M	E3X-DA51-S 2M
Fiber amplifier connector *1	Yes	Yes	Yes	Yes - selectable		Yes	Yes	Yes	E3X-DA7-S	E3X-DA9-S

*1 Order E3X-CNxx connector separately below.

Wire-saving Connectors

Item	Cable length	Number of conductors	Function	Compatible sensor amplifiers	Model
Master connector	2 m	3	First amplifier, with power line	E3X-DA7F-S, E3X-DA9F-S, E3X-DA6SE-S, E3X DA8SE-S, E3X-DA6-S, E3X-DA8-S, E3X-DAG6-S, E3X-DAG8-S, E3X-DAB6-S, E3X-DAB8-S, E3X-DAH6-S, E3X-DAH8-S, E3X-DAC6-S, E3X-DAC8-S, E3X-SD6, E3X-SD8, E3X-NA6, E3X-NA8, E3X-NA14V, E3X-NA44V, E3X-HD6, E3X-HD8, E3NX-FA6, E3NX-FA8	E3X-CN11
Slave connector		1	Second and subsequent amplifiers		E3X-CN12
Master connector		4	First amplifier, with power line	E3X-DA7-S, E3X-DA9-S, E3X-DA6TW-S, E3X-DA8TW-S, E3X-DA6RM-S, E3X-DA8RM-S, E3X-DA6AT-S, E3X-DA8AT-S, E3X-MDA6, E3X-MDA8, E3X-DA6E-S, E3X-DA8SE-S, E3NX-FA7, E3NX-FA7TW, E3NX-FA9, E3NX-FA9TW	E3X-CN21
Slave connector		2	Second and subsequent amplifiers		E3X-CN22
Cordless slave connector	--	--	Use with amplifiers connected to a communication interface unit	E3X-HD0, E3X-DA0-S, E3X-MDA0	E3X-CN02

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Digital Amplifier With One Button Teaching

E3X-DA-SE-S allows easy one button setting and provides the best value to performance ratio for standard applications.

- Auto-teaching during machine operation
- Digital dual display for incident level and threshold
- Object or 2-point teaching within a few seconds

Amplifier

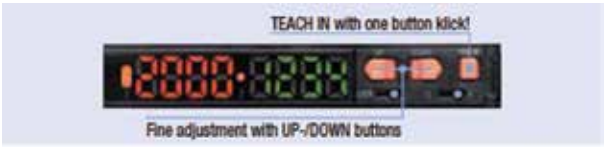
Item	Model	
	NPN output	PNP output
Pre-wired	E3X-DA11SE-S	E3X-DA41SE-S
Fiber amplifier connector *1	E3X-DA6SE-S	E3X-DA8SE-S

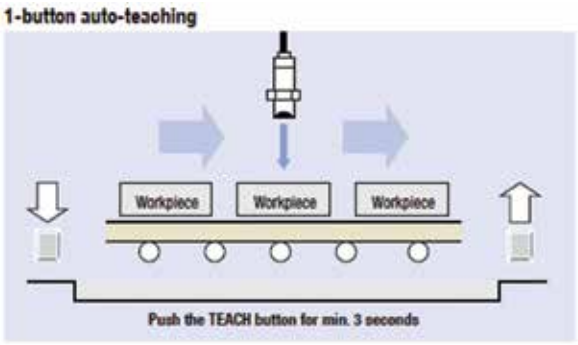
*1 Order connector separately.

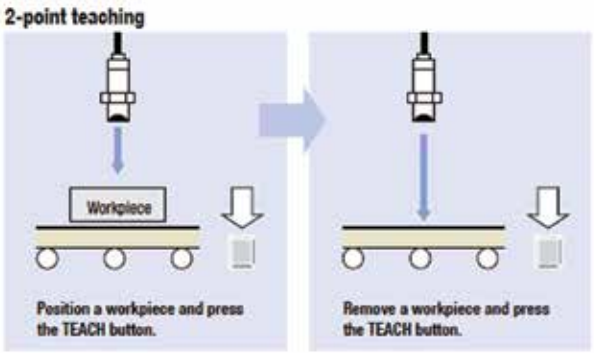
Amplifier Connectors

Shape	Type	Comment	Model
	Fiber amplifier connector	2 m PVC cable	E3X-CN21
		30 cm PVC cable with M12 plug connector (4 pin)	E3X-CN21-M1J 0.3M
		30 cm PVC cable with M8 plug connector (4 pin)	E3X-CN21-M3J-2 0.3M

*1 Order connector separately. For M8 connector models see E3X-DA-S.







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E3X-MDA Fiber-optic Sensors

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Dual Fiber Amplifier

E3X-MDA incorporates 2 digital fiber amplifiers in one slimline housing. For applications requiring the detection of two objects simultaneously the E3X-MDA provides an easy to use operation saving space and set-up time.

- Two digital amplifiers in one slimline housing
- Twin output models – on/off or area (between two threshold values)
- Signal comparison functions (AND, OR, etc.)

Item	Function	Model	
		NPN output	PNP output
Pre-wired	AND/OR output	E3X-MDA11	E3X-MDA41
Fiber amplifier connector*1	AND/OR output	E3X-MDA6	E3X-MDA8
Communication model	AND/OR output	E3X-MDA0	

*1 Order E3X-CNxx connector separately, see E3X-DA-S.

E3X-NA-F Fiber-optic Sensors

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Fast Response Digital Amplifier with Potentiometer

The E3X-NA-F provides a very fast response time and is the ideal amplifier for high speed detection applications.

- Short turn on time of only 20 µs
- Easy adjustment with potentiometer

Shape	Model	
	NPN output	PNP output
Pre-wired	E3X-NA11F	E3X-NA41F 2M

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E3X-DAC-S Fiber-optic Sensors

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Color (RGB) Digital Fiber Amplifier

The E3X-DAC-S detects the color and returned light intensity of a mark or object and compares it with a stored RGB ratio or intensity value. The RGB ratio or contrast difference allows the stable detection of differently colored, black, grey or white marks or objects.

- White LED for color independence
- Fast response time of 60 µs
- Timer function for variable ON or OFF delay up to 5 seconds
- Remote teaching or easy one-button teaching

Pre-wired

Item	Functions	Model (for pre-wired types with 2 m cable)	
		NPN output	PNP output
Standard models	Timer, response speed change	E3X-DAC11-S 2M	E3X-DAC41-S 2M
Advanced models	Standard models + simultaneous determination (2 colors) AND/OR output, remote setting	E3X-DAC21-S 2M	E3X-DAC51-S 2M
	Standard models + 4-color detection AND/OR output, bank switching	ESX-DAC21B-S 2M	E3X-DAC518-S 2M

Connector Versions

Item	Functions	Model	
		NPN output	PNP output
Standard models (fiber amplifier connector) *1	Timer, response speed change	E3X-DAC6-S	E3X-DAC8-S

*1 Order connector separately, see E3X-DA-S.

E3X-DAH-S Fiber-optic Sensors

Quick Link B338 omron247.com

Digital Amplifier with Infrared LED

The digital fiber amplifiers with infrared LED are ideal for water detection applications or where visible light is not desired.

- Infrared LED
- LED power control and signal processing function

Pre-wired

Item	Model (for pre-wired types with 2 m cable length)	
	NPN output	PNP output
Infrared light	E3X-DAH11-S	E3X-DAH41-S

Connector Versions

Item	Model	
	NPN output	PNP output
Infrared light (fiber amplifier connector)*1	E3X-DAH6-S	E3X-DAH8-S

*1 Order connector separately, see E3X-DA-S.

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E3X Communication Units
E3X-ECT/-CRT/-DRT21S/-DRT21/-CIF11

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Reduced Wiring Solution to Interface with Open Communication Networks

Build efficient sensor input slave blocks using E3X Communication Interface Units and multiple E3X sensors. This solution reduces wiring, saves space and shortens setup time.

- EtherCAT, CompoNet, DeviceNet and serial communication units available
- Connect up to 16 fiber-optic sensors to each unit (up to 30 with EtherCAT)
- Supports explicit message communications
- Use E3X-CN02 Cordless Slave Connector for each sensor
- Remote setting, monitoring and operating through CX-Integrator software
- Mobile Programming Console for simple setting and monitoring locally

Network Communication Interface Units

Network type	Maximum connectable amplifiers	Compatible sensor amplifiers	Model
EtherCAT	30 units	E3X-HD0, E3X-MDA0, E3S-DA0-S	E3X-ECT
CompoNet	16 units	E3X-HD0, E3X-MDA0, E3S-DA0-S	E3X-CRT
DeviceNet	16 units	E3X-DA7-S, E3X-DA9-S, E3X-DA6-S, E3X-DA8-S, E3X-DAG6-S, E3X-DAG8-S, E3X-DAB6-S, E3X-DAB8-S, E3X-DAH6-S, E3X-DAH8-S, E3X-DA6RM-S, E3X-DA8RM-S, E3X-DA6TW-S, E3X-DA8TW-S, E3X-DA6AT-S, E3X-DA8AT-S, E3X-MDA6, E3X-MDA8, E3C-LDA11, E3C-LDA41, E2C-EDA11, E2C-EDA41	E3X-DRT21S
	16 units	E3X-DA6, E3X-DA8, E3X-DAB6, E3X-DAB8, E3X-DAG6, E3X-DAG8, E3X-DA6TW, E3X-DA8TW, E3X-DA6-P	E3X-DRT21 SVER3
Serial RS-422	16 units	E3X-DA6, E3X-DA8, E3X-DAB6, E3X-DAB8, E3X-DAG6, E3X-DAG8, E3X-DA6TW, E3X-DA8TW, E3X-DA6-P	E3X-CIF11

Note: The E3NX-FA is not compatible with the above devices. Please use the E3NW EtherCAT device with the E3NX-FA series.

Connector

Item	Function	Model
Cordless slave connector	Replaces individual cabling for network communications	E3X-CN02

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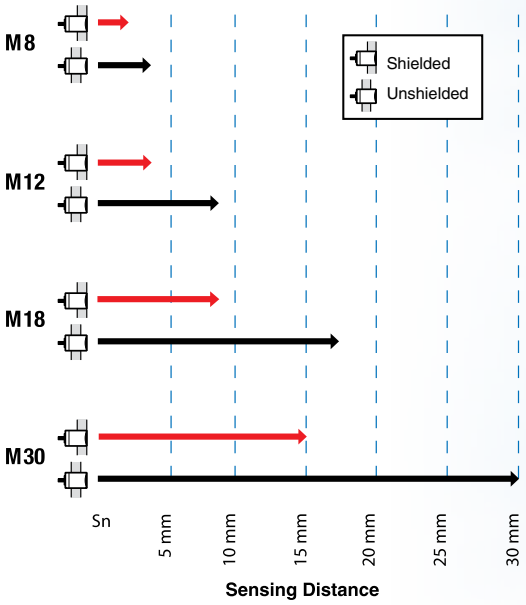
FOR MACHINES THAT NEVER STOP

Our proximity sensors are designed and tested to ensure a long service life and achieve maximum machine availability even in the harshest environments.



Cylindrical, Brass Housing, DC 2-Wire, DC 3-Wire and AC 2-Wire	E2E
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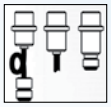

- Highest water resistance
- Highest electromagnetic noise immunity (e.g. from inverters)
- Antivalent output for cable breakage detection
- Wide connection range

Special Applications

Enhanced oil resistance

E2E-U

Tested oil resistance on commonly used lubricants

Chemical resistant plastic body

E2F

Polyarylate plastic housing

Detergent resistant

E2EH

Stainless steel housing

Metal chip immune

E2FM

All stainless steel body resists impacts, abrasive scouring

For complete specifications and additional models and accessories visit www.omron247.com

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Miniature housing:

E2EC	E2E small diameter	E2S

Compact square housing:

TL-W

Longer distance:

E2EM	E2Q5	E2A3

Special Applications

Chemical resistant	Remote amplifier	Weld spatter resistant
E2FQ	**E2C-EDA**	**E2EQ**
Fluoro plastic (PTFE) housing	Heat resistant; Small sensing heads to fit tight spaces	Rugged fluororesin coated brass housing

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Selection Table

Capacitive Sensors

Detect non-magnetic metals, glass, plastic, liquids, wood and leather, including liquids or solids inside non-metalic containers.

Standard cylindrical

E2K-X

ABS housing

Unthreaded cylindrical

E2K-C

Adjustable distance; ABS housing

Flat rectangular

E2K-F

Thin low-profile ABS housing for conveyor rail mounting

Liquid level

E2K-L

Detects clear and foamy liquids, mounts to sight glass and piping

Chemical resistant

E2KQ-X

Fluoroplastic resin coating

Proximity Sensors - Special Application

Inductive sensors that are specially tuned or sized to solve tough detection problems in challenging locations.

Miniature separate amplifier

E2EC

For demanding mounting conditions

Aluminum detection

E2CY

Separate amplifier with compact head

Non-ferrous metals only

E2EY

Aluminum; Copper; Brass

Cutting chip resistant

E2EZ

Machine tool applications

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Category	Inductive Proximity	Inductive Proximity	Inductive Proximity
Model	E2E	E2B	E2A
Product type	Standard cylindrical	Short or long barrel, standard or extended range cylindrical	Short or long barrel, extended range cylindrical
Maximum Shielded sensing distances	10 mm	15 mm	15 mm
Maximum Unshielded sensing distances	20 mm	30 mm	30 mm
DC supply voltage	12 to 24 VDC	10 to 30 VDC	12 to 24 VDC
AC supply voltage	24 to 240 VAC or 90 to 140 VAC 50/60 Hz	N/A	N/A
Load ratings	100, 200 or 300 mA max.	200 mA max.	100 mA max.
Output types	NPN, PNP, DC 2-Wire or SCR	NPN or PNP	NPN or PNP
Output state	N.O. or N.C.	N.O. or N.C.	N.O. or N.C.
Connections	Pre-wired, connector	Pre-wired, connector	Pre-wired, connector
IP rating	IP67	IP67	IP69K

L

Category	Inductive Proximity	Inductive Proximity	Inductive Proximity
Model	E2EM	E2A3	E2E2
Product type	Standard cylindrical, extended range cylindrical	Standard cylindrical, extra long-distance cylindrical	Long barrel cylindrical
Maximum Shielded sensing distances	15 mm	20 mm	10 mm
Maximum Unshielded sensing distances	30 mm	N/A (Shielded only)	20 mm
DC supply voltage	12 to 24 VDC	12 to 24 VDC	12 to 24 VDC
AC supply voltage	N/A	N/A	24 to 240 VAC or 90 to 140 VAC 50/60 Hz
Load ratings	100 mA and 200 mA max.	200 mA max.	100, 200 or 300 mA max.
Output types	NPN, PNP, or DC 2-wire	NPN or PNP	NPN, PNP, DC 2-Wire or SCR
Output state	N.O. or N.C.	N.O. or N.C.	N.O. or N.C.
Connections	Pre-wired, connector	Pre-wired, connector	Pre-wired, connector
IP rating	IP67	IP67	IP67

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Selection Table

Category	Inductive Proximity	Inductive Proximity	Inductive Proximity
Model	E2EC	TL-W	E2Q5
Product type	Subminiature cylindrical with long-distance detection	Flat rectangular proximity sensor	Long distance square proximity sensor
Maximum Shielded sensing distances	4 mm	5 mm	20 mm
Maximum Unshielded sensing distances	N/A (Shielded only)	20 mm	40 mm
DC supply voltage	12 to 24 VDC and 5 to 24 VDC	12 to 24 VDC	10 to 30 VDC
AC supply voltage	N/A	N/A	N/A
Load ratings	100 mA max.	100 mA and 200 mA max.	200 mA max.
Output types	NPN, PNP, or DC 2-Wire	NPN, PNP, or DC 2-wire	NPN or PNP
Output state	N.O. or N.C.	N.O. or N.C.	N.O. or N.O. + N.C.
Connections	Pre-wired	Pre-wired	M12 quick disconnect
IP rating	IP64 and IP67	IP67	IP67 and IP69K

Category	Inductive Proximity	Inductive Proximity	Inductive Proximity
Model	E2S	E2F	E2FM
Product type	Super-compact rectangular proximity sensor	Cylindrical proximity sensor with resin case and superb water resistance	Highly durable cylindrical proximity sensor for tough environments
Maximum Shielded sensing distances	N/A	10 mm	10 mm
Maximum Unshielded sensing distances	2.5 mm	N/A	N/A
DC supply voltage	12 to 24 VDC	12 to 24 VDC	12 to 24 VDC
AC supply voltage	N/A	90 to 140 VAC and 24 to 240 VAC	N/A
Load ratings	50 mA max.	100, 200, 300 and 500 mA max.	100 mA and 200 mA max.
Output types	NPN, PNP and DC 2-Wire	NPN, PNP and SCR	NPN, PNP and DC 2-Wire
Output state	N.O. or N.C.	N.O. or N.C.	N.O. or N.C.
Connections	Pre-wired	Pre-wired	Pre-wired, connector
IP rating	IP67	IP68	IP67

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Category	Inductive Proximity	Inductive Proximity	Inductive Proximity
Model	E2EH	E2E-U	E2EQ
Product type	High temperature detergent resistant cylindrical proximity sensor	Oil resistant cylindrical	Spatter-resistant fluororesin coated proximity sensor
Maximum Shielded sensing distances	12 mm	10 mm	15 mm
Maximum Unshielded sensing distances	N/A	N/A	N/A
DC supply voltage	12 to 24 VDC	12 to 24 VDC	12 to 24 VDC
AC supply voltage	N/A	N/A	N/A
Load ratings	50 mA and 100 mA max.	100 mA max.	100 mA max.
Output types	NPN, PNP and DC 2-Wire	DC 2-wire	DC 2-Wire
Output state	N.O. or N.C.	N.O. or N.C.	N.O. or N.C.
Connections	Pre-wired, connector	Pre-wired, connector	Pre-wired, connector
IP rating	IP67, IP69K	IP67 and IP67g	IP67

L

Category	Inductive Proximity	Capacitive Proximity	Inductive Proximity
Model	E2KQ-X	E2FQ	E2C-EDA
Product type	Fluororesin coated, chemical resistant capacitive sensor with sensitivity adjuster	Fluororesin coated, chemical resistant Inductive sensor	High precision positioning proximity sensor with separate digital amplifier
Maximum Shielded sensing distances	N/A	10 mm	5 mm
Maximum Unshielded sensing distances	10 mm	N/A	7 mm
DC supply voltage	12 to 24 VDC	12 to 24 VDC	12 to 24 VDC
AC supply voltage	N/A	N/A	N/A
Load ratings	100 mA max.	100, 200 and 300 mA max.	50 mA max.
Output types	NPN	NPN, DC 2-wire and SCR	NPN and PNP
Output state	N.O. or N.C.	N.O.	N.O. or N.C.
Connections	Pre-wired	Pre-wired	Pre-wired, connector
IP rating	IP66	IP67	IP50, IP60, IP67

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Selection Table

Category	Inductive Proximity	Capacitive Proximity	Capacitive Proximity
Model	E2K-X	E2K-C	E2K-F
Product type	General purpose threaded cylindrical capacitive sensor	Long-distance cylindrical capacitive sensor with adjustable sensitivity	Flat proximity sensor
Maximum Shielded sensing distances	N/A	N/A	N/A
Maximum Unshielded sensing distances	15 mm	25 mm	10 mm
DC supply voltage	12 to 24 VDC	12 to 24 VDC and 24 to 240 VDC	12 to 24 VDC
AC supply voltage	100 to 220 VAC, 50/60 Hz	100 to 220 VAC, 50/60 Hz and 24 to 240 VAC 50/60 Hz	N/A
Load ratings	200 mA max.	200 mA and 250 mA max.	100 mA max.
Output types	NPN, PNP and SCR	NPN, PNP and SCR	NPN
Output state	N.O. or N.C.	N.O. or N.C.	N.O. or N.C.
Connections	Pre-wired	Pre-wired	Pre-wired
IP rating	IP66	IP66, IP67	IP64, IP66

Category	Capacitive Proximity
Model	E2K-L
Product type	Liquid level sensor
Maximum Shielded sensing distances	N/A
Maximum Unshielded sensing distances	1.5 mm
DC supply voltage	12 to 24 VDC
AC supply voltage	N/A
Load ratings	100 mA max.
Output types	NPN
Output state	N.O.
Connections	Pre-wired
IP rating	IP64, IP66

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Standard Cylindrical DC 2-Wire, DC 3-Wire, and AC Proximity Sensors

- DC 2-wire, DC 3-wire, AC/DC 2-wire, and AC 2-wire versions available
- Popular for Automotive, Food/Beverage, and Packaging Industries
- Thick nickel-plated brass (NPB) barrel
- Wrench flats for easy installation
- Solid potted internal circuitry withstands shocks
- IP67 and IP69K rated
- Flush mountable shielded versions
- Built-in circuit protection
- Sensor mounting and protective accessories, see Y92E

L

Ordering Information

E2E – ❶ ❷ ❸ ❹ ❺ ❻ ❼ – ❽ ❾ – ❿ – ⓫ – ⓬ ⓭

Code	Description
❶ Appearance	
C	Cylindrical (not threaded)
X	Cylindrical (threaded)
❷ Sensing Distance	
(number)	Sensing distance (unit: mm)
R	Indication of decimal point Example: R6 = 0.6 mm; 1R5 = 1.5 mm
❸ Shielding	
(blank)	Shielded models
M	Unshielded models
❹ Power Supply and Output Specifications Whether D models have polarity is defined by ❿.	
B	DC 3-wire PNP open-collector output
C	DC 3-wire NPN open-collector output
D	DC 2-wire polarity/no polarity
E	DC 3-wire NPN collector load built-in output
F	DC 3-wire PNP collector load built-in output
T	AC/DC 2-wire
Y	AC 2-wire

❺ Form of Output Switching Element	
1	Normally open (NO)
2	Normally closed (NC)
❻ Oscillation Frequency Type (Used to prevent mutual interference.)	
(blank)	Standard frequency
5	Different frequency
❼ Self-diagnosis	
(blank)	No
5	Yes
❽ Connection Method	
(blank)	Pre-wired
M1	M12-size metal connector
M3	M8-size metal connector

(continued on next page)

Note: Models are not available for all combinations of code numbers.

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(continued from previous page)

E2E – ❶ ❷ ❸ ❹ ❺ ❻ ❼ – ❽ ❾ – ❿ – ⓫ – ⓬ ⓭

❾ Connector Specifications	
(blank)	Connector models DC 3-wire and AC 2-wire, DC 2-wire with self diagnosis output, DC 2 wire with old pin arrangement
G	Connector models DC 2-wire with IEC pin arrangement
J	Pre-wired connector models DC 3-wire and AC 2-wire, DC 2-wire with old pin arrangement
GJ	Pre-wired connector models DC 2-wire with IEC pin arrangement
TJ	Pre-wired Smartclick connector models DC 2-wire
TGJ	Pre-wired Smartclick connector models DC 2-wire with IEC pin arrangement
❿ DC 2-Wire Polarity	
(blank)	Polarity
T	No polarity

⓫ Cable Specifications	
(blank)	Standard PVC cable (oil resistant)
R	Flexible PVC cable (oil resistant)
U	Polyurethane cable (oil resistant and reinforced)
⓬ New Model	
N	New model (Applies only to DC 2-wire pre-wired and shielded models.) This is blank if the cable specification in ⓫ is R or U.
⓭ Cable Length	
(number) M	Cable length (unit: m) (Applicable to pre-wired models and pre-wired connector models. Examples: 2M, 0.3M

Note: Models are not available for all combinations of code numbers.

The purpose of this model number legend is to provide understanding of the meaning of specifications from the model number.

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E2B Standard Environment DC 3-Wire

Quick Link A289 omron247.com

Standard Environment DC 3-Wire

- Popular applications: Material handling, Conveying, Machine tools
- All-around 360° visible output indicator
- IP67 water resistance
- Laser-etched part numbers that do not wear off
- M8 - M30 sizes, Single or Double sensing distances, Short or Long body

L

Ordering Information

E2B – ❶ ❷ ❸ ❹ ❺ – ❻ – ❼ ❽ – ❾

Examples:

E2B-M12LS04-M1-B1
Standard, M12, long barrel, shielded, Sn=4 mm, M12 connector, PNP-NO

E2B-S08KN04-WP-B1 5M
Standard, M8 stainless steel, short barrel, non-shielded, Sn=4 mm, pre-wired PVC cable, PNP-NO, cable length = 5 m

Code	Description
❶ Housing shape and material	
M	Cylindrical, metric threaded, brass
S	Cylindrical, metric threaded, stainless steel
❷ Housing Size	
08	8 mm
12	12 mm
18	18 mm
30	30 mm
❸ Barrel Length	
K	Standard length
L	Long body
❹ Shield	
S	Shielded
N	Non-shielded
❺ Sensing Distance	
(number)	Sensing distance Example: 02 = 2 mm; 16 = 16 mm

❻ Type of Connection	
WP	Pre-wired, PVC, dia 4 mm (standard)
M1	M12 connector (4 pin)
MC	M8 connector (3 pin)
❼ Power Source and Output	
B	DC, 3-wire, PNP open collector
C	DC, 3-wire, NPN open collector
❽ Operation Mode	
1	Normally open (NO)
2	Normally closed (NC)
❾ Cable Length	
(blank)	Connector type
(number)	Cable length

Note: Models are not available for all combinations of code numbers.

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E2A Inductive Proximity Sensors

Quick Link
A272
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Increased Sensing Range DC Inductive

- DC 3-Wire, DC 4-Wire (NO+NC)
- Popular in Food/Beverage, Bottling, and Packaging industries
- Extended (double) sensing distance
- IP67 and IP69K for wash down resistance
- Standard or Long body length
- Wide installation and connectivity range through modular concept

CE

Ordering Information

E2A □ – □□□□□ – □ – □□ – □□

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

Examples:

E2A-M12LS04-M1-B1
Standard, M12, long barrel, shielded, Sn=4 mm, M12 connector, PNP-NO

E2A-M08KN04-WP-B1 5M
Standard, M8 stainless steel, short barrel, non-shielded, Sn=4 mm, pre-wired PVC cable, PNP-NO, cable length = 5 m

Code	Description
❶ Sensing Technology	
(blank)	Standard double distance
❷ Housing shape and material	
M	Cylindrical, metric threaded, brass
S	Cylindrical, metric threaded, stainless steel
❸ Housing Size	
08	8 mm
12	12 mm
18	18 mm
30	30 mm
❹ Barrel Length	
K	Standard length
L	Long body
❺ Shield	
S	Shielded
N	Non-shielded
❻ Sensing Distance	
(number)	Sensing distance Example: 02 = 2 mm; 16 = 16 mm

❼ Type of Connection	
WP	Pre-wired, PVC, dia 4 mm (standard)
M1	M12 connector (4-pole)
M3	M8 connector (4-pole)
M5	M8 connector (3-pole)
❽ Power Source and Output	
B	DC, 3-wire, PNP open collector
C	DC, 3-wire, NPN open collector
E	DC, 3-wire, NPN voltage output
F	DC, 3-wire, PNP voltage output
❾ Operation Mode	
1	Normally open (NO)
2	Normally closed (NC)
❿ Specials Example: Cable material, oscillating frequency)	
⓫ Cable Length	
(blank)	Connector type
(number)	Cable type

Note: Models are not available for all combinations of code numbers.

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E2EM DC 2-Wire Proximity Sensors

Quick Link
A225
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Extended Range, DC 2-Wire Standard Cylindrical Sensors

- Nickel-Plated Brass (NPB) barrel
- Wrench flats for easy installation
- Solid potted internal circuitry withstands shocks
- IP67 rated, 1200 psi water washdown
- Built-in circuit protection
- Normally Open (NO) circuit type stocked; Normally Closed (NC) available

CE

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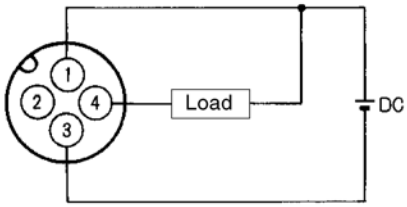
DC 2-Wire Sensors, Pre-Wired with 2 m Cable

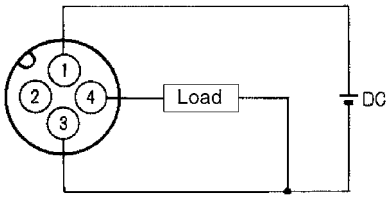
Size	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
M12	4.0	Yes	NO	1 kHz	NPB	33 (38)	E2EM-X4X1
M18	8.0			500 Hz			E2EM-X8X1
	16.0	No		400 Hz		50 (65)	E2EM-X16MX1
M30	15.0	Yes		250 Hz		43 (48)	E2EM-X15X1
	30.0	No		100 Hz		50 (70)	E2EM-X30MX1

DC 2-Wire with M12 Micro-Change® Connectors

NPN Normally Open (C1-M1)



PNP Normally Open (B1-M1)



Size	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
M8	2.0	Yes	NPN-NO	1.5 kHz	NPB	30 (43)	E2EM-X2C1-M1
			PNP-NO				E2EM-X2B1-M1
M12	4.0		NPN-NO	500 Hz		33 (48)	E2EM-X4C1-M1
			PNP-NO				E2EM-X4B1-M1
M18	8.0		NPN-NO	300 Hz		38 (53)	E2EM-X8C1-M1
			PNP-NO				E2EM-X8B1-M1
M30	15.0		NPN-NO	100 Hz		38 (53)	E2EM-X15C1-M1
			PNP-NO				E2EM-X15B1-M1

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E2A3 DC 3-Wire Proximity Sensors

Quick Link
A274
omron247.com

Triple Distance Inductive Sensor in Cylindrical Brass Housing

The E2A3 family features an optimized sensing performance to achieve triple sensing distance for flush mounting requirements.

- Triple distance for enhanced sensor protection from mechanical damage
- IP67 and IP69K

DC 3-Wire Sensors, Pre-Wired

(For different cable materials and lengths, special housing length or special connectors, please refer to complete datasheet)

Size		Sensing Distance	Thread Length (overall length)	Output Type	Model (for pre-wired types with 2 m cable length)	
					Operation Mode NO	Operation Mode NC
M8	■	3.0 mm	27 (40) mm	PNP	E2A3-S08KS03-WP-B1 2M	E2A3-S08KS03-WP-B2 2M
				NPN	E2A3-S08KS03-WP-C1 2M	E2A3-S08KS03-WP-C2 2M
M12	■	6.0 mm	34 (50) mm	PNP	E2A3-M12KS06-WP-B1 2M	E2A3-M12KS06-WP-B2 2M
				NPN	E2A3-M12KS06-WP-C1 2M	E2A3-M12KS06-WP-C2 2M
M18	■	11.0 mm	39 (60) mm	PNP	E2A3-M18KS11-WP-B1 2M	E2A3-M18KS11-WP-B2 2M
				NPN	E2A3-M18KS11-WP-C1 2M	E2A3-M18KS11-WP-C2 2M
M30	■	20.0 mm	44 (65) mm	PNP	E2A3-M30KS20-WP-B1 2M	E2A3-M30KS20-WP-B2 2M
				NPN	E2A3-M30KS20-WP-C1 2M	E2A3-M30KS20-WP-C2 2M

DC 3-Wire Sensors, Connector Versions (M12)

Size		Sensing Distance	Connection	Thread Length (overall length)	Output Type	Model (for M12 connector types)	
						Operation Mode NO	Operation Mode NC
M8	■	3.0 mm	M12 Connector	27 (44) mm	PNP	E2A3-S08KS03-M1-B1	E2A3-S08KS03-M1-B2
					NPN	E2A3-S08KS03-M1-C1	E2A3-S08KS03-M1-C2
M12	■	6.0 mm		34 (49) mm	PNP	E2A3-M12KS06-M1-B1	E2A3-M12KS06-M1-B2
					NPN	E2A3-M12KS06-M1-C1	E2A3-M12KS06-M1-C2
M18	■	11.0 mm		39 (54) mm	PNP	E2A3-M18KS11-M1-B1	E2A3-M18KS11-M1-B2
					NPN	E2A3-M18KS11-M1-C1	E2A3-M18KS11-M1-C2
M30	■	20.0 mm		44 (59) mm	PNP	E2A3-M30KS20-M1-B1	E2A3-M30KS20-M1-B2
					NPN	E2A3-M30KS20-M1-C1	E2A3-M30KS20-M1-C2

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E2E2 DC 2-Wire Proximity Sensors

Quick Link
A275
omron247.com

Long-Barrel DC 2-Wire Proximity Sensors Reduce Wiring to Control Devices

- Nickel-plated brass (NPB) barrel
- Wrench flats for easy installation
- Solid potted internal circuitry withstands shocks
- IP67 rated, 1200 psi water washdown
- High visibility indicator
- Flush mountable shielded versions
- Built-in circuit protection
- Normally Open (NO) circuit type stocked; Normally Closed (NC) available
- Sensor mounting and protective accessories, see Y92E

CE

L

DC 2-Wire Sensors, Pre-Wired with 2 m Cable

Size	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
M12	3.0	Yes	NO	1000 Hz	NPB	55 (60)	E2E2-X3D1
			NC				E2E2-X3D2
	8.0	No	NO	800 Hz		48 (60)	E2E2-X8MD1
			NC				E2E2-X8MD2
M18	7.0	Yes	NO	500 Hz		60 (65)	E2E2-X7D1
			NC				E2E2-X7D2
	14.0	No	NO	400 Hz		50 (65)	E2E2-X14MD1
			NC				E2E2-X14MD2
M30	10.0	Yes	NO			65 (70)	E2E2-X10D1
			NC				E2E2-X10D2
	20.0	No	NO	100 Hz		52 (70)	E2E2-X20MD1
			NC				E2E2-X20MD2

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Long-Barrel DC 3-Wire Proximity Sensors Built for Rugged Duty

- Nickel-plated brass (NPB) barrel
- Wrench flats for easy installation
- Solid potted internal circuitry withstands shocks
- IP67 rated, 1200 psi water washdown
- High visibility indicator
- Voltage output eliminates the need for pull up/down resistors (standard models)
- Flush mountable shielded versions
- Unshielded models offer longest sensing distances
- Built-in circuit and polarity protection
- Normally Open (NO) models stocked; Normally Closed (NC) available
- Sensor mounting and protective accessories, see Y92E

DC 3-Wire Sensors, Pre-Wired with 2 m Cable

Size	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
M12	2.0	Yes	NPN-NO	1.5 kHz	NPB	55 (60)	E2E2-X2C1
			PNP-NO				E2E2-X2B1
	5.0	No	NPN-NO	400 Hz		48 (60)	E2E2-X5MC1
			PNP-NO				E2E2-X5MB1
M18		Yes	NPN-NO	600 Hz		60 (65)	E2E2-X5C1
			PNP-NO				E2E2-X5B1
	10.0	No	NPN-NO	200 Hz		50 (65)	E2E2-X10MC1
			PNP-NO				E2E2-X10MB1
M30		Yes	NPN-NO	400 Hz		65 (70)	E2E2-X10C1
			PNP-NO				E2E2-X10B1
	18.0	No	NPN-NO	100 Hz		52 (70)	E2E2-X18MC1
			PNP-NO				E2E2-X18MB1

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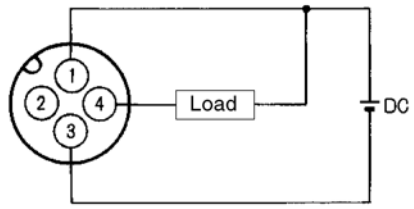
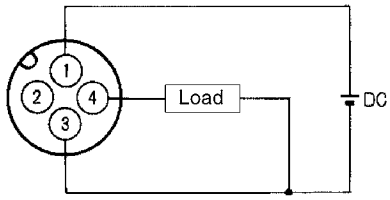
DC 3-Wire Sensors with Built-in M12 Micro-Change® Connectors

NPN Normally Open (C1-M1)



Note: Terminal 2 is not used

PNP Normally Open (B1-M1)



Note: Terminal 2 is not used

Size	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
M12	2.0	Yes	NPN-NO	1.5 kHz	NPB	55 (70)	E2E2-X2C1-M1
			PNP-NO				E2E2-X2B1-M1
	5.0	No	NPN-NO	400 Hz		48 (70)	E2E2-X5MC1-M1
			PNP-NO				E2E2-X5MB1-M1
M18		Yes	NPN-NO	600 Hz		60 (75)	E2E2-X5C1-M1
			PNP-NO				E2E2-X5B1-M1
	10.0	No	NPN-NO	200 Hz		50 (75)	E2E2-X10MC1-M1
			PNP-NO				E2E2-X10MB1-M1
M30		Yes	NPN-NO	400 Hz		65 (80)	E2E2-X10C1-M1
			PNP-NO				E2E2-X10B1-M1
	18.0	No	NPN-NO	100 Hz		52 (80)	E2E2-X18MC1-M1
			PNP-NO				E2E2-X18MB1-M1

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E2E2 AC 2-Wire Proximity Sensors

Quick Link
A277
omron247.com

Long-Barrel AC 2-Wire Proximity Sensors Built for Rugged Duty

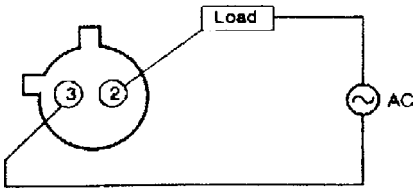
- Nickel-plated brass (NPB) barrel
- Wrench flats for easy installation
- Solid potted internal circuitry withstands shocks
- IP67 rated, 1200 psi water washdown
- High visibility indicator
- Flush mountable shielded versions
- Normally Open (NO) models stocked; Normally Closed (NC) available
- Sensor mounting and protective accessories, see Y92E

AC 2-Wire Sensors, Pre-Wired with 2 m Cable

Size	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
M12	2.0	Yes	NO	25 Hz	NPB	55 (60)	E2E2-X2Y1-US
	5.0	No				48 (60)	E2E2-X5MY1-US
M18		Yes				60 (65)	E2E2-X5Y1-US
	10.0	No				50 (65)	E2E2-X10MY1-US
M30		Yes				65 (70)	E2E2-X10Y1-US
	18.0	No				52 (70)	E2E2-X18MY1-US

AC 2-Wire Sensors with M12, 3-Pin Dual Key-Way Micro-Change® Connectors

Normally Open



Size	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
M12	2.0	Yes	NO	25 Hz	NPB	55 (70)	E2E2-X2Y1-M4
	5.0	No				48 (70)	E2E2-X5MY1-M4
M18		Yes				60 (75)	E2E2-X5Y1-M4
	10.0	No				50 (75)	E2E2-X10MY1-M4
M30		Yes				65 (80)	E2E2-X10Y1-M4
	18.0	No				52 (80)	E2E2-X18MY1-M4

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Small Diameter, DC 3-Wire Proximity Sensor in Cylindrical Metal Housing

The E2E Small Diameter line with housing sizes from 3 mm dia to 5.4 mm dia is part of the E2E family and is the ideal solution where space is crucial. The metal housing provides high mechanical protection.

- Miniature housing sizes from 3 mm dia to 6.5 mm dia
- Stainless steel or brass housing
- 5 kHz switching frequency
- Mounting blocks, brackets and protective stainless steel tubes available

Ordering Information

E2E – ❶ ❷ ❸ ❹ – ❺ – ❻ ❼ ❽ ❾

Code	Description
❶ Case Material and Shape	
C	SUS, cylindrical
S	SUS, threaded
❷ Size	
03	Outer diameter 3 mm
04	Outer diameter 4 mm
05	Threaded: Outer diameter 5 mm Cylindrical: Outer diameter 5.4 mm
06	Outer diameter 6.5 mm
❸ Shielding	
S	Shielded models
N	Unshielded models
❹ Sensing Distance	
(number)	R8 = 0.8 mm, 01: 1mm, 12 = 1.2 mm, , 02 = 2 mm, 03 = 3 mm, 04 = 4 mm
❺ Connecting Method	
WC	PVC pre-wired model
MC	M8 connector, 3-pin
CJ	M8 pre-wired connector, 3-pin

❻ Output Specifications	
B	DC 3-wire PNP open-collector output
C	DC 3-wire NPN open-collector output
❼ Operation Mode	
1	Normally open (NO)
2	Normally closed (NC)
❽ Cable Specifications	
Blank	Standard PVC Cable
R	Robot (bending-resistant) PVC cable
❾ Cable Length	
Blank	Connector Models
Number M	Cable length (Unit: m) (Applicable to Pre-wired Models 2M/5M and Pre-wired Connector Models 0.3M)

Note: Models are not available for all combinations of code numbers.

The purpose of this model number legend is to provide understanding of the meaning of specifications from the model number.

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Subminiature Sensor with In-line Amplifier Offers Great Mounting Flexibility

- Small nickel-plated brass (NPB) sensing heads on 0.4 m cable fit space-confined installations
- Shielded sensing head allows the sensor to be flush mounted in metal
- Easy operation monitoring with LED indicator on the amplifier unit
- Robotic cable on DC 2-wire models withstands repeated flexing on robots and reciprocating machinery
- DC 2-wire models have cylindrical amplifiers; DC 3-wire rectangular amplifiers allow side-by-side mounting
- Normally Open (NO) circuit type stocked; Normally Closed (NC) available
- Rated IP67 (2-wire); IP64 (3-wire)

DC 2-Wire Sensors

Size	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
3 mm dia.	0.8	Yes	NO	1.5 kHz	NPB	0 (12)	E2EC-CR8D1
			NC				E2EC-CR8D2
5.4 mm dia.	1.5		NO			0 (18)	E2EC-C1R5D1
			NC				E2EC-C1R5D2
8 mm dia.	3		NO	1 kHz			E2EC-C3D1
			NC				E2EC-C3D2
M12	4		NO			18 (23.6)	E2EC-X4D1
			NC				E2EC-X4D2

DC 3-Wire Sensors

Size	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
3 mm dia.	0.5	Yes	NPN-NO	1 kHz	NPB	0 (12)	E2EC-CR5C1
8 mm dia.	2.5					0 (18)	E2EC-C2R5C1

Accessories

Description		Model
Mounting brackets	Fits 5.4 mm dia. E2EC-C1R5D sensors, SUS304 strap	Y92E-F5R4
	Fits M12 size E2EC-X4D□ sensors	Y92E-B12

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Subminiature, Flat-Pack DC Sensor Fits Tight Spaces

- Rated IP67 for water washdown
- Space-saving mounting area, as small as 10 x 27 mm (0.39 x 1.06 in), is ideal for conveyor wall mounting
- Mounts directly onto metal base or rail
- Rugged die-cast metal or heat-resistant ABS plastic housing
- Pre-wired with 2 m (6.56 ft.) length cable
- Built-in circuit protection
- DC 2-wire and DC 3-wire models

CE

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DC 2-Wire Flat-Pack Inductive Sensors

Sensing distance (mm)	Shielded	Circuit Type	Response Frequency	Body material	Dimensions	Model
5	NO	NPN-NO	500 Hz	ABS	30.5 x 18 x 10	TL-W5MD1
		NON-NC				TL-W5MD2

DC 3-Wire Flat-Pack Inductive Sensors

Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Dimensions	Model
1.5	No	NPN-NO	1 kHz	ABS	25 x 8 x 5.5	TL-W1R5MC1*
3			600 Hz		27 x 10 x 6	TL-W3MC1*
		NPN-NC				TL-W3MC2*
5		NPN-NO	500 Hz		30.5 x 18 x 10	TL-W5MC1
		NPN-NC				TL-W5MC2
	Yes	NPN-NO	300 Hz	Die cast aluminum	50 x 24.9 x 10	TL-W5E1
		NPN-NC				TL-W5E2
		NPN-NO				TL-W5F1
		NPN-NC				TL-W5F2
20	No	NPN-NO	40 Hz	ABS	53 x 40 x 23	TL-W20ME1
		NPN-NC				TL-W20MF1

* Model includes mounting bracket.

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E2Q5 Proximity Sensors

Quick Link A229 omron247.com

Long Distance Inductive Sensor in Short Plastic Body

- M12 Plug-in connection
- Integrated short circuit and reverse polarity protection
- Active face positioning: Y-axis 15°, X-axis 90° increments

DC Models

Sensing Distance (mm)	Connection	Active Face	Model		
			Type	NO	NO+NC
20 mm shielded	Plug-in Connector	Changeable	NPN	E2Q5-N20E1-M1	E2Q5-N20E3-M1
			PNP	E2Q5-N20F1-M1	E2Q5-N20F3-M1
40 mm non-shielded			NPN	E2Q5-N40ME1-M1	E2Q5-N40ME3-M1
			PNP	E2Q5-N40MF1-M1	E2Q5-N40MF3-M1

E2S Proximity Sensors

Quick Link A234 omron247.com

World's Smallest Square Sensor with Built-In Amplifier

- 5.5 x 5.5 mm type allows smaller, space-saving machines and devices
- High response frequency (1 kHz) for fast machine processes
- Long sensing distance: (E2S-91, 1.6 mm) (E2S-92, 2.5 mm)
- Front and end sensing face versions match mounting needs
- DC 2-wire and DC 3-wire models
- Pre-wired with 1 m cable
- Rated IP67 for water washdown

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E2K-X Proximity Sensors

Quick Link A323 omron247.com

Threaded, Cylindrical Sensor Detects Metallic and Non-Metallic Objects

- Non-contact detection of metallic and non-metallic targets including water, oil, glass, plastic and wood
- Detects level inside non-metallic containers
- Built-in amplifier switches loads up to 200 mA
- LED indicator and fixed sensitivity for simple installation
- Built-in circuit protection
- Heat-resistant ABS plastic sensor rated IP66
- Normally Open (NO) and Normally Closed (NC) available
- CE (all models), UL, CSA (AC models)
- Sensor mounting and protective accessories, see Y92E

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DC 3-Wire Models

Size	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
M12	4.0	NO	NPN-NO	100 Hz	ABS	40 (80)	E2K-X4ME1
			NPN-NC				E2K-X4ME2
			PNP-NO				E2K-X4MF1
			PNP-NC				E2K-X4MF2
M18	8.0		NPN-NO				E2K-X8ME1
			NPN-NC				E2K-X8ME2
			PNP-NO				E2K-X8MF1
			PNP-NC				E2K-X8MF2
M30	15.0		NPN-NO			50 (80)	E2K-X15ME1
			NPN-NC				E2K-X15ME2
			PNP-NO				E2K-X15MF1
			PNP-NC				E2K-X15MF2

AC 2-Wire Models

Size	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
M12	4.0	NO	SCR-NO	10 Hz	ABS	40 (80)	E2K-X4MY1
			SCR-NC				E2K-X4MY2
M18	8.0		SCR-NO				E2K-X8MY1
			SCR-NC				E2K-X8MY2
M30	15.0		SCR-NO			50 (80)	E2K-X15MY1
			SCR-NC				E2K-X15MY2

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E2K-C Proximity Sensors

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A324
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Cylindrical Sensor Offers Adjustable Detecting Distance

- Non-contact detection of metallic and non-metallic targets including water, oil, glass, plastic and wood
- Detects level inside non-metallic containers
- Settable detection distance from 3 to 25 mm with multi-turn adjuster
- Reliably detects foamy liquids in sight glass applications
- Built-in amplifier switches up to 200 mA
- Mounting bracket included
- AC 2-wire and DC 3-wire models available
- Heat-resistant ABS plastic sensor rated IP66
- Normally Open (NO) and Normally Closed (NC) available
- CE (all models), UL, CSA (AC models)

DC 3-Wire Sensors

Size (dia.)	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
34 mm	3 to 25	No	NPN-NO	70 Hz	ABS	0 (89)	E2K-C25ME1
			NPN-NC				E2K-C25ME2
			PNP-NO				E2K-C25MF1
			PNP-NC				E2K-C25MF2

AC 2-Wire Sensors

Size (dia.)	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
34 mm	3 to 25	No	SCR-NO	10 Hz	ABS	0 (89)	E2K-C25MY1
			SCR-NC				E2K-C25MY2

Accessories

Barrel size	Description	Model
M30 (34 mm)	Sight Glass Mount for M30 (34 mm) Barrel Proximity Sensor	Y92E-SGM34

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E2K-F Proximity Sensors

Quick Link A322 omron247.com

Thin Rectangular Plastic DC 3-Wire Sensor Fits Tight Spaces

- Non-contact detection of metallic and non-metallic targets including water, oil, glass, plastic and wood
- Detects level inside non-metallic containers
- Thin, 10 mm (0.39 inch) body is ideal for conveyor wall mounting
- Unshielded sensor has LED indicator and fixed sensitivity for simple installation
- Built-in amplifier provides NPN switching of loads to 100 mA

- Heat-resistant ABS plastic body rated IP66

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Flat-Pack Capacitive Sensors

Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Dimensions (H x W x D) mm	Model
10	No	NPN-NO	100 Hz	ABS	20.5 x 50 x 10.1	E2K-F10MC1
		NPN-NC				E2K-F10MC2
4-10		NPN-NO				E2K-F10MC1-A
		NPN-NC				E2K-F10MC2-A

E2K-L Proximity Sensors

Quick Link A326 omron247.com

Capacitive Liquid Level Sensor

- Mounts directly to sight glass and bypass pipes
- Sensors unaffected by liquid color
- Fits a wide range of pipe diameters: 8 to 11 mm or 12 to 26 mm
- Built-in amplifier with indicator and sensitivity adjuster
- Sensing heads rated IP66

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Watertight and Chemical-Resistant Short Barrel, Plastic Body Sensors

- IP68 watertight construction
- Polyarylate plastic housing offers good chemical resistance to acids and solvents
- Operation indicator on all models
- Short-circuit protection available on all DC and some AC models
- CE all models; UL and CSA (M18, M30 AC 2-wire)
- Sensor mounting and protective accessories, see Y92E

DC 3-Wire Models

Size	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
M8	1.5	Yes	NPN-NO	2 kHz	Polyarylate	20 (30)	E2F-X1R5E1
			NPN-NC				E2F-X1R5E2
			PNP-NO				E2F-X1R5F1
			PNP-NC				E2F-X1R5F2
M12	2.0		NPN-NO	1.5 kHz		24 (38)	E2F-X2E1
			NPN-NC				E2F-X2E2
			PNP-NO				E2F-X2F1
			PNP-NC				E2F-X2F2
M18	5.0		NPN-NO	600 Hz		29 (47)	E2F-X5E1
			NPN-NC				E2F-X5E2
			PNP-NO				E2F-X5F1
			NPN-NC				E2F-X5F2
M30	10.0		NPN-NO	400 Hz		38 (57)	E2F-X10E1
			NPN-NC				E2F-X10E2
			PNP-NO				E2F-X10F1
			NPN-NC				E2F-X10F2

AC 2-Wire Sensors
Without Short-Circuit Protection

Size	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
M8	1.5	Yes	SCR-NO	25 Hz	Polyarylate	29 (40)	E2F-X1R5Y1
			SCR-NC				E2F-X1R5Y2
M12	2.0		SCR-NO	25 kHz		29 (43)	E2F-X2Y1
			SCR-NC				E2F-X2Y2
M18	5.0		SCR-NO	25 Hz		29 (47)	E2F-X5Y1-US
			SCR-NC				E2F-X5Y2-US
M30	10.0		SCR-NO			38 (57)	E2F-X10Y1-US
			SCR-NC				E2F-X10Y2-US

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E2FM Proximity Sensors

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All-Stainless Inductive Sensor Resists Abrasion and Chemicals

- One-piece 303 stainless steel face/barrel construction resists damage caused by work piece contact, scouring abrasion, and harsh chemicals
- Up to 0.8 mm thick sensing face for superior mechanical durability, wear resistance
- Operation not influenced by accumulation of aluminum or iron cutting chips and weld slag
- 20% longer sensing range (10 mm) with M30 models versus the CENELEC standard 8 mm
- Flush mountable in ferrous materials to protect sensor from side impact damage
- Thick insulation protects pig-tail lead for increased endurance in harsh environments
- IP67 enclosure rating

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DC 3-Wire Sensors, Pre-Wired with 2 m Cable

Size	Sensing Distance (mm)	Shielded	Output Type	Response Frequency	Thread Length (overall length) mm	Model
M8	1.5	Yes	PNP-NO	200 Hz	25 (49)	E2FM-X1R5B1
			NPN-NO			E2FM-X1R5C1
M12	2.0		PNP-NO	100 Hz	33 (53)	E2FM-X2B1
			NPN-NO			E2FM-X2C1
M18	5.0		PNP-NO		36 (56)	E2FM-X5B1
			NPN-NO			E2FM-X5C1
M30	10.0		PNP-NO	50 Hz	43 (63.5)	E2FM-X10B1
			NPN-NO			E2FM-X10C1

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DC 3-Wire Sensors, Built-in M12 Connector

Size	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Thread Length (overall length) mm	Model
M8	1.5	Yes	PNP-NO	200 Hz	25 (53.5)	E2FM-X1R5B1-M1
			NPN-NO			E2FM-X1R5C1-M1
M12	2.0		PNP-NO	100 Hz	33 (53)	E2FM-X2B1-M1
			NPN-NO			E2FM-X2C1-M1
M18	5.0		PNP-NO		36 (56)	E2FM-X5B1-M1
			NPN-NO			E2FM-X5C1-M1
M30	10.0		PNP-NO	50 Hz	43 (63.5)	E2FM-X10B1-M1
			NPN-NO			E2FM-X10C1-M1

DC 2-Wire Sensors, Pre-Wired with 2 m Cable

Size	Sensing Distance (mm)	Shielded	Circuit Type	Response Frequency	Thread Length (overall length) mm	Model	
						Standard	with Fluororesin Coating
M8	1.5	Yes	NO, polarity	200 Hz	25 (49)	E2FM-X1R5D1	E2FM-QX1R5D1
M12	2.0			100 Hz	33 (53)	E2FM-X2D1	E2FM-QX2D1
M18	5.0		NO, polarity		36 (56)	E2FM-X5D1	E2FM-QX5D1
M30	10.0		NO, polarity	50 Hz	43 (63.5)	E2FM-X10D1	E2FM-QX10D1

E2FM extra strong sensing face

No interference by small metal chips on sensing surface

Cable resistant to welding spatter

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Heat and Detergent Resistant Inductive Sensor in Cylindrical Stainless Steel Housing

The heat and detergent resistant inductive sensors allow reliable metal object or machine part detection in demanding environments such as food processing.

- Temperature resistant up to 120°C
- SUS316L housing with heat resistant plastic sensing face
- IP69K for highest water resistance
- ECOLAB tested and certified detergent resistance

DC 3-Wire and DC 2-Wire Sensors, Pre-Wired

Size		Sensing Distance	Output Type	Model (for pre-wired types with 2 m cable length)	
				Operation Mode NO	Operation Mode NC
M12		3 mm	PNP	E2EH-X3B1 2M	E2EH-X3B2 2M
			NPN	E2EH-X3C1 2M	E2EH-X3C2 2M
			DC 2-wire	E2EH-X3D1 2M	E2EH-X3D2 2M
M18		7 mm	PNP	E2EH-X7B1 2M	E2EH-X7B2 2M
	■		NPN	E2EH-X7C1 2M	E2EH-X7C2 2M
			DC 2-wire	E2EH-X7D1 2M	E2EH-X7D2 2M
M30		12 mm	PNP	E2EH-X12B1 2M	E2EH-X12B2 2M
			NPN	E2EH-X12C1 2M	E2EH-X12C2 2M
			DC 2-wire	E2EH-X12D1 2M	E2EH-X12D2 2M

DC 3-Wire and DC 2-Wire Sensors, Connector versions (M12)

Size		Sensing Distance	Output Type	Model (for pre-wired types with 2 m cable length)	
				Operation Mode NO	Operation Mode NC
M12		3 mm	PNP	E2EH-X3B1-M1	E2EH-X3B2-M1
			NPN	E2EH-X3C1-M1	E2EH-X3C2-M1
			DC 2-wire	E2EH-X3D1-M1G	E2EH-X3D2-M1G
M18		7 mm	PNP	E2EH-X7B1-M1	E2EH-X7B2-M1
	■		NPN	E2EH-X7C1-M1	E2EH-X7C2-M1
			DC 2-wire	E2EH-X7D1-M1G	E2EH-X7D2-M1G
M30		12 mm	PNP	E2EH-X12B1-M1	E2EH-X12B2-M1
			NPN	E2EH-X12C1-M1	E2EH-X12C2-M1
			DC 2-wire	E2EH-X12D1-M1G	E2EH-X12D2-M1G

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E2E-U DC 2-Wire Proximity Sensors

Quick Link A285 omron247.com

Oil Resistant Inductive Sensor in Cylindrical Brass Housing

Tested oil resistance on commonly used oils in the automotive industry for reliable long-life operation in automotive assembly lines.

- Oil resistant PUR cable
- M8, M12, M18 and M30 standard sizes
- IP67 (water and oil resistant)

DC 2-wire, Pre-Wired and Pre-Wired with M12

Size		Sensing Distance	Model (for pre-wired types with 2 m cable length)		Model (for pre-wired types with 30 cm cable length and M12 connector)	
			Operation Mode NO	Operation Mode NC	Operation Mode NO	Operation Mode NC
M8	■	2 mm	E2E-X2D1-U	E2E-X2D2-U	E2E-X2D1-M1TGJ-U 0.3M	E2E-X2D2-M1TGJ-U 0.3M
M12		3 mm	E2E-X3D1-U	E2E-X3D2-U	E2E-X3D1-M1TGJ-U 0.3M	E2E-X3D2-M1TGJ-U 0.3M
M18		7 mm	E2E-X7D1-U	E2E-X7D2-U	E2E-X7D1-M1TGJ-U 0.3M	E2E-X7D2-M1TGJ-U 0.3M
M30		10 mm	E2E-X10D1-U	E2E-X10D2-U	E2E-X10D1-M1TGJ-U 0.3M	E2E-X10D2-M1TGJ-U 0.3M

E2EQ DC 2-Wire Proximity Sensors

Quick Link A245 omron247.com

Weld-Spatter Resistant Sensors

- Rugged fluoroplastic-coated brass barrel withstands high tightening torque
- Fluoroplastic resin face prevents weld slag build-up on sensor
- Stability and operation indicators standard

Pre-Wired with 2 m Cable

Size	Sensing Distance (mm)	Shielded	Output Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
M12	4.0	Yes	NO	1.0 kHz	Fluoroplastic resin coated brass	33 (38)	E2EQ-X4X1
M18	8.0			500 Hz		38 (43)	E2EQ-X8X1
M30	15.0			250 Hz		43 (48)	E2EQ-X15X1

M12 Connector on 300 mm Pigtail Lead

Size	Sensing Distance (mm)	Shielded	Output Type	Response Frequency	Body Material	Thread Length (overall length) mm	Model
M12	4.0	Yes	NO	1.0 kHz	Fluoroplastic resin coated brass	33 (38)	E2EQ-X4X1-M1J
M18	8.0			500 Hz		38 (43)	E2EQ-X8X1-M1J
M30	15.0			250 Hz		43 (48)	E2EQ-X15X1-M1J

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E2KQ-X Proximity Sensors

Quick Link A327 omron247.com

Chemical Resistant Capacitive Sensor

- Complete fluoroplastic resin coating for superior chemical and oil resistance
- Detect ferrous and non-ferrous metals as well as other materials
- Adjustable sensitivity from 6 to 10 mm
- Built-in indicator located on cable connection face
- Rated IP66

E2FQ Proximity Sensors

Quick Link A246 omron247.com

Chemical Resistant Inductive Sensor in Cylindrical PTFE Housing

The E2FQ features a full-body fluoroplastic housing for chemical resistance (e.g. against cleaning agents used in the semiconductor industry).

- Full body fluoroplastic housing for chemical resistance
- DC 2-wire and DC 3-wire models

DC 2-Wire, Pre-Wired

Size		Sensing Distance	Output Type	Model (for pre-wired types with 2 m cable length)
				Operation Mode NO
M12	■	2 mm	DC 2-wire with polarity	E2FQ-X2D1
M18		5 mm		E2FQ-X5D1
M30		10 mm		E2FQ-X10D1

DC 3-Wire, Pre-Wired

Size		Sensing Distance	Output Type	Model (for pre-wired types with 2 m cable length)
				Operation Mode NO
M12	■	2 mm	PNP	E2FQ-X2F1
			NPN	E2FQ-X2E1
M18		5 mm	PNP	E2FQ-X5F1
			NPN	E2FQ-X5E1
M30		10 mm	PNP	E2FQ-X10F1
			NPN	E2FQ-X10E1

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E2C-EDA Proximity Sensors

Quick Link C433 omron247.com

High Precision Positioning Inductive Proximity Sensor with Separate Amplifier

The separate amplifier inductive sensor family E2C-EDA offers high precision distance positioning and detection. The teach-in function allows simple installation, and with the window function (2 outputs) production tolerance checks can easily be set up and modified.

- Typically several hundred µm detection precision
- Precision distance teaching
- Window function (2 outputs) for production tolerance checks

Sensor Heads

Appearance				Sensing Distance	Repeat Accuracy	Model
Cylindrical	3 dia. x 18	■	–	0.6 mm	1 µm	E2C-EDR6-F
	5.4 dia. x 18			1 mm	1 µm	E2C-ED01*1
	8 dia. x 22			2 mm	2 µm	E2C-ED02*1
Screw	M10 x 22			2 mm	2 µm	E2C-EM02*1
Flat	30 x 14 x 4.8			5 mm	2 µm	E2C-EV05*1
Screw	M18 ××x 6.3	–	■	7 mm	5 µm	E2C-EM07M*1
Screw (heat resistant	M12 x 22	■	–	2 mm	2 µm	E2C-EM02H

*1 For models with cut-to-length cables add '-F' for example E2C-ED01-F
For models with protective stainless steel spiral tubes add '-S' for example E2C-ED01-S

Amplifier Units with Cables

Item	Sensing Distance	Model	
		NPN Output	PNP Output
Twin-output models	Area output, open circuit detection, Differential operation	E2C-EDA11	E2C-EDA41
External-input models	Remote setting, Differential operation	E2C-EDA21	E2C-EDA51

Amplifier Units with Connector*2

Item	Sensing Distance	Model	
		NPN Output	PNP Output
Twin-output models	Area output, open circuit detection, Differential operation	E2C-EDA6	E2C-EDA8
External-input models	Remote setting, Differential operation	E2C-EDA7	E2C-EDA9

*2 Order connector E3X-CN21 separately. See E3X-DA-S in Fiber-Optic Sensors for details.

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