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Электронные компоненты, радиодетали

Каталог Mean Well 2020г. МИНСК

источник, тока, напряжения, каталог, описание, технические, характеристики, datasheet, параметры, маркировка, габариты, фото, даташит, Блок, питания, MW, MEAN WELL,

О компании MEAN WELL

Компания MEAN WELL Enterprises Co., Ltd. образована в 1982 году. В настоящее время MEAN WELL является одним из крупнейших тайваньских производителей источников питания.

Номенклатура изделий фирмы включает несколько тысяч наименований источников питания AC/DC, конверторов DC/DC и инверторов DC/AC,

производимых на заводах в КНР и на Тайване. Продукция компании характеризуется высоким качеством, конкурентоспособными ценами и широтой номенклатуры.

Особенно хорошо представлена номенклатура источников питания AC/DC. Это промышленные источники питания в открытом и закрытом исполнении для встраивания в промышленную аппаратуру различного назначения, источники питания типа «desk top» и «wall mount», выполненные в виде законченных внешних устройств питания ноутбуков и другой бытовой и промышленной техники, лабораторные источники питания и др.

Продукция MEAN WELL соответствует международным стандартам по электромагнитной совместимости и электробезопасности, что подтверждено сертификатами UL, cUL, CSA, TUV, CE.

Система менеджмента качества компании соответствует стандарту ISO 9001.

Компания MEAN WELL специализируется исключительно на разработке и производстве готовых источников питания.

Она выпускает:

сетевые источники питания в корпусе для монтажа на шасси мощностью от 15 Вт до 8 кВт;

открытые источники питания для монтажа на шасси мощностью от 5 до 250 Вт;

источники питания для монтажа на печатную плату мощностью от 5 до 20 Вт;

источники питания на DIN-рейку мощностью от 20 до 960 Вт;

полузаказные конфигурируемые клиентом источники питания мощностью 450-1000 Вт;

сетевые адаптеры питания мощностью от 5 до 120 Вт;

зарядные устройства мощностью от 108 до 360 Вт;

DC/DC-преобразователи для монтажа на печатную плату мощностью от 0,5 до 30 Вт;

DC/DC-преобразователи для монтажа на шасси от 5 до 350 Вт;

DC/AC-инверторы мощностью от 150 до 2400 Вт.



Your Reliable Power Partner



Medical Power Supply

AC/DC Switching Power Supplies & DC/DC Converters



Company Profile

Established in 1982, MEAN WELL is a leading standard switching power supply manufacturers in the world. MEAN WELL currently operates under five companies in Taiwan, China, USA and Europe and three factories in Taiwan, GuangZhou and SuZhou. The product lines include AC/DC switching power supplies, DC/DC converters, waterproof LED drivers, adaptors, DC/AC inverters and battery chargers. We have over 10,000 standard models widely used in medical, automation, communication, LED lighting, display, and office automation fields.

The whole product lines have supplied more than 80 series and 500 models in total for customers to choose, covering 1~1200W and offering 3~55V single/multiple output voltages. We have devoted to developing green medical power supplies, thus unveils the energy-saving medical power supplies in compliance with DoE Level VI.

MEAN WELL USA



MEAN WELL EUROPE



The medical power supplies of MEAN WELL not only comply with IEC60601-1 3rd version but also possess 2xMOPP and MOOP levels, providing the highest level of isolation protection that are suitable to be applied to type BF (patient contact) devices. The whole product line all passes the international safety regulations — UL/CUL/TUV/EAC/CB/CE/FCC and electromagnetic compatibility (EMC) testing thus further assure the safety for usage that is suitable for household medical devices and various medical apparatuses used in the hospital .

With more than almost 40 years of experience in R&D and production of standard power supplies, MEAN WELL has twelve product categories covering more than 10,000 models, to provide “One Stop Shopping” power solutions. Every product in the MEAN WELL range is the result of rigid procedures governing design, design verification test (DVT), design quality test (DQT), component selection, pilot-run production, and mass production.

With more than 200 distributors globally, the MEAN WELL products are distributed to over 80 countries worldwide. The small size orders can expect delivery within 24 hours without MOQ requirement. If you are looking for switching power supply with high reliability, good quality, reasonable price and full series products which can satisfy your various demands, MEAN WELL, a total solution provider, is definitely your first choice!

MEAN WELL SUZHOU



MEAN WELL TAIWAN



MEAN WELL GUANGZHOU
TIANHE R&D CENTER



MEAN WELL GUANGZHOU
HUADU FACTORY



Reliable Quality

The brand name "MEAN WELL" is defined as "have good intentions". We strongly believe that the product quality is the life of power supply manufacturer. "To become the reliable power partner" has been the motivation for MEAN WELL to grow continuously.

In 1994, MEAN WELL acquired the ISO9001 certification and began to implement the total quality management (TQM) system, which are audited by TUV annually to continuous review and improvement. In April 2013, MEAN WELL acquired the ISO14000 certification and obtained the OHSAS18001 system (ESH, environmental safety and health) in 2015, to take the concept of environmental protection into action, and expect to create a safe and healthy life.



OHSAS18001



ISO9001



ISO14000

MEAN WELL medical power supply products comply with UL/CUL/TUV/CB/EAC/CE/FCC certificates, including ANSI/AAMI ES60601-1/ES60601-1-11, TUV EN60601-1/EN60601-1-11, TPTC004, IEC60601-1, EN55011, EN55032.





MEAN WELL has a complete quality management system. To ensure product quality, 100% burn-in test, function test and pressure test have been applied in manufacturing process, while the MIL-105E sampling method used in IQC, PCBQC (semi-finished products testing) and FQC phases. In the R&D stage, MEAN WELL quality engineers customize the "Test Plan" for each product, to complete the verifications of DFMEA, DVT/DQT, ORT, EMC, drop test, vibration test, thermal shock test, and reliability test.

In production stage, the product engineers co-work with process engineers to review the pilot run, semi-finished products quality control, process checking, finished product quality control, and the feedback analysis as well as the production problems occurred.



Product Range

AC/DC

Open Frame Type

- 30~500W
- 1~4 output
- 3.3~48V
- MOPPx2 & BF rated
- Complete size range

Series	Page
RPS, RPD, RPT, MPQ	13-16



AC/DC

External Adaptor

- 6~220W
- Various style
- 5~48V
- MOPPx2 & BF rated
- Level VI

Series	Page
GSM, GEM	7-12



AC/DC

On Board Type

- 5~90W
- MOPPx2 & BF rated
- 3.3~48V
- -40~+85°C operating temp.
- PCB mount
- Small size

Series	Page
MPM, MFM	17-20

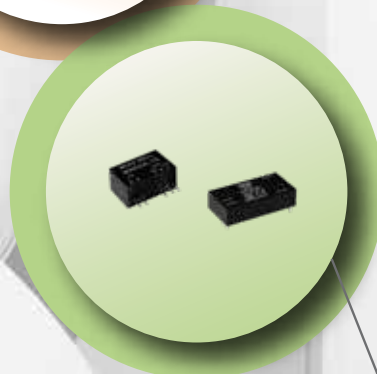


AC/DC

Enclosed Type

- 100~1200W
- -40~+70°C operating temp.
- 3~55V
- 1U height
- 5 years warranty

Series	Page
NMP, RPS-C, MSP	21-24



DC/DC

Converter

- 1~20W
- Low leakage current
- $\pm 10\%$ & 2:1 V_{in}
- SIP7 & 2"x1" package
- Single & Dual output
- $< 2\sim 5\mu A$
- 6KVdc I/O isolation

Series	Page
MDS, MDD	25-27



Ultrasound Scanner



Operation Room

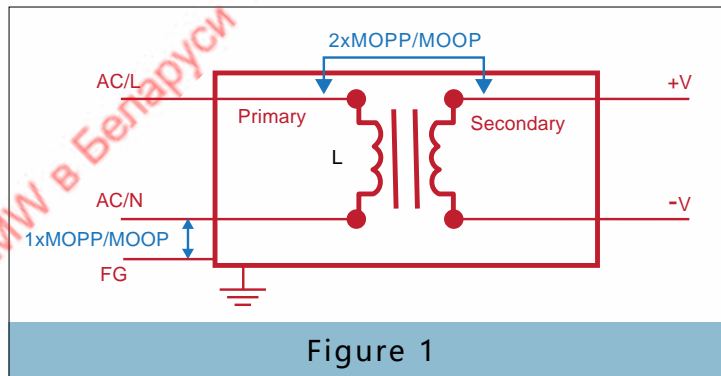
The Difference between MOPP and MOOP in IEC 60601-1 3rd

In 2005, the International Electrotechnical Commission (IEC) published the third edition of medical safety standard (IEC60601-1: 2005), to replace the original second edition (IEC60601-1: 1998). The main difference between the 2nd edition and 3rd edition is the insulation level. The 2nd edition is divided into BI (Basic Isolation), SI (Supplementary Isolation), DI (Double Isolation) and RI (Reinforced Isolation), and the 3rd edition of new IEC60601-1 is divided into two categories of MOPP and MOOP.

The major impact of 3rd edition is the distinction made between operator and patient. As result, Means of Protection (MOP) was introduced and it is further categorized into 2 different classifications, which are Means of Patient Protection (MOPP) and Means of Operator Protection (MOOP).

It is the responsibility of the medical product manufacturer to determine the likelihood of a patient coming into contact, and decide whether patient protection (MOPP) or operator protection (MOOP) to use. If the medical devices come into contact with patients, they must meet the insulation requirements of MOPP.

In either case, the insulation between PRIMARY to SECONDARY must meet at least 2 x MOP and at least 1 x MOP between PRIMARY to protective earth (FG) at normal conditions. It is shown on Figure 1.



A power supplies that meet 2 x MOPP standards provide the highest level of protection. It can be advantageous to specify a 2 x MOPP power supply because it can cover most of medical applications.



Medical Bed



Ambulance



AC/DC External Adaptor

6~220W

Features

- Various styles:
Desktop or wall-mounted
Fixed or interchangeable input plug
- Output voltage from 5V to 48V available
- Class I & II models available
- ANSI/AAMI ES60601-1-11, EN60601-1-11
household medical regulations
- Medical safety approved (2xMOPP)
- Suitable for BF application with appropriate
system consideration (except GSM40A~220A)
- Various DC plug type for choice
- Low leakage current < 50~100 μ A
- No load power consumption < 0.075~0.15W
- Energy efficiency Level VI
(6W and 18~60W 5~9V for Level V)
- High operating temperature up to 70°C
- Other DC plug options are available
- Comply with EISA 2007/DoE, NRCAN,
AU/NZ MEPS, EU ErP and meet CoC version 5
- 3 years warranty



AC/DC External Adaptor 6~220W
(Interchangeable Type 6~60W)



▲ **GEM06I/12I**
73.9x 39x 48.5mm



USB Type



▲ **GEM18I/30I/40I/60I**
75.5x 39.1x 56.2mm

■ Wall-mounted (Interchangeable Type/Class II) – 6W

Order No. (main body)	Output	Effi.
GEM06I05-USB	5V, 1.20A	70%
GEM06I05-P1J	5V, 1.20A	70%
GEM06I06-P1J	6V, 1.00A	74%
GEM06I07-P1J	7.5V, 0.80A	74%
GEM06I09-P1J	9V, 0.66A	76%
GEM06I12-P1J	12V, 0.50A	76%
GEM06I15-P1J	15V, 0.40A	79%
GEM06I18-P1J	18V, 0.33A	79%
GEM06I24-P1J	24V, 0.25A	80%

■ Wall-mounted (Interchangeable Type/Class II) – 12W

Order No. (main body)	Output	Effi.
GEM12I05-USB	5V, 2.40A	80%
GEM12I05-P1J	5V, 2.40A	80%
GEM12I07-P1J	7.5V, 1.60A	82%
GEM12I09-P1J	9V, 1.33A	82%
GEM12I12-P1J	12V, 1.00A	82.5%
GEM12I15-P1J	15V, 0.80A	84%
GEM12I18-P1J	18V, 0.66A	85%
GEM12I24-P1J	24V, 0.50A	85%
GEM12I48-P1J	48V, 0.25A	87%

■ Wall-mounted (Interchangeable Type/Class II) – 18W

Order No. (main body)	Output	Effi.
GEM18I05-P1J	5V, 3.00A	80%
GEM18I09-P1J	9V, 2.00A	84%
GEM18I12-P1J	12V, 1.50A	84%
GEM18I15-P1J	15V, 1.20A	84%
GEM18I18-P1J	18V, 1.00A	84%
GEM18I24-P1J	24V, 0.75A	85%
GEM18I48-P1J	48V, 0.38A	87%

■ Wall-mounted (Interchangeable Type/Class II) – 30W

Order No. (main body)	Output	Effi.
GEM30I05-P1J	5V, 4.00A	82%
GEM30I07-P1J	7.5V, 3.33A	86%
GEM30I09-P1J	9V, 3.33A	87%
GEM30I12-P1J	12V, 2.50A	87%
GEM30I15-P1J	15V, 2.00A	87%
GEM30I18-P1J	18V, 1.66A	88%
GEM30I24-P1J	24V, 1.25A	88.5%
GEM30I48-P1J	48V, 0.625A	90%

■ Wall-mounted (Interchangeable Type/Class II) – 40W

Order No. (main body)	Output	Effi.
GEM40I05-P1J	5V, 5.00A	84%
GEM40I09-P1J	9V, 4.00A	87%
GEM40I12-P1J	12V, 3.33A	88%
GEM40I15-P1J	15V, 2.66A	88%
GEM40I18-P1J	18V, 2.22A	88%
GEM40I24-P1J	24V, 1.66A	89%
GEM40I48-P1J	48V, 0.83A	90.5%

■ Wall-mounted (Interchangeable Type/Class II) – 60W

Order No. (main body)	Output	Effi.
GEM60I05-P1J	5V, 6.00A	80%
GEM60I07-P1J	7.5V, 6.00A	85%
GEM60I09-P1J	9V, 5.50A	87%
GEM60I12-P1J	12V, 4.50A	88%
GEM60I15-P1J	15V, 4.00A	88%
GEM60I18-P1J	18V, 3.33A	88%
GEM60I24-P1J	24V, 2.50A	88%
GEM60I48-P1J	48V, 1.25A	90%

■ AC/DC External Adaptor 6~220W



▲ **GSM06U**
66x 32x 42.5mm



▲ **GSM06E**
66x 32x 42.5mm



▲ **GSM12U**
62.2x 27.4x 45.5mm



▲ **GSM12E**
62.2x 27.4x 45.5mm



USB Type

■ Wall-mounted (Class II) – 6W

Order No.	Output	Effi.
GSM06□05-P1J	5V, 1.20A	68%
GSM06□06-P1J	6V, 1.00A	74%
GSM06□07-P1J	7.5V, 0.80A	74%
GSM06□09-P1J	9V, 0.66A	76%
GSM06□12-P1J	12V, 0.50A	77%
GSM06□15-P1J	15V, 0.40A	79%
GSM06□18-P1J	18V, 0.33A	80%
GSM06□24-P1J	24V, 0.25A	82%

□ = U/E ; U: American 2P, E: European 2P

■ Wall-mounted (Class II) – 12W

Order No.	Output	Effi.
GSM12□05-USB	5V, 2.40A	80%
GSM12□05-P1J	5V, 2.40A	80%
GSM12□07-P1J	7.5V, 1.60A	82%
GSM12□09-P1J	9V, 1.33A	82%
GSM12□12-P1J	12V, 1.00A	82.5%
GSM12□15-P1J	15V, 0.80A	84%
GSM12□18-P1J	18V, 0.66A	85%
GSM12□24-P1J	24V, 0.50A	85%
GSM12□48-P1J	48V, 0.25A	87%

□ = U/E ; U: American 2P, E: European 2P

■ Interchangeable AC Plug Specifically for GEM Series

Type	Single Unit				Mixed Four Type
	AC Plug-AU2	AC Plug-UK2	AC Plug-EU2	AC Plug-US2	AC Plug-Mix2
Mechanical					
	Australian Type	U.K. Type	European Type	U.S. Type	

Note: Main body unit and AC plug should be ordered separately; The main body needs to be used along with any of the AC plug.



▲ **GSM18B/25B/36B**
79x 54x 33mm



▲ **GSM18U/25U/36U**
79x 54x 33mm



▲ **GSM18E/25E/36E**
79x 54x 33mm



▲ **GSM60U**
75.5x 32x 47.5mm



▲ **GSM60E**
75.5x 32x 47.5mm



GSM Introduction

■ Desktop/Wall-mounted (Class II) – 18W

Order No.	Output	Effi.
GSM18□05-P1J	5V, 3.00A	80%
GSM18□07-P1J	7.5V, 2.00A	83%
GSM18□09-P1J	9V, 2.00A	84%
GSM18□12-P1J	12V, 1.50A	85%
GSM18□15-P1J	15V, 1.20A	85.5%
GSM18□18-P1J	18V, 1.00A	86%
GSM18□24-P1J	24V, 0.75A	87%
GSM18□48-P1J	48V, 0.375A	88%

□ = B/U/E ; B: IEC320-C8, U: American 2P, E: European 2P

■ Desktop/Wall-mounted (Class II) – 36W

Order No.	Output	Effi.
GSM36□05-P1J	5V, 4.50A	80%
GSM36□07-P1J	7.5V, 4.32A	83%
GSM36□09-P1J	9V, 4.00A	84%
GSM36□12-P1J	12V, 3.00A	86%
GSM36□15-P1J	15V, 2.40A	87%
GSM36□18-P1J	18V, 2.00A	87%
GSM36□24-P1J	24V, 1.50A	87%
GSM36□48-P1J	48V, 0.75A	88%

□ = B/U/E ; B: IEC320-C8, U: American 2P, E: European 2P

■ Desktop/Wall-mounted (Class II) – 25W

Order No.	Output	Effi.
GSM25□05-P1J	5V, 4.00A	80%
GSM25□07-P1J	7.5V, 2.93A	83%
GSM25□09-P1J	9V, 2.77A	84%
GSM25□12-P1J	12V, 2.08A	86%
GSM25□15-P1J	15V, 1.66A	86%
GSM25□18-P1J	18V, 1.38A	86%
GSM25□24-P1J	24V, 1.04A	87%
GSM25□48-P1J	48V, 0.52A	88%

□ = B/U/E ; B: IEC320-C8, U: American 2P, E: European 2P

■ Wall-mounted (Class II) – 60W

Order No.	Output	Effi.
GSM60□05-P1J	5V, 6.00A	80.0%
GSM60□07-P1J	7.5V, 6.00A	85.0%
GSM60□09-P1J	9V, 5.50A	87.0%
GSM60□12-P1J	12V, 4.50A	88.0%
GSM60□15-P1J	15V, 4.00A	88.0%
GSM60□18-P1J	18V, 3.33A	88.0%
GSM60□24-P1J	24V, 2.50A	88.0%
GSM60□48-P1J	48V, 1.25A	90.0%

□ = U/E ; U: American 2P, E: European 2P

■ Medical / Hospital Grade AC Power Cord

Order No.: YP18+YC12



■ AC/DC External Adaptor 6~220W



▲ **GSM40/60 A/B**
125x 50x 31.5mm



▲ **GSM90 A/B**
145x 60x 32mm



▲ **GSM120 A/B**
167x 67x 35mm



▲ **GSM160 A/B**
175x 72x 35mm



▲ **GSM220 A/B**
210x 85x 46mm

■ Desktop – 40W

Order No.	Output	Effi.
GSM40□05-P1J	5V, 5.00A	81.0%
GSM40□07-P1J	7.5V, 5.34A	85.5%
GSM40□09-P1J	9V, 4.45A	86.0%
GSM40□12-P1J	12V, 3.34A	88.0%
GSM40□15-P1J	15V, 2.67A	88.5%
GSM40□18-P1J	18V, 2.22A	89.5%
GSM40□24-P1J	24V, 1.67A	90.0%
GSM40□48-P1J	48V, 0.84A	91.0%

□ = A/B ; A: IEC320-C14/Class I, B: IEC320-C8/Class II

■ Desktop – 60W

Order No.	Output	Effi.
GSM60□05-P1J	5V, 6.00A	81.5%
GSM60□07-P1J	7.5V, 6.00A	86.0%
GSM60□09-P1J	9V, 6.00A	87.5%
GSM60□12-P1J	12V, 5.00A	88.0%
GSM60□15-P1J	15V, 4.00A	88.5%
GSM60□18-P1J	18V, 3.33A	89.0%
GSM60□24-P1J	24V, 2.50A	90.0%
GSM60□48-P1J	48V, 1.25A	91.5%

□ = A/B ; A: IEC320-C14/Class I, B: IEC320-C8/Class II

■ Desktop – 90W

Order No.	Output	Effi.
GSM90□12-P1M	12V, 6.67A	88.0%
GSM90□15-P1M	15V, 6.00A	89.0%
GSM90□19-P1M	19V, 4.74A	89.0%
GSM90□24-P1M	24V, 3.75A	90.0%
GSM90□48-P1M	48V, 1.87A	91.0%

□ = A/B ; A: IEC320-C14/Class I, B: IEC320-C8/Class II

■ Desktop – 120W

Order No.	Output	Effi.
GSM120□12-R7B	12V, 8.5A	88.0%
GSM120□15-R7B	15V, 7.00A	89.0%
GSM120□20-R7B	20V, 6.00A	89.0%
GSM120□24-R7B	24V, 5.00A	90.0%
GSM120□48-R7B	48V, 2.50A	91.5%

□ = A/B ; A: IEC320-C14/Class I, B: IEC320-C8/Class II

■ Desktop – 160W

Order No.	Output	Effi.
GSM160□12-R7B	12V, 11.5A	90.0%
GSM160□15-R7B	15V, 9.6A	91.0%
GSM160□20-R7B	20V, 8.0A	92.5%
GSM160□24-R7B	24V, 6.67A	93.0%
GSM160□48-R7B	48V, 3.34A	94.0%

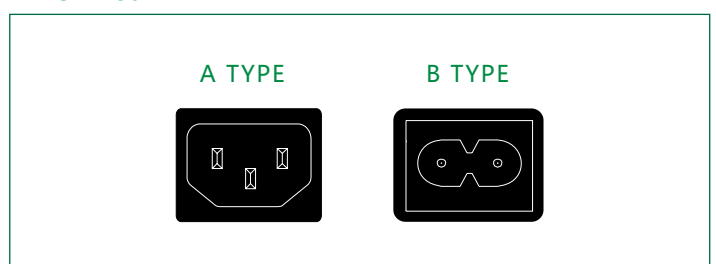
□ = A/B ; A: IEC320-C14/Class I, B: IEC320-C8/Class II

■ Desktop – 220W

Order No.	Output	Effi.
GSM220A12-R7B	12V, 15.0A	90.0%
GSM220A15-R7B	15V, 13.4A	90.0%
GSM220A20-R7B	20V, 11.0A	92.0%
GSM220A24-R7B	24V, 9.20A	93.5%
GSM220A48-R7B	48V, 4.60A	94.5%

□ = A/B ; A: IEC320-C14/Class I, B: IEC320-C8/Class II

■ AC inlet



Changeable DC Plug Selection Guide

- Flexible solution for small quantity
- Easy modification for different size of DC plug

- Off-the-shelf and no MOQ
- ※ If you can't find the required DC plug in this table, please contact MEAN WELL's sales reps.

Adaptor	Changeable DC Plug	Assembly Illustration (Example)
<p>Model No.</p> <p>GST18~60 GSM06~60 GEM06~60 GE12~40 SGA12~60 GS06/15 OWA-60U/E</p>  <p>P1J Standard DC Plug 2.1x 5.5x 11mm</p>	<p>Ordering No.</p> <p>DC PLUG-P1J-P1I 2.1x 5.5x 9.5mm DC PLUG-P1J-P1M 2.5x 5.5x 11mm DC PLUG-P1J-P1L 2.5x 5.5x 9.5mm  DC PLUG-P1J-P3A 0.7x 2.35x 11mm  DC PLUG-P1J-P3B 1.7x 4.0x 11mm DC PLUG-P1J-P3C 1.7x 4.75x 11mm DC PLUG-P1J-P4A 3.4x 5.5x 11x 1mm DC PLUG-P1J-P4B 4.4x 6.5x 11x 1.4mm DC PLUG-P1J-P4C 5.1x 7.4x 11x 0.6mm</p> <hr/> <p>DC PLUG-P1J-P1IR 2.1x 5.5x 9.5mm  DC PLUG-P1J-P1MR 2.5x 5.5x 11mm DC PLUG-P1J-P1LR 2.5x 5.5x 9.5mm DC PLUG-P1J-P1JR 2.1x 5.5x 11mm</p> <hr/> <p>DC PLUG-P1J-R6B KYCON KPPX-3P  DC PLUG-P1J-R7B KYCON KPPX-4P DC PLUG-P1J-R1B 5PIN DIN</p>	
<p>Model No.</p> <p>GST90~120 GSM90</p>  <p>P1M Standard DC Plug 2.5x 5.5x 11mm</p>	<p>Ordering No.</p> <p> DC PLUG-P1M-P1J 2.1x 5.5x 11mm</p> <hr/> <p> DC PLUG-P1M-P1JR 2.1x 5.5x 11mm</p> <hr/> <p> DC PLUG-P1M-R7B KYCON KPPX-4P</p>	
<p>Model No.</p> <p>GST120~220 GSM120~220 OWA-90U/120U</p>  <p>R7B KPPX-4P Equivalent</p>	<p>Ordering No.</p> <p> DC PLUG-R7BF-P1J 2.1x 5.5x 11mm DC PLUG-R7BF-P1M 2.5x 5.5x 11mm</p>	

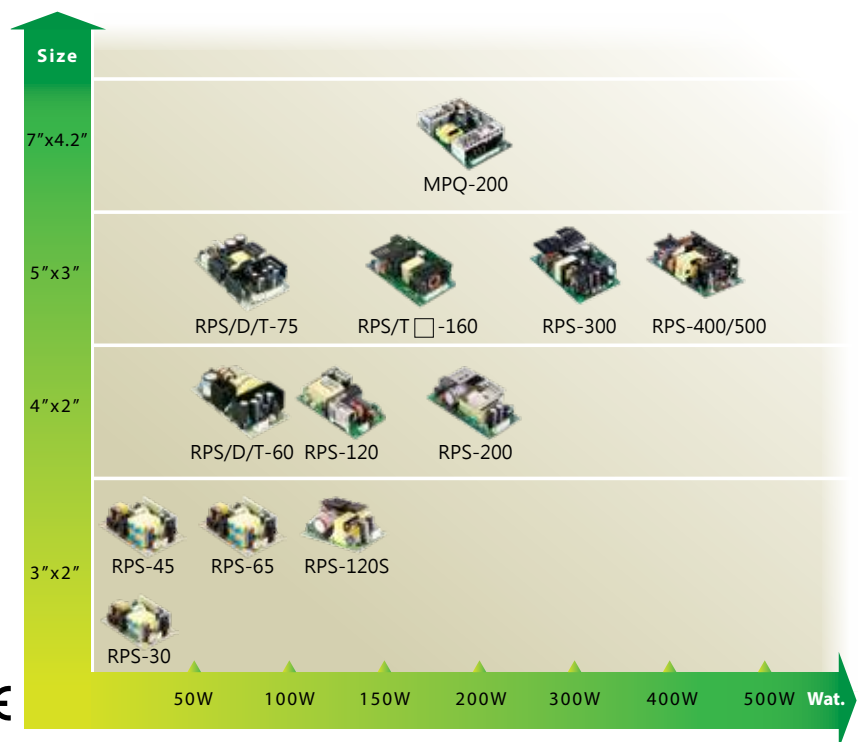


AC/DC Open Frame Type

30~500W

Features

- Complete size for choice.
3"x2", 4"x2", 5"x3", 7"x4.2"
- Single and multiple outputs
- Medical safety approved (2xMOPP)
- Suitable for **BF application** with appropriate system consideration (except RPS/D/T-75)
- Class I & II models available
- Low leakage current <math><100\sim300\mu A</math>
- No load power consumption <math><0.1\sim0.75W</math>
- Remote ON/OFF , remote sense ,
5V standby output ,12V auxiliary output,
P.G./P.F. signal for selected models
- 3 years warranty





▲ RPS-30/45/65
76.2x 50.8x 24mm
(3" x2")



▲ RPS-120S
76.2x 50.8x 28mm
(3" x2")



▲ RPS/D/T□-60
101.6x 50.8x 29mm
(4" x2")



▲ RPS-120
101.6x 50.8x 29mm
(4" x2")

■ 30W: Single Output – Class II

Model No.	Output (Rated/Peak)	Effi.
RPS-30-3.3	3.3V, 6A / 6.60A	80.0%
RPS-30-5	5V, 6A / 6.60A	82.0%
RPS-30-7.5	7.5V, 4A / 4.40A	84.0%
RPS-30-12	12V, 2.5A / 2.75A	88.0%
RPS-30-15	15V, 2A / 2.20A	89.0%
RPS-30-24	24V, 1.25A / 1.375A	89.5%
RPS-30-48	48V, 0.625A / 0.687A	92.0%

■ 45W: Single Output – Class II

Model No.	Output (Rated/Peak)	Effi.
RPS-45-3.3	3.3V, 8A / 8.80A	80.5%
RPS-45-5	5V, 8A / 8.80A	83.0%
RPS-45-7.5	7.5V, 5.4A / 5.95A	85.0%
RPS-45-12	12V, 3.8A / 4.18A	88.0%
RPS-45-15	15V, 3A / 3.30A	89.0%
RPS-45-24	24V, 1.9A / 2.10A	90.0%
RPS-45-48	48V, 0.94A / 1.03A	91.0%

■ 65W: Single Output – Class II

Model No.	Output (Rated/Peak)	Effi.
RPS-65-3.3	3.3V, 10A / 11A	80.0%
RPS-65-5	5V, 10A / 11A	84.0%
RPS-65-7.5	7.5V, 8A / 8.80A	85.0%
RPS-65-12	12V, 5.42A / 5.96A	88.0%
RPS-65-15	15V, 4.34A / 4.77A	89.0%
RPS-65-24	24V, 2.71A / 2.98A	90.0%
RPS-65-48	48V, 1.36A / 1.49A	91.0%

■ 120W: Single Output – Class I or II

Model No.	Output (Rated/Peak)	Effi.
RPS-120S-12	12V, 9.5A / 11.8A	91.0%
RPS-120S-15	15V, 7.6A / 9.5A	92.0%
RPS-120S-24	24V, 5A / 6.25A	93.0%
RPS-120S-27	27V, 4.44A / 5.55A	94.0%
RPS-120S-48	48V, 2.5A / 3.125A	93.5%

■ 60W: Single Output – Class I

Model No.	Output (Rated/Peak)	Effi.
RPS-60-3.3	3.3V, 10A / 11A	74.0%
RPS-60-5	5V, 10A / 11A	79.0%
RPS-60-12	12V, 5A / 5.5A	83.0%
RPS-60-15	15V, 4A / 4.4A	84.0%
RPS-60-24	24V, 2.5A / 2.75A	85.0%
RPS-60-48	48V, 1.25A / 1.375A	86.0%

■ 60W: Dual Output – Class I

Model No.	Output	Effi.	Max.
RPD-60A	5V, 0.5~5.5A 12V, 0.1~2.2A	78%	54W
RPD-60B	5V, 0.5~3.85A 24V, 0.1~1.65A	82%	59W

■ 60W: Triple Output – Class I

Model No.	Output	Effi.	Max.
RPT-60A	5V, 0.5~4.4A 12V, 0.1~2.2A -5V, 0.1~0.55A	77%	51W
RPT-60B	5V, 0.5~4.4A 12V, 0.1~2.2A -12V, 0.1~0.55A	78%	55W
RPT-60C	5V, 0.5~4.4A 15V, 0.1~1.65A -15V, 0.1~0.55A	79%	55W
RPT-60D	5V, 0.5~3.85A 24V, 0.1~1.1A 12V, 0.1~0.55A	79%	52W
RPT-6003	3.3V, 0.5~5.5A 5V, 0.3~3.3A 12V, 0.1~0.77A	75%	44W

■ 120W: Single Output – Class I or II

Model No.	Output (Convection/10CFM)	Effi.
RPS-120-12	12V, 7A / 10A	89.0%
RPS-120-15	15V, 5.6A / 8A	89.0%
RPS-120-24	24V, 3.5A / 5A	90.0%
RPS-120-27	27V, 3.15A / 4.5A	90.0%
RPS-120-48	48V, 1.75A / 2.5A	91.0%

■ AC/DC Open Frame Type 30~500W



▲ **RPS-200**
101.6x 50.8x 29mm
(4" x2")



▲ **RPS/D/T-75**
127x 76.2x 31mm
(5" x3")



▲ **RPS/T-160**
127x 76.2x 34.6mm
(5" x3")

■ 75W: Single Output – Class I

Model No.	Output (Rated/23.5CFM)	Effi.
RPS-75-3.3	3.3V, 15A / 20A	73%
RPS-75-5	5V, 14A / 18.7A	78%
RPS-75-12	12V, 6.3A / 8.3A	82%
RPS-75-15	15V, 5A / 6.7A	83%
RPS-75-24	24V, 3.2A / 4.2A	85%
RPS-75-36	36V, 2.1A / 2.8A	86%
RPS-75-48	48V, 1.6A / 2.1A	86%

■ 75W: Dual Output – Class I

Model No.	Output	Effi.	Max.
RPD-75A	5V, 1.0~9.5A	77%	96W
	12V, 0.3~4.0A		
RPD-75B	5V, 1.0~6.8A	79%	99W
	24V, 0.2~2.7A		

■ 75W: Triple Output – Class I

Model No.	Output	Effi.	Max.
RPT-75A	5V, 0.6~8.0A	76%	93W
	12V, 0.2~4.0A		
	-5V, 0.1~1.0A		
RPT-75B	5V, 0.6~8.0A	77%	100W
	12V, 0.2~4.0A		
	-12V, 0.1~1.0A		
RPT-75C	5V, 0.6~8.0A	77%	100W
	15V, 0.1~3.0A		
	-15V, 0.1~1.0A		
RPT-75D	5V, 0.6~7.0A	79%	95W
	24V, 0.1~2.0A		
	12V, 0.1~1.0A		
RPT-7503	3.3V, 0.7~7.0A	74%	81W
	5V, 0.0~8.0A		
	12V, 0.0~1.5A		

■ 200W: Single Output – Class I or II

Model No.	Output (Convection/10CFM)	Effi.
RPS-200-12	12V, 11.7A / 16.7A	93.0%
RPS-200-15	15V, 9.4A / 13.4A	93.5%
RPS-200-24	24V, 5.9A / 8.4A	94.0%
RPS-200-27	27V, 5.3A / 7.5A	94.0%
RPS-200-48	48V, 3A / 4.2A	95.0%

■ 160W: Single Output – Class I

Model No.	Output (Convection/20.5CFM)	Effi.
RPS□-160-5	5V, 20A / 30A	86%
RPS□-160-12	12V, 9.1A / 12.9A	87%
RPS□-160-15	15V, 7.3A / 10.3A	87%
RPS□-160-24	24V, 4.6A / 6.5A	87%
RPS□-160-48	48V, 2.3A / 3.25A	88%

□ = blank, G; blank: basic function,
G: with 5Vsb/0.8A & no load power consumption < 0.75W

■ 160W: Triple Output – Class I

Model No.	Output	Effi.	Max.
RPT□-160A	5V, 0.6~14A	84%	145W
	12V, 0.2~5.5A		
	-5V, 0.1~1.0A		
RPT□-160B	5V, 0.6~14A	84%	146W
	12V, 0.2~5.0A		
	-12V, 0.1~1.0A		
RPT□-160C	5V, 0.6~14A	83%	143W
	15V, 0.1~3.6A		
	-15V, 0.1~1.0A		
RPT□-160D	5V, 0.3~11A	83%	148W
	12V, 0.2~5.0A		
	24V, 0.15~1.2A		

□ = blank, G; blank: basic function,
G: with 5Vsb/0.8A & no load power consumption < 0.75W



▲ **RPS-300**
127x 76.2x 35mm
(5" x3")



▲ **RPS-400**
127x 76.2x 35mm
(5" x3")



▲ **RPS-500**
127x 76.2x 41mm
(5" x3")



▲ **MPQ-200**
177.8x 107.2x 35.5mm
(7" x4.2")

■ 300W: Single Output – Class I

Model No.	Output (Convection/20.5CFM)	Effi.
RPS-300-12	12V, 16.67A / 25A	90.0%
RPS-300-15	15V, 13.33A / 20A	90.0%
RPS-300-24	24V, 8.33A / 12.5A	92.5%
RPS-300-27	27V, 7.4A / 11.12A	93.0%
RPS-300-48	48V, 4.17A / 6.25A	93.0%

■ 400W: Single Output – Class I or II

Model No.	Output (Convection/25CFM)	Effi.
RPS-400-12	12V, 20.8A / 33.3A	91.5%
RPS-400-15	15V, 16.7A / 26.7A	92.0%
RPS-400-18	18V, 13.9A / 22.3A	93.0%
RPS-400-24	24V, 10.5A / 16.7A	93.0%
RPS-400-27	27V, 9.3A / 14.9A	93.5%
RPS-400-36	36V, 7A / 11.2A	94.0%
RPS-400-48	48V, 5.3A / 8.4A	94.0%

■ 500W: Single Output – Class I or II

Model No.	Output (Convection/25CFM)	Effi.
RPS-500-12	12V, 41.6A / 26.7A	91.0%
RPS-500-15	15V, 33.3A / 21.3A	92.0%
RPS-500-18	18V, 27.8A / 17.8A	92.5%
RPS-500-24	24V, 20.8A / 13.4A	93.0%
RPS-500-27	27V, 18.5A / 11.9A	93.5%
RPS-500-36	36V, 13.9A / 8.9A	94.0%
RPS-500-48	48V, 10.4A / 6.7A	94.0%

■ 200W: Quad Output – Class I

Model No.	Output	Effi.	Max.
MPQ-200B	5V, 3.0~18A	78%	193W
	12V, 0.7~8.4A		
	-5V, 0.0~2.4A		
	-12V, 0.0~2.4A		
MPQ-200C	5V, 3.0~18A	78%	190W
	15V, 0.5~6.0A		
	-5V, 0.0~2.4A		
	-15V, 0.0~2.4A		
MPQ-200D	5V, 3.0~18A	79%	195W
	24V, 0.3~3.6A		
	12V, 0.0~2.4A		
	-12V, 0.0~2.4A		
MPQ-200F	5V, 3.0~18A	81%	200W
	24V, 0.3~3.3A		
	15V, 0.0~2.4A		
	-15V, 0.0~2.4A		



AC/DC On Board Type

5~90W

Features

- Small PCB mount models
- Output voltage from 3.3V to 48V available
- Medical safety approved (2xMOPP)
- Suitable for BF application with appropriate system consideration
- Class II power unit
- Peak power up to 110%
- EMI class B without additional components
- Low leakage current $<80\sim300\mu\text{A}$
- No load power consumption $<0.075\sim0.1\text{W}$
- $-40\sim+85^{\circ}\text{C}$ operating temperature
- Screw terminal type available (30~90W only)
- 3 years warranty





▲ **MFM-05/10**
42x 22.3x 20.5mm



▲ **MFM-15/20**
49x 23.8x 23mm



▲ **MFM-30**
65.5x 35x 23mm



MPM/MFM
Introduction

■ 5W: Single Output – Class II

Model No.	Output (Rated/Peak 10 sec.)	Effi.
MFM-05-3.3	3.3V, 1.25A / 1.38A	74%
MFM-05-5	5V, 1.00A / 1.10A	80%
MFM-05-12	12V, 0.42A / 0.46A	80%
MFM-05-15	15V, 0.33A / 0.36A	81%
MFM-05-24	24V, 0.23A / 0.25A	82%

■ 20W: Single Output – Class II

Model No.	Output (Rated/Peak 10 sec.)	Effi.
MFM-20-3.3	3.3V, 4.50A / 4.95A	81%
MFM-20-5	5V, 4.00A / 4.40A	85%
MFM-20-12	12V, 1.80A / 1.98A	85.5%
MFM-20-15	15V, 1.40A / 1.54A	87%
MFM-20-24	24V, 0.90A / 0.99A	87%

■ 10W: Single Output – Class II

Model No.	Output (Rated/Peak 10 sec.)	Effi.
MFM-10-3.3	3.3V, 2.50A / 2.75A	78%
MFM-10-5	5V, 2.00A / 2.20A	81%
MFM-10-12	12V, 0.85A / 0.94A	83%
MFM-10-15	15V, 0.67A / 0.74A	83%
MFM-10-24	24V, 0.42A / 0.46A	84%

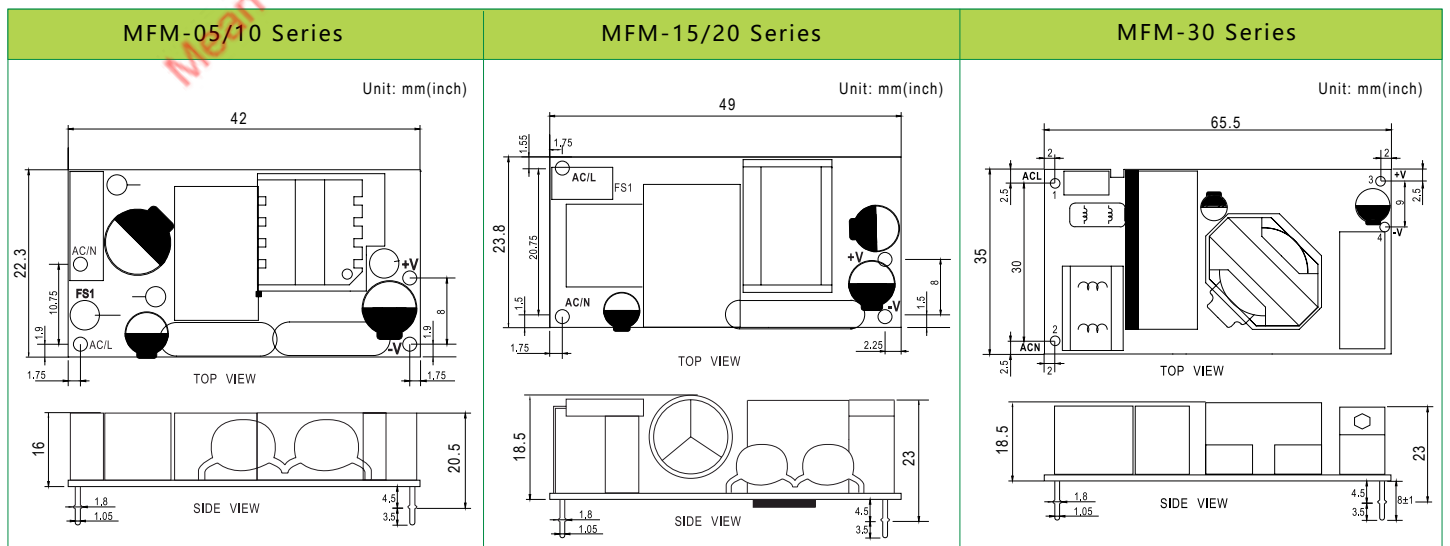
■ 30W: Single Output – Class II

Model No.	Output (Rated/Peak 10 sec.)	Effi.
MFM-30-3.3	3.3V, 6.00A / 7.8A	82.5%
MFM-30-5	5V, 6.00A / 6.9A	86.5%
MFM-30-12	12V, 2.50A / 2.9A	90%
MFM-30-15	15V, 2.00A / 2.3A	89%
MFM-30-24	24V, 1.30A / 1.5A	90%
MFM-30-48	48V, 0.63A / 0.73A	91%

■ 15W: Single Output – Class II

Model No.	Output (Rated/Peak 10 sec.)	Effi.
MFM-15-3.3	3.3V, 3.50A / 3.85A	83.5%
MFM-15-5	5V, 3.00A / 3.30A	85.5%
MFM-15-12	12V, 1.25A / 1.38A	86.5%
MFM-15-15	15V, 1.00A / 1.10A	87.0%
MFM-15-24	24V, 0.63A / 0.69A	86.5%

■ Mechanical Specification for MFM Series



■ AC/DC On Board Type 5~90W



▲ **MPM-05/10**
45.7x 25.4x 21.5mm



▲ **MPM-15/20**
52.4x 27.2x 24mm



MPM/MFM
Introduction

■ 5W: Single Output – Class II

Model No.	Output (Rated/Peak 10 sec.)	Effi.
MPM-05-3.3	3.3V, 1.25A / 1.38A	74%
MPM-05-5	5V, 1.00A / 1.10A	80%
MPM-05-12	12V, 0.42A / 0.46A	80%
MPM-05-15	15V, 0.33A / 0.36A	81%
MPM-05-24	24V, 0.23A / 0.25A	82%

■ 15W: Single Output – Class II

Model No.	Output (Rated/Peak 10 sec.)	Effi.
MPM-15-3.3	3.3V, 3.50A / 3.85A	83.5%
MPM-15-5	5V, 3.00A / 3.30A	85.5%
MPM-15-12	12V, 1.25A / 1.38A	86.5%
MPM-15-15	15V, 1.00A / 1.10A	87%
MPM-15-24	24V, 0.63A / 0.69A	86.5%

■ 10W: Single Output – Class II

Model No.	Output (Rated/Peak 10 sec.)	Effi.
MPM-10-3.3	3.3V, 2.50A / 2.75A	78%
MPM-10-5	5V, 2.00A / 2.20A	81%
MPM-10-12	12V, 0.85A / 0.94A	83%
MPM-10-15	15V, 0.67A / 0.74A	83%
MPM-10-24	24V, 0.42A / 0.46A	84%

■ 20W: Single Output – Class II

Model No.	Output (Rated/Peak 10 sec.)	Effi.
MPM-20-3.3	3.3V, 4.50A / 4.95A	81%
MPM-20-5	5V, 4.00A / 4.40A	85%
MPM-20-12	12V, 1.80A / 1.98A	85.5%
MPM-20-15	15V, 1.40A / 1.54A	87%
MPM-20-24	24V, 0.90A / 0.99A	87%

■ Mechanical Specification for MPM Series

MPM-05/10 Series	MPM-15/20 Series
<p>Unit: mm(inch)</p> <p>Bottom View Dimensions: 45.7, 38.5, 3.6, 10.75, 3.45, 25.4, 1.04, 3.45, 8, 1.04. Terminals: AC/L, AC/N, -V, +V.</p> <p>Side View Dimensions: 21.5, 3.5±1mm, 1.04.</p>	<p>Unit: mm(inch)</p> <p>Bottom View Dimensions: 52.4, 45, 3.4, 27.2, 20.8, 3.2, 1.04, 3.45, 8, 1.04. Terminals: AC/N, AC/L, -V, +V.</p> <p>Side View Dimensions: 24, 3.5±1mm, 1.04.</p>



▲ **MPM-30**
69.5x 39x 24mm



▲ **MPM-30-xST**
91x 39.5x 28.5mm



▲ **MPM-45/65/90**
87x52x 29.5mm



▲ **MPM-45/65/90-xST**
109x 52x 33.5mm

■ 30W: Single Output – Class II

Model No.	Output (Rated/Peak 10 sec.)	Effi.
MPM-30-3.3□	3.3V, 6.00A / 7.8A	82.5%
MPM-30-5□	5V, 6.00A / 6.9A	86.5%
MPM-30-12□	12V, 2.50A / 2.9A	90%
MPM-30-15□	15V, 2.00A / 2.3A	89%
MPM-30-24□	24V, 1.30A / 1.5A	90%
MPM-30-48□	48V, 0.63A / 0.73A	91%

□ = blank, ST;
Blank: PCB mounting, ST: Screw terminal style

■ 65W: Single Output – Class II

Model No.	Output (Rated/Peak 10 sec.)	Effi.
MPM-65-5□	5V, 10A / 11A	86.5%
MPM-65-12□	12V, 5.42A / 5.96A	92.5%
MPM-65-15□	15V, 4.33A / 4.77A	92.5%
MPM-65-24□	24V, 2.71A / 2.98A	93.0%
MPM-65-48□	48V, 1.36A / 1.49A	92.0%

□ = blank, ST;
Blank: PCB mounting, ST: Screw terminal style

■ 45W: Single Output – Class II

Model No.	Output (Rated/Peak 10 sec.)	Effi.
MPM-45-5□	5V, 8.0A / 8.80A	88.0%
MPM-45-12□	12V, 3.75A / 4.13A	91.5%
MPM-45-15□	15V, 3.0A / 3.30A	92.5%
MPM-45-24□	24V, 1.88A / 2.10A	92.5%
MPM-45-48□	48V, 0.94A / 1.05A	92.0%

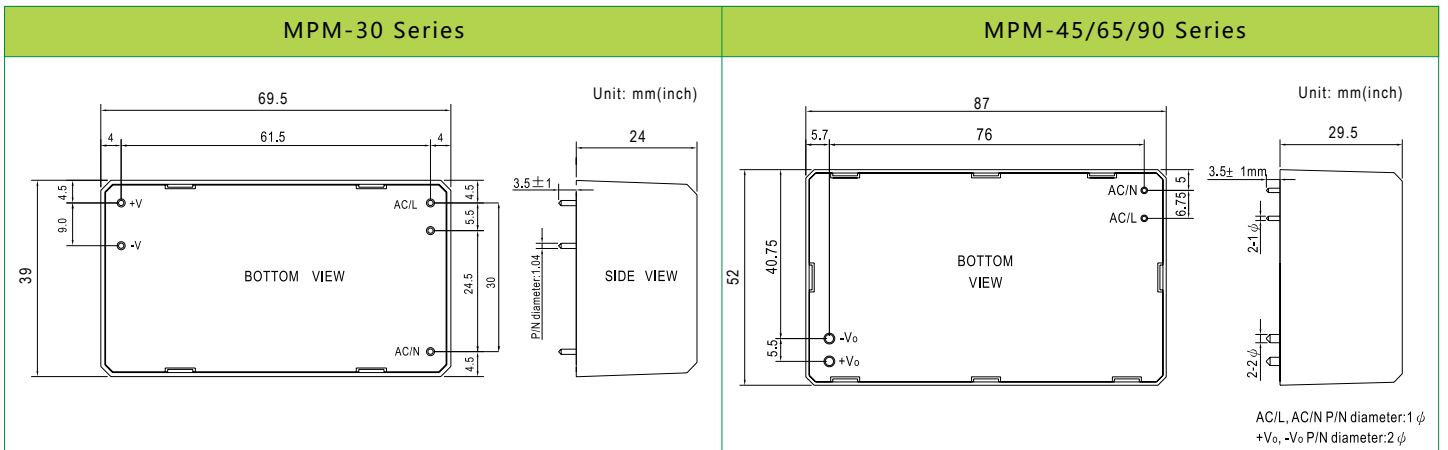
□ = blank, ST;
Blank: PCB mounting, ST: Screw terminal style

■ 90W: Single Output – Class II

Model No.	Output (Rated/Peak 10 sec.)	Effi.
MPM-90-12□	12V, 6.7A / 7.37A	92.0%
MPM-90-15□	15V, 5.67A / 6.23A	92.5%
MPM-90-24□	24V, 3.75A / 4.13A	93.0%
MPM-90-48□	48V, 1.88A / 2.07A	93.0%

□ = blank, ST;
Blank: PCB mounting, ST: Screw terminal style

■ Mechanical Specification for MPM Series





AC/DC Enclosed Type

100~1200W

Features

- Medical safety approved
(2xMOPP for NMP/RPS-C series, MOOP level for MSP series)
- Suitable for BF application (NMP/RPS-C series)
- Output voltage from 3V to 55V available
- Class I power unit
- Low leakage current <100~450µA
- No load power consumption <0.3~0.8W
- Built-in remote ON/OFF, remote sense, current sharing, 5V standby output, 12V auxiliary output, DC OK signal for selected models
- -40~+70°C wide operating temperature
- 5 years warranty for NMP/MSP series
3 years warranty for RPS-C series





▲ RPS-120/200-x-C
103.4x 62x 40mm

▲ RPS-300-x-C
130x 86x 43mm

▲ RPS-400/500-x-C
130x 86x 43mm

▲ RPS-400/500-x-TF
130x 86x 66.5mm

▲ RPS-400/500-x-SF
160x 86x 43mm

■ 120W: Single Output – Class I

Model No.	Output (Convection/10CFM)	Effi.
RPS-120-12-C	12V, 7A / 10A	89.0%
RPS-120-15-C	15V, 5.6A / 8A	89.0%
RPS-120-24-C	24V, 3.5A / 5A	90.0%
RPS-120-27-C	27V, 3.15A / 4.5A	90.0%
RPS-120-48-C	48V, 1.75A / 2.5A	91.0%

■ 200W: Single Output – Class I

Model No.	Output (Convection/20.5CFM)	Effi.
RPS-200-12-C	12V, 11.7A / 16.7A	93.0%
RPS-200-15-C	15V, 9.4A / 13.4A	93.5%
RPS-200-24-C	24V, 5.9A / 8.4A	94.0%
RPS-200-27-C	27V, 5.3A / 7.5A	94.0%
RPS-200-48-C	48V, 3A / 4.2A	95.0%

■ 300W: Single Output – Class I

Model No.	Output (Convection/20.5CFM)	Effi.
RPS-300-12-C	12V, 16.67A / 25A	90.0%
RPS-300-15-C	15V, 13.33A / 20A	90.0%
RPS-300-24-C	24V, 8.33A / 12.5A	92.5%
RPS-300-27-C	27V, 7.4A / 11.12A	93.0%
RPS-300-48-C	48V, 4.17A / 6.25A	93.0%

■ 400W: Single Output – Class I

Model No.	Output (Convection/25CFM)	Effi.
RPS-400-12□	12V, 20.8A / 33.3A	91.5%
RPS-400-15□	15V, 16.7A / 26.7A	92.0%
RPS-400-18□	18V, 13.9A / 22.3A	93.0%
RPS-400-24□	24V, 10.5A / 16.7A	93.0%
RPS-400-27□	27V, 9.3A / 14.9A	93.5%
RPS-400-36□	36V, 7A / 11.2A	94.0%
RPS-400-48□	48V, 5.3A / 8.4A	94.0%

□=-C, -TF, -SF;

-C: Enclosed type, -TF: Top fan with cover, -SF: Side fan with cover

■ 500W: Single Output – Class I

Model No.	Output (Convection/25 CFM)	Effi.
RPS-500-12□	12V, 26.7A / 41.6A	91.5%
RPS-500-15□	15V, 21.3A / 33.3A	92.0%
RPS-500-18□	18V, 17.8A / 27.8A	93.0%
RPS-500-24□	24V, 13.4A / 20.8A	93.0%
RPS-500-27□	27V, 11.9A / 18.5A	93.5%
RPS-500-36□	36V, 8.9A / 13.9A	94.0%
RPS-500-48□	48V, 6.7A / 10.4A	94.0%

□=-C, -TF, -SF;

-C: Enclosed type, -TF: Top fan with cover, -SF: Side fan with cover

	RPS-400/500-C	RPS-400/500-TF	RPS-400/500-SF
Without Fan Watt	250W/320W	---	---
With Fan Watt	400W/500W	400W/500W	400W/500W
Case Drawing			

■ AC/DC Enclosed Type 100~1200W



▲ **MSP-100**
159x 97x 38mm



▲ **MSP-200**
199x 98x 38mm



▲ **MSP-300**
199x 105x 41mm



▲ **MSP-450**
218x 105x 41mm



▲ **MSP-600/1000**
218x 105x 63.5mm

■ 100W: Single Output – Class I

Model No.	Output	Effi.
MSP-100-3.3	3.3V, 20A	78.0%
MSP-100-5	5V, 17A	83.0%
MSP-100-7.5	7.5V, 13.5A	84.0%
MSP-100-12	12V, 8.5A	87.5%
MSP-100-15	15V, 7A	88.0%
MSP-100-24	24V, 4.5A	88.5%
MSP-100-36	36V, 2.9A	89.0%
MSP-100-48	48V, 2.2A	90.0%

■ 450W: Single Output – Class I

Model No.	Output	Effi.
MSP-450-3.3	3.3V, 90A	80.0%
MSP-450-5	5V, 90A	83.0%
MSP-450-7.5	7.5V, 60A	86.5%
MSP-450-12	12V, 37.5A	88.0%
MSP-450-15	15V, 30A	89.0%
MSP-450-24	24V, 18.8A	88.0%
MSP-450-36	36V, 12.5A	89.0%
MSP-450-48	48V, 9.5A	89.5%

■ 200W: Single Output – Class I

Model No.	Output	Effi.
MSP-200-3.3	3.3V, 40A	80.0%
MSP-200-5	5V, 35A	84.0%
MSP-200-7.5	7.5V, 26.7A	86.0%
MSP-200-12	12V, 16.7A	88.0%
MSP-200-15	15V, 13.4A	88.0%
MSP-200-24	24V, 8.4A	88.0%
MSP-200-36	36V, 5.7A	89.0%
MSP-200-48	48V, 4.3A	89.0%

■ 600W: Single Output – Class I

Model No.	Output	Effi.
MSP-600-3.3	3.3V, 120A	78.5%
MSP-600-5	5V, 120A	82.0%
MSP-600-7.5	7.5V, 80A	86.0%
MSP-600-12	12V, 53A	88.0%
MSP-600-15	15V, 43A	88.0%
MSP-600-24	24V, 27A	88.0%
MSP-600-36	36V, 17.5A	89.0%
MSP-600-48	48V, 13A	89.0%

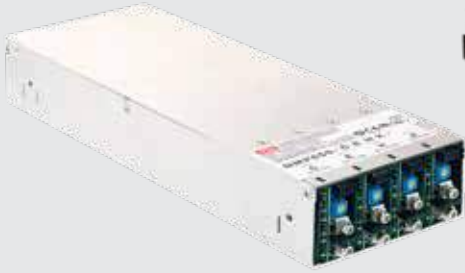
■ 300W: Single Output – Class I

Model No.	Output	Effi.
MSP-300-3.3	3.3V, 60A	80.0%
MSP-300-5	5V, 60A	82.0%
MSP-300-7.5	7.5V, 40A	86.0%
MSP-300-12	12V, 27A	88.0%
MSP-300-15	15V, 22A	88.0%
MSP-300-24	24V, 14A	87.0%
MSP-300-36	36V, 9A	88.0%
MSP-300-48	48V, 7A	89.0%

■ 1000W: Single Output – Class I

Model No.	Output	Effi.
MSP-1000-12	12V, 80A	91.5%
MSP-1000-15	15V, 64A	92.0%
MSP-1000-24	24V, 42A	93.0%
MSP-1000-48	48V, 21A	94.0%

AC/DC Enclosed Type 100~1200W
(Configurable Type 650~1200W)



▲ NMP650
250x 89x 41mm



▲ NMP1K2
250x 127x 41mm



NMP Introduction

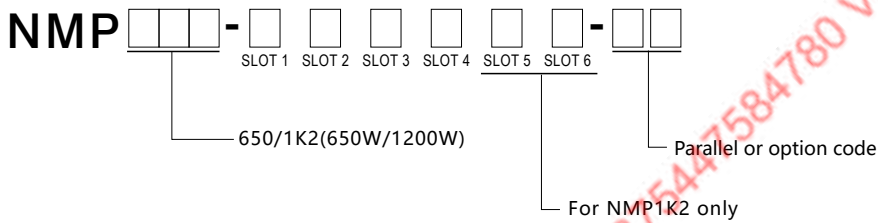


NMP Series SPEC



NMP Short Form

■ Output Configuration Guide



■ MS-240 : 1-SLOT isolated single output (240W max.)

Picture	Item Code	Output	Vdc adj.	Tol.	R&N.	Max.
	C	5V, 0~36A	3~6V	±2%	100mV	180W
	E	12V, 0~20A	6~15V	±1%	150mV	240W
	H	24V, 0~10A	15~30V	±1%	150mV	240W
	K	48V, 0~5A	30~55V	±1%	250mV	240W





DC/DC Converter

1~20W

Features

- Various package: SIP7, DIP
- Low patient leakage current $<2\mu\text{A}\sim 5\mu\text{A}$
- 2 x MOOP / 2 x MOPP
- 6KVDC / 4.2KVAC or 4KVAC high I/O isolation
- Different input range ($\pm 10\%$, 2:1)
- ANSI/AAMI ES60601-1 medical safety approved
- $-40\sim +90^{\circ}\text{C}$ operating temperature
- 3 years warranty



(1~2W)



(15~20W)



(1~2W)



▲ **MDS01/02**
19.5x 9.8x 12.5mm
(0.77" x 0.39" x 0.49")



▲ **MDD01/02**
19.5x 9.8x 12.5mm
(0.77" x 0.39" x 0.49")

■ **MDS01: 1W Single Output**

Model No.	Vin	Output	Effi.
MDS01L-03	5V (4.5~5.5V)	3.3V, 303mA	73%
MDS01L-05	5V (4.5~5.5V)	5V, 200mA	78%
MDS01L-12	5V (4.5~5.5V)	12V, 84mA	77%
MDS01L-15	5V (4.5~5.5V)	15V, 67mA	75%
MDS01M-05	12V (10.8~13.2V)	5V, 200mA	78%
MDS01M-12	12V (10.8~13.2V)	12V, 84mA	82%
MDS01M-15	12V (10.8~13.2V)	15V, 67mA	83%
MDS01N-05	24V (21.6~26.4V)	5V, 200mA	77%
MDS01N-12	24V (21.6~26.4V)	12V, 84mA	79%
MDS01N-15	24V (21.6~26.4V)	15V, 67mA	79%

■ **MDD01: 1W Dual Output**

Model No.	Vin	Output	Effi.
MDD01L-05	5V (4.5~5.5V)	±5V, ±100mA	79%
MDD01L-09	5V (4.5~5.5V)	±9V, ±56mA	81%
MDD01L-12	5V (4.5~5.5V)	±12V, ±42mA	77%
MDD01L-15	5V (4.5~5.5V)	±15V, ±34mA	77%
MDD01M-05	12V (10.8~13.2V)	±5V, ±100mA	78%
MDD01M-09	12V (10.8~13.2V)	±9V, ±56mA	82%
MDD01M-12	12V (10.8~13.2V)	±12V, ±42mA	75%
MDD01M-15	12V (10.8~13.2V)	±15V, ±34mA	76%
MDD01N-05	24V (21.6~26.4V)	±5V, ±100mA	77%
MDD01N-09	24V (21.6~26.4V)	±9V, ±56mA	79%
MDD01N-12	24V (21.6~26.4V)	±12V, ±42mA	77%
MDD01N-15	24V (21.6~26.4V)	±15V, ±34mA	77%

■ **MDS02: 2W Single Output**

Model No.	Vin	Output	Effi.
MDS02L-05	5V (4.5~5.5V)	5V, 400mA	77%
MDS02L-12	5V (4.5~5.5V)	12V, 167mA	80%
MDS02L-15	5V (4.5~5.5V)	15V, 133mA	79%
MDS02M-05	12V (10.8~13.2V)	5V, 400mA	75%
MDS02M-12	12V (10.8~13.2V)	12V, 167mA	83%
MDS02M-15	12V (10.8~13.2V)	15V, 133mA	84%
MDS02N-05	24V (21.6~26.4V)	5V, 400mA	80%
MDS02N-12	24V (21.6~26.4V)	12V, 167mA	83%
MDS02N-15	24V (21.6~26.4V)	15V, 133mA	85%

■ **MDD02: 2W Dual Output**

Model No.	Vin	Output	Effi.
MDD02L-05	5V (4.5~5.5V)	±5V, ±200mA	78%
MDD02L-09	5V (4.5~5.5V)	±9V, ±111mA	81%
MDD02L-12	5V (4.5~5.5V)	±12V, ±83mA	78%
MDD02L-15	5V (4.5~5.5V)	±15V, ±67mA	79%
MDD02M-05	12V (10.8~13.2V)	±5V, ±200mA	78%
MDD02M-09	12V (10.8~13.2V)	±9V, ±111mA	83%
MDD02M-12	12V (10.8~13.2V)	±12V, ±83mA	83%
MDD02M-15	12V (10.8~13.2V)	±15V, ±67mA	82%
MDD02N-05	24V (21.6~26.4V)	±5V, ±200mA	77%
MDD02N-09	24V (21.6~26.4V)	±9V, ±111mA	83%
MDD02N-12	24V (21.6~26.4V)	±12V, ±83mA	82%
MDD02N-15	24V (21.6~26.4V)	±15V, ±67mA	82%

MDS01 & MDD01

Pin-Out		
Pin No.	MDS01 (single output)	MDD01 (Dual output)
1	+Vin	+Vin
2	-Vin	-Vin
5	-Vout	-Vout
7	No Pin	Common
6	+Vout	+Vout

Unit: mm(inch)

MDS02 & MDD02

Pin-Out		
Pin No.	MDS02 (single output)	MDD02 (Dual output)
1	+Vin	+Vin
2	-Vin	-Vin
5	-Vout	-Vout
7	No Pin	Common
6	+Vout	+Vout

Unit: mm(inch)

DC/DC Converter 1~20W



▲ **MDS15**
50.8x 25.4x12mm
(2" x 1" x 0.47")



▲ **MDS20**
50.8x 25.4x12mm
(2" x 1" x 0.47")

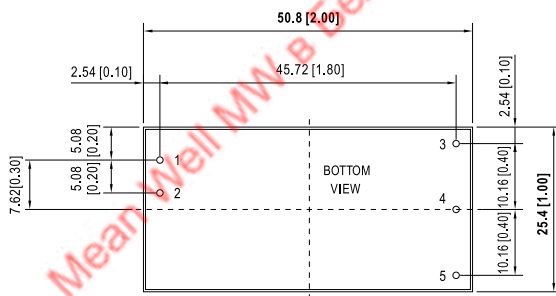
MDS15: 15W Single Output

Model No.	Vin	Output	Effi.
MDS15A-05	12V (9~18V)	5V, 3000mA	85%
MDS15A-12	12V (9~18V)	12V, 1250mA	88%
MDS15A-15	12V (9~18V)	15V, 1000mA	87%
MDS15A-24	12V (9~18V)	24V, 625mA	85%
MDS15B-05	24V (18~36V)	5V, 3000mA	87%
MDS15B-12	24V (18~36V)	12V, 1250mA	87%
MDS15B-15	24V (18~36V)	15V, 1000mA	86%
MDS15B-24	24V (18~36V)	24V, 625mA	87%
MDS15C-05	48V (36~75V)	5V, 3000mA	86%
MDS15C-12	48V (36~75V)	12V, 1250mA	87%
MDS15C-15	48V (36~75V)	15V, 1000mA	89%
MDS15C-24	48V (36~75V)	24V, 625mA	88%

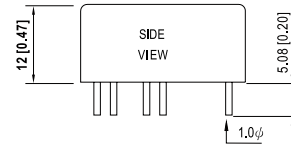
MDS20: 20W Single Output

Model No.	Vin	Output	Effi.
MDS20A-05	12V (9~18V)	5V, 4000mA	86%
MDS20A-12	12V (9~18V)	12V, 1670mA	89%
MDS20A-15	12V (9~18V)	15V, 1333mA	88%
MDS20A-24	12V (9~18V)	24V, 833mA	88%
MDS20B-05	24V (18~36V)	5V, 4000mA	86%
MDS20B-12	24V (18~36V)	12V, 1670mA	88%
MDS20B-15	24V (18~36V)	15V, 1333mA	88%
MDS20B-24	24V (18~36V)	24V, 833mA	89%
MDS20C-05	48V (36~75V)	5V, 4000mA	86%
MDS20C-12	48V (36~75V)	12V, 1670mA	89%
MDS20C-15	48V (36~75V)	15V, 1333mA	88%
MDS20C-24	48V (36~75V)	24V, 833mA	90%

MDS15/20



Unit: mm(inch)



Pin No.	Pin-Out
1	+Vin
2	-Vin
3	+Vout
4	No Pin
5	- Vout

Application

Upgrade System Safety



AC/DC PSU
at most 100μA



DC/DC CONVERTER
5μA max.



Selection Guide

AC/DC

External Adaptor

Type	Picture	Model	Input Voltage (VAC)	Output Voltage (VDC)	Dimension (LxWxH) (mm)	Insulation
Interchangeable		GEM06I	80~264	5, 6, 7.5, 9, 12, 15, 18, 24	73.9 x 39 x 48.5	
		GEM12I		5, 7.5, 9, 12, 15, 18, 24, 48		
		GEM18I		5, 9, 12, 15, 18, 24, 48	75.5 x 39.1 x 56.2	
		GEM30I		5, 7.5, 9, 12, 15, 18, 24, 48		
		GEM40I		5, 9, 12, 15, 18, 24, 48		
		GEM60I		5, 7.5, 9, 12, 15, 18, 24, 48		
Wall-mounted		GSM06U/E	80~264	5, 6, 7.5, 9, 12, 15, 18, 24	66 x 32 x 42.5	
		GSM12U/E		5, 7.5, 9, 12, 15, 18, 24, 48	62.2 x 27.4 x 45.5	
	GSM18U/E	79 x 54 x 33				
	GSM25U/E					
	GSM36U/E					
	GSM60U/E				75.5 x 32 x 47.5	
Desktop		GSM18B	80~264	5, 7.5, 9, 12, 15, 18, 24, 48	79 x 54 x 33	A Type: B Type:
		GSM25B			125 x 50 x 31.5	
		GSM36B				
		GSM40A/B		145 x 60 x 32		
		GSM60A/B				
		GSM90A/B				
		GSM120A/B		167 x 67 x 35		
		GSM160A/B				
		GSM220A/B			175 x 72 x 35	
	210 x 85 x 46					







AC/DC

Open Frame Type

Size	Picture	Model	Output Power (W)		Input Voltage (VAC)	Output Voltage (VDC)	Dimension (LxWxH) (mm)	Insulation
			Fan	Fanless				
3" x 2"		RPS-30	-	30	80~264	3.3, 5, 7.5, 12, 15, 24, 48	76.2 x 50.8 x 24	
		RPS-45	-	45				
		RPS-65	-	65				
		RPS-120S	-	120				
4" x 2"		RPS-60	-	60	90~264	3.3, 5, 12, 15, 24, 48	101.6 x 50.8 x 29	
		RPD-60				5 / 12, 5 / 24		
		RPT-60				3.3, ±5, ±12, ±15, 24		
		RPS-120	120	84	80~264	12, 15, 24, 27, 48		
		RPS-200	200	140				
5" x 3"		RPS-75	100	75	90~264	3.3, 5, 12, 15, 24, 36, 48	127 x 76.2 x 31	
		RPD-75				5 / 12, 5 / 24		
		RPT-75	3.3, ±5, ±12, ±15, 24					
		RPS-160	160	110		127 x 76.2 x 34.6		
		RPT-160	150	100				
		RPS-300	300	200	80~264	12, 15, 24, 27, 48	127 x 76.2 x 35	
		RPS-400	400	250				
		RPS-500	500	320	12, 15, 18, 24, 27, 36, 48	127 x 76.2 x 40		
7" x 4.2"		MPQ-200	-	200	90~264	±5, ±12, ±15, 24	177.8 x 107.2 x 35.5	





AC/DC

On Board Type

Picture	Model	Output Power (W)		Input Voltage (VAC)	Output Voltage (VDC)	Dimension (LxWxH) (mm)	Insulation
		Rated	Peak (10 sec.)				
	MFM-05	5	5.5W	80~264	3.3, 5, 12, 15, 24	42 x 22.3 x 20.5	
	MFM-10	10	11W			49 x 23.8 x 23	
	MFM-15	15	16.5W		3.3, 5, 12, 15, 24, 48	65.5 x 35 x 23	
	MFM-20	20	23.8W				
	MFM-30	30	35W				
	MPM-05	5	5.5W	80~264	3.3, 5, 12, 15, 24	45.7 x 25.4 x 21.5	
	MPM-10	10	11W			52.4 x 27.2 x 24	
	MPM-15	15	16.5W			69.5 x 39 x 24	
	MPM-20	20	23.8W		5, 12, 15, 24, 48	87x 52x 29.5	
	MPM-30	30	35W				
	MPM-45	45	50.4W				
	MPM-65	65	71.5W				
	MPM-90	90	99.2W				
	MPM-30-xST	30	35W	80~264	3.3, 5, 12, 15, 24, 48	91 x 39.5 x 28.5	
	MPM-45-xST	45	50.4W			5, 12, 15, 24, 48	
	MPM-65-xST	65	71.5W				
	MPM-90-xST	90	99.2W				



AC/DC

Enclosed Type

Picture	Model	Output Power (W)		Input Voltage (VAC)	Output Voltage (VDC)	Dimension (LxWxH) (mm)	Insulation
		Fan	Fanless				
	NMP650	650	-	90~264	5, 12, 24, 48	250 x 89 x 41	
	NMP1K2	1200	-			250 x 127 x 41	
	RPS-120-x-C	120	90	80~264	12, 15, 24, 27, 48	103.4 x 62 x 40	
	RPS-200-x-C	200	140				
	RPS-300-x-C	300	200	90~264	130 x 86 x 43		
	RPS-400-x-C	400	250				
	RPS-400-x-TF	400	-	80~264	12, 15, 18, 24, 27, 36, 48	130 x 86 x 66.5	
	RPS-400-x-SF	400	-			160 x 86 x 43	
	RPS-500-x-C	500	320			130 x 86 x 43	
	RPS-500-x-TF	500	-			130 x 86 x 66.5	
RPS-500-x-SF	500	-	160 x 86 x 43				
MSP-100	-	100	85~264			3.3, 5, 7.5, 12, 15, 24, 36, 48	159 x 97 x 38
MSP-200	-	200		199 x 98 x 38			
MSP-300	300	-		199 x 105 x 41			
MSP-450	450	-		218 x 105 x 41			
MSP-600	600	-		218 x 105 x 63.5			
MSP-1000	1000	-			12, 15, 24, 48		

DC/DC

Converter

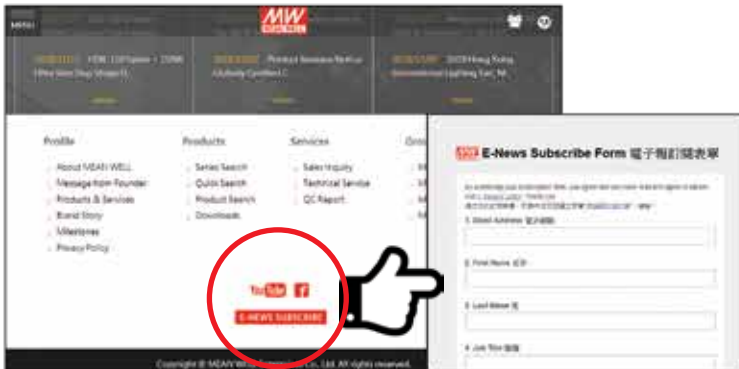
Picture	Model	Rated Power (W)	Input Voltage (VDC)	Output Voltage (VDC)	Dimension (LxWxH) (mm)
	MDS01	1	L: 4.5 ~ 5.5 M: 10.8 ~ 13.2 N: 21.6 ~ 26.4	3.3, 5, 12, 15	19.5 x 9.8 x 12.5 (0.77" x 0.39" x 0.49")
	MDS02	2		5, 12, 15	
	MDD01	1		±5, ±9, ±12, ±15	
	MDD02	2			
	MDS15	15	A: 9 ~ 18 B: 18 ~ 36 C: 36 ~ 75	5, 12, 15, 24	50.8 x 25.4 x 12 (2" x 1" x 0.47")
	MDS20	20			

Media Kit



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Your Reliable Power Partner



DIN Rail Power Supply

AC/DC Switching Power Supplies



Company Profile

Established in 1982, MEAN WELL is a leading standard switching power supply manufacturers in the world. MEAN WELL currently operates under five companies in Taiwan, China, USA and Europe and three factories in Taiwan, GuangZhou and SuZhou. The product lines include AC/DC switching power supplies, DC/DC converters, waterproof LED drivers, adaptors, DC/AC inverters and battery chargers. We have over 10,000 standard models widely used in medical, automation, communication, LED lighting, display, and office automation fields.

The whole product line of MEAN WELL for DIN rail category has supplied more than 52 series and 165 models ranging from AC/DC power supply 10~960W, DC/DC Converter 15~480W and several supplementary units, covering inrush current limiter , redundancy module , buffer module and DC UPS functions.

MEAN WELL USA



MEAN WELL EUROPE



Besides thorough product categories, another highlight of MEAN WELL products is the complete safety approval, including UL, CUL, TUV, SEMI and GL safety regulations, also passing EN55032 electromagnetic compatibility (EMC) testing for customers to choose.

With more than almost 40 years of experience in R&D and production of standard power supplies, MEAN WELL has twelve product categories covering more than 10,000 models, to provide "One Stop Shopping" power solutions. Every product in the MEAN WELL range is the result of rigid procedures governing design, design verification test (DVT), design quality test (DQT), component selection, pilot-run production, and mass production.

With more than 200 distributors globally, the MEAN WELL products are distributed to over 80 countries worldwide. The small size orders can expect delivery within 24 hours without MOQ requirement. If you are looking for switching power supply with high reliability, good quality, reasonable price and full series products which can satisfy your various demands, MEAN WELL, a total solution provider, is definitely your first choice!

MEAN WELL SUZHOU



MEAN WELL TAIWAN



MEAN WELL GUANGZHOU
TIANHE R&D CENTER



MEAN WELL GUANGZHOU
HUADU FACTORY



Reliable Quality

The brand name "MEAN WELL" is defined as "have good intentions". We strongly believe that the product quality is the life of power supply manufacturer. "To become the reliable power partner" has been the motivation for MEAN WELL to grow continuously.

In 1994, MEAN WELL acquired the ISO9001 certification and began to implement the total quality management (TQM) system, which are audited by TUV annually to continuous review and improvement. In April 2013, MEAN WELL acquired the ISO14000 certification and obtained the OHSAS18001 system (ESH, environmental safety and health) in 2015, to take the concept of environmental protection into action, and expect to create a safe and healthy life.



OHSAS18001



ISO9001



ISO14000

MEAN WELL DIN Rail power supply products comply with UL / CUL / TUV / CB / CE / GL / SEMI certificates, including UL508, UL1310, UL62368-1, TUV EN62368-1, TUV EN61558-1 /-2-16, IEC 62368-1, SEMI F47, GL, EN55011, EN55032.





MEAN WELL has a complete quality management system. To ensure product quality, 100% burn-in test, function test and pressure test have been applied in manufacturing process, while the MIL-105E sampling method used in IQC, PCBQC (semi-finished products testing) and FQC phases. In the R&D stage, MEAN WELL quality engineers customize the "Test Plan" for each product, to complete the verifications of DFMEA, DVT/DQT, ORT, EMC, drop test, vibration test, thermal shock test, and reliability test.

In production stage, the product engineers co-work with process engineers to review the pilot run, semi-finished products quality control, process checking, finished product quality control, and the feedback analysis as well as the production problems occurred.



Product Range



AC/DC Power Supply

- 10~960W
- 1 ϕ , 2 ϕ , 3 ϕ , AC input
- 5V~48V
- Class I & II models



Page

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DC/DC Converter

- 15~480W
- 2:1, 4:1 or 10:1 wide input range
- 3.3~48V
- -40~+85°C ultra-wide operating temp.
- EN50155 railway standard (120W~480W)



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Supplementary Units

- 16A & 28A AC inrush current limiter
- 20A & 40A redundancy module
- 20A & 40A buffer module
- 40A DC UPS module



Page

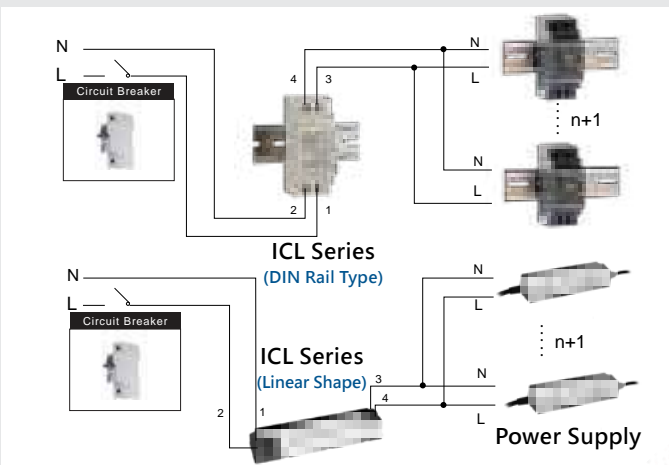
16

Supplementary Units

AC Inrush Current Limiter

ICL Series

Allow more power supplies and large capacitive loads on the same circuit breaker.



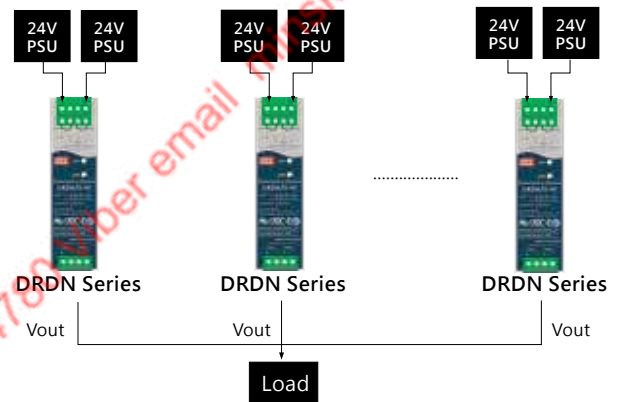
Note: Fewer circuit branches are required to support the same number of power supply installations, reduce system cost.

Redundancy Module

DRDN/ERDN/DR-RDN Series

Secure highest reliability and stability in 1+1 or 1+N.

1+N Redundancy : Using 1 more PSU as the redundant unit

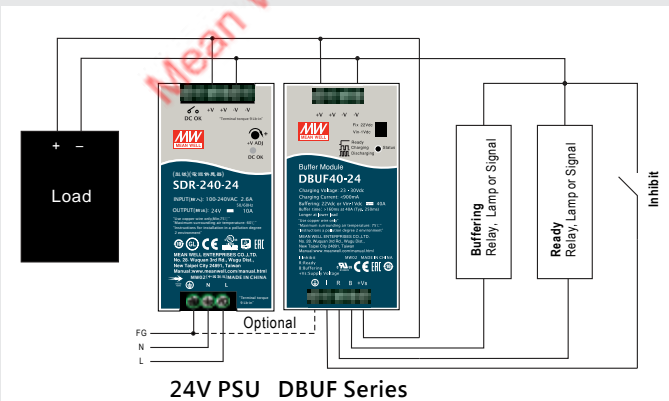


Note: 12V/ 24V/ 48V models are all applicable.

Buffer Module

DBUF Series

Extend system hold up time when AC interrupts or fails.

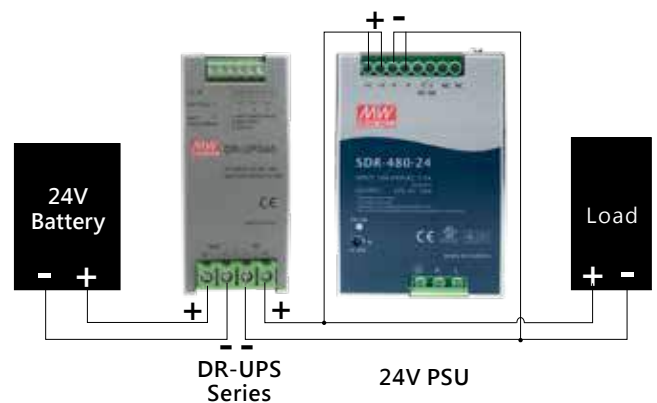


Note: Buffering with internal electrolytic capacitors instead of batteries, saves batteries maintenance cost.

DC-UPS Module

DR-UPS Series

Uninterruptible power supply with battery provides long buffer time when AC interrupts or fails.



Note: Buffering with external batteries, can ensure uninterrupted system operation when AC or DC power supply stops providing power.

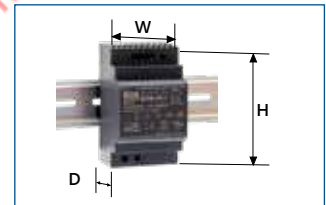
HDR Series

Plastic Case — 15~150W Slim Step Shape



Features

- Isolation class II
- 1SU~6SU narrow width
- 85~264VAC input (277VAC operational)
- No load power consumption <0.3W
- Pass LPS (Limited power source)
- DC output voltage adjustable
- Protections : Short circuit / Overload / Over voltage
- Over voltage category III
- Cooling by free air convection
- -30~+70°C operating temperature
- DIN rail TS-35/7.5 or 15 mountable
- LED indicator for power on
- Suitable for building automation and control of household appliance
- 3 years warranty



Dimension (WxHxD)

HDR-15	17.5(1SU) x 90 x 54.5mm
HDR-30	35(2SU) x 90 x 54.5mm
HDR-60	52.5(3SU) x 90 x 54.5mm
HDR-100	70(4SU) x 90 x 54.5mm
HDR-150	105(6SU) x 90 x 54.5mm

15W



Model No.	Output	Tol.	R&N	Effi.
HDR-15-5	5V, 2.4A	±2.0%	80mV	80%
HDR-15-12	12V, 1.25A	±1.0%	120mV	85.5%
HDR-15-15	15V, 1.0A	±1.0%	120mV	86.5%
HDR-15-24	24V, 0.63A	±1.0%	150mV	88%
HDR-15-48	48V, 0.32A	±1.0%	240mV	88%

30W



Model No.	Output	Tol.	R&N	Effi.
HDR-30-5	5V, 3.0A	±2.0%	80mV	82%
HDR-30-12	12V, 2.0A	±1.0%	120mV	88%
HDR-30-15	15V, 2.0A	±1.0%	120mV	89%
HDR-30-24	24V, 1.5A	±1.0%	150mV	89%
HDR-30-48	48V, 0.75A	±1.0%	240mV	90%

60W



Model No.	Output	Tol.	R&N	Effi.
HDR-60-5	5V, 6.5A	±2.0%	80mV	85%
HDR-60-12	12V, 4.5A	±1.0%	120mV	88%
HDR-60-15	15V, 4.0A	±1.0%	120mV	89%

Model No.	Output	Tol.	R&N	Effi.
HDR-60-24	24V, 2.5A	±1.0%	150mV	90%
HDR-60-48	48V, 1.25A	±1.0%	240mV	91%

100W



Model No.	Output	Tol.	R&N	Effi.
HDR-100-12	12V, 0~7.1A	±2%	120mV	88%
HDR-100-12N	12V, 0~7.5A	±2%	120mV	88%
HDR-100-15	15V, 0~6.13A	±1%	120mV	89%
HDR-100-15N	15V, 0~6.5A	±1%	120mV	89%
HDR-100-24	24V, 0~3.83A	±1%	150mV	90%
HDR-100-24N	24V, 0~4.2A	±1%	150mV	90%
HDR-100-48	48V, 0~1.92A	±1%	240mV	90%
HDR-100-48N	48V, 0~2.1A	±1%	240mV	90%

HDR-100: 92W max., pass LPS
 HDR-100-xxN: 100W max., non-LPS with a wide output adjustable range

150W



Model No.	Output	Tol.	R&N	Effi.
HDR-150-12	12V, 11.3A	±2%	100mV	89%
HDR-150-15	15V, 9.5A	±1%	120mV	89.5%
HDR-150-24	24V, 6.25A	±1%	150mV	90.5%
HDR-150-48	48V, 3.2A	±1%	200mV	90.5%

MDR Series

Plastic Case — 10~96W Ultra Slim



Features

- Isolation class I
- 85~264VAC input
- No load power consumption <0.75W (<1W for MDR-100)
- DC output voltage adjustable (MDR-20~100)
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- Div 2 Hazardous Locations T4(MDR-40/60)
- DC OK signal output (MDR-10/20);
DC OK relay contact (MDR-40/60/100)
- LED indicator for power on
- Can be installed on DIN rail TS-35 / 7.5 or 15
- Built-in active PFC and over temp. protection (MDR-100)
- 3 years warranty



Dimension (WxHxD)

MDR-10	22.5x 90x 100mm
MDR-20	22.5x 90x 100mm
MDR-40	40x 90x 100mm
MDR-60	40x 90x 100mm
MDR-100	55x 90x 100mm

10W

UL508 UL508 EN62368-1 ENEC CB CE

Model No.	Output	Tol.	R&N	Effi.
MDR-10-5	5V, 2.0A	±5%	80mV	77%
MDR-10-12	12V, 0.84A	±3%	120mV	81%
MDR-10-15	15V, 0.67A	±3%	120mV	81%
MDR-10-24	24V, 0.42A	±2%	150mV	84%

60W

UL62368-1 UL508 UL508 EN62368-1 ENEC CB CE

Model No.	Output	Tol.	R&N	Effi.
MDR-60-5	5V, 10.0A	±2%	80mV	78%
MDR-60-12	12V, 5.00A	±1%	120mV	86%
MDR-60-24	24V, 2.50A	±1%	150mV	88%
MDR-60-48	48V, 1.25A	±1%	200mV	87%

20W

UL508 UL508 EN62368-1 ENEC CB CE

Model No.	Output	Tol.	R&N	Effi.
MDR-20-5	5V, 3.0A	±2%	80mV	76%
MDR-20-12	12V, 1.67A	±1%	120mV	80%
MDR-20-15	15V, 1.34A	±1%	120mV	81%
MDR-20-24	24V, 1.00A	±1%	150mV	84%

96W

PFC UL508 UL508 EN62368-1 ENEC CB CE

Model No.	Output	Tol.	R&N	Effi.
MDR-100-12	12V, 7.5A	±1%	120mV	83%
MDR-100-24	24V, 4.0A	±1%	150mV	86%
MDR-100-48	48V, 2.0A	±1%	200mV	87%

40W

UL62368-1 UL508 UL508 EN62368-1 ENEC CB CE

Model No.	Output	Tol.	R&N	Effi.
MDR-40-5	5V, 6.00A	±2%	80mV	78%
MDR-40-12	12V, 3.33A	±1%	120mV	86%
MDR-40-24	24V, 1.70A	±1%	150mV	88%
MDR-40-48	48V, 0.83A	±1%	200mV	88%

HDR vs. MDR

Difference Series	Case Type	Protection Class	Over Voltage Category	Working Temp.
HDR	Step Shape	Class II	OVC III	-30~+70°C
MDR	Ultra Slim	Class I	-----	-20~+70°C

EDR/NDR Series

Metal Case — 75~480W Slim & Economical



Features

- 90~264VAC input
- Built-in active PFC function(NDR-240/480)
- High efficiency up to 92.5%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in constant current limiting circuit
- Cooling by free air convection
- Operating temperature: -20~+60°C(EDR), -20~+70°C(NDR)
- DC output voltage adjustable
- Can be installed on DIN rail TS-35 / 7.5 or 15
- 3 years warranty (2 years warranty for EDR)



Dimension (WxHxD)

EDR-75 32x 125.2x 102mm EDR-150 40x 125.2x 113.5mm
 EDR-120 40x 125.2x 113.5mm



Dimension (WxHxD)

NDR-75 32x 125.2x 102mm NDR-240 63x 125.2x 113.5mm
 NDR-120 40x 125.2x 113.5mm NDR-480 85.5x 125.2x 128.5mm

75W



Model No.	Output	Tol.	R&N	Effi.
EDR-75-12	12V, 6.3A	±2.0%	80mV	85.5%
EDR-75-24	24V, 3.2A	±1.0%	120mV	87.5%
EDR-75-48	48V, 1.6A	±1.0%	150mV	88.5%

75W



Model No.	Output	Tol.	R&N	Effi.
NDR-75-12	12V, 6.3A	±2.0%	80mV	85.5%
NDR-75-24	24V, 3.2A	±1.0%	150mV	88.0%
NDR-75-48	48V, 1.6A	±1.0%	240mV	89.0%

120W



Model No.	Output	Tol.	R&N	Effi.
EDR-120-12	12V, 10A	±2.0%	100mV	85.0%
EDR-120-24	24V, 5.0A	±1.0%	120mV	87.5%
EDR-120-48	48V, 2.5A	±1.0%	150mV	88.5%

120W



Model No.	Output	Tol.	R&N	Effi.
NDR-120-12	12V, 10A	±2.0%	100mV	85.5%
NDR-120-24	24V, 5.0A	±1.0%	120mV	88.0%
NDR-120-48	48V, 2.5A	±1.0%	150mV	89.0%

150W



Model No.	Output (230VAC/115VAC)	Tol.	R&N	Effi.
EDR-150-24	24V, 6.5A/5.2A	±1.0%	150mV	87.0%

240W



Model No.	Output	Tol.	R&N	Effi.
NDR-240-24	24V, 10A	±1.0%	150mV	88.5%
NDR-240-48	48V, 5.0A	±1.0%	150mV	90.0%

EDR vs. NDR

Difference Series	EMI	Working Temp.	Warranty
EDR	Class A	-20~+60°C	2 years
NDR	Class B	-20~+70°C	3 years

480W



Model No.	Output	Tol.	R&N	Effi.
NDR-480-24	24V, 20A	±1.0%	150mV	92.5%
NDR-480-48	48V, 10A	±1.0%	150mV	92.5%

SDR Series

Metal Case — 75~960W Slim & High Performance



Features

- 90~264VAC input (180~264VAC for SDR-960)
- Built-in active PFC function (SDR-120/240/480/960)
- High efficiency up to 94%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in constant current limiting circuit
- Cooling by free air convection
- -30~+70°C operating temperature
- Can be installed on DIN rail TS-35 / 7.5 or 15
- Complete functions:
 - ◆ 130~150% peak load capability by series
 - ◆ Current sharing up to 3840W (7+1 for SDR-480P, 3+1 for SDR-960)
 - ◆ DC OK relay contact (except for SDR-75)
 - ◆ Comply with GL (SDR-120~480), SEMIF47 (SDR-75~960)
- DC output voltage adjustable
- 3 years warranty



Dimension (WxHxD)

SDR-75	32x 125.2x 102mm
SDR-120	40x 125.2x 113.5mm
SDR-240	63x 125.2x 113.5mm
SDR-480□	85.5x 125.2x 128.5mm
SDR-960	110x 125.2x 150mm

75W



Model No.	Output	Tol.	R&N	Effi.
SDR-75-12	12V, 6.3A	±1.0%	100mV	88.5%
SDR-75-24	24V, 3.2A	±1.0%	100mV	89.0%
SDR-75-48	48V, 1.6A	±1.0%	120mV	90.0%

480W



Model No.	Output	Tol.	R&N	Effi.
SDR-480□-24	24V, 20A	±1.2%	100mV	94.0%
SDR-480□-48	48V, 10A	±1.0%	120mV	94.0%

□=blank, P ; Blank: basic function, P: with parallel function

120W



Model No.	Output	Tol.	R&N	Effi.
SDR-120-12	12V, 10A	±1.0%	100mV	89.0%
SDR-120-24	24V, 5.0A	±1.0%	100mV	91.0%
SDR-120-48	48V, 2.5A	±1.0%	120mV	90.5%

960W



Model No.	Output	Tol.	R&N	Effi.
SDR-960-24	24V, 40A	±1.0%	180mV	94.0%
SDR-960-48	48V, 20A	±1.0%	250mV	94.0%

240W



Model No.	Output	Tol.	R&N	Effi.
SDR-240-24	24V, 10A	±1.0%	50mV	94.0%
SDR-240-48	48V, 5.0A	±1.0%	50mV	94.0%

WDR/TDR Series



Metal Case — 60~480W Slim Wide Input Range / 240~960W Slim 3-phase

Features

- AC input range:
WDR- 1 ϕ and 2 ϕ , 180~550VAC ultra-wide input
TDR - 3 ϕ , 340~550VAC input
- Compact size, narrow width
- Built-in active PFC function (except for WDR-60/120, TDR-240)
- High efficiency up to 94.5%
- Built-in constant current limiting circuit
- Current sharing up to 3840W(3+1) for TDR-960
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Working temperature: -30~+70°C
- Built-in DC OK relay contact (optional for TDR-480)
- Can be installed on DIN rail TS-35/7.5 or 15
- 3 years warranty



Dimension (WxHxD)

WDR-60	32x 125.2x 102mm	WDR-240	63x 125.2x 113.5mm
WDR-120	40x 125.2x 113.5mm	WDR-480	85.5x 125.2x 128.5mm



Dimension (WxHxD)

TDR-240	63x 125.2x 113.5mm	TDR-960	110x 125.2x 150mm
TDR-480	85.5x 125.2x 128.5mm		

■ 60W

Model No.	Output	Tol.	R&N	Effi.
WDR-60-5	5V, 10A	±1.5%	100mV	84.5%
WDR-60-12	12V, 5.0A	±1.5%	120mV	86.5%
WDR-60-24	24V, 2.5A	±1.0%	150mV	89.0%
WDR-60-48	48V, 1.25A	±1.0%	200mV	90.5%

■ 120W

Model No.	Output	Tol.	R&N	Effi.
WDR-120-12	12V, 10A	±1.5%	120mV	89.5%
WDR-120-24	24V, 5.0A	±1.0%	120mV	91.0%
WDR-120-48	48V, 2.5A	±1.0%	150mV	92.0%

■ 240W

Model No.	Output	Tol.	R&N	Effi.
WDR-240-24	24V, 10A	±1.0%	150mV	91.0%
WDR-240-48	48V, 5.0A	±1.0%	150mV	91.0%

■ 480W

Model No.	Output	Tol.	R&N	Effi.
WDR-480-24	24V, 20A	±1.0%	100mV	92.0%
WDR-480-48	48V, 10A	±1.0%	150mV	93.0%

■ 240W

Model No.	Output	Tol.	R&N	Effi.
TDR-240-24	24V, 10A	±1.0%	100mV	92.0%
TDR-240-48	48V, 5.0A	±1.0%	120mV	92.0%

■ 480W

Model No.	Output	Tol.	R&N	Effi.
TDR-480-24	24V, 20A	±1.0%	150mV	92.0%
TDR-480-48	48V, 10A	±1.0%	240mV	92.0%

■ 960W

Model No.	Output	Tol.	R&N	Effi.
TDR-960-24	24V, 40A	±1.0%	180mV	94.0%
TDR-960-48	48V, 20A	±1.0%	250mV	94.5%

WDR vs. TDR

Series	Difference	AC Input Voltage
	WDR	
TDR		3 ϕ ; 340~550VAC

DRA/DRC Series

40~100W AC/DC Specific Power Supply

40W & 60W Output Current Programmable

Features

- 90~264VAC input
- **I_o can be trimmed 10~100% by 1~10Vdc, PWM signal or resistance**
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- -30~+70°C operating temperature
- Pass LPS
- LED indicator for power on
- Can be installed on DIN rail TS-35 / 7.5 or 15
- Suitable for machine vision inspection system and plant cultivation application
- 3 years warranty



W40x H90x D100mm

40W

Model No.	Output	Tol.	R&N	Effi.
DRA-40-12	12V, 3.34A	±1.0%	120mV	85%
DRA-40-24	24V, 1.7A	±1.0%	150mV	87%

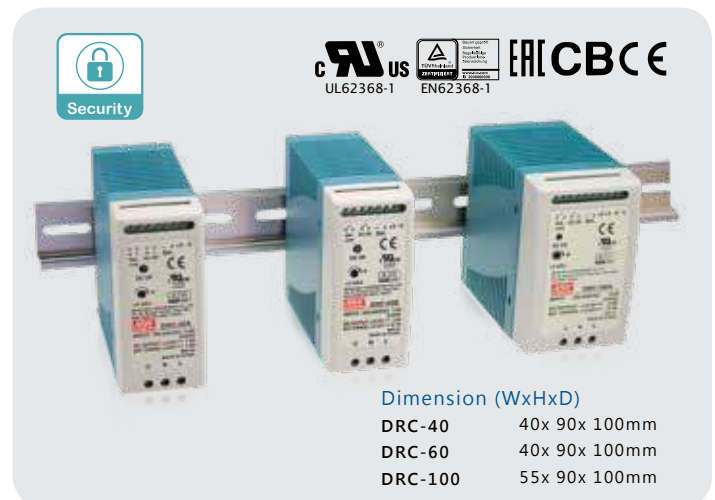
60W

Model No.	Output	Tol.	R&N	Effi.
DRA-60-12	12V, 5A	±1.0%	120mV	85%
DRA-60-24	24V, 2.5A	±1.0%	150mV	87%

40~100W Battery Charger with UPS Security Power

Features

- 90~264VAC input
- **Single output with battery charger (UPS function)**
- **Alarm signal for AC OK and battery low**
- Protections: Short circuit / Overload / Over voltage / Battery low protection / Battery reverse polarity protection by fuse
- Cooling by free air convection
- Working temperature: -30~+70°C
- Pass LPS (DRC-40/60)
- LED indicator for power on
- Can be installed on DIN rail TS-35/7.5 or 15
- Suitable for security application
- 3 years warranty



Dimension (WxHxD)

DRC-40	40x 90x 100mm
DRC-60	40x 90x 100mm
DRC-100	55x 90x 100mm

60W

Model No.	Output	Tol.	R&N	Effi.	Max.
DRC-60A	13.8V, 4.3A	±1%	120mV	86%	59W
	13.8V, 1.5A (Charger)				
DRC-60B	27.6V, 2.15A	±1%	200mV	88%	59W
	27.6V, 0.75A (Charger)				

100W

Model No.	Output	Tol.	R&N	Effi.	Max.
DRC-100A	13.8V, 7A	±1%	120mV	87%	97W
	13.8V, 2.5A (Charger)				
DRC-100B	27.6V, 3.5A	±1%	240mV	89%	97W
	27.6V, 1.25A (Charger)				

40W

Model No.	Output	Tol.	R&N	Effi.	Max.
DRC-40A	13.8V, 2.9A	±1%	120mV	86%	40W
	13.8V, 1.0A (Charger)				
DRC-40B	27.6V, 1.45A	±1%	200mV	87%	40W
	27.6V, 0.5A (Charger)				

KNX Series

640mA & 1280mA Bus Power Supply



Features

- EIB / KNX power supply with Integrated choke
- Compact size with 3SU/4SU width
- Safety extra low voltage (SELV)
- 180~264VAC input
- No load power consumption <0.5W
- Protections:
 - Short circuit / Overload (short-circuit-proof) / Over voltage
- Cooling by free air convection
- Isolation class I
- LED indicator for normal operation, bus reset and bus overload
- Over voltage category III
- -30~+70°C operating temperature
- Can be installed on DIN rail TS-35/7.5 or 15
- 3 years warranty



20W



Model No.	V _{out1} (with choke)	V _{out2} (without choke)	I _{out} (I ₁ +I ₂)
KNX-20E-640	Bus, 30VDC	30VDC	640mA

40W



Model No.	V _{out1} (with choke)	V _{out2} (without choke)	I _{out} (I ₁ +I ₂)
KNX-40E-1280 <input type="checkbox"/>	Bus, 30VDC	30VDC	1280mA

: Blank, D ; Blank= Basic function, D=Diagnostic function

Applications



DDR Series

15~60W DC/DC Converter



Features

- Compact size with 1SU~3SU width
- 4:1 wide input range
- Protections: Short circuit / Overload / Over voltage / Input reverse polarity / Input under voltage
- Cooling by free air convection
- 4000VDC I/O isolation (Reinforced isolation)
- -40~+85°C ultra-wide operating temperature
- DC output adjustable ($\pm 10\%$)
- Can be installed on DIN rail TS-35/7.5 or 15
- 3 years warranty



Dimension (WxHxD)

DDR-15	17.5x 90x 54.5mm
DDR-30	35x 90x 54.5mm
DDR-60	52.5x 90x 54.5mm

15W

Model No.	Vin	Vout	Iout	R&N	Effi.
DDR-15G-3.3	9~36Vdc	3.3Vdc	3.5A	50mV	84%
DDR-15G-5	9~36Vdc	5Vdc	3A	50mV	84%
DDR-15G-12	9~36Vdc	12Vdc	1.25A	60mV	85%
DDR-15G-15	9~36Vdc	15Vdc	1A	75mV	85%
DDR-15G-24	9~36Vdc	24Vdc	0.63A	100mV	86%

DDR-15L-3.3	18~75Vdc	3.3Vdc	4.5A	50mV	84%
DDR-15L-5	18~75Vdc	5Vdc	3A	50mV	85%
DDR-15L-12	18~75Vdc	12Vdc	1.25A	60mV	86%
DDR-15L-15	18~75Vdc	15Vdc	1A	75mV	86%
DDR-15L-24	18~75Vdc	24Vdc	0.63A	100mV	87%

30W

Model No.	Vin	Vout	Iout	R&N	Effi.
DDR-30G-5	9~36Vdc	5Vdc	6A	60mV	85%
DDR-30G-12	9~36Vdc	12Vdc	2.5A	75mV	86%
DDR-30G-15	9~36Vdc	15Vdc	2A	75mV	87%
DDR-30G-24	9~36Vdc	24Vdc	1.25A	100mV	89%

30W

Model No.	Vin	Vout	Iout	R&N	Effi.
DDR-30L-5	18~75Vdc	5Vdc	6A	60mV	86%
DDR-30L-12	18~75Vdc	12Vdc	2.5A	75mV	89%
DDR-30L-15	18~75Vdc	15Vdc	2A	75mV	90%
DDR-30L-24	18~75Vdc	24Vdc	1.25A	100mV	91%

60W

Model No.	Vin	Vout	Iout	R&N	Effi.
DDR-60G-5	9~36Vdc	5Vdc	10.8A	60mV	87.5%
DDR-60G-12	9~36Vdc	12Vdc	5A	75mV	91%
DDR-60G-15	9~36Vdc	15Vdc	4A	75mV	91%
DDR-60G-24	9~36Vdc	24Vdc	2.5A	100mV	91%

DDR-60L-5	18~75Vdc	5Vdc	12A	60mV	87.5%
DDR-60L-12	18~75Vdc	12Vdc	5A	75mV	91%
DDR-60L-15	18~75Vdc	15Vdc	4A	75mV	92%
DDR-60L-24	18~75Vdc	24Vdc	2.5A	100mV	92%

DDR Series

120~480W DC/DC Converter



Features

- ITE & Railway safety
- 2:1 wide input range
- **150% peak** load capability
- Protections:
Short circuit / Overload / Over voltage /
Over temperature / **DC Input reverse polarity** /
DC Input under voltage
- Cooling by free air convection
- 4000VDC I/O isolation (**Reinforced isolation**)
- **-40~+70°C** wide operating temperature
- DC output adjustable
- DC OK relay contact and Remote ON/OFF (DDR-240/480 only)
- **Current sharing** up to **1920W**
(**3+1: 960W** for DDR-240, **1920W** for DDR-480)
- Can be installed on DIN rail TS-35/7.5 or 15
- 3 years warranty



Dimension (WxHxD)

DDR-120	32x 125.2x 102mm
DDR-240	40x 125.2x 113.5mm
DDR-480	85.5x 125.2x 128.5mm

120W

Model No.	Vin	Vout	Iout	R&N	Effi.
DDR-120A-12	9~18Vdc	12Vdc	8.3A	50mV	88.5%
DDR-120A-24	9~18Vdc	24Vdc	4.2A	50mV	88.5%
DDR-120A-48	9~18Vdc	48Vdc	2.1A	50mV	88.5%
DDR-120B-12	16.8~33.6Vdc	12Vdc	10A	50mV	89.0%
DDR-120B-24	16.8~33.6Vdc	24Vdc	5A	50mV	89.5%
DDR-120B-48	16.8~33.2Vdc	48Vdc	2.5A	50mV	91.0%
DDR-120C-12	33.6~67.2Vdc	12Vdc	10A	50mV	89.5%
DDR-120C-24	33.6~67.2Vdc	24Vdc	5A	50mV	91.0%
DDR-120C-48	33.6~67.2Vdc	48Vdc	2.5A	50mV	92.0%
DDR-120D-12	67.2~154Vdc	12Vdc	10A	50mV	89.5%
DDR-120D-24	67.2~154Vdc	24Vdc	5A	50mV	91.0%
DDR-120D-48	67.2~154Vdc	48Vdc	2.5A	50mV	91.5%

240W

Model No.	Vin	Vout	Iout	R&N	Effi.
DDR-240B-24	16.8~33.6Vdc	24Vdc	10A	80mV	90.0%
DDR-240B-48	16.8~33.2Vdc	48Vdc	5A	100mV	90.0%
DDR-240C-24	33.6~67.2Vdc	24Vdc	10A	80mV	91.0%
DDR-240C-48	33.6~67.2Vdc	48Vdc	5A	100mV	92.0%
DDR-240D-24	67.2~154Vdc	24Vdc	10A	80mV	92.0%
DDR-240D-48	67.2~154Vdc	48Vdc	5A	100mV	92.5%

480W

Model No.	Vin	Vout	Iout	R&N	Effi.
DDR-480B-12	16.8~33.6Vdc	12Vdc	35A	100mV	90%
DDR-480B-24	16.8~33.6Vdc	24Vdc	20A	120mV	91%
DDR-480B-48	16.8~33.6Vdc	48Vdc	10A	150mV	91%
DDR-480C-12	33.6~67.2Vdc	12Vdc	35A	100mV	91%
DDR-480C-24	33.6~67.2Vdc	24Vdc	20A	120mV	92%
DDR-480C-48	33.6~67.2Vdc	48Vdc	10A	150mV	92%
DDR-480D-12	67.2~154Vdc	12Vdc	35A	100mV	91%
DDR-480D-24	67.2~154Vdc	24Vdc	20A	120mV	92%
DDR-480D-48	67.2~154Vdc	48Vdc	10A	150mV	93%

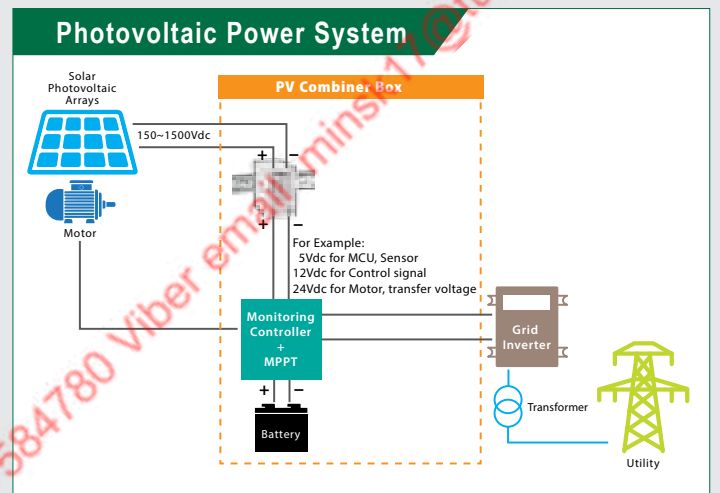
DDRH/ICL Series



60W Ultra Wide Input DC/DC Converter

Features

- 150~1500Vdc 10:1 ultra-wide input range
- Potted with silicone, dust and moisture proof
- 4KVac I/O high isolation (Reinforced isolation)
- Protections: Short circuit / Overload / Over voltage / Over temp. / DC input under voltage / DC input reverse polarity
- Cooling by free air convection
- -30~+80°C wide operating temp. (> +55°C de-rating)
- Over voltage category II
- Operating altitude up to 5000 meters
- DC OK relay contact
- Can be installed on DIN rail TS-35/7.5 or 15
- DC output voltage adjustable
- IEC62109-1 (LVD) approved
- Suitable for photovoltaic power generation, 380Vdc DC power distribution system or high voltage converter to low voltage
- 3 years warranty



60W

Model No.	Vin	Vout	Iout	R&N	Effi.
DDRH-60-5	150~1500Vdc	5V	10A	100mV	81%
DDRH-60-12	150~1500Vdc	12V	5A	120mV	85%
DDRH-60-24	150~1500Vdc	24V	2.5A	150mV	87%
DDRH-60-48	150~1500Vdc	48V	1.25A	200mV	88%

16A & 28A AC Inrush Current Limiter

Features

- R: DIN Rail type or L: terminal block mounted
- ICL-16: 23A inrush current limiting, 16A continuous
- ICL-28: 48A inrush current limiting, 28A continuous
- Integrated by pass relay, no simple NTC
- Internal thermal protection
- -30~+70°C wide operating temperature
- Over voltage category III
- Operating altitude up to 5000 meters



Dimension (WxHxD)

- ① ICL-16R 35x 90x 54.5mm
- ② ICL-28R 52.5x 90x 54.5mm
- ③ ICL-16L 175x 42x 24mm
- ④ ICL-28L 175x 42x 24mm

28A (ICL-28R/L)

Model No.	Inrush Current	Input
ICL-28R	28A	180~264Vac
ICL-28L	28A	180~264Vac

16A (ICL-16R/L)

Model No.	Inrush Current	Input
ICL-16R	16A	180~264Vac
ICL-16L	16A	180~264Vac

DRDN/DR-RDN series

20A & 40A Redundancy Module

DRDN-20/40, ERDN20/40 and DR-RDN20 series are 20A/40A power supply redundancy modules, which can be used with the backup power supply to improve the stability and reliability of the overall system.

Features

- Output current 20A & 40A
- Support 1+1 and N+1 redundancy system
- Suitable for redundancy operation of 5V/12V/24V/48V system
- 2 channels DC input and 1 channel DC input
- 2 channels DC OK relay contact
- -40~+80°C ultra wide operating temperature
- 2 dry relay contact for monitoring output status, and LED indicator for input failure alarm
- 3 years warranty



Dimension (WxHxD)

- ① DR-RDN20 55.5x 125.2x 100mm
- ② DRDN20 32x 125.2x 102mm
- ③ DRDN40 55x 125.2x 100mm
- ④ ERDN20 82x 99x 36mm
- ⑤ ERDN40 97x 99x 36mm

Model No.	Nominal Voltage	Input / Output Current
DR-RDN20	24V, 20A	2x10A / 20A

Model No.	Nominal Voltage	Input / Output Current
DRDN20-□	12V, 24V, 48V	2x10A / 20A

□ = 12, 24, 48

Model No.	Nominal Voltage	Input / Output Current
DRDN40-□	12V, 24V, 48V	2x20A / 40A

□ = 12, 24, 48

Model No.	Nominal Voltage	Input / Output Current
ERDN20-□	5V, 12V, 24V, 48V	2x10A / 20A

□ = 5, 12, 24, 48

Model No.	Nominal Voltage	Input / Output Current
ERDN40-□	12V, 24V, 48V	2x20A / 40A

□ = 12, 24, 48

DR-RDN20 vs. DRDN&ERDN

Series	Difference	Generation	Output Current	System Voltage	Working Temp.	Case Size
DR-RDN20		Old	20A	24V	-40~+70°C	20A: 55.5x 125.2x 100mm
DRDN20/40		New	20A/40A	12V, 24V, 48V	-40~+80°C	20A: 32x 125.2x 102mm
ERDN20/40	5V, 12V, 24V, 48V			40A: 55.5x 125.2x 100mm		

DBUF/DR-UPS40



20A & 40A Buffer Module

DBUF20/40 buffer modules are supplementary devices for regulated DC 24V power supplies. The buffer module utilizes maintenance-free electrolytic capacitors to store energy, thus eliminates the need of periodic replacement as compared to costlier batteries which also have shorter functional life span.



Features

- Buffering with **electrolytic capacitors instead of battery**, save maintenance cost
- Suitable for 24Vdc systems
- Buffering time: **350ms@20A load; 250ms@40A load**
- Buffer mode selectable by switch : Fixed mode at 22Vdc or dynamic mode for Vin-1V
- Support parallel connection to extend buffering time
- -25~+75°C operating temperature
- 3 years warranty

Model No.	DC Operating Voltage Range	Buffer Time
DBUF20-24	22~29Vdc	350ms@20A
		700ms@10A 45s@0.1A
DBUF40-24	22~29Vdc	250ms@40A
		500ms@20A 42s@0.1A

40A DC UPS Module

DR-UPS40 is a 40A max. DC UPS (battery control) module for the 24VDC power system. Accompany with external batteries, it can back-up up to 40A of current to critical loads for certain period of time depending on the capacity of batteries. With complete monitoring signals / LED indicators for DC BUS OK, Battery Fail, Battery Discharge, and the repeated Battery Test function, users can customize their own DC UPS system to back up critical loads and capture the status of the whole system easily.



Features

- Battery controller for DIN rail **UPS system, parallel connected to DC BUS**
- Suitable for 24V system up to 40A
- Battery polarity protection
- Relay contact signal output and LED indicator for DC BUS OK, Battery Fail, and Battery Discharge
- -20~+70°C operating temperature
- 3 years warranty

Model No.	DC BUS Voltage	DC BUS Current
DR-UPS40	24~29Vdc	40A max.

Selection Guide

AC/DC

Picture	Model	Power (W)	PFC	Input voltage (Vac)	Output voltage (Vdc)	Dimension (mm)	Key features	Page	
	HDR-15	15	-	85~277	5, 12, 15, 24, 48	17.5 x 90 x 54.5	 Class II Slim step shape	7	
	HDR-30	30				35 x 90 x 54.5			
	HDR-60	60				52.5 x 90 x 54.5			
	HDR-100	100			70 x 90 x 54.5				
	HDR-150	150			105 x 90 x 54.5				
	MDR-10	10	-	85~264	5, 12, 15, 24	22.5 x 90 x 100	 Class I  DC OK  Class I Div 2 / HL (MDR-40/60)	8	
	MDR-20	20			5, 12, 24, 48	40 x 90 x 100			
	MDR-40	40				55 x 90 x 100			
	MDR-60	60				12, 24, 48			55 x 90 x 100
	MDR-100	96							
	EDR-75	75	-	90~264	12, 24, 48	32 x 125.2 x 102	 Class I Slim & Low cost	9	
	EDR-120	120			40 x 125.2 x 113.5				
	EDR-150	150			24				
	NDR-75	75	-	90~264	12, 24, 48	32 x 125.2 x 102	 Class I Slim & Economical	9	
	NDR-120	120			40 x 125.2 x 113.5				
	NDR-240	240			63 x 125.2 x 113.5				
	NDR-480	480			85.5 x 125.2 x 128.5				
	SDR-75	75	-	88~264	12, 24, 48	32 x 125.2 x 102	 Class I  Parallel (SDR-480P/960)  DC OK (except for SDR-75)  Peak 150% load (130% for SDR-960) Slim & High Performance	10	
	SDR-120	120			40 x 125.2 x 113.5				
	SDR-240	240			63 x 125.2 x 113.5				
	SDR-480P	480			85.5 x 125.2 x 128.5				
	SDR-960	960			110 x 125.2 x 150				
	WDR-60	60	-	180~550 1φ & 2φ	5, 12, 24, 48	32 x 125.2 x 102	 Class I Slim & Wide input range	11	
	WDR-120	120			12, 24, 48	40 x 125.2 x 113.5			
	WDR-240	240			24, 48	63 x 125.2 x 113.5			
	WDR-480	480				85.5 x 125.2 x 128.5			

Picture	Model	Power (W)	PFC	Input voltage (Vac)	Output voltage (Vdc)	Dimension (mm)	Key features	Page
	TDR-240	240	-	340~550 3φ (2φ possible)	24, 48	63 x 125.2 x 113.5	 Class I Parallel (TDR-960)	11
	TDR-480	480	V			85.5 x 125.2 x 128.5		
	TDR-960	960				110 x 125.2 x 150		
	DRA-40	40	-	90~264	12, 24	40 x 90 x 100	Io programmable 10~100%	12
	DRA-60	60						
	DRC-40	40	-	90~264	13.8, 27.6	40 x 90 x 100	Battery charger with UPS security power	12
	DRC-60	60				55 x 90 x 100		
	DRC-100	100						
	KNX-20E-640	20	-	180~264	30	52.5 x 90 x 55		13
	KNX-40E-1280	40				72 x 90 x 57		

DC/DC

Picture	Model	Power (W)	Input voltage (Vdc)	Output voltage (Vdc)	Dimension (mm)	Key features	Page
	DDR-15	15	G: 9~36 L: 18~75	3.3, 5, 12, 15, 24	17.5 x 90 x 54.5		14
	DDR-30	30		5, 12, 15, 24	35 x 90 x 54.5		
	DDR-60	60			52.5 x 90 x 54.5		
	DDR-120	120	A: 9~18 B: 16.8~33.6 C: 33.6~67.2 D: 67.2~154	12, 24, 48	32 x 125.2 x 102	 EN50155	15
	DDR-240	240		24, 48	40 x 125.2 x 113.5		
	DDR-480	480			85.5 x 125.2 x 128.5		
	DDRH-60	60	150~1500	5, 12, 24, 48	57 x 93.5 x 105	 Solar PV	16

Supplementary Units

Picture	Model	Input voltage (Vdc)	Output (A)	Dimension (mm)	Key features	Page
	ICL-16R	180~264Vac	16	35 x 90 x 54.5	16A AC inrush current limiter	16
	ICL-16L			175 x 42 x 24		
	ICL-28R		28	52.5 x 90 x 54.5	28A AC inrush current limiter	
	ICL-28L			175 x 42 x 24		
	DR-RDN20	24	20	55.5 x 125.2 x 100	20A redundancy module	17
	DRDN20	12, 24, 48	20	32 x 125.2 x 102	20A & 40A redundancy module	
	DRDN40		40	40 x 125.2 x 113.5		
	ERDN20	5,12,24,48	20	82 x 99 x 36	20A & 40A redundancy module	17
	ERDN40	12,24,48	40	97 x 99 x 36		
	DR-UPS40	24	24Vdc	55.5 x 125.2 x 100	40A DC UPS module	18
	DBUF20	24	20	63 x 125.2 x 114.9	Electrolytic capacitor, Buffer time 350ms@20A, 250ms@40A	18
	DBUF40		40			

Safety Chart

Series Name	Safety										EMC	
	UL508	UL61010	UL62368-1	TUV EN62368-1	TUV EN61558-1, -2-16	BSMI	EAC	RCM	CB	CE	EN5032 Class	EN50491-5-1, -5-2, -5-3
HDR-15/30/60/100	●		●		●	●	●	●	●	●	B	
HDR-150		●	●		●		●		●	●	B	
MDR-10/20	●			●		●		●	●	●	B	
MDR-40/60	●		●	●		●		●	●	●	B	
MDR-100	●			●		●		●		●	B	
EDR-75/120/150	●			●				●	●	●	A	
NDR-75/120	●			●				●	●	●	B	
NDR-240/480	●			●		●		●	●	●	B	
SDR-75/240	●			●					●	●	B	
SDR-120/240/480[P]/960	●			●		●			●	●	B	
WDR-60		●			●					●	B	
WDR-120/240/480	●								●	●	B	
TDR-240		●			●					●	B	
TDR-480/960	●								●	●	B	
DRA-40/60			●	●					●	●	B	
DRC-40/60/100			●	●					●	●	B	
KNX-20E-640					●					●		●
KNX-40E-1280					●					●		●
DDR-15/30/60								●		●	B	
DDR-120/240/480								●	●	●	B	
DDRH-60								●		●	A	
ICL-16R/L								●		●	B	
ICL-28R/L								●		●	B	
DR-RDN20	●							●		●	B	
DRDN20/40			●					●	●	●	B	
ERDN20/40			●					●	●	●	B	
DBUF20/40			●					●	●	●	B	
DR-UPS40								●		●	B	