



Your Reliable Power Partner



Medical Power Supply

AC/DC Switching Power Supplies & DC/DC Converters



Company Profile

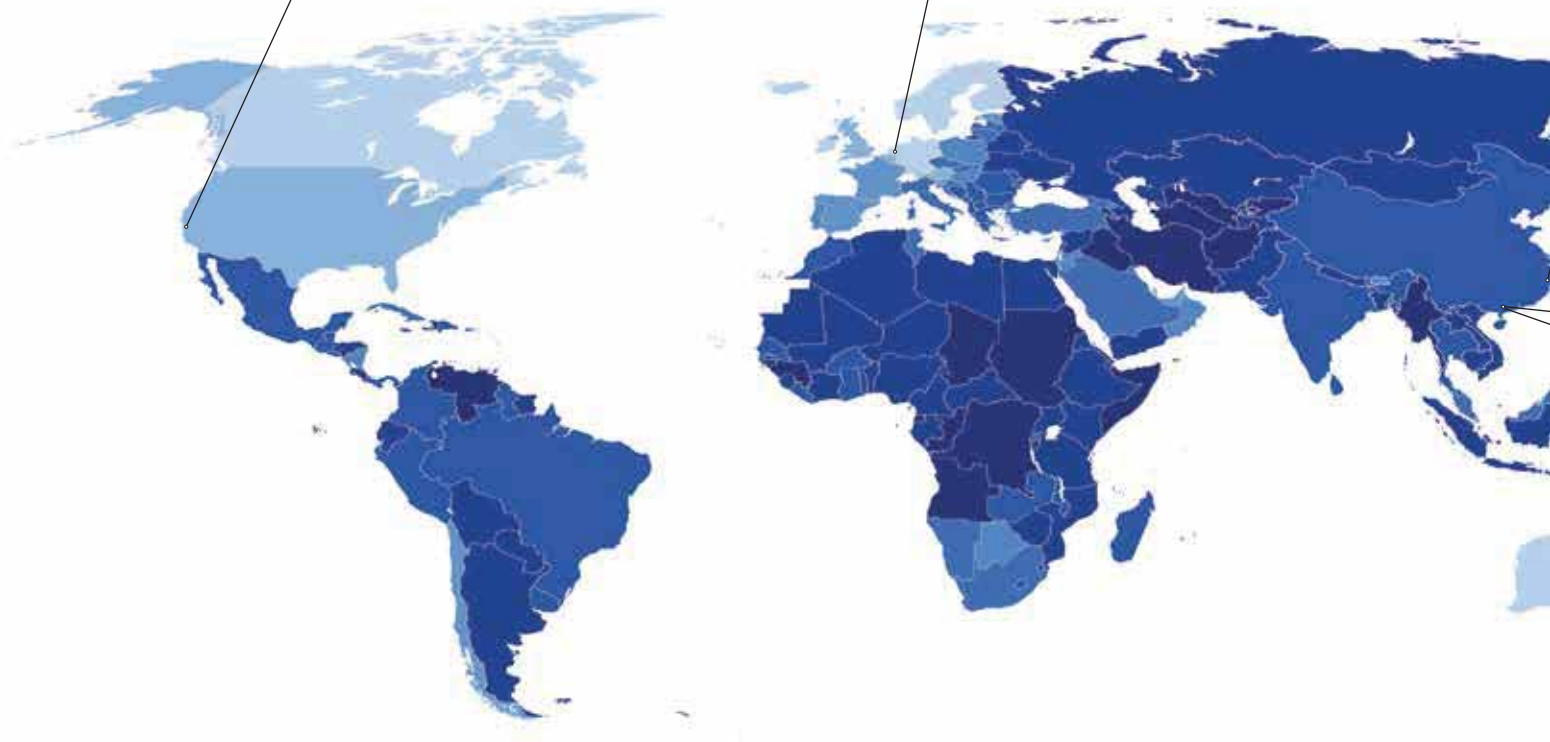
Established in 1982, MEAN WELL is a leading standard switching power supply manufacturers in the world. MEAN WELL currently operates under five companies in Taiwan, China, USA and Europe and three factories in Taiwan, GuangZhou and SuZhou. The product lines include AC/DC switching power supplies, DC/DC converters, waterproof LED drivers, DC/AC inverters and battery chargers. We have over 9,500 standard models widely used in medical, automation, communication, LED lighting, moving sign, and office automation fields.

The whole product lines have supplied more than 70 series and 400 models in total for customers to choose, covering 5~1200W 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/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 36 years of experience in R&D and production of standard power supplies, MEAN WELL has ten product category covering over 9,500 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!



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 / CE / FCC certificates, including ANSI/AAMI ES60601-1 / ES60601-1-11, TUV EN60601-1 / EN60601-1-11, 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

30~400W 1~4 output
3.3~48V MOPPx2 &
Complete BF rated
size range

Series	Page
RPS, RPD, RPT, MPQ	11-13



AC/DC External Adaptor

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

Series	Page
GSM, GEM	7-10



AC/DC On Board Type

5~30W MOPPx2 & BF
3.3~48V rated
PCB mount -40~+85°C
Small size operating temp.

Series	Page
MPM, PM, MFM, NFM	14-18

AC/DC Enclosed Type

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

Series	Page
NMP, RPS-C, MSP	19-22



DC/DC Converter

1~2W Low leakage
4.5~26.4V_{in} current < 2μA
5~24V_o 6KVdc I/O
SIP7 package isolation

Series	Page
MDS, MDD	23-24



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.

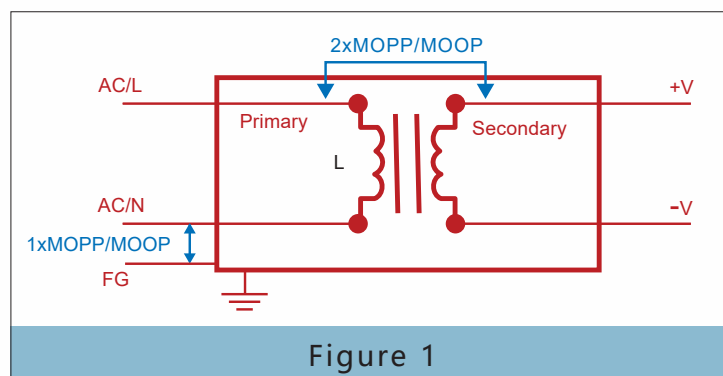


Figure 1

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)
- Low leakage current <math><50\sim100\mu\text{A}</math>
- No load power consumption <math><0.075\sim0.15\text{W}</math>
- 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





▲ **GSM06U**
66x 32x 42.5mm



▲ **GSM06E**
66x 32x 42.5mm



▲ **GSM18U/25U/36U**
79x 54x 33mm



▲ **GSM18E/25E/36E**
79x 54x 33mm



▲ **GSM18B/25B/36B**
79x 54x 33mm



GSM Introduction

■ 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

■ 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) – 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

■ 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

■ Optional DC Plug List

Tuning Fork Style				Barrel Style				Lock Style				DIN 5 Pin				DIN 4 Pin with Lock			
Type	A	B	C	Type	A	B	C	Type	A	B	C	Type	Pin Assignment			Type	Pin Assignment		
	OD	ID	L		OD	ID	L		P2S (S761K)	5.53	2.03		12.06	R1B	Single		Triple	PIN No.	Output
P1I	5.5	2.1	9.5	P2I	5.5	2.1	9.5	P2S (S761K)	5.53	2.03	12.06	R1B	1	COM	COM	R7B	1	+Vout	
P1J	5.5	2.1	11.0	P2J	5.5	2.1	11.0						2	COM	COM		2	GND	
P1L	5.5	2.5	9.5	P2L	5.5	2.5	9.5						3	Vout	+5V		3	GND	
P1M	5.5	2.5	11.0	P2M	5.5	2.5	11.0						4	COM	-Vout		4	GND	
													5	Vout	+Vout			+Vout	

Note1: Minimum order quantity is varied for different models.

Note2: Other options available by requests, please refer to specification for more detail.

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

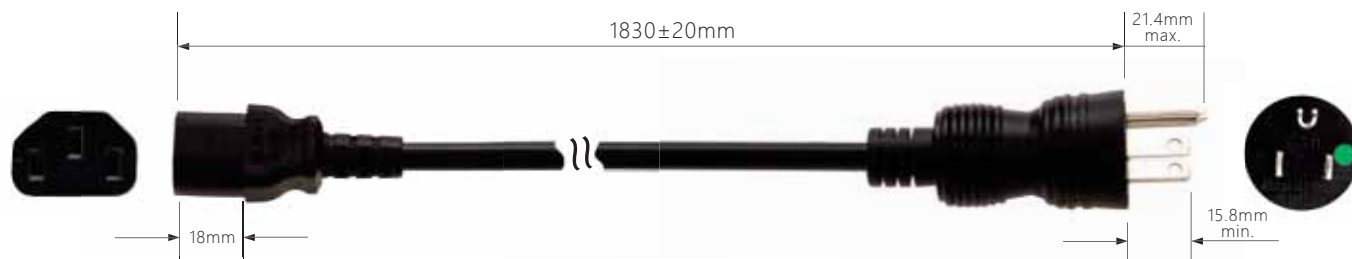
Desktop – 220W

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

Medical / Hospital Grade AC Power Cord

Order No.: YP18+YC12



AC/DC External Adaptor 6~220W (Interchangeable Type 12~40W)



▲ **GEM12I**
73.9x 39x 48.5mm



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

■ 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) – 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) – 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) – 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%

■ Interchangeable AC Plug Specifically for GEM Series

AC Plug Order No.	AC Plug Type				Mixed Four Type
	AC Plug-AU2	AC Plug-UK2	AC Plug-EU2	AC Plug-US2	AC Plug-Mix2
	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.

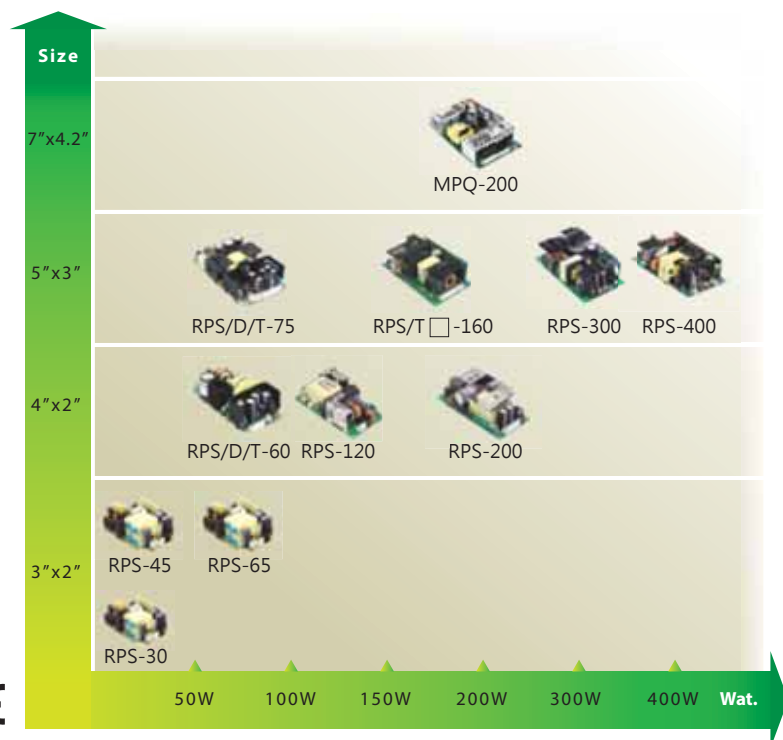


AC/DC Open Frame Type

30 ~ 400W

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 $100 \sim 300 \mu A$
- No load power consumption $0.1 \sim 0.75 W$
- 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" x 2")



▲ RPS/D/T□-60
101.6x 50.8x 29mm
(4" x 2")



▲ RPS-120
101.6x 50.8x 29mm
(4" x 2")



▲ RPS-200
101.6x 50.8x 29mm
(4" x 2")

■ 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%

■ 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	78%	54W
	12V, 0.1~2.2A		
RPD-60B	5V, 0.5~3.85A	82%	59W
	24V, 0.1~1.65A		

■ 60W: Triple Output – Class I

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

■ 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%

■ 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%

■ AC/DC Open Frame Type 30~400W



▲ RPS/D/T-75
127x 76.2x 31mm
(5" x3")



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



▲ RPS-300
127x 76.2x 35mm
(5" x3")



▲ RPS-400
127x 76.2x 35mm
(5" x3")



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

■ 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 12V, 0.3~4.0A	77%	96W
RPD-75B	5V, 1.0~6.8A 24V, 0.2~2.7A	79%	99W

■ 75W: Triple Output – Class I

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

■ 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 12V, 0.2~5.5A -5V, 0.1~1.0A	84%	145W
RPT□-160B	5V, 0.6~14A 12V, 0.2~5.0A -12V, 0.1~1.0A	84%	146W
RPT□-160C	5V, 0.6~14A 15V, 0.1~3.6A -15V, 0.1~1.0A	83%	143W
RPT□-160D	5V, 0.3~11A 12V, 0.2~5.0A 24V, 0.15~1.2A	83%	148W

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

■ 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

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%

■ 200W: Quad Output – Class I

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



AC/DC On Board Type

5 ~ 30W

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 (class I for PM/NFM-20)
- Low leakage current <math> < 80 \sim 300 \mu A </math>
- No load power consumption <math> < 0.075 \sim 0.75 W </math>
- $-40 \sim +85^{\circ}C$ operating temperature (MPM/MFM series)
- 3 years warranty



■ AC/DC On Board Type 5~30W



▲ MPM-05/10
45.7x 25.4x 21.5mm



▲ MPM-15/20
52.4x 27.2x 24mm



▲ MPM-30
69.5x 39x 24mm



▲ MPM-30-xST
91x 39.5x 28.5mm

■ 5W: Single Output – Class II

Model No.	Output / 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%

■ 10W: Single Output – Class II

Model No.	Output / 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%

■ 15W: Single Output – Class II

Model No.	Output / 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%

■ 20W: Single Output – Class II

Model No.	Output / 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%

■ 30W: Single Output – Class II

Model No.	Output / 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



MPM/MFM
Introduction

■ MPM Series & PM Series Comparison

Difference		AC Input Voltage	No load	Leakage Current	Working Temperature	Size
Series						
MPM		80~264VAC	<0.075W	<80μA	-40~+85°C	Small
PM		85~264VAC	<0.5~0.75W by model	<80~300μA by model	-20~+70°C	Large



▲ **PM-05**
62.85x 50x 19.7mm



▲ **PM-10**
70x 50x 22.7mm



▲ **PM-15**
75x 53x 22.7mm



▲ **PM-20**
94x 56x 22.7mm

■ 5W: Single Output – Class II

Model No.	Output	Effi.
PM-05-3.3	3.3V, 1.25A	67%
PM-05-5	5V, 1.00A	71%
PM-05-12	12V, 0.42A	73%
PM-05-15	15V, 0.33A	74%
PM-05-24	24V, 0.23A	76%

■ 15W: Single Output – Class II

Model No.	Output	Effi.
PM-15-3.3	3.3V, 3.50A	73%
PM-15-5	5V, 3.00A	76%
PM-15-12	12V, 1.25A	78%
PM-15-15	15V, 1.00A	79%
PM-15-24	24V, 0.63A	81%

■ 10W: Single Output – Class II

Model No.	Output	Effi.
PM-10-3.3	3.3V, 2.50A	66%
PM-10-5	5V, 2.00A	74%
PM-10-12	12V, 0.85A	78%
PM-10-15	15V, 0.67A	79%
PM-10-24	24V, 0.42A	79%

■ 20W: Single Output – Class I

Model No.	Output	Effi.
PM-20-3.3	3.3V, 4.50A	71%
PM-20-5	5V, 4.40A	75%
PM-20-12	12V, 1.80A	81%
PM-20-15	15V, 1.40A	83%
PM-20-24	24V, 0.92A	84%

■ Mechanical Specification for PM Series

PM-05 / 10 / 15 Series				PM-20 Series	
		5W	10W		
	A	2.475" (62.85mm)	2.76" (70mm)	2.95" (75mm)	
	B	1.85" (47mm)	2.13" (54mm)	2.441" (62mm)	
	C	0.306" (7.8mm)	0.315" (8mm)	0.256" (6.5mm)	
	D	1.97" (50mm)	1.97" (50mm)	2.09" (53mm)	
	E	0.689" (17.5mm)	0.689" (17.5mm)	0.788" (20mm)	
	F	0.295" (7.5mm)	0.295" (7.5mm)	0.256" (6.5mm)	
	G	0.789" (20.04mm)	0.789" (20.04mm)	0.906" (23.01mm)	
	H	0.59" (15mm)	0.59" (15mm)	0.59" (15mm)	
	I	0.776" (19.7mm)	0.89" (22.7mm)	0.89" (22.7mm)	

■ AC/DC On Board Type 5~30W



▲ **MFM-05/10**
42x 22.3x 20.5mm



▲ **MFM-15/20**
49x 23.8x 23mm



▲ **MFM-30**
65.5x 35x 23mm

■ 5W: Single Output – Class II

Model No.	Output / 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 I

Model No.	Output / 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 / 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 I

Model No.	Output / 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 / 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%



MPM/MFM
Introduction

■ MFM Series & NMP Series Comparison

Difference	AC Input Voltage	No load	Leakage Current	Working Temperature	Size
Series					
MFM	80~264VAC	<0.075W	<80μA	-40~+85°C	Small
NFM	85~264VAC	<0.5~0.75W by model	<80~300μA by model	-20~+70°C	Large



▲ **NFM-05**
57.9x 45x 19.1mm



▲ **NFM-10**
65x 45x 22mm



▲ **NFM-15**
69.8x 48x 22mm



▲ **NFM-20**
88.9x 50.8x 19.3mm

■ 5W: Single Output – Class II

Model No.	Output	Effi.
NFM-05-3.3	3.3V, 1.25A	67%
NFM-05-5	5V, 1.00A	71%
NFM-05-12	12V, 0.42A	73%
NFM-05-15	15V, 0.33A	74%
NFM-05-24	24V, 0.23A	76%

■ 15W: Single Output – Class II

Model No.	Output	Effi.
NFM-15-3.3	3.3V, 3.50A	73%
NFM-15-5	5V, 3.00A	76%
NFM-15-12	12V, 1.25A	78%
NFM-15-15	15V, 1.00A	79%
NFM-15-24	24V, 0.63A	81%

■ 10W: Single Output – Class II

Model No.	Output	Effi.
NFM-10-3.3	3.3V, 2.50A	66%
NFM-10-5	5V, 2.00A	74%
NFM-10-12	12V, 0.85A	78%
NFM-10-15	15V, 0.67A	79%
NFM-10-24	24V, 0.42A	79%

■ 20W: Single Output – Class I

Model No.	Output	Effi.
NFM-20-3.3	3.3V, 4.50A	71%
NFM-20-5	5V, 4.40A	75%
NFM-20-12	12V, 1.80A	81%
NFM-20-15	15V, 1.40A	83%
NFM-20-24	24V, 0.92A	84%

■ Mechanical Specification for NFM Series

NFM-05/10/15 Series				NFM-20 Series																																									
		<table border="1"> <thead> <tr> <th></th> <th>5W</th> <th>10W</th> <th>15W</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>1.77" (45mm)</td> <td>1.77" (45mm)</td> <td>1.89" (48mm)</td> </tr> <tr> <td>B</td> <td>0.689" (17.5mm)</td> <td>0.689"(17.5mm)</td> <td>0.788" (20mm)</td> </tr> <tr> <td>C</td> <td>0.21" (5.33mm)</td> <td>0.22" (5.5mm)</td> <td>0.157" (4mm)</td> </tr> <tr> <td>D</td> <td>1.85" (47mm)</td> <td>2.13" (54mm)</td> <td>2.441" (62mm)</td> </tr> <tr> <td>E</td> <td>2.28" (57.9mm)</td> <td>2.56" (65mm)</td> <td>2.75" (69.85mm)</td> </tr> <tr> <td>F</td> <td>0.491" (12.47mm)</td> <td>0.491"(12.47mm)</td> <td>0.492" (12.5mm)</td> </tr> <tr> <td>G</td> <td>0.789" (20.04mm)</td> <td>0.789"(20.04mm)</td> <td>0.906" (23.01mm)</td> </tr> <tr> <td>H</td> <td>0.196" (5mm)</td> <td>0.196"(5mm)</td> <td>0.157" (4mm)</td> </tr> <tr> <td>I</td> <td>0.75" (19.1mm)</td> <td>0.87" (22mm)</td> <td>0.87" (22mm)</td> </tr> </tbody> </table>			5W	10W	15W	A	1.77" (45mm)	1.77" (45mm)	1.89" (48mm)	B	0.689" (17.5mm)	0.689"(17.5mm)	0.788" (20mm)	C	0.21" (5.33mm)	0.22" (5.5mm)	0.157" (4mm)	D	1.85" (47mm)	2.13" (54mm)	2.441" (62mm)	E	2.28" (57.9mm)	2.56" (65mm)	2.75" (69.85mm)	F	0.491" (12.47mm)	0.491"(12.47mm)	0.492" (12.5mm)	G	0.789" (20.04mm)	0.789"(20.04mm)	0.906" (23.01mm)	H	0.196" (5mm)	0.196"(5mm)	0.157" (4mm)	I	0.75" (19.1mm)	0.87" (22mm)	0.87" (22mm)		
	5W	10W	15W																																										
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I	0.75" (19.1mm)	0.87" (22mm)	0.87" (22mm)																																										



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 with appropriate system consideration (NMP/RPS-C series)
- Output voltage from 3V to 55V available
- Class I power unit
- 1U low profile(except for MSP-600/1000)
- 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





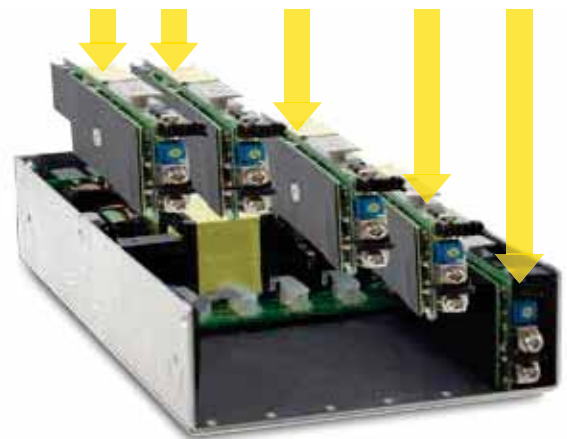
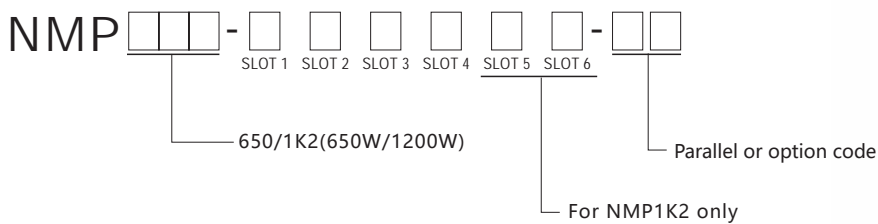
▲ NMP650
250x 89x 41mm



▲ NMP1K2
250x 127x 41mm



■ 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



AC/DC Enclosed Type 100~1200W



▲ RPS-120/200-x-C
103.4x 62x 40mm

▲ RPS-300-x-C
130x 86x 43mm

▲ RPS-400-x-C
130x 86x 43mm

▲ RPS-400-x-TF
130x 86x 66.5mm

▲ RPS-400-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%

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%

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%

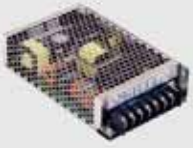
400W: Single Output – Class I

Model No.	Output (Convection/with Fan)	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

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



▲ **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%



DC/DC Converter

1 ~ 2W

Features

- SIP7 package
- Ultra low patient leakage current $< 2\mu\text{A}$
- 6KVDC or 4.2KVAC high I/O isolation
- ANSI/AAMI ES60601-1 medical safety approved
- $\pm 10\%$ input range
- $-40\sim +85^{\circ}\text{C}$ operating temperature
- Encapsulated type
- Cooling by free air convection
- 3 years warranty





▲ **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**

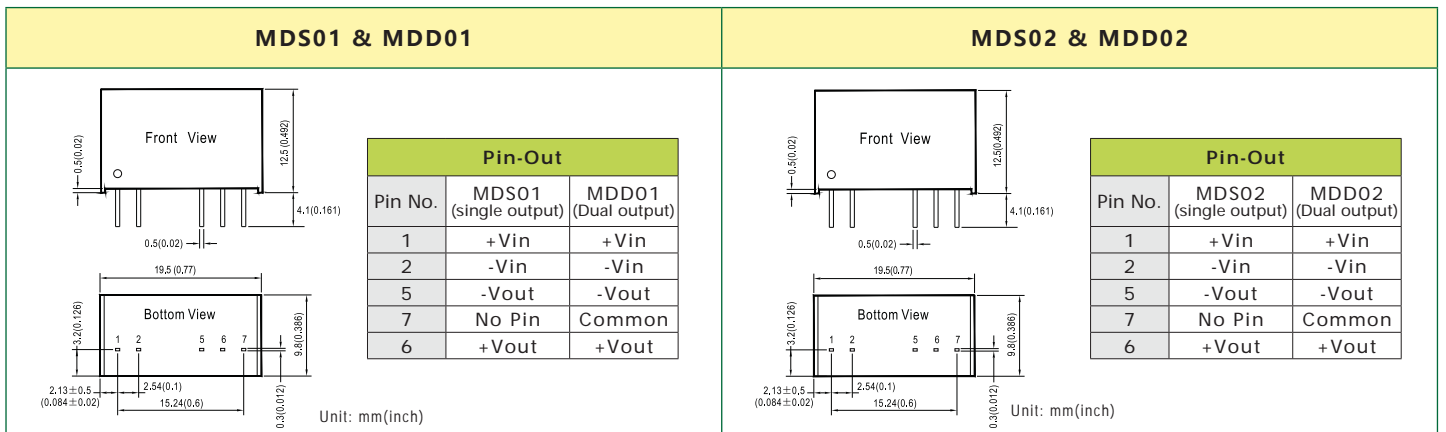
Model No.	Vin	Output	Effi.
MDS02L-05	5V (4.5~5.5V)	5V, 400mA	77%
MDS02L-12	5V (4.5~5.5V)	12V, 167mA	80%
MDS02L-15	5V (4.5~5.5V)	15V, 133mA	79%
MDS02M-05	12V (10.8~13.2V)	5V, 400mA	75%
MDS02M-12	12V (10.8~13.2V)	12V, 167mA	83%
MDS02M-15	12V (10.8~13.2V)	15V, 133mA	84%
MDS02N-05	24V (21.6~26.4V)	5V, 400mA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








MDS02 & MDD02



Selection Guide







AC/DC

External Adaptor

Type	Picture	Model	Rated Power (W)		Input Voltage (VAC)	Output Voltage (VDC)	Dimension (mm)	Insulation
			Fan	Fanless				
Wall-mounted		GSM06U/E	-	6	80~264	5, 6, 7.5, 9, 12, 15, 18, 24	66 x 32 x 42.5	
		GSM18U/E	-	18		5, 7.5, 9, 12, 15, 18, 24, 48	79 x 54 x 33	
		GSM25U/E	-	25				
		GSM36U/E	-	36				
Interchangeable		GEM12I	-	12	80~264	5, 7.5, 9, 12, 15, 18, 24, 48	73.9x 39 x 48.5	
		GEM30I	-	30		5, 9, 12, 15, 18, 24, 48	75.5x39.1x56.2	
		GEM18I/40I	-	18/40				
Desktop		GSM18B	-	18	80~264	5, 7.5, 9, 12, 15, 18, 24, 48	79 x 54 x 33	A Type:  B Type: 
		GSM25B	-	25			125 x 50 x 31.5	
		GSM36B	-	36				
		GSM40A/B	-	40		12, 15, 19, 24, 48	145 x 60 x 32	
		GSM60A/B	-	60		12, 15, 20, 24, 48	167 x 67 x 35	
		GSM90A/B	-	90			175 x 72 x 35	
		GSM120A/B	-	120			210 x 85 x 46	
		GSM160A/B	-	160				
		GSM220A/B	-	220				












AC/DC

Open Frame Type

Picture	Model	Rated Power (W)		Input Voltage (VAC)	Output Voltage (VDC)	Dimension (mm)	Insulation
		Fan	No Fan				
	RPS-30	-	30	80~264	3.3, 5, 7.5, 12, 15, 24, 48	76.2 x 50.8 x 24 (3"x 2")	
	RPS-45	-	45				
	RPS-65	-	65				
	RPS-60	-	60	90~264	3.3, 5, 12, 15, 24, 48	101.6 x 50.8 x 29 (4" x 2")	
	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				
	RPS-75	100	75	90~264	3.3, 5, 12, 15, 24, 36, 48	127 x 76.2 x 31 (5"x 3")	
	RPD-75				5 / 12, 5 / 24		
	RPT-75				3.3, ±5, ±12, ±15, 24		
	RPS-160	160	110	90~264	5, 12, 15, 24, 48	127 x 76.2 x 34.6 (5"x 3")	
	RPT-160	150	100		±5, ±12, ±15, 24		
	RPS-300	300	200	80~264	12, 15, 24, 27, 48	127 x 76.2 x 35 (5"x 3")	
	RPS-400	400	250		12, 15, 18, 24, 27, 36, 48		
	MPQ-200	-	200	90~264	±5, ±12, ±15, 24	177.8 x 107.2 x 35.5 (7"x 4.2")	







AC/DC

On Board Type

Picture	Model	Rated Power (W)		Input Voltage (VAC)	Output Voltage (VDC)	Dimension (mm)	Insulation
		Rated	Peak (10 sec.)				
	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		3.3, 5, 12, 15, 24, 48	91 x 39.5 x 28.5	
	MPM-30	30	35W				
	MPM-30-xST	30	35W				
	PM-05	5	-	85~264	3.3, 5, 12, 15, 24	62.85 x 50 x 19.7	
	PM-10	10	-			70 x 50 x 22.7	
	PM-15	15	-			75 x 53 x 22.7	
	PM-20	20	-		94 x 56 x 22.7		
	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				
	NFM-05	5	-	85~264	3.3, 5, 12, 15, 24	57.9 x 45 x 19.1	
	NFM-10	10	-			65 x 45 x 22	
	NFM-15	15	-			69.8 x 48 x 22	
	NFM-20	20	-		88.9 x 50.8 x 19.3		


AC/DC

Enclosed Type

Picture	Model	Rated Power (W)		Input Voltage (VAC)	Output Voltage (VDC)	Dimension (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	80~264	12, 15, 18, 24, 27, 36, 48	130 x 86 x 43	
	RPS-400-x-TF	400	-			130 x 86 x 66.5	
	RPS-400-x-SF	400	-			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 (mm)
		Fan	No Fan			
	MDS01	-	1/2	L: 4.5 ~ 5.5	3.3, 5, 12, 15	19.5 x 9.8 x 12.5 (0.77" x 0.39" x 0.49")
	MDS02	-		M: 10.8 ~ 13.2	5, 12, 15	
	MDD01/02	-		N: 21.6 ~ 26.4	±5, ±9, ±12, ±15	

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