



Your Reliable Power Partner



Medical 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 six financially independent but cooperating companies in Taiwan, China, USA and Europe and four factories in Taiwan, GuanZhou and SuZhou. The product lines include AC/DC switching power supplies, DC/DC converters, waterproof LED power supplies, DC/AC inverters and battery chargers. We have over 6,000 standard models widely used in medical, automation, communication, LED lighting, moving sign, and office automation fields.

With more than thirty-year experiences in the topology design of power supplies, MEAN WELL divides medical power supplies into enclosed type, open frame type, on board type and external adaptors by product appearances, installation ways and the application occasions, unveiling the aforementioned four types of medical power supplies which are available to cover 5~600W and offer models with 3.3~48V single/multiple output voltages.

MEAN WELL USA



MEAN WELL EUROPE



The whole product line has supplied more than 70 series and 400 models in total for customers to choose and has devoted to develop green medical power supplies, thus unveils the energy-saving medical power supplies in compliance with DoE Level VI.

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 30 years of experience in R&D and production of standard power supplies, MEAN WELL has ten product category covering 5,000 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 70 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



MEAN WELL HWAWEI



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, EN55022.



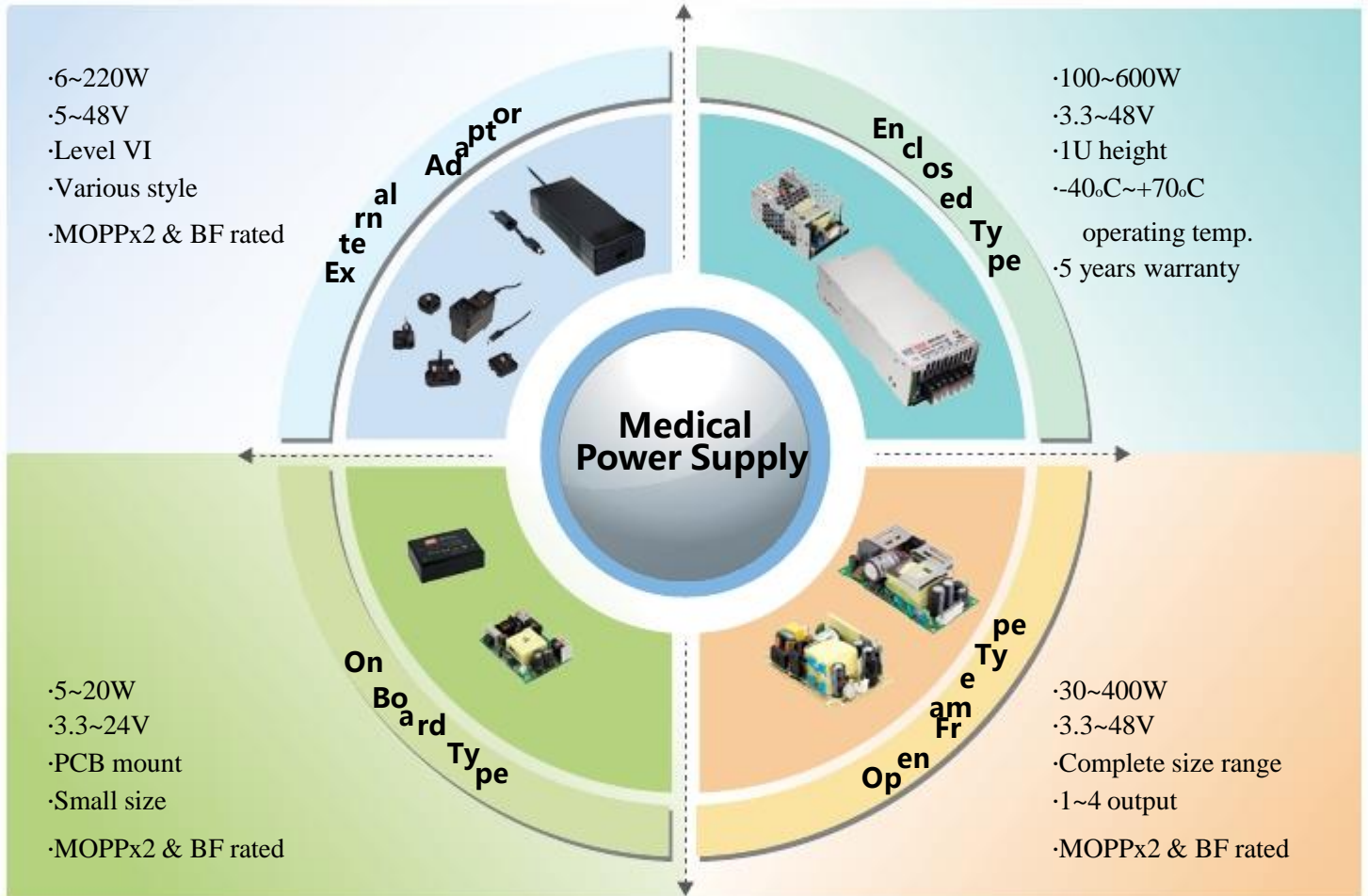


MEAN WELL has a complete quality management system. To ensure product quality, 100% burn-in test, function test and pressure test have been applied in manufacturing process, while the MIL-105E sampling method used in IQC, PCBQC (semi-finished products testing) and FQC phases. In the R&D stage, MEAN WELL 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



Ambulance



Operation Room



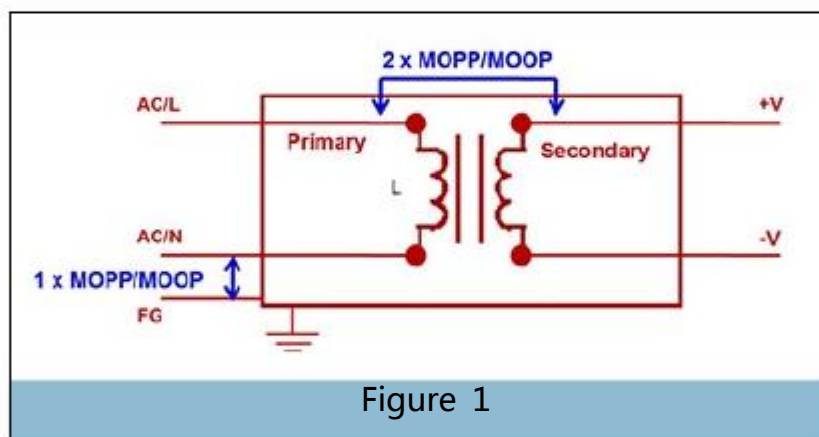
The Difference between MOPP and MOOP in IEC 60601-1 3rd

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



Ultrasound Scanner



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 <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
- Optional lock type DC plug
- Comply with EISA 2007/DoE, NRCAN, AU/NZ MEPS, EU ErP and meet CoC version 5
- 3 years warranty





▲ **GSM40A/60A**
125x 50x 31.5mm



▲ **GSM90A**
145x 60x 32mm



▲ **GSM120A**
167x 67x 35mm



▲ **GSM160A**
175x 72x 35mm



▲ **GSM220A**
210x 85x 46mm

■ Desktop (IEC320-C14/Class I) – 40W

Order No.	Output	Effi.
GSM40A05-P1J	5V, 5.00A	81.0%
GSM40A07-P1J	7.5V, 5.34A	85.5%
GSM40A09-P1J	9V, 4.45A	86.0%
GSM40A12-P1J	12V, 3.34A	88.0%
GSM40A15-P1J	15V, 2.67A	88.5%
GSM40A18-P1J	18V, 2.22A	89.5%
GSM40A24-P1J	24V, 1.67A	90.0%
GSM40A48-P1J	48V, 0.84A	91.0%

■ Desktop (IEC320-C14/Class I) – 120W

Order No.	Output	Effi.
GSM120A12-R7B	12V, 8.5A	88.0%
GSM120A15-R7B	15V, 7.00A	89.0%
GSM120A20-R7B	20V, 6.00A	89.0%
GSM120A24-R7B	24V, 5.00A	90.0%
GSM120A48-R7B	48V, 2.50A	91.5%

■ Desktop (IEC320-C14/Class I) – 60W

Order No.	Output	Effi.
GSM60A05-P1J	5V, 6.00A	81.5%
GSM60A07-P1J	7.5V, 6.00A	86.0%
GSM60A09-P1J	9V, 6.00A	87.5%
GSM60A12-P1J	12V, 5.00A	88.0%
GSM60A15-P1J	15V, 4.00A	88.5%
GSM60A18-P1J	18V, 3.33A	89.0%
GSM60A24-P1J	24V, 2.50A	90.0%
GSM60A48-P1J	48V, 1.25A	91.0%

■ Desktop (IEC320-C14/Class I) – 160W

Order No.	Output	Effi.
GSM160A12-R7B	12V, 11.5A	90.0%
GSM160A15-R7B	15V, 9.6A	91.0%
GSM160A20-R7B	20V, 8.0A	92.5%
GSM160A24-R7B	24V, 6.67A	93.0%
GSM160A48-R7B	48V, 3.34A	94.0%

■ Desktop (IEC320-C14/Class I) – 90W

Order No.	Output	Effi.
GSM90A12-P1M	12V, 6.67A	88.0%
GSM90A15-P1M	15V, 6.00A	89.0%
GSM90A19-P1M	19V, 4.74A	89.0%
GSM90A24-P1M	24V, 3.75A	90.0%
GSM90A48-P1M	48V, 1.87A	91.0%

■ Desktop (IEC320-C14/Class I) – 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%

■ Medical / Hospital Grade AC Power Cord

Order No.: YP18+YC12





▲ **GSM18B/25B/36B**
79x 54x 33mm

▲ **GSM40B/60B**
125x 50x 31.5mm

▲ **GSM90B**
145x 60x 32mm

▲ **GSM120B**
167x 67x 35mm

▲ **GSM160B**
175x 72x 35mm

▲ **GSM220B**
210x 85x 46mm

■ 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

■ Desktop (IEC320-C8/Class II) – 40W

Order No.	Output	Effi.
GSM40B05-P1J	5V, 5.00A	81.0%
GSM40B07-P1J	7.5V, 5.34A	85.5%
GSM40B09-P1J	9V, 4.45A	86.0%
GSM40B12-P1J	12V, 3.34A	88.0%
GSM40B15-P1J	15V, 2.67A	88.5%
GSM40B18-P1J	18V, 2.22A	89.0%
GSM40B24-P1J	24V, 1.67A	90.0%
GSM40B48-P2J	48V, 0.84A	91.0%

■ Desktop (IEC320-C8/Class II) – 60W

Order No.	Output	Effi.
GSM60B05-P1J	5V, 6.00A	81.5%
GSM60B07-P1J	7.5V, 6.00A	86.0%
GSM60B09-P1J	9V, 6.00A	87.5%
GSM60B12-P1J	12V, 5A	88.0%
GSM60B15-P1J	15V, 4A	88.5%
GSM60B18-P1J	18V, 3.33A	89.0%
GSM60B24-P1J	24V, 2.5A	90.0%
GSM60B48-P1J	48V, 1.25A	91.5%

■ Desktop (IEC320-C8/Class II) – 90W

Order No.	Output	Effi.
GSM90B12-P1M	12V, 6.67A	88.0%
GSM90B15-P1M	15V, 6.00A	89.0%
GSM90B19-P1M	19V, 4.74A	89.0%
GSM90B24-P1M	24V, 3.75A	90.0%
GSM90B48-P1M	48V, 1.87A	91.0%

■ Desktop (IEC320-C8/Class II) – 120W

Order No.	Output	Effi.
GSM120B12-R7B	12V, 8.5A	88.0%
GSM120B15-R7B	15V, 7.00A	89.0%
GSM120B20-R7B	20V, 6.00A	89.0%
GSM120B24-R7B	24V, 5.00A	90.0%
GSM120B48-R7B	48V, 2.50A	91.5%

■ Desktop (IEC320-C8/Class II) – 160W

Order No.	Output	Effi.
GSM160B12-R7B	12V, 11.5A	90.0%
GSM160B15-R7B	15V, 9.6A	91.0%
GSM160B20-R7B	20V, 8.0A	92.5%
GSM160B24-R7B	24V, 6.67A	93.0%
GSM160B48-R7B	48V, 3.34A	94.0%

■ Desktop (IEC320-C8/Class II) – 220W

Order No.	Output	Effi.
GSM220B12-R7B	12V, 15.0A	90.0%
GSM220B15-R7B	15V, 13.4A	90.0%
GSM220B20-R7B	20V, 11.0A	92.0%
GSM220B24-R7B	24V, 9.20A	93.5%
GSM220B48-R7B	48V, 4.60A	94.5%



▲ GSM06U
66x 32x 42.5mm



▲ GSM06E
66x 32x 42.5mm



▲ GSM18U/25U/36U
79x 54x 33mm



▲ GSM18E/25E/36E
79x 54x 33mm



▲ GEM18I
75.5x 39.1x 56.2mm

■ 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 (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%

■ Interchangeable AC Plug Specifically for GEM18I

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.

■ 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						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		

Note: Minimum order quantity is varied for different models.

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, MPS-30/45/65, MPD/T-45/65)
- Class I & II models available
- Low leakage current <math><100\sim300\mu\text{A}</math>
- No load power consumption <math><0.1\sim0.75\text{W}</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/D/T-60
101.6x 50.8x 29mm
(4" x2")



▲ RPS-120
101.6x 50.8x 29mm
(4" x2")



▲ RPS-200
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	91.0%

■ 45W: Single Output – Class II

Model No.	Output (Rated/Peak)	Effi.
RPS-45-3.3	3.3V, 8A / 8.80A	80.0%
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, 0.1~0.65A		
	-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	88.0%
RPS-120-15	15V, 5.6A / 8A	88.5%
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/20.5CFM)	Effi.
RPS-200-12	12V, 11.7A / 16.7A	92.0%
RPS-200-15	15V, 9.4A / 13.4A	92.0%
RPS-200-24	24V, 5.9A / 8.4A	93.0%
RPS-200-27	27V, 5.3A / 7.5A	93.0%
RPS-200-48	48V, 3A / 4.2A	94.0%

■ Open Frame Type 30~400W



(5" x3")



(5" x3")



(5" x3")



Under Development

(5" x3")

■ 75W: Single Output – Class I

Model No.	Output (Rated/Peak)	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		

■ 160W: Single Output – Class I

Model No.	Output (Convection/20.5CFM)	Effi.
RPS□ -160-5	5V, 20A / 30A	85%
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: Dual Output – Class I

Model No.	Output	Effi.	Max.
RPD□ -160B	5V, 1.0~12A	84%	150W
	24V, 0.2~3.6A		

□ = 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

■ 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	92.0%
RPS-400-15	15V, 16.7A / 26.7A	92.0%
RPS-400-24	24V, 10.5A / 16.7A	93.0%
RPS-400-27	27V, 9.3A / 14.9A	93.0%
RPS-400-36	36V, 7A / 11.2A	93.0%
RPS-400-48	48V, 5.3A / 8.4A	94.0%



(4" x2.6")



(5" x3")



(5" x3")



(7" x4.2")

■ 30W: Single Output – Class I

Model No.	Output	Effi.
MPS-30-5	5V, 5.0A	72%
MPS-30-12	12V, 2.5A	75%
MPS-30-15	15V, 2.0A	76%
MPS-30-24	24V, 1.2A	77%
MPS-30-27	27V, 1.1A	78%
MPS-30-48	48V, 0.6A	78%

■ 45W: Single Output – Class I

Model No.	Output	Effi.
MPS-45-3.3	3.3V, 8.0A	65%
MPS-45-5	5V, 8.0A	72%
MPS-45-7.5	7.5V, 5.4A	75%
MPS-45-12	12V, 3.7A	76%
MPS-45-13.5	13.5V, 3.3A	76%
MPS-45-15	15V, 3.0A	77%
MPS-45-24	24V, 1.9A	78%
MPS-45-27	27V, 1.7A	78%
MPS-45-48	48V, 1.0A	78%

■ 45W: Dual Output – Class I

Model No.	Output	Effi.	Max.
MPD-45A	5V, 0.4~5.0A	76%	40W
	12V, 0.2~2.5A		
MPD-45B	5V, 0.4~5.0A	78%	45W
	24V, 0.2~1.8A		

■ 45W: Triple Output – Class I

Model No.	Output	Effi.	Max.
MPT-45A	5V, 0.4~5.0A	73%	41W
	12V, 0.2~2.5A		
	-5V, 0.0~0.5A		
MPT-45B	5V, 0.4~5.0A	75%	43W
	12V, 0.2~2.5A		
	-12V, 0.0~0.5A		
MPT-45C	5V, 0.4~5.0A	75%	44W
	15V, 0.2~2.3A		
	-15V, 0.0~0.5A		

■ 65W: Single Output – Class I

Model No.	Output	Effi.
MPS-65-3.3	3.3V, 12A	66%
MPS-65-5	5V, 12A	74%
MPS-65-7.5	7.5V, 8.0A	76%
MPS-65-12	12V, 5.2A	77%
MPS-65-13.5	13.5V, 4.7A	78%
MPS-65-15	15V, 4.2A	79%
MPS-65-24	24V, 2.7A	80%
MPS-65-27	27V, 2.4A	80%
MPS-65-48	48V, 1.35A	80%

■ 65W: Dual Output – Class I

Model No.	Output	Effi.	Max.
MPD-65A	5V, 0.4~7.0A	75%	61W
	12V, 0.2~3.2A		
MPD-65B	5V, 0.4~6.0A	78%	66W
	24V, 0.2~2.6A		

■ 65W: Triple Output – Class I

Model No.	Output	Effi.	Max.
MPT-65A	5V, 0.4~7.0A	74%	60W
	12V, 0.2~3.2A		
	-5V, 0.0~0.7A		
MPT-65B	5V, 0.4~7.0A	74%	64W
	12V, 0.2~3.2A		
	-12V, 0.0~0.7A		
MPT-65C	5V, 0.4~7.0A	74%	65W
	15V, 0.2~2.6A		
	-15V, 0.0~0.7A		

■ 200W: Single Output – Class I

Model No.	Output (Convection/25CFM)	Effi.
MPS-200-3.3	3.3V, 28A / 40A	77%
MPS-200-5	5V, 28A / 40A	81%
MPS-200-12	12V, 11.7A / 16.7A	84%
MPS-200-15	15V, 9.4A / 13.4A	85%
MPS-200-24	24V, 5.9A / 8.4A	86%
MPS-200-48	48V, 3A / 4.2A	87%

■ 200W: Dual Output – Class I

Model No.	Output	Effi.	Max.
MPD-200A	5V, 4.0~24A	82%	196W
	12V, 0.8~9.6A		
MPD-200B	5V, 4.0~24A	83%	196W
	24V, 0.4~4.8A		

■ 200W: Triple Output – Class I

Model No.	Output	Effi.	Max.
MPT-200A	5V, 4.0~24A	80%	200W
	12V, 0.8~9.0A		
	-5V, 0.0~2.4A		
MPT-200B	5V, 4.0~24A	80%	196W
	12V, 0.6~7.2A		
	-12V, 0.0~2.4A		
MPT-200C	5V, 4.0~24A	80%	201W
	15V, 0.5~5.6A		
	-15V, 0.0~2.4A		
MPT-200D	5V, 4.0~24A	81%	196W
	24V, 0.3~3.6A		
	12V, 0.0~2.4A		

■ 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		

On Board Type *5~20W*



Features

- Small **PCB mount** models
- Output voltage from 3.3V to 24V available
- Medical safety approved (**2xMOPP**)
- Suitable for **BF application** with appropriate system consideration
- Class II power unit (class I for 20W)
- Low leakage current $300\mu\text{A}$ for 20W
- No load power consumption 0.5W (0.75W for PM/NFM-20)
- 3 years warranty





▲ **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)	

■ On Board Type 5~20W



▲ **NFM-05**
57.9x 45x 19.1mm



▲ **NFM-10**
65x 45x 22mm



▲ **NFM-15**
69.85x 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	
	5W	10W	15W		
A	1.77" (45mm)	1.77" (45mm)	1.89" (48mm)	0.76" (19.3mm)	3.5" (88.9mm)
B	0.689" (17.5mm)	0.689" (17.5mm)	0.788" (20mm)	0.15" (3.8mm)	3.2" (81.3mm)
C	0.21" (5.33mm)	0.22" (5.5mm)	0.157" (4mm)	0.15" (3.8mm)	2" (50.8mm)
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)		

Enclosed Type *100~600W*



Features

- Medical safety approved
(2xMOPP for RPS-C series, MOOP level for MSP series)
- Suitable for BF application with appropriate system consideration (RPS-C series)
- Output voltage from 3.3V to 48V available
- Class I power unit
- 1U low profile(except for MSP-600)
- Low leakage current<100~450 μ A
- 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 MSP series ,
3 years warranty for RPS-C series



■ Enclosed Type 100~600W



▲ RPS-120/200-x-C
103.4x 62x 40mm



Under Development
▲ RPS-300-x-C
130x 86.6x 43mm



Under Development
▲ RPS-400-x-C
130x 86.6x 43mm



Under Development
▲ RPS-400-x-TF
130x 86.6x 66.5mm



Under Development
▲ RPS-400-x-SF
151x 86.6x 43mm

■ 120W: Single Output – Class I or II

Model No.	Output (Convection/10CFM)	Effi.
RPS-120-12-C	12V, 7A / 10A	88.0%
RPS-120-15-C	15V, 5.6A / 8A	88.5%
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 or II

Model No.	Output (Convection/20.5CFM)	Effi.
RPS-200-12-C	12V, 11.7A / 16.7A	92.0%
RPS-200-15-C	15V, 9.4A / 13.4A	92.0%
RPS-200-24-C	24V, 5.9A / 8.4A	93.0%
RPS-200-27-C	27V, 5.3A / 7.5A	93.0%
RPS-200-48-C	48V, 3A / 4.2A	94.0%

■ 400W: Single Output – Class I

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

□ = -C, -TF, -SF; -C: Enclosed type,
-SF: Side fan with cover, -TF: Top 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-300

MSP-450

MSP-600

■ 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%

Selection Guide

External Adaptor • Enclosed • Open Frame • On Board Type

* under development

Category	Type	Picture	Model	Rated Power (W)		Input Voltage (VAC)	Output Voltage (VDC)	Dimension (mm)	Insulation	Key Features
				Fan	No Fan					
External Adaptor	Interchangeable Type		GEM18I	-	18	80~264	5, 9, 12, 15, 18, 24, 48	75.5 x 39.1 x 56.2	Class I	   (GSM06, GSM18~36 5~9V for Level V)
	Wall-mounted		GSM06U/E	-	6		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					
	Desktop		GSM18B	-	18	80~264	5, 7.5, 9, 12, 15, 18, 24, 48	79 x 54 x 33	A Type:  B Type: 	  (except for A Type)  (GSM18~60 5~9V for Level V)
			GSM25B	-	25			125 x 50 x 31.5		
			GSM36B	-	36			145 x 60 x 32		
			GSM40A	-	40					
			GSM40B	-	40		167 x 67 x 35			
			GSM60A	-	60					
			GSM60B	-	60		175 x 72 x 35			
			GSM90A	-	90					
			GSM90B	-	90		210 x 85 x 46			
			GSM120A	-	120					
			GSM120B	-	120					
			GSM160A	-	160					
			GSM160B	-	160					
			GSM220A	-	220					
	GSM220B	-	220							
Enclosed		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			130 x 86.4 x 43			
		RPS-300-x-C*	300	200	90~264	12, 15, 24, 27, 36, 48	130 x 86.6 x 43			
		RPS-400-x-C*	400	250			130 x 86.6 x 66.5			
		RPS-400-x-TF*	400	-	80~264	12, 15, 24, 27, 36, 48	151 x 86.6 x 43			
		RPS-400-x-SF*	400	-			159 x 97 x 38			
		MSP-100	-	100	85~264	3.3, 5, 7.5, 12, 15, 24, 36, 48	199 x 98 x 38		 	
		MSP-200	-	200			199 x 105 x 41			
		MSP-300	300	-			218 x 105 x 41			
		MSP-450	450	-			218 x 105 x 63.5			
		MSP-600	600	-						

Category	Type	Picture	Model	Rated Power (W)		Input Voltage (VAC)	Output Voltage (VDC)	Dimension (mm)	Insulation	Key Features		
				Fan	No Fan							
Open Frame	PCB		RPS-30	-	30	80~264	3.3, 5, 7.5, 12, 15, 24, 48	76.2 x 50.8 x 24 (3" x 2")		  (except for RPS/D/T-75)		
			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")				
			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")				
			RPS-160	160	110		5, 12, 15, 24, 48	127 x 76.2 x 34.6 (5" x 3")				
			RPS-300	300	200		12, 15, 24, 27, 48	127 x 76.2 x 35 (5" x 3")				
			RPS-400	400	250	80~264	12, 15, 24, 27, 36, 48	   (MPS/D/T/Q-200 only)				
			RPD-60	-	60	90~264	5 / 12, 5 / 24		101.6 x 50.8 x 29 (4" x 2")			
			RPD-75	100	75		127 x 76.2 x 31 (5" x 3")					
			RPD-160	150	100		5 / 24		127 x 76.2 x 34.6 (5" x 3")			
			RPT-60	-	60	90~264	3.3, ±5, ±12, ±15, 24		101.6 x 50.8 x 29 (4" x 2")			
			RPT-75	100	75				127 x 76.2 x 31 (5" x 3")			
			RPT-160	150	100				±5, ±12, ±15, 24		127 x 76.2 x 34.6 (5" x 3")	
			On Board		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						
		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						

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