

Блоки питания, MW, MEAN WELL Минск тел.+375447584780

www.fotorele.net www.tiristor.by радиодетали, электронные компоненты  
email minsk17@tut.by tel.+375 29 758 47 80 МТС

Мы не работаем с частными (физическими) лицами.

Мы работаем только с юридическими лицами(организациями) и ИП и только по безналичному расчёту.

источник тока, напряжения, каталог, описание, технические, характеристики, datasheet,  
параметры, маркировка, габариты, фото, даташит QR код



**БЛОКИ ПИТАНИЯ,  
MEAN WELL ( MW )  
ИСТОЧНИК, ТОКА, НАПРЯЖЕНИЯ,  
АДАПТЕР,  
АС/DC —  
блоки питания  
LED —  
драйверы  
DC/DC —  
преобразователи  
DC/AC —  
инверторы  
Аксессуары**

**В кожухе  
На DIN рейку  
3-х фазный вход  
Компактные на открытой плате  
С функцией UPS  
Внешние подключаемые  
источники питания  
Специальные  
19" Rack Power  
Open Frame  
Модульная серия**

## RSP-1600

*1600W 1U Low Profile Enclosed Type*

Page  
**18**

- 90~264VAC input with PFC
- Vo and Icc programmable
- Active current sharing up to 9600W
- Built-in ORing FET
- 5 years warranty



## GSM90A/120A/ 160A/220A

*90~220W Desktop Medical Adaptor*

Page  
**66-67**

- 80~264VAC input with PFC
- Class I power unit (with earth Pin)
- 2xMOPP
- Low leakage current <100µA
- No load power consumption <0.15W
- Energy efficiency Level VI
- Comply with EISA 2007/DoE, NRCAN, AU/NZ MEPS, EU ErP and meet CoC Version 5
- 3 years warranty



## KNX-20E

*20W DIN Style KNX Power*

Page  
**33**

- EIB / KNX power supply with integrated choke
- Compact size with 3SU(52.5mm) width
- 180~264VAC input
- No load power consumption <0.5W
- LED indicator for normal operation, bus reset and bus overload
- 3 years warranty



## GEM30I/40I

*30/40W Interchangeable Medical Adaptor*

Page  
**68**

- Interchangeable AC plugs
- 80~264VAC input
- Suitable for BF application (2 × MOPP )
- Low leakage current <100µA
- No load power consumption <0.075W
- Energy efficiency Level VI
- Comply with EISA 2007/DoE and EU ErP
- 3 years warranty



## RPS-120-C/200-C/ 300-C/400-C/-TF/-SF

*120~400W Medical Enclosed Type*

Page  
**37&39**

- 80/90~264VAC input with PFC
- Suitable for BF application (2 × MOPP )
- Low leakage current <150~190µA
- No load power consumption <0.3~0.5W
- High efficiency up to 94%
- 3 years warranty



## RPB-1600/RCB-1600

*1600W Intelligent Battery Charger*

Page  
**75**

- Lead-acid and Li-ion battery charger with programmable charging curve
- 90~264VAC input with PFC
- Built-in I<sup>2</sup>C and PMBus protocol
- Vo and Io programmable
- Active current sharing up to 8000W
- 5 years warranty



## GP25/50

*25/50W Triple Output Industrial Adaptor*

Page  
**63**

- 90~264VAC input
- Energy efficiency Level VI
- No load power consumption <0.3W
- Comply with EISA 2007/DoE and EU ErP
- IEC320-C14/Class I for A type, IEC320-C8/Class II for B type
- 3 years warranty



## RCP-1600/RHP-1U

*1600W 1U Low Profile Rack System*

Page  
**76**

- 90~264VAC input with PFC
- Vo and Icc programmable
- Active current sharing up to 24000W
- Built-in ORing FET, support hot swap
- Built-in I<sup>2</sup>C and PMBus protocol
- 5 years warranty



## ■AC/DC Enclosed

G3 Series	RS-15 / 25 / 35 / 50 / 75 / 100 / 150	2~3	
	RD-35 / 50 / 65 / 85 / 125 RID-50 / 65 / 85 / 125, RT-50 / 65 / 85 / 125 RQ-50 / 65 / 85 / 125		
NE Series	NES-15 / 25 / 35 / 50 / 75 / 100 / 150 NED-35 / 50 / 75 / 100, NET-35 / 50 / 75 NES-200, NES-350	4~5	
SE Series	SE-100, SE-200, SE-350, SE-450 SE-600, SE-1000, SE-1500,	6 7	
LRS Series	LRS-35, LRS-50, LRS-75, LRS-100	8	
	LRS-150F, LRS-150, LRS-200, LRS-350	9	
PFC	General	SP-75, SP-100, SP-150, SP-200, SP-240	10
		SP-320, SP-480, PSP-600, SP-750	11
		RSP-75, RSP-100, RSP-150, RSP-200	12
		RSP-320, RSP-500	13
		TP-75, TP-100, TP-150,	14~15
	QP-100, QP-150, QP-200, QP-320		
	HRP-75, HRP-100, HRP-150, HRP-200	16	
	HRP-300, HRP-450, HRP-600	17	
	Programmable	RSP-750, RSP-1000, RSP-1600, RSP-2000	18
		RSP-1500, RSP-2400, RSP-3000	19
RST-5000, RST-10000		20	
SPV-150 / 300 / 1500		Output Voltage Programmable 21	
Medical		MSP-100 / 200 / 300 / 450 / 600	22
U-bracket	USP-150, USP-225, USP-350, USP-500	23	
DIN Series	MDR-10 / 20 / 40 / 60 / 100	24	
	DR-15, DR-30, DR-60, DR-100	25	
	DR-45, DR-75, DR-120,	26	
	DRP-240, DRP-480, DRP-480S		
	DRH-120, DRT-240, DRT-480, DRT-960	27	
	EDR-75, EDR-120, EDR-150	HEP-480 28	
	NDR-75, NDR-120, NDR-240, NDR-480	29	
	SDR-75 / 120 / 240 / 480 / 960	30	
	WDR-120, WDR-240, WDR-480	31	
	TDR-480, TDR-960	HDR-15/30/60/100 32	
	DRA-40, DRA-60, KNX-20E	33	
	DR-RDN20, DR-UPS40	34	

## ■AC/DC Open Frame

Medical	PM-05, PM-10, PM-15, PM-20	35
	NFM-05, NFM-10, NFM-15, NFM-20	36
	RPS-30/45/65, RPS/D/T-60, RPS-120/200-x[C]	37
	RPS/D/T-75, RPS[D]/D/T-160,	38
	RPS-300/x[C], RPS-400/x[C], -x[TF], -x[SF]	39
	MPS-30, MPS/D/T-45, MPS/D/T-65	40
	MPS/D/T/Q-200	41
Industrial	PS-05, PS-15, PS-25, PD-25, PS-35	42
	PS-45, PD-45, PT-45, PT-4503 / 6503	43
	PS / PD / PT-65, RPD-65[C], RPT-65[C]	44
	PD-110, PPS-125, PPT-125	NMP-650/1200 45
	ASP-150, PPS-200, PID-250[C]	46
	LPS-50 / 75 / 100, LPP-100 / 150	47
	IRM-01-x[S] / 02-x[S] / 03-x[S] / 05 / 10 / 15 / 20	48
	IRM-30 / 45 / 60-x[ST]	49
	EPS-15, EPS-25/35, EPS-45S, EPS-65S	50
	EPS-45 / 65-x[C] / EPS-120, ELP-75-x[C],	51
	EPP-100 / 150 / 200 / 300 / 400	52

## ■AC/DC External Power

Adaptor	Industrial	GE12/18/24/ 30	Interchangeable AC Plug 53
		GS06E/U, GS12E/U, GS05E/U-USB, GS15A/B/E/U	54
		GS18A/B/E/U, GS25A/B/E/U, GS36E/U	55
		GS40A, GS60A, GS90A, GS120A	56
		GS160A, GS220A, GS280A	57
		GST18A/B/E/U, GST25A/B/E/U, GST36B/E/U	58
		GST40A / 60A / 90A / 120A	59
		GST160A / 220A / 280A	60

Adaptor	Industrial	SGA12E/U, 18E/U, 25E/U	61
		SGA40E/U, SGA60E/U	Optional DC Plug List 62
		P25A/B, P50A, GP25A/B, GP50A	63
	Medical	GSM06E/U, GSM18/25 / 36B/E/U	64
		GSM40A/B, GSM60A/B	65
		GSM90A/B, GSM120A/B	66
		GSM160A/B, GSM220A/B	67
	Moistureproof	GEM18I / 30I / 40I	Interchangeable AC Plug 2 68
		OWA-60E/U, OWA-90E/U, OWA-120E/U	69

## ■Battery Charger

Portable	GC30, GC120, GC160, GC220, GC330	70
	PA-120, PB-120, PB-230	2/3/8 Stage Charging 71
	ESP-120/240, ENP-120 / 180 / 240 / 360	72
Stationary	ESC-120/240, ENC-120 / 180 / 240 / 360	73
	PB-300 / 360[P] / 600 / 1000	74
	HEP-600C, RPB-1600, RCB-1600	75

## ■19" Rack Power

1U Front End & Shelf	RCP-1000, RCP-1U□, RCP-1600, RHP-1U□	76
	RCP-2000, RKP-1U□, RKP-CMU1, RKP-1U□-CMU1	77

## ■Configurable Power

Modular Series	MP450, MP650, MP1K0	78~79
	MS-75 / 150 / 210 / 300 / 360, MD-100	

## ■Specific Purpose

LED Sign Panel	ERP-350, HSN-200/300, NEL-200/300/400	80
	HSP-150 / 200 / 250 / 300, HDP-190 / 240	81
Harsh Environment	HEP-100, HEP-150, HEP-185	82
	HEP-240, HEP-320, HEP-600	83
Security	DRC-40, DRC-60, DRC-100	84
	PSC-35-x[C], PSC-60-x[C], PSC-100-x[C], PSC-160-x[C]	85
	ADS/AD/ADD-55, ADS/AD/ADD-155	86
	SCP-35, SCP-50, SCP-75	87
ATX Power	IPC-250, IPC-300	87

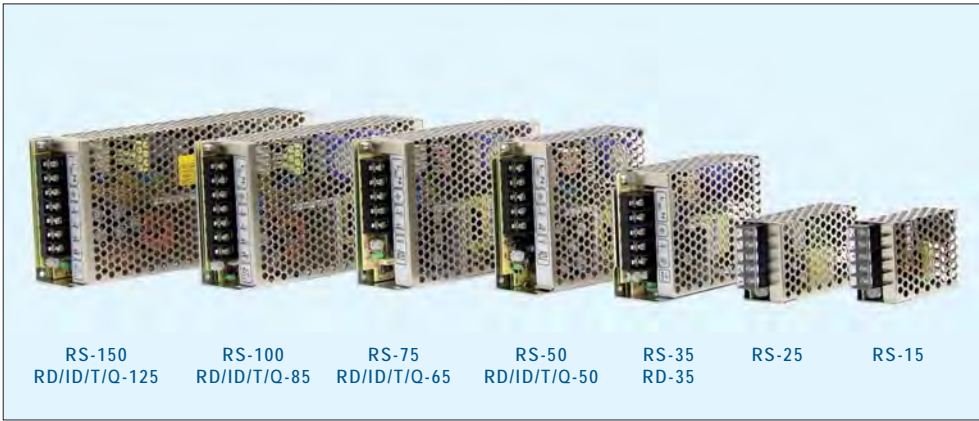
## ■DC/DC Converter

Module	SPR01, SPA01	88
	SPA02, SPB03, SPB05	89
	SMU01, SMU02, SPU02, SPU03	90
	SRS, SUS01, SMA01	91
	SBT01, SFT01, DET01	92
	SCW03, DCW03, SCW05, DCW05	93
	SCW08, DCW08, SCW12, DCW12	94
	SLW05, DLW05, SKE10, DKE10	95
	SKM15, SKA15, DKA15	96
	SKA20, SKM30, SKM50	97
	SKE15, DKE15, DKA30, TKA30	98
	SDM30, SKA40, SKA60	99
	MHB75 / 100 / 150	Heat Sink for MHB Series 100
On Board	NSD05, NSD10-S, NSD10-D	101
PCB	NSD15-S, NSD15-D, NID30, NID60	102
	PSD-05, PSD-15, PSD-30, PSD-45	103
Enclosed	SD-15, SD-25, SD-50, SD-100	104
	SD-150, SD-200, SD-350, SD-500, SD-1000	105
	RSD-100, RSD-150, RSD-200, RSD-300	106
Other Power Solutions		107

## ■Case Drawing / Accessories

Case Drawing	Metal case dimension / mounting information	108~113
Accessories	DRL-01 / 02 / 03A, DRP-01 / 01A / 02 / 03 / 04	114
	MHS012 / 013 / 014 / 025 / 026 / 027	
	TBC-05 / 07 / 08 / 09	

	: New Announced		: Under Development
	: New Product within 1 Year		: Supplementary Information



### ■ Features

- No load power consumption <0.5W (RS-15~75)
- All using 105°C long life electrolytic capacitors
- Protections: Short circuit / Overload / Over voltage / Over Temp. (RS-15)
- Meet EMS EN50082-2/EN61000-6-2 heavy industry level (35~150W)
- Withstand 300VAC surge input for 5 sec.
- High operating temperature up to 70°C
- Withstand 5G vibration test
- Miniature size
- Long life and high reliability
- LED indicator for power on
- 100% full load burn-in test
- Suitable for critical applications
- 3 years warranty



Model No.	RS-15	RS-25	RS-35 RD-35	RS-50 RD / ID / T / Q-50	RS-75 RD / ID / T / Q-65	RS-100 RD / ID / T / Q-85	RS-150 RD / ID / T / Q-125	
AC input voltage range	85~264VAC, 120~370VDC	88~264VAC, 125~373VDC					115 / 230VAC by switch	
AC inrush current (max.)	Cold start, 65A at 230VAC	30A at 230VAC	36A at 230VAC	33A at 230VAC	40A at 230VAC			
DC adjustment range	±10% by potentiometer for single output; CH1 -5%~+10% by potentiometer for multiple output							
Overload protection	>105%, hiccup mode	110%~180%	110%~150% hiccup mode, auto-recovery (150% ~190% for RID-125-1205/2405)					
Over voltage protection	115%~135%, shut off	115%~135% rated output voltage, hiccup mode, auto-recovery						
Withstand voltage	I/P - O/P: 3kVAC, I/P - FG: 1.5kVAC, O/P - FG: 0.5kVAC, 1 minute							
Working temperature	-20~+70°C			-25~+70°C (refer to the derating curve for different models)				
Vibration	10~500Hz, 5G 10min. /1 cycle, period for 60 min. each along X, Y, Z axes							
Safety standards	UL60950-1, TUV EN60950-1, CCC GB4943(RS-50 only) approved							
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61000-6-2 (EN50082-2) (35~150W); GB9254 for RS-50 only							
Connection	Terminal block for input and output							
Dimension (LxWxH)(mm)	62.5x 51x 28	78x 51x 28	99x 82x 36	99x 97x 36	129x 97x 38	159x 97x 38	199x 98x 38	
Case No.	971A	931A	932A	905B	903	901C	902A	
Packing	108pcs /15.0kg	60pcs /13.0kg	45pcs /14.0kg	45pcs /19.5kg	30pcs /13.3kg	24pcs /15.4kg	20pcs /15kg	

### ■ 15W — Single Output

Model No.	Output	Tol.	R&N	Effi.
RS-15-3.3	3.3V, 0~3.0A	±3%	80mV	72%
RS-15-5	5V, 0~3.0A	±2%	80mV	77%
RS-15-12	12V, 0~1.3A	±1%	120mV	81%
RS-15-15	15V, 0~1.0A	±1%	120mV	81%
RS-15-24	24V, 0~0.625A	±1%	200mV	82%
RS-15-48	48V, 0~0.313A	±1%	200mV	82%

RS-50-15	15V, 0~3.4A	±1%	120mV	86.0%
RS-50-24	24V, 0~2.2A	±1%	120mV	88.0%
RS-50-48	48V, 0~1.1A	±1%	200mV	89.0%

### ■ 75W — Single Output

Model No.	Output	Tol.	R&N	Effi.
RS-75-3.3	3.3V, 0~15A	±3%	80mV	75.0%
RS-75-5	5V, 0~12A	±2%	80mV	79.0%
RS-75-12	12V, 0~6.0A	±1%	120mV	84.5%
RS-75-15	15V, 0~5.0A	±1%	120mV	86.0%
RS-75-24	24V, 0~3.2A	±1%	120mV	88.5%
RS-75-48	48V, 0~1.6A	±1%	200mV	89.5%

### ■ 25W — Single Output

Model No.	Output	Tol.	R&N	Effi.
RS-25-3.3	3.3V, 0~6.0A	±3%	80mV	73.5%
RS-25-5	5V, 0~5.0A	±2%	80mV	78.5%
RS-25-12	12V, 0~2.1A	±1%	120mV	81.5%
RS-25-15	15V, 0~1.7A	±1%	120mV	83.5%
RS-25-24	24V, 0~1.1A	±1%	120mV	86.0%
RS-25-48	48V, 0~0.57A	±1%	200mV	85.0%

### ■ 100W — Single Output

Model No.	Output	Tol.	R&N	Effi.
RS-100-3.3	3.3V, 0~20A	±3%	80mV	74%
RS-100-5	5V, 0~16A	±2%	80mV	77%
RS-100-12	12V, 0~8.5A	±1%	120mV	81%
RS-100-15	15V, 0~7.0A	±1%	120mV	82%
RS-100-24	24V, 0~4.5A	±1%	120mV	84%
RS-100-48	48V, 0~2.3A	±1%	200mV	84%

### ■ 35W — Single Output

Model No.	Output	Tol.	R&N	Effi.
RS-35-3.3	3.3V, 0~7.0A	±3%	80mV	76.5%
RS-35-5	5V, 0~7.0A	±2%	80mV	80.5%
RS-35-12	12V, 0~3.0A	±1%	120mV	84.5%
RS-35-15	15V, 0~2.4A	±1%	120mV	86.0%
RS-35-24	24V, 0~1.5A	±1%	120mV	88.0%
RS-35-48	48V, 0~0.8A	±1%	200mV	88.5%

### ■ 150W — Single Output

Model No.	Output	Tol.	R&N	Effi.
RS-150-3.3	3.3V, 0~30A	±3%	80mV	74%
RS-150-5	5V, 0~26A	±2%	80mV	78%
RS-150-12	12V, 0~12.5A	±1%	120mV	83%
RS-150-15	15V, 0~10A	±1%	120mV	84%
RS-150-24	24V, 0~6.5A	±1%	120mV	86%
RS-150-48	48V, 0~3.3A	±1%	200mV	87%

### ■ 50W — Single Output

Model No.	Output	Tol.	R&N	Effi.
RS-50-3.3	3.3V, 0~10A	±3%	80mV	78.0%
RS-50-5	5V, 0~10A	±2%	80mV	83.0%
RS-50-12	12V, 0~4.2A	±1%	120mV	84.5%



# Enclosed-G3 Series



## 35W — Dual Output

Model No.	Output	Tol.	R&N	Effi.	Max.
RD-35A	5V, 0.3~4.0A	±2%	80mV	79%	32W
	12V, 0.2~1.0A	±6%	120mV		
RD-35B	5V, 0.3~4.0A	±2%	80mV	82%	35W
	24V, 0.2~1.3A	±5%	120mV		
RD-3513	13.5V, 0.3~2.0A	±4%	120mV	80%	35W
	-13.5V, 0.2~0.57A	±4%	120mV		

## 50W — Dual Output (Output isolated for RID-50A/B)

Model No.	Output	Tol.	R&N	Effi.	Max.
RD-50A	5V, 0.3~6.0A	±2%	80mV	79%	54W
	12V, 0.3~3.0A	±7%	120mV		
RD-50B	5V, 0.3~6.0A	±2%	80mV	80%	54W
	24V, 0.2~2.0A	+8%, -4%	120mV		

## 65W — Dual Output (Output isolated for RID-65A/B)

Model No.	Output	Tol.	R&N	Effi.	Max.
RD-65A	5V, 0.3~8.0A	±2%	80mV	79%	66W
	12V, 0.2~4.0A	±6%	120mV		
RD-65B	5V, 0.3~8.0A	±2%	80mV	78%	68W
	24V, 0.2~3.0A	+4%, -6%	150mV		

## 85W — Dual Output (Output isolated for RID-85A/B)

Model No.	Output	Tol.	R&N	Effi.	Max.
RD-85A	5V, 2.0~10A	±2%	80mV	78%	88W
	12V, 0.3~5.0A	±5%	120mV		
RD-85B	5V, 2.0~10A	±2%	80mV	80%	88W
	24V, 0.3~2.5A	±5%	120mV		

## 125W — Dual Output

Model No.	Output	Tol.	R&N	Effi.	Max.
RD-125A	5V, 2.0~15A	±5%	80mV	82%	131W
	12V, 0.5~10A	±7%	120mV		
RD-125B	5V, 2.0~10A	±5%	80mV	85%	133W
	24V, 0.4~5.0A	±7%	120mV		

## 125W — Dual Output (Output isolated for RID-125)

Model No.	Output	Tol.	R&N	Effi.	Max.
RD-125-1224	12V, 1.0~7.0A	±2%	120mV	85%	133W
	24V, 0.4~5.0A	+8%, -5%	200mV		
RD-125-2412	24V, 0.5~5.0A	±2%	200mV	85%	133W
	12V, 1.0~7.0A	±10%	120mV		
RD-125-1248	12V, 1.0~7.0A	±2%	120mV	86%	138W
	48V, 0.2~2.5A	+8%, -5%	240mV		
RD-125-4812	48V, 0.3~2.5A	±2%	240mV	86%	138W
	12V, 1.0~7.0A	±10%	120mV		
RD-125-2448	24V, 0.5~4.0A	±1%	200mV	86%	144W
	48V, 0.2~2.5A	±4%	240mV		
RD-125-4824	48V, 0.3~2.5A	±1%	240mV	86%	144W
	24V, 0.5~4.0A	±8%	240mV		
RID-125-1205	12V, 2.0~10.5A	±2%	120mV	80%	125W
	5V, 0.0~3.0A	±3%	80mV		
RID-125-2405	24V, 2.0~5.3A	±2%	120mV	83%	125W
	5V, 0.0~3.0A	±3%	80mV		

## 50W — Quad Output (RT-50 without -5V or -12V output)

Model No.	Output	Tol.	R&N	Effi.	Max.
RQ-50B	5V, 0.5~6.0A	±2%	80mV	74%	46W
	12V, 0.2~1.5A	±6%	120mV		
	-5V, 0.0~1.0A	±3%	100mV		
RQ-50C	-12V, 0.0~1.0A	±3%	80mV		
	5V, 0.5~6.0A	±2%	80mV	75%	50W
	15V, 0.2~1.5A	±6%	120mV		
RQ-50D	-5V, 0.0~1.0A	±3%	100mV		
	-15V, 0.0~1.0A	±3%	80mV		
	5V, 0.5~6.0A	±2%	80mV	79%	53W
	12V, 0.2~1.5A	±6%	120mV		
	24V, 0.1~1.0A	+7%, -5%	180mV		
	-12V, 0.0~1.0A	±3%	80mV		

## 65W — Quad Output (RT-65 without -5V or -12V output)

Model No.	Output	Tol.	R&N	Effi.	Max.
RQ-65B	5V, 0.5~8.0A	±2%	80mV	76%	63W
	12V, 0.2~3.0A	+9%, -5%	120mV		
	-5V, 0.0~1.0A	±5%	80mV		
RQ-65C	-12V, 0.0~1.0A	±5%	80mV		
	5V, 0.5~8.0A	±2%	80mV	76%	65W
	15V, 0.2~3.0A	+10%, -4%	120mV		
RQ-65D	-5V, 0.0~1.0A	±5%	80mV		
	-15V, 0.0~1.0A	±5%	80mV		
	5V, 0.5~8.0A	±2%	80mV	78%	68W
	12V, 0.2~3.0A	±6%	120mV		
	24V, 0.1~1.5A	±8%	180mV		
	-12V, 0.0~1.0A	±5%	80mV		

## 85W — Quad Output (RT-85 without -5V or -12V output)

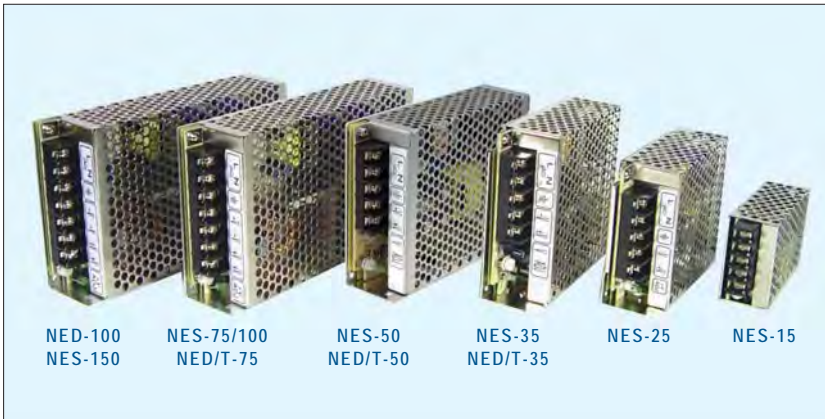
Model No.	Output	Tol.	R&N	Effi.	Max.
RQ-85B	5V, 2.0~10A	±2%	80mV	76%	81W
	12V, 0.3~4.0A	+7%, -3%	120mV		
	-5V, 0.0~1.0A	±8%	100mV		
RQ-85C	-12V, 0.0~1.0A	±5%	80mV		
	5V, 2.0~10A	±2%	80mV	77%	83W
	15V, 0.3~4.0A	+3%, -7%	120mV		
RQ-85D	-5V, 0.0~1.0A	±8%	100mV		
	-15V, 0.0~1.0A	±5%	80mV		
	5V, 2.0~10A	±2%	80mV	78%	84W
	12V, 0.3~4.0A	+7%, -3%	120mV		
	24V, 0.1~1.5A	±8%	150mV		
	-12V, 0.0~1.0A	±5%	80mV		

## 125W — Quad Output (RT-125 without -5V or -12V output)

Model No.	Output	Tol.	R&N	Effi.	Max.
RQ-125B	5V, 2.0~12A	±2%	80mV	79%	120W
	12V, 0.5~4.5A	+8%, -3%	120mV		
	-5V, 0.1~1.0A	+6%, -10%	80mV		
RQ-125C	-12V, 0.0~1.0A	±5%	80mV		
	5V, 2.0~12A	±2%	80mV	80%	123W
	15V, 0.5~4.0A	+8%, -3%	120mV		
RQ-125D	-5V, 0.1~1.0A	+6%, -10%	80mV		
	-15V, 0.0~1.0A	±5%	80mV		
	5V, 2.0~12A	±2%	80mV	82%	124W
	12V, 0.5~4.0A	+8%, -3%	120mV		
	24V, 0.1~2.5A	±8%	150mV		
	-12V, 0.0~1.0A	±5%	80mV		

# Enclosed-NE Series

15~350W Compact



## Features

- Universal AC input / Full range  
(NES/D-100, NES-150 AC input selectable by switch)
- Protections: Short circuit / Overload / Over voltage
- Built-in over temperature protection for NES-15
- Cooling by free air convection
- 100% full load burn-in test
- 2 years warranty



Model No.	NES-15	NES-25	NES-35 NED/T-35	NES-50 NED/T-50	NES-75 NED/T-75	NES-100	NES-150 NED-100
AC input voltage range	85~264VAC; 120~370VDC					115/230VAC by switch	
AC inrush current (max.)	Cold start, 45A at 230VAC						
DC adjustment range	±10% by potentiometer for single output; CH1 -5%~+10% by potentiometer for multiple output					-5%~+10% (NES-100/150) CH1 -5%~+10% (NED-100)	
Overload protection	>105%	110%~150% hiccup mode, auto-recovery					
Over voltage protection	115%~135% rated output voltage, shut off					115%~135% hiccup mode, auto-recovery	
Withstand voltage	I/P - O/P: 3kVAC, I/P - FG: 2kVAC, O/P - FG: 0.5kVAC, 1 minute						
Working temperature	-20~+60°C (refer to the derating curve for different models)						
Vibration	10~500Hz, 2G 10min. /1 cycle, period for 60 min. each along X, Y, Z axes						
Safety standards	UL60950-1, EN60950-1(NES-150 only), GB4943(NES only) approved, also design refer to TUV EN60950-1						
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, GB9254(NES only)						
Connection	Terminal block for input and output						
Dimension (LxWxH)(mm)	78x 51x 28	99x 82x 35	99x 97x 36	129x 98x 38	159x 97x 38	159x 97x 38	199x 98x 38
Case No.	931A	932B	905	903	901	901	902
Packing	60pcs/11.8kg	45pcs/14.5kg	45pcs/17.2kg	45pcs/21kg	30pcs/16.6kg	30pcs/17.5kg	20pcs/15kg

## 15W — Single Output

Model No.	Output	Tol.	R&N	Effi.
NES-15-5	5V, 0~3.0A	±2%	150mV	79%
NES-15-12	12V, 0~1.3A	±1%	150mV	81%
NES-15-15	15V, 0~1.0A	±1%	150mV	81%
NES-15-24	24V, 0~0.7A	±1%	200mV	85%
NES-15-48	48V, 0~0.35A	±1%	240mV	82%

## 25W — Single Output

Model No.	Output	Tol.	R&N	Effi.
NES-25-5	5V, 0~5.0A	±2%	80mV	78%
NES-25-12	12V, 0~2.1A	±1%	120mV	83%
NES-25-15	15V, 0~1.7A	±1%	150mV	84%
NES-25-24	24V, 0~1.1A	±1%	200mV	86%
NES-25-48	48V, 0~0.57A	±1%	240mV	86%

## 35W — Single Output

Model No.	Output	Tol.	R&N	Effi.
NES-35-5	5V, 0~7.0A	±2%	80mV	78%
NES-35-12	12V, 0~3.0A	±1%	120mV	81%
NES-35-15	15V, 0~2.4A	±1%	150mV	83%
NES-35-24	24V, 0~1.5A	±1%	200mV	85%
NES-35-48	48V, 0~0.8A	±1%	240mV	86%

## 50W — Single Output

Model No.	Output	Tol.	R&N	Effi.
NES-50-5	5V, 0~10A	±2%	80mV	79%
NES-50-12	12V, 0~4.2A	±1%	120mV	82%
NES-50-15	15V, 0~3.4A	±1%	150mV	83%
NES-50-24	24V, 0~2.2A	±1%	200mV	86%
NES-50-48	48V, 0~1.1A	±1%	240mV	87%

## 75W — Single Output

Model No.	Output	Tol.	R&N	Effi.
NES-75-5	5V, 0~14A	±2%	80mV	77%
NES-75-12	12V, 0~6.2A	±1%	120mV	82%
NES-75-15	15V, 0~5.0A	±1%	150mV	83%
NES-75-24	24V, 0~3.2A	±1%	200mV	86%
NES-75-48	48V, 0~1.6A	±1%	240mV	87%

## 100W — Single Output

Model No.	Output	Tol.	R&N	Effi.
NES-100-5	5V, 0~20A	±2%	80mV	80%
NES-100-7.5	7.5V, 0~13.6A	±1%	120mV	81%
NES-100-9	9V, 0~11.2A	±1%	120mV	81%
NES-100-12	12V, 0~8.5A	±1%	120mV	83%
NES-100-15	15V, 0~7.0A	±1%	120mV	84%
NES-100-24	24V, 0~4.5A	±1%	120mV	86%
NES-100-48	48V, 0~2.3A	±1%	150mV	86%

## 150W — Single Output

Model No.	Output	Tol.	R&N	Effi.
NES-150-3.3	3.3V, 0~30A	±3%	80mV	73%
NES-150-5	5V, 0~26A	±2%	80mV	78%
NES-150-7.5	7.5V, 0~20A	±1%	120mV	80%
NES-150-9	9V, 0~16.7A	±1%	120mV	83%
NES-150-12	12V, 0~12.5A	±1%	120mV	83%
NES-150-15	15V, 0~10A	±1%	120mV	83%
NES-150-24	24V, 0~6.5A	±1%	120mV	86%
NES-150-48	48V, 0~3.3A	±1%	200mV	86%

# Enclosed-NE Series



## 35W — Dual Output

Model No.	Output	Tol.	R&N	Effi.	Max.
NED-35A	5V, 0.5~5.0A	±2%	80mV	78%	32W
	12V, 0.1~1.5A	±6%	120mV		
NED-35B	5V, 0.5~4.0A	±2%	80mV	81%	35W
	24V, 0.2~1.3A	±6%	200mV		

## 50W — Dual Output

Model No.	Output	Tol.	R&N	Effi.	Max.
NED-50A	5V, 1.0~6.0A	±2%	80mV	79%	54W
	12V, 0.3~3.0A	±6%	120mV		
NED-50B	5V, 1.0~6.0A	±2%	80mV	82%	54W
	24V, 0.2~2.0A	±6%	200mV		

## 75W — Dual Output

Model No.	Output	Tol.	R&N	Effi.	Max.
NED-75A	5V, 1.0~8.0A	±2%	80mV	78%	71W
	12V, 0.3~4.0A	±6%	120mV		
NED-75B	5V, 1.0~6.0A	±2%	80mV	81%	73W
	24V, 0.2~3.0A	±6%	200mV		

## 100W — Dual Output (Output isolated for NED-100-□□GD)

Model No.	Output	Tol.	R&N	Effi.	Max.
NED-100A	5V, 2~10A	±2%	80mV	80%	100W
	12V, 0.7~7.0A	±10%	120mV		
NED-100B	5V, 1~10A	±2%	80mV	82%	100W
	24V, 0.3~3.5A	±8%	200mV		
NED-100C	12V, 0~8.0A	±2%	120mV	80%	99W
	5V, 0~3.0A	±3%	80mV		
NED-100D	24V, 0~4.0A	±2%	120mV	82%	99W
	5V, 0~3.0A	±3%	80mV		

## 35W — Triple Output

Model No.	Output	Tol.	R&N	Effi.	Max.
NET-35A	5V, 0.5~4.0A	±2%	80mV	78%	30W
	12V, 0.1~1.5A	±6%	120mV		
	-5V, 0.1~0.5A	±6%	120mV		
NET-35B	5V, 0.5~4.0A	±2%	80mV	79%	33W
	12V, 0.1~1.5A	±6%	120mV		
	-12V, 0.1~0.5A	±6%	120mV		
NET-35C	5V, 0.5~3.5A	±2%	80mV	79%	35W
	15V, 0.1~1.5A	±8%	150mV		
NET-35D	5V, 0.5~3.5A	±2%	80mV	79%	37W
	24V, 0.1~1.0A	±8%	200mV		
	12V, 0.1~1.0A	±8%	120mV		

## 50W — Triple Output

Model No.	Output	Tol.	R&N	Effi.	Max.
NET-50A	5V, 0.6~5.0A	±2%	80mV	76%	47W
	12V, 0.2~2.5A	±6%	120mV		
	-5V, 0.1~0.7A	±5%	120mV		
NET-50B	5V, 0.6~5.0A	±2%	80mV	78%	50W
	12V, 0.2~2.5A	±6%	120mV		
	-12V, 0.1~0.7A	±5%	120mV		
NET-50C	5V, 0.6~5.0A	±2%	80mV	78%	50W
	15V, 0.1~2.0A	±8%	150mV		
	-15V, 0.1~0.7A	±5%	150mV		
NET-50D	5V, 0.6~5.0A	±2%	80mV	80%	51W
	24V, 0.1~1.5A	±8%	200mV		
	12V, 0.1~1.5A	±6%	120mV		

## 75W — Triple Output

Model No.	Output	Tol.	R&N	Effi.	Max.
NET-75A	5V, 0.6~7.0A	±2%	80mV	77%	69W
	12V, 0.2~3.5A	±6%	120mV		
	-5V, 0.1~0.7A	±5%	120mV		
NET-75B	5V, 0.6~7.0A	±2%	80mV	78%	65W
	12V, 0.2~3.5A	±6%	120mV		
	-12V, 0.1~0.7A	±5%	120mV		
NET-75C	5V, 0.6~7.0A	±2%	80mV	78%	72W
	15V, 0.1~3.5A	±8%	150mV		
	-15V, 0.1~0.7A	±5%	150mV		
NET-75D	5V, 0.6~6.0A	±2%	80mV	80%	73W
	24V, 0.1~2.0A	±8%	200mV		
	12V, 0.1~1.5A	±6%	120mV		

## 210W Single Output Switching Power Supply



- AC input selectable by switch
- Withstand 300VAC surge input for 5 seconds
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Cooling by free air convection
- Built-in constant current limiting circuit
- 100% full load burn-in test
- LED indicator for power on
- Low cost, high reliability
- 2 years warranty

AC input voltage range ..... 90~132VAC / 180~264VAC selectable by switch  
 DC adjustment range ..... ±10% rated output range  
 Overload protection ..... 105%~150% constant current limiting, auto-recovery  
 Over voltage protection ..... 115%~145% rated output voltage  
 Setup, rise, hold up time ..... 1000ms, 50ms, 20ms at full load and 230VAC  
 Withstand voltage ..... I/P - O/P: 3kVAC, I/P-FG: 1.5kVAC, O/P-FG: 0.5kVAC  
 Working temperature ..... -20~+50°C (refer to output derating curve)  
 Safety standards ..... UL60950-1 approved  
 Packing ..... 0.93kg ; 12pcs / 12kg / 0.92CUFT

Model No.	Output	Tol.	R&N	Effi.
NES-200-3.3	3.3V, 0~40A	±2%	150mV	75%
NES-200-5	5V, 0~40A	±2%	150mV	79%
NES-200-7.5	7.5V, 0~27A	±2%	150mV	82%
NES-200-12	12V, 0~17A	±1%	150mV	85%
NES-200-15	15V, 0~14A	±1%	150mV	85%
NES-200-24	24V, 0~8.8A	±1%	150mV	87%
NES-200-27	27V, 0~7.8A	±1%	200mV	88%
NES-200-36	36V, 0~5.9A	±1%	240mV	89%
NES-200-48	48V, 0~4.4A	±1%	240mV	89%

## 350W Single Output Switching Power Supply



- AC input selectable by switch
- Withstand 300VAC surge input for 5 seconds
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Forced air cooling by built-in DC fan
- Built-in fan ON/OFF control
- Built-in constant current limiting circuit
- 100% full load burn-in test
- LED indicator for power on
- Low cost, high reliability
- 2 years warranty

AC input voltage range ..... 90~132VAC / 180~264VAC selectable by switch  
 DC adjustment range ..... ±10% rated output range  
 Overload protection ..... 105%~135% constant current limiting, auto-recovery  
 Over voltage protection ..... 115%~145% rated output voltage  
 Setup, rise, hold up time ..... 1000ms, 50ms, 20ms at full load and 230VAC  
 Withstand voltage ..... I/P - O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC  
 Working temperature ..... -20~+60°C (refer to output derating curve)  
 Safety standards ..... UL60950-1 approved  
 Packing ..... 1.07kg ; 12pcs / 13.5kg / 0.92CUFT

Model No.	Output	Tol.	R&N	Effi.
NES-350-3.3	3.3V, 0~60A	+3%, -4.5%	150mV	74.0%
NES-350-5	5V, 0~60A	±3.0%	150mV	78.0%
NES-350-7.5	7.5V, 0~46A	±2.0%	150mV	80.0%
NES-350-12	12V, 0~29A	±1.5%	150mV	83.0%
NES-350-15	15V, 0~23.2A	±1.0%	150mV	84.0%
NES-350-24	24V, 0~14.6A	±1.0%	150mV	87.0%
NES-350-27	27V, 0~13A	±1.0%	200mV	88.0%
NES-350-36	36V, 0~9.7A	±1.0%	240mV	87.5%
NES-350-48	48V, 0~7.3A	±1.0%	240mV	87.5%

# Enclosed-SE Series 100~450W Single Output



## ■ Features

- AC input selectable by switch
- Withstand 300VAC surge input for 5 seconds (SE-200/350)
- Protections: Short circuit / Overload / Over voltage / Over temperature (except for SE-100)
- Forced air cooling by built-in DC fan (SE-350/450)
- Built-in fan ON/OFF control (SE-350)
- Built-in constant current limiting circuit (SE-200/350)
- Withstand 5G vibration test (SE-200/350)
- Built-in remote sense function (SE-450)
- 100% full load burn-in test
- LED indicator for power on
- 2 years warranty

Model No.	SE-100	SE-200	SE-350	SE-450
AC input voltage range	115/230VAC by switch			
AC inrush current (max.)	Cold start, 36A at 230VAC	Cold start, 55A at 230VAC	Cold start, 60A at 230VAC	Cold start, 55A at 230VAC
DC adjustment range	-5%~+10% rated output voltage			
Overload protection	Range	110%~150%	105%~150%	105%~135%
	Type	Hiccup mode, auto-recovery	Constant current limiting, auto-recovery	Shut down o/p voltage, re-power on to recover
Over voltage protection	115%~135%	115%~145%		
Withstand voltage	I/P - O/P: 3kVAC, I/P - FG: 1.5kVAC, O/P-FG: 0.5kVAC			
Working temperature	-20~+60°C	-20~+50°C	-20~+60°C	-10~+60°C (refer to output derating curve)
Safety standards	UL60950-1, GB4943(SE-100 only) approved			
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, GB9254 for SE-100 only			
Connection	7P/9.5mm pitch terminal block	9P/9.5mm pitch terminal block with cover		9P/11mm pitch terminal block with cover
Dimension (LxWxH)(mm)	159x 97x 38	215x 115x 50		225x 124x 50
Case No.	901	912E	912C	986A
Packing	30pcs / 17.5kg	12pcs / 12kg	12pcs / 13.5kg	12pcs / 16kg

## ■ SE-100 Series

Model No.	Output	Tol.	R&N	Effi.
SE-100-5	5V, 0~20A	±2%	80mV	80%
SE-100-7.5	7.5V, 0~13.6A	±1%	120mV	81%
SE-100-9	9V, 0~11.2A	±1%	120mV	81%
SE-100-12	12V, 0~8.5A	±1%	120mV	83%
SE-100-15	15V, 0~7.0A	±1%	120mV	84%
SE-100-24	24V, 0~4.5A	±1%	120mV	86%
SE-100-48	48V, 0~2.3A	±1%	150mV	86%

## ■ SE-200 Series

Model No.	Output	Tol.	R&N	Effi.
SE-200-3.3	3.3V, 0~40A	±2%	150mV	75%
SE-200-5	5V, 0~40A	±2%	150mV	79%
SE-200-7.5	7.5V, 0~27A	±2%	150mV	82%
SE-200-12	12V, 0~17A	±1%	150mV	85%
SE-200-15	15V, 0~14A	±1%	150mV	85%
SE-200-24	24V, 0~8.8A	±1%	150mV	87%
SE-200-27	27V, 0~7.8A	±1%	200mV	88%
SE-200-36	36V, 0~5.9A	±1%	240mV	89%
SE-200-48	48V, 0~4.4A	±1%	240mV	89%

## ■ SE-350 Series

Model No.	Output	Tol.	R&N	Effi.
SE-350-3.3	3.3V, 0~60A	+3%, -4.5%	150mV	74.0%
SE-350-5	5V, 0~60A	±3.0%	150mV	78.0%
SE-350-7.5	7.5V, 0~46A	±2.0%	150mV	80.0%
SE-350-12	12V, 0~29A	±1.5%	150mV	83.0%
SE-350-15	15V, 0~23.2A	±1.0%	150mV	84.0%
SE-350-24	24V, 0~14.6A	±1.0%	150mV	87.0%
SE-350-27	27V, 0~13A	±1.0%	200mV	88.0%
SE-350-36	36V, 0~9.7A	±1.0%	240mV	87.5%
SE-350-48	48V, 0~7.3A	±1.0%	240mV	87.5%

## ■ SE-450 Series

Model No.	Output	Tol.	R&N	Effi.
SE-450-3.3	3.3V, 0~75A	±3%	200mV	74%
SE-450-5	5V, 0~75A	±3%	200mV	78%
SE-450-12	12V, 0~37.5A	±1%	200mV	83%
SE-450-15	15V, 0~30A	±1%	200mV	84%
SE-450-24	24V, 0~18.8A	±1.5%	200mV	86%
SE-450-36	36V, 0~12.5A	±1%	200mV	86%
SE-450-48	48V, 0~9.4A	±1%	200mV	88%





### Features

- AC input selectable by switch (SE-600/1000)  
AC input 180~264VAC only (SE-1500)
- Protections:  
Short circuit / Overload / Over voltage /  
Over temperature
- Forced air cooling by built-in DC fan
- Built-in remote sense function
- DC OK, remote ON/OFF control (SE-1000/1500)
- 100% full load burn-in test
- LED indicator for power on
- 2 years warranty



Model No.	SE-600	SE-1000	SE-1500
AC input voltage range	115/230VAC by switch		180~264VAC
AC inrush current (max.)	Cold start, 60A at 230VAC	Cold start, 55A at 230VAC	Cold start, 60A at 230VAC
DC adjustment range	±10% rated output voltage		
Overload protection	Range	105%~125%	
	Type	Shut down o/p voltage, re-power on to recover	
Over voltage protection	115%~140% Shut down o/p voltage, re-power on to recover		
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG: 1.5kVAC, O/P-FG: 0.5kVAC	I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC	I/P-O/P: 3kVAC, I/P-FG: 1.5kVAC, O/P-FG: 0.5kVAC
Working temperature	-20~+60°C (refer to output derating curve)		-20~+70°C (refer to output derating curve)
Safety standards	UL60950-1 approved		
EMC standards	Design refer to EN55022 class B		
Connection	Terminal block with cover for input and output (SE-1000/1500: bus bars for output)		
Dimension (LxWxH)(mm)	247x 127x 63.5	278x 127x 63.5	278x 177.8x 63.5
Case No.	926A	935B	982A
Packing	6pcs / 13.4kg	6pcs / 16kg	4pcs / 14.2kg

### 600W SE-600

Model No.	Output	Tol.	R&N	Effi.
SE-600-5	5V, 0~100A	±2%	150mV	78%
SE-600-12	12V, 0~50A	±1%	150mV	83%
SE-600-15	15V, 0~40A	±1%	150mV	84%
SE-600-24	24V, 0~25A	±1%	150mV	87%
SE-600-27	27V, 0~22.2A	±1%	150mV	87%
SE-600-36	36V, 0~16.6A	±1%	200mV	87%
SE-600-48	48V, 0~12.5A	±1%	200mV	88%

### 1500W SE-1500

Model No.	Output	Tol.	R&N	Effi.
SE-1500-5	5V, 0~300A	±2%	150mV	81%
SE-1500-12	12V, 0~125A	±1%	150mV	85%
SE-1500-15	15V, 0~100A	±1%	150mV	85%
SE-1500-24	24V, 0~62.5A	±1%	150mV	87%
SE-1500-27	27V, 0~55.6A	±1%	150mV	88%
SE-1500-48	48V, 0~31.3A	±1%	150mV	89%

### 1000W SE-1000

Model No.	Output	Tol.	R&N	Effi.
SE-1000-5	5V, 0~150A	±1%	150mV	81%
SE-1000-9	9V, 0~100A	±1%	150mV	84%
SE-1000-12	12V, 0~83.3A	±1%	150mV	85%
SE-1000-15	15V, 0~66.7A	±1%	150mV	86%
SE-1000-24	24V, 0~41.7A	±1%	200mV	88%
SE-1000-48	48V, 0~20.8A	±1%	200mV	89%



### Features

- No load power consumption <0.2W for 35W/50W; <0.3W for 75W/100W
- Universal AC input / Full range
- Withstand 300VAC surge input for 5 seconds
- Ultra compact and 1U low profile
- Withstand 5G vibration test
- High operating temperature up to 70°C
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- Compliance to IEC/EN60335-1(PD3) and IEC/EN61558-1,-2-16 for household appliances
- Operating altitude up to 5000 meters
- High efficiency, long life and high reliability
- LED indicator for power on
- Low cost
- 3 years warranty



Model No.	LRS-35	LRS-50	LRS-75	LRS-100
AC input voltage range	85~264VAC ; 120~370VDC			
AC inrush current (max.)	Cold start, 45A at 230VAC		50A at 230VAC	
DC adjustment range	±10% by potentiometer			
Overload protection	Range	110%~150%		
	Type	Hiccup mode, auto-recovery		
Over voltage protection	Range	115%~135% rated output voltage		
	Type	Shut down o/p voltage, re-power on to recover		
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 1.25kVAC, 1 minute			
Working temperature	-30~+70°C (refer to output derating curve)			
Safety standards	UL60950-1, IEC/EN60950-1, IEC/EN61558-1, EN61558-2-16, IEC/EN60335-1, CCC GB4943 approved			
EMC standards	EN55022 class B, EN55014, EN61000-3-2, 3, EN61000-4,2,3,4,5,6,8,11, GB9254			
Connection	5P/9.5mm pitch terminal block			7P/9.5mm pitch terminal block
Dimension (LxWxH) (mm)	99x 82x 30		99x 97x 30	

### 35W LRS-35

Model No.	Output	Tol.	R&N	Effi.
LRS-35-5	5V, 0~7A	±2%	80mV	82.0%
LRS-35-12	12V, 0~3A	±1%	120mV	86.0%
LRS-35-15	15V, 0~2.4A	±1%	120mV	86.0%
LRS-35-24	24V, 0~1.5A	±1%	150mV	88.0%
LRS-35-36	36V, 0~1A	±1%	200mV	88.0%
LRS-35-48	48V, 0~0.8A	±1%	200mV	89.0%

### 75W LRS-75

Model No.	Output	Tol.	R&N	Effi.
LRS-75-5	5V, 0~14A	±2%	100mV	86.5%
LRS-75-12	12V, 0~6A	±1%	120mV	89.0%
LRS-75-15	15V, 0~5A	±1%	120mV	89.0%
LRS-75-24	24V, 0~3.2A	±1%	150mV	90.0%
LRS-75-36	36V, 0~2.1A	±1%	200mV	91.5%
LRS-75-48	48V, 0~1.6A	±1%	200mV	91.5%

### 50W LRS-50

Model No.	Output	Tol.	R&N	Effi.
LRS-50-3.3	3.3V, 0~10A	±3%	80mV	80.0%
LRS-50-5	5V, 0~10A	±2%	80mV	83.0%
LRS-50-12	12V, 0~4.2A	±1%	120mV	86.0%
LRS-50-15	15V, 0~3.4A	±1%	120mV	88.0%
LRS-50-24	24V, 0~2.2A	±1%	150mV	88.0%
LRS-50-36	36V, 0~1.45A	±1%	200mV	89.0%
LRS-50-48	48V, 0~1.1A	±1%	200mV	90.0%

### 100W LRS-100

Model No.	Output	Tol.	R&N	Effi.
LRS-100-3.3	3.3V, 0~20A	±3%	100mV	84.5%
LRS-100-5	5V, 0~18A	±2%	100mV	86.0%
LRS-100-12	12V, 0~8.5A	±1%	120mV	88.0%
LRS-100-15	15V, 0~7A	±1%	120mV	88.5%
LRS-100-24	24V, 0~4.5A	±1%	150mV	90.0%
LRS-100-36	36V, 0~2.8A	±1%	200mV	90.5%
LRS-100-48	48V, 0~2.3A	±1%	200mV	91.0%



### Features

- No load power consumption <0.5W for 150W; <0.75W for 200W/350W
- AC input selectable by switch (LRS-150F Universal AC input / Full range)
- Withstand 300VAC surge input for 5 seconds
- Ultra compact and 1U low profile
- Withstand 5G vibration test
- High operating temperature up to 70°C
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Cooling by free air convection (150W/200W); forced air cooling by built-in DC fan (350W)
- Compliance to IEC/EN60335-1(PD3) and IEC/EN61558-1,-2-16 for household appliances (150W)
- Operating altitude up to 5000 meters
- LED indicator for power on
- High efficiency, long life and high reliability
- Low cost
- 3 years warranty

Model No.	LRS-150F	LRS-150	LRS-200	LRS-350
AC input voltage range	85~264VAC; 120~370VDC	115 / 230VAC by switch		
AC inrush current(max.)	Cold start, 60A at 230VAC			
DC adjustment range	±10% by potentiometer			
Overload protection	Range	110%~140%		
	Type	Hiccup mode, auto-recovery		
Over voltage protection	Range	115%~145% rated output voltage		
	Type	Shut down o/p voltage, re-power on to recover		
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 1.25kVAC		I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC	
Working temperature	-30~+70°C		-25~+70°C (refer to output derating curve)	
Safety standards	UL60950-1, IEC/EN60950-1, IEC/EN61558-1, EN61558-2-16, IEC/EN60335-1, CCC GB4943 approved		UL60950-1 approved	
EMC standards	EN55022 class B, EN55014, EN61000-3-2(120W), 3, EN61000-4,2,3,4,5,6,8,11, GB9254		Design refer to EN55022 class A	
Connection	7P/9.5mm pitch terminal block		9P/9.5mm pitch terminal block	
Dimension (LxWxH) (mm)	159x 97x 30		215x 115x 30	

### LRS-150 Series

Model No.	Output	Tol.	R&N	Effi.
LRS-150-12	12V, 0~12.5A	±1%	150mV	87.5%
LRS-150-15	15V, 0~10A	±1%	150mV	88.5%
LRS-150-24	24V, 0~6.5A	±1%	200mV	89.0%
LRS-150-36	36V, 0~4.3A	±1%	200mV	89.0%
LRS-150-48	48V, 0~3.3A	±1%	200mV	90.0%

### LRS-200 Series

Model No.	Output	Tol.	R&N	Effi.
LRS-200-3.3	3.3V, 0~40A	±3%	150mV	83.0%
LRS-200-4.2	4.2V, 0~40A	±4%	150mV	86.0%
LRS-200-5	5V, 0~40A	±3%	150mV	87.0%
LRS-200-12	12V, 0~17A	±1.5%	150mV	87.5%
LRS-200-15	15V, 0~14A	±1%	150mV	88.0%
LRS-200-24	24V, 0~8.8A	±1%	150mV	89.5%
LRS-200-36	36V, 0~5.9A	±1%	200mV	89.5%
LRS-200-48	48V, 0~4.4A	±1%	200mV	90.0%

### LRS-150F Series

Model No.	Output	Tol.	R&N	Effi.
LRS-150F-5	5V, 0~22A	±2%	100mV	85.0%
LRS-150F-12	12V, 0~12.5A	±1%	150mV	87.5%
LRS-150F-15	15V, 0~10A	±1%	150mV	89.0%
LRS-150F-24	24V, 0~6.5A	±1%	200mV	89.0%
LRS-150F-36	36V, 0~4.3A	±1%	200mV	89.0%
LRS-150F-48	48V, 0~3.3A	±1%	200mV	90.0%

### LRS-350 Series

Model No.	Output	Tol.	R&N	Effi.
LRS-350-3.3	3.3V, 0~60A	±4%	150mV	79.5%
LRS-350-4.2	4.2V, 0~60A	±4%	150mV	81.5%
LRS-350-5	5V, 0~60A	±3%	150mV	83.5%
LRS-350-12	12V, 0~29A	±1.5%	150mV	85.0%
LRS-350-15	15V, 0~23.2A	±1%	150mV	86.0%
LRS-350-24	24V, 0~14.6A	±1%	150mV	88.0%
LRS-350-36	36V, 0~9.7A	±1%	200mV	88.5%
LRS-350-48	48V, 0~7.3A	±1%	200mV	89.0%



### Features

- Universal AC input / Full range
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage / Over temperature (SP-150 / 200 / 240)
- Cooling by free air convection (SP-75 / 100 / 150)
- Forced air cooling by built-in DC fan (SP-200 / 240)
- Optional remote ON/OFF control (SP-75~200)
- Built-in fan speed control (SP-200)
- Built-in fan ON/OFF control (SP-240)
- 100% full load burn-in test
- 3 years warranty



Model No.	SP-75	SP-100	SP-150	SP-200	SP-240
AC input voltage range	85~264VAC; 120~370VDC				88~264VAC; 124~370VDC
AC inrush current (max.)	Cold start, 45A at 230VAC	Cold start, 35A at 230VAC	Cold start, 45A at 230VAC	Cold start, 50A at 230VAC	Cold start, 40A at 230VAC
DC adjustment range	-5%~+10% rated output voltage				±15% rated output voltage
Overload protection	Range	105%~150%			105%~135%
	Type	Constant current limiting, auto-recovery			Hiccup mode, auto-recovery
Over voltage protection	Range	115%~135%	110%~135%		120%~150%
	Type	Shut off, AC recycle to re-start			
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG: 1.5kVAC, O/P-FG: 0.5kVAC, 1 minute				
Working temperature	-10~+60°C		-10~+55°C	-10~+60°C	-20~+70°C
Safety standards	UL60950-1, TUV EN60950-1, GB4943(SP-200 only) approved				
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8,11, EN61000-3-2,3, GB9254(SP-200 only)				
Connection	5P / 9.5mm pitch		7P / 9.5mm pitch terminal block with cover		
Dimension (LxWxH)(mm)	179x 97x 33	179x 99x 45	199x 99x 50	199x 99x 50	190x 93x 50
Case No.	920A	915A	916A	916B	987A
Packing	20pcs/12.0kg	20pcs/14.3kg	20pcs/16.4kg	20pcs/17.9kg	18pcs/15.4kg

### 75W SP-75

Model No.	Output	Tol.	R&N	Effi.
SP-75-3.3	3.3V, 0~15A	±2%	80mV	70.0%
SP-75-5	5V, 0~15A	±2%	80mV	76.0%
SP-75-7.5	7.5V, 0~10A	±2%	80mV	79.0%
SP-75-12	12V, 0~6.3A	±2%	80mV	81.0%
SP-75-13.5	13.5V, 0~5.6A	±2%	80mV	82.0%
SP-75-15	15V, 0~5.0A	±2%	80mV	82.0%
SP-75-24	24V, 0~3.2A	±1%	100mV	83.0%
SP-75-27	27V, 0~2.8A	±1%	100mV	83.0%
SP-75-48	48V, 0~1.6A	±1%	100mV	83.0%

### 150W SP-150

Model No.	Output	Tol.	R&N	Effi.
SP-150-3.3	3.3V, 0~30.0A	±2%	100mV	73.0%
SP-150-5	5V, 0~30.0A	±2%	100mV	77.5%
SP-150-7.5	7.5V, 0~20.0A	±2%	100mV	81.0%
SP-150-12	12V, 0~12.5A	±2%	100mV	84.0%
SP-150-13.5	13.5V, 0~11.2A	±2%	100mV	84.0%
SP-150-15	15V, 0~10.0A	±2%	100mV	85.0%
SP-150-24	24V, 0~6.30A	±1%	150mV	85.0%
SP-150-27	27V, 0~5.60A	±1%	150mV	85.0%
SP-150-48	48V, 0~3.20A	±1%	250mV	85.0%

### 100W SP-100

Model No.	Output	Tol.	R&N	Effi.
SP-100-3.3	3.3V, 0~20.0A	±2%	100mV	75.0%
SP-100-5	5V, 0~20.0A	±2%	100mV	79.0%
SP-100-7.5	7.5V, 0~13.5A	±2%	100mV	82.0%
SP-100-12	12V, 0~8.50A	±2%	100mV	82.5%
SP-100-13.5	13.5V, 0~7.50A	±2%	100mV	83.0%
SP-100-15	15V, 0~6.70A	±2%	100mV	84.0%
SP-100-24	24V, 0~4.20A	±1%	150mV	87.0%
SP-100-27	27V, 0~3.80A	±1%	150mV	86.0%
SP-100-48	48V, 0~2.10A	±1%	250mV	84.0%

### 200W SP-200

Model No.	Output	Tol.	R&N	Effi.
SP-200-3.3	3.3V, 0~40.0A	±2%	100mV	69.0%
SP-200-5	5V, 0~40.0A	±2%	100mV	76.0%
SP-200-7.5	7.5V, 0~26.7A	±2%	100mV	78.5%
SP-200-12	12V, 0~16.7A	±2%	100mV	84.0%
SP-200-13.5	13.5V, 0~14.9A	±2%	100mV	84.0%
SP-200-15	15V, 0~13.4A	±2%	100mV	84.0%
SP-200-24	24V, 0~8.40A	±1%	150mV	85.0%
SP-200-27	27V, 0~7.50A	±1%	150mV	85.0%
SP-200-48	48V, 0~4.20A	±1%	250mV	85.0%

### 240W SP-240

Model No.	Output	Tol.	R&N	Effi.
SP-240-5	5V, 0~45A	±2%	150mV	79.0%
SP-240-7.5	7.5V, 0~32A	±2%	150mV	83.0%
SP-240-12	12V, 0~20A	±1%	150mV	86.0%
SP-240-15	15V, 0~16A	±1%	150mV	86.0%
SP-240-24	24V, 0~10A	±1%	150mV	87.0%
SP-240-30	30V, 0~8.0A	±1%	150mV	88.0%
SP-240-48	48V, 0~5.0A	±1%	150mV	89.0%





### Features

- Universal AC input / Full range
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- Built-in fan speed control (SP-320)
- Built-in remote sense function and ON/OFF control (SP-480/750 & PSP-600)
- Current sharing up to 2400W (3+1) (PSP-600)
- With DC OK signal output (PSP-600)
- With PG/PF signal output (SP-750)
- 100% full load burn-in test
- 3 years warranty

Model No.	SP-320	SP-480	PSP-600	SP-750
AC input voltage range	88-264VAC	85-264VAC	88-264VAC	90-264VAC
AC inrush current (max.)	Cold start, 40A at 230VAC			Cold Start, 45A at 230VAC
DC adjustment range	±10% rated output voltage			
Overload protection	Range	105%~135%	105%~145%	105%~135%
	Type	Hiccup mode, auto-recovery	Constant current limiting, auto-recovery	Constant current limiting, auto-recovery
Over voltage protection	115%~145%	115%~140%		105%~125%
Withstand voltage	I/P - O/P: 3kVAC, I/P - FG: 1.5kVAC, O/P - FG: 0.5kVAC(short for SP-480), 1 minute			
Working temperature	-20~+65°C	-20~+60°C		
Safety standards	UL60950-1, TUV EN60950-1 approved; GB4943 approved also for SP-320 (expect for 3.3V/ 5PNC/ 36V)			
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8,11, EN61000-3-2,3, EN61000-6-2(SP-480/750), GB9254 (SP-320 only)			
Connection	9P / 9.5mm pitch terminal block with cover	9P / 11mm pitch terminal block with cover	7+8P / 9.5mm pitch terminal block with cover	5P / 10mm pitch terminal block with cover for input; copper pillars for output
Dimension (LxWxH)(mm)	215x115x50	278x127x43	170x120x93	278x127x63.5
Case No.	912G	929A	910A	919A
Packing	12pcs / 14.0kg	6pcs / 11.3kg	8pcs / 15.5kg	6pcs / 18.4kg

### SP-320 Series



Model No.	Output	Tol.	R&N	Effi.
*SP-320-3.3	3.3V, 0~60.0A	±1%	150mV	74%
SP-320-5	5V, 0~55.0A	±2%	150mV	79%
*SP-320-5PNC	5V, 0~55.0A	±2%	150mV	80%
SP-320-7.5	7.5V, 0~40.0A	±2%	150mV	83%
SP-320-12	12V, 0~25.0A	±1%	150mV	86%
SP-320-13.5	13.5V, 0~22.0A	±1%	150mV	86%
SP-320-15	15V, 0~20.0A	±1%	150mV	86%
SP-320-24	24V, 0~13.0A	±1%	150mV	87%
SP-320-27	27V, 0~11.7A	±1%	200mV	88%
*SP-320-36	36V, 0~8.80A	±1%	220mV	87%
SP-320-48	48V, 0~6.70A	±1%	240mV	89%

\* Without models

❖ SP-320-5PNC with conformal coating and high ambient temperature operation ability is suitable for LED moving sign applications, MOQ required.

### SP-480 Series



Model No.	Output	Tol.	R&N	Effi.
SP-480-3.3	3.3V, 0~85A	±2.0%	80mV	73%
SP-480-5	5V, 0~85A	±2.0%	80mV	79%
SP-480-12	12V, 0~43A	±1.5%	120mV	85%
SP-480-15	15V, 0~35A	±1.5%	150mV	85%
SP-480-24	24V, 0~22A	±1.0%	150mV	87%
SP-480-48	48V, 0~11A	±1.0%	240mV	89%

### PSP-600 Series

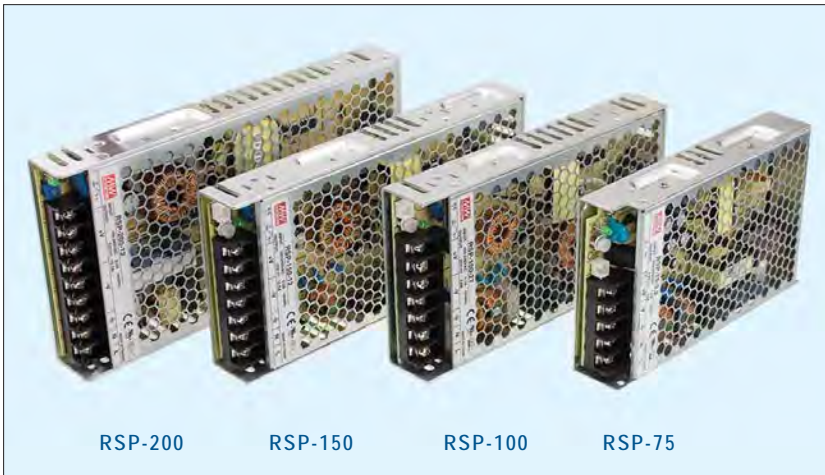


Model No.	Output	Tol.	R&N	Effi.
PSP-600-5	5V, 0~80A	±2%	180mV	79%
PSP-600-12	12V, 0~50A	±1%	240mV	84%
PSP-600-13.5	13.5V, 0~44.5A	±1%	240mV	85%
PSP-600-15	15V, 0~40A	±1%	240mV	85%
PSP-600-24	24V, 0~25A	±1%	240mV	86%
PSP-600-27	27V, 0~22.2A	±1%	240mV	86%
PSP-600-48	48V, 0~12.5A	±1%	300mV	87%

### SP-750 Series



Model No.	Output	Tol.	R&N	Effi.
SP-750-5	5V, 0~120A	±2%	120mV	80%
SP-750-12	12V, 0~62.5A	±1%	120mV	85%
SP-750-15	15V, 0~50.0A	±1%	120mV	87%
SP-750-24	24V, 0~31.3A	±1%	120mV	89%
SP-750-27	27V, 0~27.8A	±1%	120mV	89%
SP-750-48	48V, 0~15.7A	±1%	120mV	90%



### Features

- Ultra low profile: 30mm
- Universal AC input / Full range
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage / Over temperature (RSP-100/150/200)
- Cooling by free air convection
- Built-in constant current limiting circuit (RSP-75/100/150)
- Remote ON/OFF control (RSP-75/100/150)
- LED indicator for power on
- 3 years warranty



Model No.	RSP-75	RSP-100	RSP-150	RSP-200
AC input voltage range	85~264VAC; 120~370VDC			88~264VAC; 124~370VDC
AC inrush current (max.)	Cold start, 35A at 230VAC	30A at 230VAC	45A at 230VAC	40A at 230VAC
DC adjustment range	-5%~+10% rated output voltage			±10% rated output voltage
Overload protection	Range	105%~135%	105%~150%	
	Type	Constant current limiting, auto-recovery		
Over voltage protection	Range	110%~135%		115%~145%
	Type	Shut down O/P voltage, re-power on to recover		
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC			I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC
Working temperature	-25~+70°C		-30~+70°C (refer to output derating curve)	
Safety standards	UL60950-1, TUV EN60950-1, EN61558-1, EN61558-2-16, CCC GB4943 approved; UL62368-1 approved for RSP-150 only			UL60950-1, TUV EN60950-1, CCC GB4943 approved
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, GB9254			
Connection	5P / 9.5mm pitch terminal block	7P / 9.5mm pitch terminal block	9P / 9.5mm pitch terminal block	
Dimension (LxWxH) (mm)	159x97x30	179x99x30	199x99x30	215x115x30

### 75W RSP-75

Model No.	Output	Tol.	R&N	Effi.
RSP-75-3.3	3.3V, 0~15A	±2%	80mV	76.0%
RSP-75-5	5V, 0~15A	±2%	80mV	82.0%
RSP-75-7.5	7.5V, 0~10A	±2%	80mV	84.0%
RSP-75-12	12V, 0~6.3A	±2%	120mV	85.0%
RSP-75-13.5	13.5V, 0~5.6A	±2%	120mV	85.0%
RSP-75-15	15V, 0~5A	±2%	120mV	86.0%
RSP-75-24	24V, 0~3.2A	±1%	120mV	87.0%
RSP-75-27	27V, 0~2.8A	±1%	120mV	88.0%
RSP-75-48	48V, 0~1.6A	±1%	200mV	89.0%

### 150W RSP-150

Model No.	Output	Tol.	R&N	Effi.
RSP-150-3.3	3.3V, 0~30A	±2%	100mV	81.5%
RSP-150-5	5V, 0~30A	±2%	100mV	87.0%
RSP-150-7.5	7.5V, 0~20A	±2%	100mV	88.5%
RSP-150-12	12V, 0~12.5A	±2%	100mV	90.0%
RSP-150-13.5	13.5V, 0~11.2A	±2%	100mV	87.5%
RSP-150-15	15V, 0~10A	±2%	100mV	88.5%
RSP-150-24	24V, 0~6.3A	±1%	150mV	89.0%
RSP-150-27	27V, 0~5.6A	±1%	150mV	89.5%
RSP-150-48	48V, 0~3.2A	±1%	250mV	90.0%

### 100W RSP-100

Model No.	Output	Tol.	R&N	Effi.
RSP-100-3.3	3.3V, 0~20A	±2%	100mV	83.0%
RSP-100-5	5V, 0~20A	±2%	100mV	86.0%
RSP-100-7.5	7.5V, 0~13.5A	±2%	100mV	87.0%
RSP-100-12	12V, 0~8.5A	±1%	100mV	86.0%
RSP-100-13.5	13.5V, 0~7.5A	±1%	100mV	86.5%
RSP-100-15	15V, 0~6.7A	±1%	100mV	87.0%
RSP-100-24	24V, 0~4.2A	±1%	150mV	87.0%
RSP-100-27	27V, 0~3.8A	±1%	150mV	87.0%
RSP-100-48	48V, 0~2.1A	±1%	250mV	88.0%

### 200W RSP-200

Model No.	Output	Tol.	R&N	Effi.
RSP-200-2.5	2.5V, 0~40A	±2%	100mV	79.5%
RSP-200-3.3	3.3V, 0~40A	±2%	100mV	81.5%
RSP-200-4	4V, 0~40A	±2%	100mV	84.0%
RSP-200-5	5V, 0~40A	±2%	150mV	85.5%
RSP-200-7.5	7.5V, 0~26.7A	±2%	150mV	89.0%
RSP-200-12	12V, 0~16.7A	±1%	150mV	89.0%
RSP-200-13.5	13.5V, 0~14.9A	±1%	150mV	89.0%
RSP-200-15	15V, 0~13.4A	±1%	150mV	89.5%
RSP-200-24	24V, 0~8.4A	±1%	150mV	89.5%
RSP-200-27	27V, 0~7.5A	±1%	200mV	89.0%
RSP-200-36	36V, 0~5.56A	±1%	220mV	90.0%
RSP-200-48	48V, 0~4.2A	±1%	240mV	90.0%



### Features

- 1U low profile
- Universal AC input / Full range
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- Built-in remote sense and ON/OFF control (RSP-500)
- LED indicator for power on
- 3 years warranty



Model No.	RSP-320	RSP-500
AC input voltage range	88-264VAC; 124-370VDC	85-264VAC; 120-370VDC
AC inrush current(max.)	Cold start, 40A at 230VAC	
DC adjustment range	Vo: ±10% by potentiometer	
Overload protection	Range	105%~135%
	Type	Hiccup mode, auto-recovery
Over voltage protection	Range	115%~145%
	Type	Shut down O/P voltage, re-power on to recover
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC	
Working temperature	-30~+70°C (refer to output derating curve)	
Safety standards	UL60950-1, TUV EN60950-1 approved; CCC GB4943 approved for RSP-320 only	
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61000-6-2(RSP-500), GB9254(RSP-320 only)	
Connection	Input	3P / 9.5mm pitch terminal block
	Output	6P / 11mm pitch terminal block
Dimension (LxWxH) (mm)	215x115x30	230x127x40.5
Case No.	207A	226A

### 320W RSP-320

Model No.	Output	Tol.	R&N	Effi.
RSP-320-2.5	2.5V, 0~60A	±2%	100mV	75.5%
RSP-320-3.3	3.3V, 0~60A	±2%	100mV	79.5%
RSP-320-4	4V, 0~60A	±2%	100mV	81.0%
RSP-320-5	5V, 0~60A	±2%	150mV	83.0%
*RSP-320-5CC	5V, 0~60A	±2%	150mV	83.0%
RSP-320-7.5	7.5V, 0~40A	±2%	150mV	88.0%
RSP-320-12	12V, 0~26.7A	±1%	150mV	88.0%
RSP-320-13.5	13.5V, 0~23.8A	±1%	150mV	88.0%
RSP-320-15	15V, 0~21.4A	±1%	150mV	88.5%
RSP-320-24	24V, 0~13.4A	±1%	150mV	89.0%
RSP-320-27	27V, 0~11.9A	±1%	200mV	89.0%
RSP-320-36	36V, 0~8.9A	±1%	220mV	89.5%
RSP-320-48	48V, 0~6.7A	±1%	240mV	90.0%

\* RSP-320-5CC with conformal coating is suitable for LED moving sign applications, MOQ required.

### 500W RSP-500

Model No.	Output	Tol.	R&N	Effi.
RSP-500-3.3	3.3V, 0~90A	±2%	120mV	81.0%
RSP-500-4	4V, 0~90A	±2%	120mV	83.0%
RSP-500-5	5V, 0~90A	±2%	150mV	84.0%
RSP-500-12	12V, 0~41.7A	±1%	150mV	88.0%
RSP-500-15	15V, 0~33.4A	±1%	150mV	88.0%
RSP-500-24	24V, 0~21A	±1%	150mV	89.0%
RSP-500-27	27V, 0~18.6A	±1%	150mV	89.5%
RSP-500-48	48V, 0~10.5A	±1%	150mV	90.5%



### ■ Features

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Over temperature protection (200~320W built-in, option for 100W and 150W)
- Built-in active PFC function
- Cooling by free air convection (75W / 100W)
- Forced air cooling by built-in DC fan (150W / 200W / 320W)
- 100% full load burn-in test
- 3 years warranty



Model No.	TP-75	TP-100 QP-100	TP-150 QP-150	QP-200	QP-320
AC input voltage range	90~264VAC; 127~370VDC				
AC inrush current (max.)	Cold start, 20A at 230VAC	Cold start, 40A at 230VAC		Cold start, 50A at 230VAC	Cold start, 45A at 230VAC
DC adjustment range	CH1: -5%~+10% rated output voltage	CH1: -5%~+10% rated output voltage (CH1&2 for QP-100/150-3x, QP-100/150-D/F)		CH1&2: -5%~+10% rated output voltage	
Overload protection	Range	105%~150%			
	Type	Hiccup mode, auto-recovery		Constant current limiting, auto-recovery	Fold back current limiting, auto-recovery
Over voltage protection	CH1: 115%~135%	115%~135% for CH1 or CH1&2			
Withstand voltage	I/P - O/P: 3kVAC, I/P - FG: 2kVAC, O/P - FG: 0.5kVAC, 1 minute				
Working temperature	-10~+60°C (refer to output derating curve)				-10~+70°C
Setup, rise, hold up time	800ms, 60ms, 36ms at full load and 230VAC	800ms, 60ms, 24ms at full load and 230VAC (TP-100/150); 800ms, 50ms, 24ms at full load and 230VAC (QP-100/150)		800ms, 50ms, 24ms at full load and 230VAC	800ms, 50ms, 16ms at full load and 230VAC
Safety standards	UL60950-1, TUV EN60950-1 approved				
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11				
Connection	8P/7.62mm pitch terminal block	9P/7.62mm pitch terminal block with cover		9P/9.5mm pitch terminal block with cover	
Dimension (LxWxH)(mm)	179x 99x 33	199x 99x 50		215x 115x 50	
Case No.	920A	916A	916B	912B	912I

### ■ 75W — Triple Output

Model No.	Output	Tol.	R&N	Effi.	Max.
TP-75A	5V, 1.5~10A	±3%	100mV	70%	74W
	12V, 0.2~4.0A	±4%	120mV		
	-5V, 0.0~0.6A	±8%	100mV		
TP-75B	5V, 1.5~10A	±3%	100mV	70%	76W
	12V, 0.2~4.0A	±4%	120mV		
	-12V, 0.0~0.6A	±8%	120mV		
TP-75C	5V, 1.5~10A	±3%	100mV	70%	75W
	15V, 0.2~3.0A	±4%	120mV		
	-15V, 0.0~0.6A	±8%	120mV		
TP-75D	5V, 1.5~10A	±3%	100mV	70%	76W
	24V, 0.2~2.5A	±4%	120mV		
	12V, 0.0~0.6A	±8%	120mV		
TP-7503	5V, 1.5~10A	±3%	100mV	70%	75W
	3.3V, 0.2~8.0A	±4%	50mV		
	12V, 0.0~0.6A	±8%	120mV		

### ■ 100W — Triple Output

Model No.	Output	Tol.	R&N	Effi.	Max.
TP-100A	5V, 3.0~15A	±3%	100mV	75%	101W
	12V, 0.4~5.0A	±7%	120mV		
	-5V, 0.0~1.0A	±6%	100mV		
TP-100B	5V, 3.0~15A	±3%	100mV	78%	105W
	12V, 0.4~5.0A	±6%	120mV		
	-12V, 0.0~1.0A	±6%	100mV		
TP-100C	5V, 3.0~15A	±3%	100mV	77%	104W
	15V, 0.4~4.0A	+10%, -6%	150mV		
	-15V, 0.0~1.0A	±6%	100mV		
TP-100D	5V, 3.0~15A	±3%	100mV	78%	105W
	24V, 0.4~3.0A	±8%	150mV		
	12V, 0.0~1.0A	±6%	100mV		



## 150W — Triple Output

Model No.	Output	Tol.	R&N	Effi.	Max.
TP-150A	5V, 2.0-20A	±3%	100mV	75%	150W
	12V, 0.4-7.0A	±8%	120mV		
	-5V, 0.0-1.0A	±6%	100mV		
TP-150B	5V, 2.0-20A	±3%	100mV	77%	148W
	12V, 0.4-7.0A	±8%	120mV		
	-12V, 0.0-1.0A	±6%	100mV		
TP-150C	5V, 2.0-20A	±3%	100mV	77%	152W
	15V, 0.4-6.0A	+10%, -6%	150mV		
	-15V, 0.0-1.0A	±6%	100mV		
TP-150D	5V, 2.0-20A	±3%	100mV	78%	154W
	24V, 0.4-4.0A	±8%	150mV		
	12V, 0.0-1.0A	±6%	100mV		

## 100W — Quad Output

Model No.	Output	Tol.	R&N	Effi.	Max.
QP-100B	5V, 2.0-10A	±3%	100mV	76%	101W
	12V, 0.3-4.0A	±6%	150mV		
	-12V, 0.15-1.0A	+10%, -6%	150mV		
QP-100C	5V, 2.0-10A	±3%	100mV	77%	101W
	15V, 0.3-3.0A	+6%, -10%	150mV		
	-15V, 0.15-1.0A	±8%	150mV		
QP-100D	5V, 2.0-10A	±3%	120mV	78%	100W
	12V, 0.0-3.0A	±3%	150mV		
	24V, 0.3-2.0A	±6%	200mV		
QP-100F	5V, 2.0-10A	±3%	120mV	78%	103W
	15V, 0.0-3.0A	±3%	180mV		
	24V, 0.3-2.0A	±6%	200mV		
QP-100-3A	5V, 2.0-10A	±3%	100mV	74%	99W
	3.3V, 0.0-10A	±3%	100mV		
	12V, 0.3-3.0A	±6%	150mV		
QP-100-3B	5V, 2.0-10A	±3%	100mV	74%	100W
	3.3V, 0.0-10A	±3%	100mV		
	12V, 0.3-3.0A	±6%	150mV		
QP-100-3C	5V, 2.0-10A	±3%	100mV	75%	101W
	3.3V, 0.0-10A	±3%	100mV		
	15V, 0.3-2.0A	+8%, -6%	150mV		
QP-100-3D	5V, 2.0-10A	±3%	100mV	75%	105W
	3.3V, 0.0-10A	±3%	100mV		
	24V, 0.3-2.0A	±6%	150mV		
QP-100-3E	5V, 2.0-10A	±3%	100mV	75%	105W
	3.3V, 0.0-10A	±3%	100mV		
	24V, 0.3-2.0A	±6%	150mV		

## 150W — Quad Output

Model No.	Output	Tol.	R&N	Effi.	Max.
QP-150B	5V, 3.0-15A	±3%	100mV	76%	150W
	12V, 0.4-5.0A	±6%	150mV		
	-12V, 0.3-2.0A	+10%, -6%	150mV		
QP-150C	5V, 3.0-15A	±3%	100mV	77%	153W
	15V, 0.4-4.0A	+6%, -10%	150mV		
	-15V, 0.3-2.0A	±8%	150mV		
QP-150D	5V, 3.0-15A	±3%	120mV	78%	150W
	12V, 0.0-5.0A	±3%	150mV		
	24V, 0.4-3.0A	±6%	200mV		
QP-150E	5V, 3.0-15A	±3%	120mV	78%	150W
	12V, 0.0-5.0A	±3%	150mV		
	24V, 0.4-3.0A	±6%	200mV		

Model No.	Output	Tol.	R&N	Effi.	Max.
QP-150F	5V, 3.0-15A	±3%	120mV	78%	152W
	15V, 0.0-5.0A	±3%	150mV		
	24V, 0.4-3.0A	±6%	200mV		
	-15V, 0.0-1.0A	±5%	150mV		

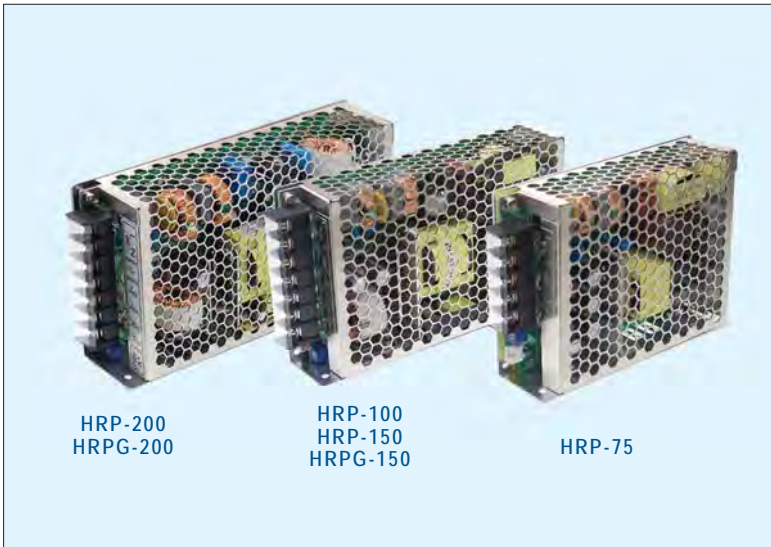
Model No.	Output	Tol.	R&N	Effi.	Max.
QP-150-3A	5V, 3.0-15A	±3%	100mV	73%	146W
	3.3V, 0.0-15A	±3%	100mV		
	12V, 0.4-5.0A	±6%	150mV		
QP-150-3B	5V, 3.0-15A	±3%	100mV	75%	150W
	3.3V, 0.0-15A	±3%	100mV		
	12V, 0.4-5.0A	±6%	150mV		
QP-150-3C	5V, 3.0-15A	±3%	100mV	74%	152W
	3.3V, 0.0-15A	±3%	100mV		
	15V, 0.4-5.0A	+8%, -6%	150mV		
QP-150-3D	5V, 3.0-15A	±3%	100mV	76%	150W
	3.3V, 0.0-15A	±3%	100mV		
	24V, 0.3-3.0A	±6%	150mV		
QP-150-3E	5V, 3.0-15A	±3%	100mV	76%	150W
	3.3V, 0.0-15A	±3%	100mV		
	24V, 0.3-3.0A	±6%	150mV		

## 200W — Quad Output

Model No.	Output	Tol.	R&N	Effi.	Max.
QP-200D	5V, 3.0-20A	±3%	100mV	75%	203W
	12V, 0.0-7.0A	±3%	150mV		
	24V, 0.4-6.0A	+10%, -6%	150mV		
	-12V, 0.0-1.0A	±6%	150mV		
QP-200F	5V, 3.0-20A	±3%	100mV	75%	203W
	15V, 0.0-6.0A	±3%	150mV		
	24V, 0.4-6.0A	+10%, -6%	150mV		
	-15V, 0.0-1.0A	±6%	150mV		
QP-200-3A	5V, 3.0-20A	±3%	100mV	72%	200W
	3.3V, 0.0-20A	±3%	100mV		
	12V, 0.5-8.0A	+8%, -10%	150mV		
QP-200-3B	5V, 3.0-20A	±3%	100mV	72%	205W
	3.3V, 0.0-20A	±3%	100mV		
	12V, 0.5-8.0A	+8%, -10%	150mV		
QP-200-3C	5V, 3.0-20A	±3%	100mV	72%	210W
	3.3V, 0.0-20A	±3%	100mV		
	15V, 0.5-7.0A	+10%, -6%	150mV		
QP-200-3D	5V, 3.0-20A	±3%	100mV	74%	204W
	3.3V, 0.0-20A	±3%	100mV		
	24V, 0.4-6.0A	+10%, -6%	150mV		
QP-200-3E	5V, 3.0-20A	±3%	100mV	74%	206W
	3.3V, 0.0-20A	±3%	100mV		
	24V, 0.4-6.0A	+10%, -6%	150mV		
QP-200-3F	5V, 3.0-20A	±3%	100mV	74%	206W
	3.3V, 0.0-20A	±3%	100mV		
	24V, 0.4-6.0A	+10%, -6%	150mV		

## 320W — Quad Output

Model No.	Output	Tol.	R&N	Effi.	Max.
QP-320D	5V, 2.5-20A	±3%	100mV	83%	316W
	12V, 0.0-10A	±3%	150mV		
	24V, 0.2-5.0A	+10%, -6%	150mV		
	-12V, 0.2-2.0A	±10%	150mV		
QP-320F	5V, 2.5-20A	±3%	100mV	83%	316W
	15V, 0.0-10A	±3%	150mV		
	24V, 0.2-5.0A	+10%, -6%	150mV		
	-15V, 0.2-1.6A	±10%	150mV		



### Features

- Universal AC input / Full range
- Withstand 300VAC surge input for 5 seconds
- Built-in active PFC function
- Protections:
  - Short circuit / Overload / Over voltage / Over temperature (optional for HRP-75 / HRP-100)
- Built-in constant current limiting circuit
- Built-in remote sense function (HRP□-150 / 200)
- No load power consumption < 0.5W (except for HRP-150/200)
- Built-in remote ON/OFF control (except for HRP-150 / 200)
- Built-in 5V / 0.3A standby output (HRPG-150 / 200)
- Cooling by free air convection
- 1U low profile
- LED indicator for power on
- 100% full load burn-in test
- 5 years warranty



Model No.	HRP-75	HRP-100	HRP□-150	HRP□-200
AC input voltage range	85~264VAC; 120~370VDC			
AC inrush current (max.)	Cold start, 65A at 230VAC		Cold start; 70A at 230VAC	
DC adjustment range	-5%~+10% rated output voltage		±15% rated output voltage	
Overload protection	Range	105%~135%		
	Type	Constant current limiting, auto-recovery		
Over voltage protection	115%~145%			
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG: 1.5kVAC, O/P-FG: 0.5kVAC, 1 minute			
Working temperature	-40~+70°C (refer to output derating curve)	-40~+60°C	-40~+70°C	
Safety standards	UL60950-1, TUV EN60950-1 approved			
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8,11, EN61000-3-2,3, EN61000-6-2 heavy industry level			
Connection	5P/9.5mm pitch terminal block with cover		7P/9.5mm pitch terminal block with cover	
Dimension (LxWxH)(mm)	129x98x38	159x97x38	199x 98x 38	
Case No.	903D	9011	902E	

### 75W HRP-75

Model No.	Output	Tol.	R&N	Effi.
HRP-75-3.3	3.3V, 0~15A	±2.5%	80mV	77.0%
HRP-75-5	5V, 0~15A	±2.5%	80mV	82.5%
HRP-75-7.5	7.5V, 0~10A	±2.5%	100mV	84.0%
HRP-75-12	12V, 0~6.3A	±1.5%	120mV	87.0%
HRP-75-15	15V, 0~5A	±1.5%	150mV	88.0%
HRP-75-24	24V, 0~3.2A	±1.5%	150mV	88.5%
HRP-75-36	36V, 0~2.1A	±1.5%	200mV	89.0%
HRP-75-48	48V, 0~1.6A	±1.5%	240mV	89.0%

### 150W HRP□-150

Model No.	Output	Tol.	R&N	Effi.
HRP□-150-3.3	3.3V, 0~30A	±2.5%	80mV	78.5%
HRP□-150-5	5V, 0~26A	±2.5%	80mV	85.0%
HRP□-150-7.5	7.5V, 0~20A	±2.5%	100mV	87.0%
HRP□-150-12	12V, 0~13A	±1.5%	120mV	88.0%
HRP□-150-15	15V, 0~10A	±1.5%	150mV	88.0%
HRP□-150-24	24V, 0~6.5A	±1.5%	150mV	88.0%
HRP□-150-36	36V, 0~4.3A	±1.5%	200mV	89.0%
HRP□-150-48	48V, 0~3.3A	±1.5%	240mV	89.0%

□=blank, G; blank: basic function, G: with 5Vsb & no load < 0.5W

### 100W HRP-100

Model No.	Output	Tol.	R&N	Effi.
HRP-100-3.3	3.3V, 0~20A	+2.5%, -3.5%	80mV	78.0%
HRP-100-5	5V, 0~17A	±2.5%	80mV	83.0%
HRP-100-7.5	7.5V, 0~13.5A	±2.5%	100mV	84.0%
HRP-100-12	12V, 0~8.5A	±1.5%	120mV	87.5%
HRP-100-15	15V, 0~7A	±1.5%	150mV	88.0%
HRP-100-24	24V, 0~4.5A	±1.5%	150mV	88.5%
HRP-100-36	36V, 0~2.9A	±1.5%	200mV	89.0%
HRP-100-48	48V, 0~2.2A	±1.5%	240mV	90.0%

### 200W HRP□-200

Model No.	Output	Tol.	R&N	Effi.
HRP□-200-3.3	3.3V, 0~40A	±2%	80mV	80.0%
HRP□-200-5	5V, 0~35A	±2%	90mV	84.0%
HRP□-200-7.5	7.5V, 0~26.7A	±2%	100mV	86.0%
HRP□-200-12	12V, 0~16.7A	±1%	120mV	88.0%
HRP□-200-15	15V, 0~13.4A	±1%	150mV	88.0%
HRP□-200-24	24V, 0~8.4A	±1%	150mV	88.0%
HRP□-200-36	36V, 0~5.7A	±1%	250mV	89.0%
HRP□-200-48	48V, 0~4.3A	±1%	250mV	89.0%

□=blank, G; blank: basic function, G: with 5Vsb & no load < 0.5W



HRP-600  
HRPG-600

HRP-450  
HRPG-450

HRP-300  
HRPG-300

### Features

- Universal AC input / Full range
- Withstand 300VAC surge input for 5 seconds
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in constant current limiting circuit
- Built-in remote sense function
- Built-in DC OK signal
- No load power consumption < 0.5W (HRPG-300 / 450)  
No load power consumption < 0.75W (HRPG-600)
- Built-in remote ON/OFF control & 5V / 0.3A standby output (HRPG series)
- Built-in current sharing (HRPG-600-24 / 36 / 48)
- Forced air cooling by built-in DC fan
- 1U low profile (HRP□-300 / 450)
- 100% full load burn-in test
- 5 years warranty



Model No.	HRP□-300	HRP□-450	HRP□-600
AC input voltage range	85~264VAC; 120~370VDC		
AC inrush current (max.)	Cold start, 70A at 230VAC		
DC adjustment range	±15% rated output voltage		
Overload Protection	Range	105%~135%	
	Type	Constant current limiting, auto-recovery	
Over voltage protection	115%~145%		
Withstand voltage	I/P - O/P: 3kVAC, I/P - FG: 1.5kVAC, O/P - FG: 0.5kVAC, 1 minute		
Working temperature	-40~+70°C (refer to output derating curve)		
Safety standards	UL60950-1, TUV EN60950-1 approved		
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8,11, EN61000-3-2,3, EN61000-6-2 heavy industry level		
Connection	7P/11mm pitch terminal block with cover	3+6P/10&11mm pitch terminal block with cover	
Dimension (LxWxH)(mm)	199x105x41	218x105x41	218x105x63.5
Case No.	980A	995A	977A

### 300W HRP□-300

Model No.	Output	Tol.	R&N	Effi.
HRP□-300-3.3	3.3V, 0~60A	±2.5%	80mV	80.0%
HRP□-300-5	5V, 0~60A	±2.0%	90mV	82.0%
HRP□-300-7.5	7.5V, 0~40A	±2.0%	100mV	86.0%
HRP□-300-12	12V, 0~27A	±1.0%	120mV	88.0%
HRP□-300-15	15V, 0~22A	±1.0%	150mV	88.0%
HRP□-300-24	24V, 0~14A	±1.0%	150mV	87.0%
HRP□-300-36	36V, 0~9A	±1.0%	250mV	88.0%
HRP□-300-48	48V, 0~7A	±1.0%	250mV	89.0%

□ = blank, G; blank: basic function, G: with 5Vsb & no load < 0.5W

### 600W HRP□-600

Model No.	Output	Tol.	R&N	Effi.
HRP□-600-3.3	3.3V, 0~120A	±2%	100mV	78.5%
HRP□-600-5	5V, 0~120A	±2%	100mV	82.0%
HRP□-600-7.5	7.5V, 0~80A	±2%	100mV	87.0%
HRP□-600-12	12V, 0~53A	±1%	120mV	88.0%
HRP□-600-15	15V, 0~43A	±1%	150mV	88.0%
HRP□-600-24	24V, 0~27A	±1%	150mV	88.0%
HRP□-600-36	36V, 0~17.5A	±1%	200mV	89.0%
HRP□-600-48	48V, 0~13A	±1%	240mV	89.0%

□ = blank, G; blank: basic function, G: with 5Vsb & no load < 0.75W

### 450W HRP□-450

Model No.	Output	Tol.	R&N	Effi.
HRP□-450-3.3	3.3V, 0~90A	±2%	80mV	80.0%
HRP□-450-5	5V, 0~90A	±2%	80mV	83.0%
HRP□-450-7.5	7.5V, 0~60A	±2%	100mV	86.5%
HRP□-450-12	12V, 0~37.5A	±1%	120mV	88.0%
HRP□-450-15	15V, 0~30A	±1%	150mV	89.0%
HRP□-450-24	24V, 0~18.8A	±1%	150mV	88.0%
HRP□-450-36	36V, 0~12.5A	±1%	240mV	89.0%
HRP□-450-48	48V, 0~9.5A	±1%	240mV	89.5%

□ = blank, G; blank: basic function, G: with 5Vsb & no load < 0.5W



### Features

- 1U low profile (41mm height only)
- Universal AC input / Full range
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- High power density up to 25W/in<sup>3</sup> (RSP-1600)
- Output voltage programmable;  
Constant current level  $I_{cc}$  programmable (RSP-750/1600)
- Built-in current sharing up to 4 units (RSP-1000/2000) or 6 units (RSP-1600)
- Built-in remote sense and ON/OFF control
- Built-in auxiliary power, DC OK signal
- OTP alarm signal output (RSP-1600/2000)
- Optional conformal coating
- 5 years warranty



Model No.	RSP-750	RSP-1000	RSP-1600	RSP-2000
AC input voltage range	90~264VAC; 127~370VDC			
AC inrush current (max.)	Cold start, 40A at 230VAC		Cold start, 35A at 230VAC	Cold start, 50A at 230VAC
DC adjustment range	Vo: $\pm 10\%$ by potentiometer, or to 40%~110% of rated output voltage by 2~5.5VDC external control signal $I_{cc}$ : to 40%~110% of rated output current by 2~5.5VDC external control signal	Vo: $\pm 10\%$ by potentiometer, or to 40%~110% of rated output voltage by external resistor or by 2~5.5VDC external control signal	Vo: -1%~+22.5% by potentiometer, or to 40%~125% of rated output voltage by 1~5VDC external control signal $I_{cc}$ : to 20%~100% of rated output current by 1~5VDC external control signal	Vo: $\pm 10\%$ by potentiometer, or to 40%~115% of rated output voltage by 1~4.7VDC external control signal
Overload protection	Range	105%~125%	105%~125%	105%~115%
	Type	Constant current limiting, auto-recovery		Constant current limiting, shut down o/p voltage after 5 sec., re-power on to recover
Over voltage protection	Range	115%~145%	115%~135%	130%~155%
	Type	Shut down O/P voltage, re-power on to recover		
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC (O/P-FG: 1.5kVAC for RSP-1600)			
Working temperature	-30~+70°C	-20~+60°C	-30~+70°C	-35~+70°C
Safety standards	UL60950-1, TUV EN60950-1 approved			
EMC standards	EN55022 class B for RSP-750, class A for RSP-1000/1600/2000; EN61000-3-2,3; EN61000-4-2,3,4,5,6,8,11			
Connection	Input	3P / 10mm pitch terminal block with cover		
	Output	M5x12 screw terminal	Bus bars	M5x12 screw terminal
Dimension (LxWxH) (mm)	250x127x41	295x 127x 41	300x 85x 41	295x 127x 41
Case No.	212A	952B	237B	952D

### 750W RSP-750

Model No.	Output	Tol.	R&N	Effi.
RSP-750-5	5V, 0~100A	$\pm 2\%$	150mV	82.0%
RSP-750-12	12V, 0~62.5A	$\pm 1\%$	150mV	87.0%
RSP-750-15	15V, 0~50A	$\pm 1\%$	150mV	89.0%
RSP-750-24	24V, 0~31.3A	$\pm 1\%$	150mV	90.5%
RSP-750-27	27V, 0~27.8A	$\pm 1\%$	150mV	90.5%
RSP-750-48	48V, 0~15.7A	$\pm 1\%$	150mV	92.0%

### 1600W RSP-1600

Model No.	Output	Tol.	R&N	Effi.
RSP-1600-12	12V, 0~125A	$\pm 1\%$	150mV	87.0%
RSP-1600-24	24V, 0~67A	$\pm 1\%$	200mV	90.5%
RSP-1600-27	27V, 0~59A	$\pm 1\%$	200mV	90.5%
RSP-1600-36	36V, 0~44.5A	$\pm 1\%$	250mV	91.0%
RSP-1600-48	48V, 0~33.5A	$\pm 1\%$	300mV	93.0%

### 1000W RSP-1000

Model No.	Output	Tol.	R&N	Effi.
RSP-1000-12	12V, 0~60A	$\pm 1\%$	150mV	83%
RSP-1000-15	15V, 0~50A	$\pm 1\%$	150mV	85%
RSP-1000-24	24V, 0~40A	$\pm 1\%$	150mV	88%
RSP-1000-27	27V, 0~37A	$\pm 1\%$	150mV	88%
RSP-1000-48	48V, 0~21A	$\pm 1\%$	150mV	90%

### 2000W RSP-2000

Model No.	Output	Tol.	R&N	Effi.
RSP-2000-12	12V, 0~100A	$\pm 2\%$	150mV	87.0%
RSP-2000-24	24V, 0~80A	$\pm 1\%$	200mV	90.5%
RSP-2000-48	48V, 0~42A	$\pm 1\%$	300mV	92.0%





### Features

- Universal AC input / Full range (RSP-1500)  
AC input 180~264VAC only (RSP-2400/3000)
- Built-in active PFC function
- Protections:  
Short circuit / Overload / Over voltage /  
Over temperature
- Forced air cooling by built-in DC fan
- **Output voltage programmable**
- Built-in current sharing up to 4 units (RSP-1500)  
or 3 units (RSP-2400/3000)
- Built-in remote sense and ON/OFF control
- Built-in auxiliary power, DC OK signal
- Optional conformal coating
- **5 years warranty**



Model No.	RSP-1500	RSP-2400	RSP-3000
AC input voltage range	90~264VAC; 127~370VDC	180~264VAC; 254~370VDC	
AC inrush current (max.)	Cold start, 60A at 230VAC		
DC adjustment range	Vo: -30%~+10% by potentiometer, or to 70%~100% of rated output voltage by external resistor	Vo: ±10% by potentiometer, or to 20%~110% of rated output voltage by 1~5.5VDC external control signal	
Overload protection	Range	105%~135%	100%~112%
	Type	Constant current limiting, shut off after 5 sec., re-power on to recover	Constant current limiting, shut off after 5 sec., re-power on to recover (can adjust to continuous constant current limiting)
Over voltage protection	Range	115%~140%	
	Type	Shut down O/P voltage, re-power on to recover	
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC		
Working temperature	-20~+70°C		
Safety standards	UL60950-1, TUV EN60950-1 approved		
EMC standards	EN55022 class B for RSP-1500, class A for RSP-2400/3000; EN61000-3-2,3; EN61000-4-2,3,4,5,6,8,11; EN61000-6-2		
Connection	Input	3P/13mm pitch terminal block with cover	
	Output	Bus bars	
Dimension (LxWxH) (mm)	278x 127x 83.5	278x 177.8x 63.5	
Case No.	943A	982B	

### 1500W RSP-1500

Model No.	Output	Tol.	R&N	Effi.
RSP-1500-5	5V, 0~240A	±2%	150mV	80%
RSP-1500-12	12V, 0~125A	±1%	150mV	87%
RSP-1500-15	15V, 0~100A	±1%	150mV	87%
RSP-1500-24	24V, 0~63A	±1%	150mV	90%
RSP-1500-27	27V, 0~56A	±1%	150mV	90%
RSP-1500-48	48V, 0~32A	±1%	200mV	91%

### 2400W RSP-2400

Model No.	Output	Tol.	R&N	Effi.
RSP-2400-12	12V, 0~166.7A	±1%	150mV	88.0%
RSP-2400-24	24V, 0~100A	±1%	150mV	90.5%
RSP-2400-48	48V, 0~50A	±1%	200mV	91.5%

### 3000W RSP-3000

Model No.	Output	Tol.	R&N	Effi.
RSP-3000-12	12V, 0~200A	±1%	150mV	87.5%
RSP-3000-24	24V, 0~125A	±1%	150mV	90.0%
RSP-3000-48	48V, 0~62.5A	±1%	200mV	91.5%



RST-5000



RST-10000

### Features

- 3 $\phi$  3-wire/ $\Delta$  196~305VAC or 3 $\phi$  4-wire/ Y 340~530VAC wide input range
- Built-in active PFC function
- High efficiency up to 91%
- Protections: Short circuit / Overload / Over voltage / Over temperature/ Fan alarm
- Forced air cooling by built-in DC fan
- Output voltage and constant current level Icc programmable
- Built-in current sharing up to 20kW (4 units of RST-5000 or 2 units of RST-10000)
- Built-in remote sense and ON/OFF control
- Built-in 12V/0.1A auxiliary power
- Alarm signal output
- 5 years warranty



Model No.	RST-5000	RST-10000
AC input voltage range	3 $\phi$ 3-wire/ $\Delta$ 196~305VAC or 3 $\phi$ 4-wire/ Y 340~530VAC	
AC inrush current (max.)	Cold start, 75A at 230VAC (3 $\phi$ 3-wire/ $\Delta$ ) or 50A at 400VAC (3 $\phi$ 4-wire/ Y)	Cold start, 150A at 230VAC (3 $\phi$ 3-wire/ $\Delta$ ) or 100A at 400VAC (3 $\phi$ 4-wire/ Y)
DC adjustment range	Vo: -2%~+20% by potentiometer or to 20%~120% of rated output voltage by 1~6VDC external control signal Icc: to 20%~100% of rated output current by 1~5VDC external control signal	
Overload protection	Range	100%~112%
	Type	User adjustable continuous constant current limiting or constant current limiting with delay shutdown after 5 seconds. Re-power on to recover.
Over voltage protection	Range	125%~140%
	Type	Shut down O/P voltage, re-power on to recover
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC	
Working temperature	-30~+70°C (refer to output derating curve)	
Safety standards	UL60950-1, TUV EN60950-1 approved	
EMC standards	EN55022 class A, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61000-6-2	
Connection	Input	6P/13mm pitch terminal block with cover
	Output	Bus bars
Dimension (LxWxH) (mm)	460x 211x 83.5	540x 424x 83.5
Case No.	223A	234A
Packing	10kg; 1pcs / 10.1kg / 1.15CUFT	23.5kg; 1pcs / 23.5kg / 2.45CUFT

### 5000W RST-5000

Model No.	Output	Tol.	R&N	Effi.
RST-5000-24	24V, 0~200A	±1%	150mV	89%
RST-5000-36	36V, 0~138A	±1%	200mV	90%
RST-5000-48	48V, 0~105A	±1%	200mV	91%

### 10000W RST-10000

Model No.	Output	Tol.	R&N	Effi.
RST-10000-24	24V, 0~400A	±1%	150mV	89%
RST-10000-36	36V, 0~276A	±1%	200mV	90%
RST-10000-48	48V, 0~210A	±1%	200mV	91%



### Features

- Universal AC input / Full range
- Built-in active PFC function
- Protections:
  - Short circuit / Overload / Over voltage / Over temperature
- **Output voltage programmable**
- Forced air cooling by built-in DC fan (except for SPV-150)
- Built-in remote sense and ON/OFF control (SPV-1500)
- Built-in 12V/0.1A auxiliary power and current sharing up to 4500W (SPV-1500)
- 3 years warranty



Model No.	SPV-150	SPV-300	SPV-1500
AC input voltage range	88~264VAC; 124~370VDC		90~264VAC; 127~370VDC
AC inrush current (max.)	Cold start, 40A at 230VAC		Cold start, 60A at 230VAC
DC adjustment range	Vo: -15%~+10% by potentiometer or to 20%~110% of rated output voltage by 1~5.5VDC <b>external control signal</b>		Vo: ±5% by potentiometer or to 20%~110% of rated output voltage by 1~5.5VDC <b>external control signal</b>
Overload protection	Range	105%~150%	105%~135%
	Type	constant current limiting, auto-recovery	
Over voltage protection	Range	115%~140%	120%~140%
	Type	shut down O/P voltage, re-power on to recover	
Withstand voltage	I/P - O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC		
Working temperature	-20~+65°C		-20~+70°C
Safety standards	UL60950-1, TUV EN60950-1 approved		
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11		
Dimension (LxWxH) (mm)	215x 115x 50		278x 127x 83.5
Case No.	912L	912G	943A
Packing	1.1kg ; 12pcs / 14kg / 0.92CUFT		3.0kg ; 4pcs / 13kg / 1.19CUFT

### 150W SPV-150

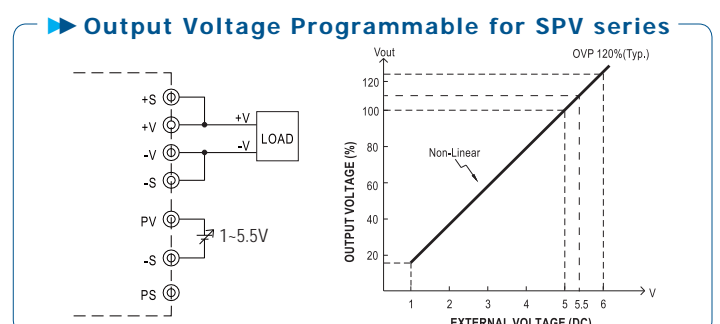
Model No.	Output	Tol.	R&N	Effi.
SPV-150-12	12V, 0~12.5A	±1%	150mV	82%
SPV-150-24	24V, 0~6.25A	±1%	150mV	83%
SPV-150-48	48V, 0~3.125A	±1%	240mV	83%

### 1500W SPV-1500

Model No.	Output	Tol.	R&N	Effi.
SPV-1500-12	12V, 0~125A	±1%	150mV	86.5%
SPV-1500-24	24V, 0~63A	±1%	150mV	90.0%
SPV-1500-48	48V, 0~32A	±1%	200mV	90.0%

### 300W SPV-300

Model No.	Output	Tol.	R&N	Effi.
SPV-300-12	12V, 0~25A	±1%	150mV	83.5%
SPV-300-24	24V, 0~12.5A	±1%	150mV	85.0%
SPV-300-48	48V, 0~6.25A	±1%	240mV	86.5%





### Features

- Universal AC input / Full range
- **Medical safety approved (2xMOOP)**
- Low leakage current  $\leq 300\mu\text{A}$  ( $\leq 450\mu\text{A}$  for MSP-300)
- Withstand 300VAC surge input for 5 seconds
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage / Over temperature
- 1U low profile (MSP-100/200/300/450)
- Built-in constant current limiting circuit
- Built-in remote sense function (MSP-200/300/450/600)
- No load power consumption  $< 0.5\text{W}$   
( $< 0.6\text{W}$  for MSP-450 ;  $< 0.8\text{W}$  for MSP-600)
- Built-in current sharing (MSP-600-24/36/48)
- Built-in remote ON/OFF control
- Built-in 5V/0.3A standby output (MSP-200/300/450/600)
- Built-in DC OK signal (MSP-300/450/600)
- LED indicator for power on
- **5 years warranty**



Model No.	MSP-100	MSP-200	MSP-300	MSP-450	MSP-600
AC input voltage range	85~264VAC; 120~370VDC				
AC inrush current (max.)	Cold start, 65A at 230VAC		Cold start, 70A at 230VAC		Cold start, 80A at 230VAC
DC adjustment range	$\pm 15\%$ rated output voltage				
Overload protection	Range	105%~135%			
	Type	Constant current limiting, auto-recovery			
Over voltage protection	115%~145%				
Withstand voltage	I/P-O/P: 4kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC, 1 minute				
Working temperature	-40~+60°C		-40~+70°C (refer to output derating curve)		
Safety standards	ANSI/AAMI ES60601-1, IEC60601-1 approved				
EMC standards	EN55011 class B, EN61000-4-2,3,4,5,6,8,11, EN61000-3-2,3, EN60601-1-2				
Connection	7P / 9.5mm pitch terminal block with cover		7P / 11mm pitch terminal block with cover	3+6P / 10 & 11mm pitch terminal block with cover	
Dimension (LxWxH)(mm)	159x 97x 38	199x 98x 38	199x 105x 41	218x 105x 41	218x 105x 63.5
Case No.	901I	902E	980A	995A	977A

100W		MSP-100			
Model No.	Output	Tol.	R&N	Effi.	
MSP-100-3.3	3.3V, 0~20A	+2.5%, -3.5%	80mV	78.0%	
MSP-100-5	5V, 0~17A	+2.5%, -3.5%	80mV	83.0%	
MSP-100-7.5	7.5V, 0~13.5A	$\pm 2.5\%$	100mV	84.0%	
MSP-100-12	12V, 0~8.5A	$\pm 1.5\%$	120mV	87.5%	
MSP-100-15	15V, 0~7A	$\pm 1.5\%$	150mV	88.0%	
MSP-100-24	24V, 0~4.5A	$\pm 1.5\%$	150mV	88.5%	
MSP-100-36	36V, 0~2.9A	$\pm 1.5\%$	200mV	89.0%	
MSP-100-48	48V, 0~2.2A	$\pm 1.5\%$	240mV	90.0%	

Model No.	Output	Tol.	R&N	Effi.
MSP-300-15	15V, 0~22A	$\pm 1\%$	150mV	88.0%
MSP-300-24	24V, 0~14A	$\pm 1\%$	150mV	87.0%
MSP-300-36	36V, 0~9A	$\pm 1\%$	250mV	88.0%
MSP-300-48	48V, 0~7A	$\pm 1\%$	250mV	89.0%

200W		MSP-200			
Model No.	Output	Tol.	R&N	Effi.	
MSP-200-3.3	3.3V, 0~40A	$\pm 2\%$	80mV	80.0%	
MSP-200-5	5V, 0~35A	$\pm 2\%$	90mV	84.0%	
MSP-200-7.5	7.5V, 0~26.7A	$\pm 2\%$	100mV	86.0%	
MSP-200-12	12V, 0~16.7A	$\pm 1\%$	120mV	88.0%	
MSP-200-15	15V, 0~13.4A	$\pm 1\%$	150mV	88.0%	
MSP-200-24	24V, 0~8.4A	$\pm 1\%$	150mV	88.0%	
MSP-200-36	36V, 0~5.7A	$\pm 1\%$	250mV	89.0%	
MSP-200-48	48V, 0~4.3A	$\pm 1\%$	250mV	89.0%	

450W		MSP-450			
Model No.	Output	Tol.	R&N	Effi.	
MSP-450-3.3	3.3V, 0~90A	$\pm 2\%$	80mV	80.0%	
MSP-450-5	5V, 0~90A	$\pm 2\%$	80mV	83.0%	
MSP-450-7.5	7.5V, 0~60A	$\pm 2\%$	100mV	86.5%	
MSP-450-12	12V, 0~37.5A	$\pm 1\%$	120mV	88.0%	
MSP-450-15	15V, 0~30A	$\pm 1\%$	150mV	89.0%	
MSP-450-24	24V, 0~18.8A	$\pm 1\%$	150mV	88.0%	
MSP-450-36	36V, 0~12.5A	$\pm 1\%$	240mV	89.0%	
MSP-450-48	48V, 0~9.5A	$\pm 1\%$	240mV	89.5%	

300W		MSP-300			
Model No.	Output	Tol.	R&N	Effi.	
MSP-300-3.3	3.3V, 0~60A	$\pm 2.5\%$	80mV	80.0%	
MSP-300-5	5V, 0~60A	$\pm 2\%$	90mV	82.0%	
MSP-300-7.5	7.5V, 0~40A	$\pm 2\%$	100mV	86.0%	
MSP-300-12	12V, 0~27A	$\pm 1\%$	120mV	88.0%	

600W		MSP-600			
Model No.	Output	Tol.	R&N	Effi.	
MSP-600-3.3	3.3V, 0~120A	$\pm 2\%$	100mV	78.5%	
MSP-600-5	5V, 0~120A	$\pm 2\%$	100mV	82.0%	
MSP-600-7.5	7.5V, 0~80A	$\pm 2\%$	100mV	86.0%	
MSP-600-12	12V, 0~53A	$\pm 1\%$	120mV	88.0%	
MSP-600-15	15V, 0~43A	$\pm 1\%$	150mV	88.0%	
MSP-600-24	24V, 0~27A	$\pm 1\%$	150mV	88.0%	
MSP-600-36	36V, 0~17.5A	$\pm 1\%$	200mV	89.0%	
MSP-600-48	48V, 0~13A	$\pm 1\%$	240mV	89.0%	





### ■ Features

- Universal AC input / Full range
- Built-in active PFC
- Protections: Short circuit / Overload /Over voltage / Over temperature
- Output wattage:
  - USP-150: 150W convection
  - USP-225: 150W convection, 225W with 18CFM forced air
  - USP-350: 300W convection, 350W with 23.5CFM forced air
  - USP-500: 400W convection, 500W with 23.5CFM forced air
- High power density: 5.5W/in<sup>3</sup> (USP-150); 4.7W/in<sup>3</sup> (USP-225); 6.32W/in<sup>3</sup> (USP-350); 6.2W/in<sup>3</sup> (USP-500)
- U-bracket low profile: 33mm(USP-150); 38mm(USP-225/300); 41mm(USP-500)
- Built-in remote ON/OFF control, remote sense, DC OK signal (USP-500)
- **Optional current sharing(1+1) for USP-500-24/48**
- 3 years warranty

Model No.	USP-150	USP-225	USP-350	USP-500
AC input voltage range	90~295VAC; 127~417VDC		90~264VAC; 127~370VDC	
AC inrush current (max.)	Cold start, 65A at 230VAC	15A at 115VAC, 35A at 230VAC	22A at 115VAC, 44A at 230VAC	30A at 115VAC, 50A at 230VAC
DC adjustment range	±10% rated output voltage			
Overload protection	Range	110%~160%	105%~150%	105%~130%
	Type	Hiccup mode, auto-recovery	Constant current limiting, auto-recovery	
Over voltage protection	Range	110%~135%	110%~135%	110%~140%
	Type	Shut off, AC recycle to re-start		Hiccup mode, auto-recovery
Withstand voltage	I/P - O/P: 3kVAC, I/P - FG: 1.5kVAC, O/P - FG: 0.5kVAC, 1 minute			
Working temperature	-30~+65°C	-20~+65°C	-10~+65°C	-20~+70°C
Vibration	10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes			
Safety standards	UL60950-1, TUV EN60950-1(except for USP-150) approved			
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11			
Connection	JST: SVH-21T-P1.1, 4P/7.62mm pitch terminal block	20P/2.54mm pitch, Molex 39-29-9206	5+9P×2/3.96mm pitch, JST: B5P/B9P×2-VH	3+8P/8.5mm pitch terminal block with cover
Dimension (LxWxH)(mm)	215x 67.4x 33	202x 101.5x 38	235.2x 101.5x 38	254x 127x 41

### ■ USP-150 Series

Model No.	Output	Tol.	R&N	Effi.
USP-150-12	12V, 0~12.5A	±2%	100mV	91.5%
USP-150-15	15V, 0~10.0A	±2%	150mV	91.5%
USP-150-24	24V, 0~6.30A	±2%	150mV	93.0%
USP-150-36	36V, 0~4.20A	±2%	250mV	93.0%
USP-150-48	48V, 0~3.20A	±2%	250mV	93.0%

### ■ USP-350 Series

Model No.	Output	Tol.	R&N	Effi.
USP-350-3.3	3.3V, 0~70.0A	±2%	80mV	78%
USP-350-5	5V, 0~70.0A	±2%	80mV	84%
USP-350-12	12V, 0~29.2A	±2%	100mV	88%
USP-350-15	15V, 0~23.4A	±2%	100mV	88%
USP-350-24	24V, 0~14.6A	±2%	150mV	88%
USP-350-48	48V, 0~7.30A	±2%	150mV	89%

### ■ USP-225 Series

Model No.	Output	Tol.	R&N	Effi.
USP-225-3.3	3.3V, 0~40.0A	±2%	100mV	72%
USP-225-5	5V, 0~40.0A	±2%	100mV	77%
USP-225-12	12V, 0~18.7A	±2%	100mV	83%
USP-225-15	15V, 0~15.0A	±2%	100mV	84%
USP-225-24	24V, 0~9.40A	±2%	150mV	85%
USP-225-48	48V, 0~4.70A	±2%	250mV	86%

### ■ USP-500 Series

Model No.	Output	Tol.	R&N	Effi.
USP-500-5	5V, 0~80.0A	±2%	80mV	85%
USP-500-12	12V, 0~42.0A	±2%	100mV	90%
USP-500-15	15V, 0~33.5A	±2%	100mV	90%
USP-500-24	24V, 0~21.0A	±2%	150mV	89%
USP-500-48	48V, 0~10.5A	±2%	150mV	90%



### Features

- Universal AC input / Full range
- Installed on DIN rail TS-35 / 7.5 or 15
- Protections: Short circuit / Overload / Over voltage
- No load power consumption <0.75W (<1W for MDR-100)
- LED indicator for power on
- Built-in active PFC and over temp. protection (MDR-100)
- Class I, Div 2 Hazardous Locations T4(MDR-40/60)
- DC OK signal output (MDR-10/20)
- DC OK relay contact (MDR-40/60/100)
- Cooling by free air convection
- 100% full load burn-in test
- 3 years warranty

Model No.	MDR-10	MDR-20	MDR-40	MDR-60	MDR-100
AC input voltage range	85~264VAC; 120~370VDC				
AC inrush current	Cold start, 35A at 115VAC, 70A at 230VAC	Cold start, 20A at 115VAC, 40A at 230VAC	Cold start, 30A at 115VAC, 60A at 230VAC		
DC adjustment range	Fixed	±10% rated output voltage	0~+20% rated output voltage		
Overload protection	>105% hiccup mode, auto-recovery	105%~160% constant current limiting, auto-recovery	105%~150% constant current limiting, auto-recovery		
Over voltage protection	115%~135% rated output voltage		125%~150% rated output voltage		
Setup, rise, hold up time	500ms, 30ms, 120ms	500ms, 30ms, 50ms	3000ms, 50ms, 50ms		
Withstand voltage	I/P-O/P:3kVAC, I/P-FG:2kVAC, 1minute				
Working temperature	-20~+70°C (refer to output derating curve)				-10~+60°C
DC OK signal	Open collector		Relay contact		
Safety standards	UL508, TUV EN60950-1 approved; MDR-40/60 also approved for UL60950-1, ANSI/ISA 12.12.01-2013 Class I, Div. 2 Group A, B, C, D Hazardous Locations T4				
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61204-3, EN61000-6-2 heavy industry level (MDR-40/60/100)				
Connection	I/P: 3 poles, O/P: 3 poles screw DIN terminal		I/P: 3 poles, O/P: 6 poles screw DIN terminal		
Dimension (WxHxD)(mm)	22.5x90x100		40x90x100		55x90x100
Packing	72pcs / 13.2kg	72pcs / 14.7kg	42pcs / 13.6kg	42pcs / 14.8kg	30pcs / 13.6kg

### MDR-10 Series

Model No.	Output	Tol.	R&N	Effi.
MDR-10-5	5V, 0~2.0A	±5%	80mV	77%
MDR-10-12	12V, 0~0.84A	±3%	120mV	81%
MDR-10-15	15V, 0~0.67A	±3%	120mV	81%
MDR-10-24	24V, 0~0.42A	±2%	150mV	84%

### MDR-20 Series

Model No.	Output	Tol.	R&N	Effi.
MDR-20-5	5V, 0~3.0A	±2%	80mV	76%
MDR-20-12	12V, 0~1.67A	±1%	120mV	80%
MDR-20-15	15V, 0~1.34A	±1%	120mV	81%
MDR-20-24	24V, 0~1.00A	±1%	150mV	84%

### MDR-40 Series

Model No.	Output	Tol.	R&N	Effi.
MDR-40-5	5V, 0~6.00A	±2%	80mV	78%
MDR-40-12	12V, 0~3.33A	±1%	120mV	86%
MDR-40-24	24V, 0~1.70A	±1%	150mV	88%
MDR-40-48	48V, 0~0.83A	±1%	200mV	88%

### MDR-60 Series

Model No.	Output	Tol.	R&N	Effi.
MDR-60-5	5V, 0~10.0A	±2%	80mV	78%
MDR-60-12	12V, 0~5.00A	±1%	120mV	86%
MDR-60-24	24V, 0~2.50A	±1%	150mV	88%
MDR-60-48	48V, 0~1.25A	±1%	200mV	87%

### MDR-100 Series

Model No.	Output	Tol.	R&N	Effi.
MDR-100-12	12V, 0~7.5A	±1%	120mV	83%
MDR-100-24	24V, 0~4.0A	±1%	150mV	86%
MDR-100-48	48V, 0~2.0A	±1%	200mV	87%



### Features

- Isolation Class II
- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage / Over temp. (DR-100)
- No load power consumption < 1W (DR-100)  
No load power consumption < 0.5W (DR-15)
- Installed on DIN rail TS-35 / 7.5 or 15
- Cooling by free air convection
- LED indicator for power on
- 100% full load burn-in test
- Suitable for building automation and control of household appliance
- 3 years warranty



Model No.	DR-15	DR-30	DR-60	DR-100
AC input voltage range	85~264VAC; 120~370VDC		88~264VAC; 124~370VDC	
AC inrush current (max.)	Cold start, 65A at 230VAC	Cold start, 30A at 230VAC	Cold start, 36A at 230VAC	Cold start, 45A at 230VAC
DC adjustment range	±10% rated output voltage			12V: 12~15V, 15V: 15~18V, 24V: 24~29V
Overload protection	Range	105%~160%		105%~135%
	Type	constant current limiting, auto-recovery		
Over voltage protection	Range	115%~135% rated output voltage		125%~155% rated output voltage
	Type	Shut off, clamp by zener diode	Shut down, re-power on to recover	
Withstand voltage	I/P-O/P: 3kVAC			
Working temperature	-20~+60°C (refer to output load derating curve)			
Vibration	10~500Hz, 2G 10 min./1 cycle, period for 60 min. each along X, Y, Z axes			
Safety standards	UL60950-1, TUV60950-1 approved			
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-6-2, EN61000-4-2,3,4,5,6,8,11, EN61204-3			
Connection	I/P and O/P: 2 poles screw DIN terminal		I/P: 2 poles, O/P: 4 poles screw DIN terminal	
Dimension (WxHxD)(mm)	25x93x56		78x93x56	
Case No.	985A		918B	
Packing	140pcs / 15.0kg		48pcs / 14.0kg	
			48pcs / 15.4kg	
			36pcs / 13.6kg	

### 15W DR-15

Model No.	Output	Tol.	R&N	Effi.
DR-15-5	5V, 0~2.40A	±2%	80mV	77.0%
DR-15-12	12V, 0~1.25A	±1%	120mV	84.0%
DR-15-15	15V, 0~1.00A	±1%	120mV	83.5%
DR-15-24	24V, 0~0.63A	±1%	150mV	85.0%

### 60W DR-60

Model No.	Output	Tol.	R&N	Effi.
DR-60-5	5V, 0~6.5A	±2%	80mV	76%
DR-60-12	12V, 0~4.5A	±1%	120mV	82%
DR-60-15	15V, 0~4.0A	±1%	120mV	83%
DR-60-24	24V, 0~2.5A	±1%	150mV	84%

### 30W DR-30

Model No.	Output	Tol.	R&N	Effi.
DR-30-5	5V, 0~3.0A	±2%	80mV	74%
DR-30-12	12V, 0~2.0A	±1%	120mV	81%
DR-30-15	15V, 0~2.0A	±1%	120mV	82%
DR-30-24	24V, 0~1.5A	±1%	150mV	83%

### 100W DR-100

Model No.	Output	Tol.	R&N	Effi.
DR-100-12	12V, 0~7.5A	±2%	120mV	87%
DR-100-15	15V, 0~6.5A	±1%	120mV	87%
DR-100-24	24V, 0~4.2A	±1%	150mV	89%



### Energy Saving –

We care about energy saving. This logo represents that this model has "low no load power consumption"!



### Features

- Universal AC input / Full range (DR-45/75, DRP-240)  
AC input selectable by switch (DR-120, DRP-480S)  
AC input 180~264VAC only (DRP-480)
- Built-in active PFC function (DRP-240)
- Built-in passive PFC function compliance to EN61000-3-2 (480W models)
- Protections: Short circuit / Overload /  
Over voltage / Over temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35 / 7.5 or 15
- UL508 (industrial control equipment) listed
- 100% full load burn-in test
- LED indicator for power on
- 3 years warranty

Model No.	DR-45	DR-75	DR-120	DRP-240	DRP-480	DRP-480S
AC input voltage range	85~264VAC(DR-45/75, DRP-240); 90~132/180~264VAC selectable by switch (DR-120, DRP-480S); 180~264VAC only (DRP-480)					
AC inrush current (230VAC)	56A	40A	40A	45A	40A	45A
DC adjustment range	±10%					
Overload protection	105%~150% constant current limiting, auto-recovery					
Over voltage protection	Range	115%~142% rated output voltage			30~36V for 24V model, 54~60V for 48V model	
	Type	Shut off, AC recycle to re-start				
Over temp. protection	Shut down output voltage, recovers automatically after temperature goes down (DRP-240, re-power on to recover)					
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG: 1.5kVAC, O/P-FG: 0.5kVAC, 1 minute					
Working temperature	-10~+50°C	-10~+60°C		-10~+70°C	-20~+70°C	
Safety standards	UL508, TUV EN60950-1 approved (UL60950-1 also for DR-120, DRP-240, DRP-480, DRP-480S)					
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61000-6-2 heavy industry level					
Connection	I/P: 3 poles, O/P: 4 poles screw DIN terminal					
Dimension (WxHxD)(mm)	78x93x67	55.5x125.2x100		125.5x125.2x100	227x125.2x100	
Case No.	918A	923	921A	922A	930	
Packing	48pcs / 17.5kg	20pcs / 13.0kg	20pcs / 16.5kg	12pcs / 15.5kg	6pcs / 15.0kg	6pcs / 16.6kg

### DR-45 Series



Model No.	Output	Tol.	R&N	Effi.
DR-4505	5V, 0~5.0A	±2%	100mV	72%
DR-4512	12V, 0~3.5A	±1%	200mV	77%
DR-4515	15V, 0~2.8A	±1%	240mV	77%
DR-4524	24V, 0~2.0A	±1%	480mV	80%

### DR-75 Series



Model No.	Output	Tol.	R&N	Effi.
DR-75-12	12V, 0~6.3A	±2%	100mV	76%
DR-75-24	24V, 0~3.2A	±1%	150mV	80%
DR-75-48	48V, 0~1.6A	±1%	240mV	81%

### DR-120 Series



Model No.	Output	Tol.	R&N	Effi.
DR-120-12	12V, 0~10A	±2%	80mV	80%
DR-120-24	24V, 0~5.0A	±1%	80mV	84%
DR-120-48	48V, 0~2.5A	±1%	100mV	85%

### DRP-240 Series



Model No.	Output	Tol.	R&N	Effi.
DRP-240-24	24V, 0~10A	±1%	80mV	84%
DRP-240-48	48V, 0~5.0A	±1%	150mV	85%

### DRP-480 Series



Model No.	Output	Tol.	R&N	Effi.
DRP-480-24	24V, 0~20A	±1%	120mV	89%
DRP-480-48	48V, 0~10A	±1%	120mV	89%

### DRP-480S Series



Model No.	Output	Tol.	R&N	Effi.
DRP-480S-24	24V, 0~20A	±1%	120mV	89%
DRP-480S-48	48V, 0~10A	±1%	120mV	89%





### Features

- Input 340~550VAC, 3-phase (2-phase for DRH-120)
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in constant current limiting circuit
- Cooling by free air convection
- Can be installed on DIN rail TS-35 / 7.5 or 15
- UL508 (industrial control equipment) listed (240~960W)
- EN61000-6-2 (EN50082-2) industrial immunity level
- Optional parallel function (1+1) (960W only)
- 100% full load burn-in test
- LED indicator for power on
- 3 years warranty

Model No.	DRH-120	DRT-240	DRT-480	DRT-960
AC input voltage range	340~550VAC, 2-phase	340~550VAC, 3-phase (two phase operation possible)		
AC inrush current (max.)	Cold start, 50A at 400VAC			
DC adjustment range	24V: 24~28V, 48V: 48~55V			
Overload protection	Range	105%~160%	105%~150%	105%~125%
	Type	Constant current limiting, auto-recovery		
Over voltage protection	Range	24V: 30~36V, 48V: 59~66V		
	Type	Shut off, AC recycle to re-start		
Over temperature protection	Shut down output voltage, recovers automatically after temperature goes down			
Withstand voltage	I/P - O/P: 3kVAC, I/P - FG: 1.5kVAC, O/P - FG: 0.5kVAC, 1 minute			
Working temperature	-20~+60°C	-20~+70°C		-20~+60°C
Safety standards	UL60950-1 approved	UL508, UL60950-1, TUV EN60950-1 approved		
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61204-3, EN61000-6-2 heavy industry level			
Connection (screw DIN terminal)	I/P: 3 poles, O/P: 4 poles	I/P: 4 poles, O/P: 4 poles		I/P: 4 poles, O/P: 6 poles
Dimension (WxHxD)(mm)	65.5x125.2x100	125.5x125.2x100	227x125.2x100	276x125.2x100
Case No.	921A	922A	930A	934
Packing	20pcs / 16.0kg	12pcs / 16.6kg	6pcs / 16.0kg	4pcs / 14.2kg

### DRH-120 (2-Phase)



Model No.	Output	Tol.	R&N	Effi.
DRH-120-24	24V, 0~5.0A	±1%	80mV	85%
DRH-120-48	48V, 0~2.5A	±1%	80mV	86%

### DRT-480 (3-Phase)



Model No.	Output	Tol.	R&N	Effi.
DRT-480-24	24V, 0~20A	±1%	80mV	89%
DRT-480-48	48V, 0~10A	±1%	80mV	90%

### DRT-240 (3-Phase)



Model No.	Output	Tol.	R&N	Effi.
DRT-240-24	24V, 0~10A	±1%	80mV	89%
DRT-240-48	48V, 0~5.0A	±1%	80mV	89%

### DRT-960 (3-Phase)



Model No.	Output	Tol.	R&N	Effi.
DRT-960-24	24V, 0~40A	±1%	80mV	91%
DRT-960-48	48V, 0~20A	±1%	80mV	92%



### Features

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35 / 7.5 or 15
- UL508 (industrial control equipment) listed
- EN61000-6-2 (EN50082-2) industrial immunity level
- 100% full load burn-in test
- Low cost
- 2 years warranty



Model No.	EDR-75	EDR-120	EDR-150
AC input voltage range	90~264VAC; 127~370VDC		
AC inrush current (max.)	Cold start, 35A at 230VAC		
DC adjustment range	12V: 12~14V, 24V: 24~28V, 48V: 48~55V		
Overload protection	Range	105%~130%	
	Type	Constant current limiting, auto-recovery	
Over voltage protection	Range	12V: 14~17V, 24V: 29~33V, 48V: 56~65V	24V: 29~33V
	Type	Shut down o/p voltage, re-power on to recover	
Over temperature protection	Shut down o/p voltage, re-power on to recover		
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC		
Working temperature	-20~+60°C (refer to output derating curve)		
Safety standards	UL508, TUV EN60950-1 approved		
EMC standards	EN55022 classA, EN61000-3-2(125W for EDR-150),3, EN61000-4-2,3,4,5,6,8,11, EN61000-6-2(EN50082-2)		
Connection (screw DIN terminal)	I/P: 3 poles, O/P: 4 poles		
Dimension (WxHxD)(mm)	32x 125.2x 102	40x 125.2x 113.5	
Case No.	221B	992D	

### 75W EDR-75

Model No.	Output	Tol.	R&N	Effi.
EDR-75-12	12V, 0~6.3A	±2.0%	80mV	85.5%
EDR-75-24	24V, 0~3.2A	±1.0%	120mV	87.5%
EDR-75-48	48V, 0~1.6A	±1.0%	150mV	88.5%

### 120W EDR-120

Model No.	Output	Tol.	R&N	Effi.
EDR-120-12	12V, 0~10A	±2.0%	100mV	85.0%
EDR-120-24	24V, 0~5A	±1.0%	120mV	87.5%
EDR-120-48	48V, 0~2.5A	±1.0%	150mV	88.5%

### 150W EDR-150

Model No.	Output (230VAC/115VAC)	Tol.	R&N	Effi.
EDR-150-24	24V, 0~6.5A / 0~5.2A	±1.0%	150mV	87%

## HEP-480 Series

### 480W Harsh Environment Power

Under Development

- Universal AC input 90~305VAC
- Built-in active PFC function
- High efficiency up to 95%
- Fanless design, cooling by free air convection
- -55~+70°C wide operating range
- Meet 6kV surge immunity level
- Withstand 10G vibration test
- Operating altitude up to 5000 meters
- Output models: 12V / 15V / 24V / 36V / 48V / 54V
- Design refer to UL60950-1
- 6 years warranty



### ■ Features

- Universal AC input / Full range
- Built-in active PFC function(NDR-240/480)
- High efficiency up to 92.5%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35 / 7.5 or 15
- UL508 (industrial control equipment) listed
- EN61000-6-2 (EN50082-2) industrial immunity level
- 100% full load burn-in test
- 3 years warranty

Model No.	NDR-75	NDR-120	NDR-240	NDR-480
AC input voltage range	90~264VAC; 127~370VDC			
AC inrush current (max.)	Cold start, 35A at 230VAC			
DC adjustment range	12V: 12~14V, 24V: 24~28V, 48V: 48~55V			
Overload protection	Range	105%~130%		
	Type	Constant current limiting, auto-recovery		Constant current limiting, shut off after 3 sec., re-power on to recover
Over voltage protection	Range	12V: 14~17V, 24V: 29~33V, 48V: 56~65V		
	Type	Shut down o/p voltage, re-power on to recover		
Over temperature protection	Shut down o/p voltage, re-power on to recover		Shut down o/p voltage, auto-recovery	
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC			
Working temperature	-20~+70°C (refer to output derating curve)			
Safety standards	UL508, TUV EN60950-1 approved			
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61000-6-2(EN50082-2), EN61204-3			
Connection (screw DIN terminal)	I/P: 3 poles, O/P: 4 poles			
Dimension (WxHxD)(mm)	32x 125.2x 102	40x 125.2x 113.5	63x 125.2x 113.5	85.5x 125.2x 128.5
Case No.	221B	992D	979C	984D
Packing	28pcs / 15.3kg	20pcs / 13kg	12pcs / 13kg	8pcs / 15.4kg

### ■ NDR-75 Series



Model No.	Output	Tol.	R&N	Effi.
NDR-75-12	12V, 0~6.3A	±2.0%	80mV	85.5%
NDR-75-24	24V, 0~3.2A	±1.0%	150mV	88.0%
NDR-75-48	48V, 0~1.6A	±1.0%	240mV	89.0%

### ■ NDR-240 Series



Model No.	Output	Tol.	R&N	Effi.
NDR-240-24	24V, 0~10A	±1.0%	150mV	88.5%
NDR-240-48	48V, 0~5A	±1.0%	150mV	90.0%

### ■ NDR-120 Series



Model No.	Output	Tol.	R&N	Effi.
NDR-120-12	12V, 0~10A	±2.0%	100mV	85.5%
NDR-120-24	24V, 0~5A	±1.0%	120mV	88.0%
NDR-120-48	48V, 0~2.5A	±1.0%	150mV	89.0%

### ■ NDR-480 Series



Model No.	Output	Tol.	R&N	Effi.
NDR-480-24	24V, 0~20A	±1.0%	150mV	92.5%
NDR-480-48	48V, 0~10A	±1.0%	150mV	92.5%



### Features

- High efficiency up to 94%
- Universal AC input / Full range (SDR-75/120/240/480)  
AC input 180~264VAC only (SDR-960)
- Built-in active PFC function (SDR-120/240/480/960)
- Protections: Short circuit / Overload /  
Over voltage / Over temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35 / 7.5 or 15
- UL508(industrial control equipment) approved
- EN61000-6-2(EN50082-2) industrial immunity level
- Built-in DC OK relay contact (except for SDR-75)
- 150% peak load capability (SDR-75/120/240/480)  
130% peak load capability (SDR-960)
- Current sharing up to 3840W (7+1) for SDR-480P  
Current sharing up to 3840W (3+1) for SDR-960
- Comply with GL (SDR-120/240/480)  
Comply with SEMI F47 (SDR-75/120/240/480)
- 3 years warranty

Model No.	SDR-75	SDR-120	SDR-240	SDR-480□	SDR-960
AC input voltage range	88~264VAC; 124~370VDC			90~264VAC; 127~370VDC	180~264VAC; 254~370VDC
AC inrush current (max.)	Cold start, 50A at 230VAC	Cold start, 70A at 230VAC	Cold start, 65A at 230VAC	Cold start, 80A at 230VAC	Cold start, 50A at 230VAC
DC adjustment range	12V: 12~14V (only for SDR-75/120), 24V: 24~28V, 48V: 48~55V				
Overload protection	Normally works within 110%~150% rated output power for 3 seconds and then shut down output voltage with auto-recovery (re-power on to recover for SDR-75)				Normally works within 105%~130% rated output power for 3 seconds and then shut down o/p voltage with auto-recovery after 30 seconds if the peak load condition is removed
	>150% rated power or short circuit, constant current limiting with auto-recovery within 2 seconds and may cause to shut down if over 2 seconds				Constant current limiting within 130%~150% rated output power for more than 3 seconds and then shut down o/p voltage, re-power on to recover
Over voltage protection	Range	14~17V for 12V model(SDR-75/120), 29~33V for 24V model, 56~65V for 48V model			
	Type	Shut down o/p voltage, re-power on to recover		Shut down o/p voltage with auto-recovery, or re-power on to recover	
Over temperature protection	Re-power on to recover	Recovers automatically after temperature goes down			
Withstand voltage	I/P-O/P:3kVAC, I/P-FG:1.5kVAC, O/P-FG:0.5kVAC, O/P-DC OK:0.5kVAC (except for SDR-75)				
Working temperature	-30~+70°C	-25~+70°C (refer to output derating curve)			-30~+70°C
Safety standards	UL508, TUV EN60950-1, GL (SDR-120/240/480) approved				
EMC standards	EN55011(SDR-120/240/480), EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61000-6-2 (EN50082-2), EN61204-3; SEMI (SDR-75/120/240/480), GL (SDR-120/240/480)				
Connection (screw DIN terminal)	I/P: 3 poles, O/P: 4 poles		I/P: 3 poles, O/P: 6 poles	I/P: 3 poles, O/P: 8 poles	I/P:3 poles, O/P: 6 poles
Dimension (WxHxD)(mm)	32x125.2x102	40x125.2x113.5	63x125.2x113.5	85.5x125.2x128.5	110x125.2x150

### SDR-75 Series

Model No.	Output	Tol.	R&N	Effi.
SDR-75-12	12V, 0~6.3A	±1.0%	100mV	88.5%
SDR-75-24	24V, 0~3.2A	±1.0%	100mV	89.0%
SDR-75-48	48V, 0~1.6A	±1.0%	120mV	90.0%

### SDR-120 Series

Model No.	Output	Tol.	R&N	Effi.
SDR-120-12	12V, 0~10A	±1.0%	100mV	89.0%
SDR-120-24	24V, 0~ 5A	±1.0%	100mV	91.0%
SDR-120-48	48V, 0~2.5A	±1.0%	120mV	90.5%

### SDR-240 Series

Model No.	Output	Tol.	R&N	Effi.
SDR-240-24	24V, 0~10A	±1.0%	100mV	94%
SDR-240-48	48V, 0~5A	±1.0%	120mV	94%

### SDR-480 Series

Model No.	Output	Tol.	R&N	Effi.
SDR-480□-24	24V, 0~20A	±1.2%	100mV	94%
SDR-480□-48	48V, 0~10A	±1.0%	120mV	94%

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

### SDR-960 Series

Model No.	Output	Tol.	R&N	Effi.
SDR-960-24	24V, 0~40A	±1.0%	180mV	94%
SDR-960-48	48V, 0~20A	±1.0%	250mV	94%





### ■ Features

- Single and two phase wide input range  
180~550VAC
- Built-in active PFC function (WDR-240/480)
- Protections: Short circuit / Overload /  
Over voltage / Over temperature
- Cooling by free air convection
- Built-in constant current limiting circuit
- Can be installed on DIN rail TS-35 / 7.5 or 15
- UL508(industrial control equipment) approved
- EN61000-6-2(EN50082-2) industrial immunity level
- Built-in DC OK relay contact
- 100% full load burn-in test
- 3 years warranty

Model No.	WDR-120	WDR-240	WDR-480
AC input voltage range	180~550VAC(single and two phase); 254~780VDC		
AC input current	0.55A / 400VAC, 1.2A / 230VAC	1A / 400VAC, 2A / 230VAC	1.6A / 400VAC, 4A / 230VAC
AC inrush current (max.)	Cold start, 50A at 400VAC		
DC adjustment range	12V: 12~15V, 24V: 24~29V, 48V: 48~58V	24V: 24~28V, 48V: 48~55V	
Overload protection	105%~130% rated output power, constant current limiting, auto-recovery	105%~130% rated output power, constant current limiting, unit will shut down after 3 sec.; auto-recovery after 1 minute if the fault condition is removed.	
Over voltage protection	Range	16~18V for 12V model (only for WDR-120), 29~33V for 24V model, 56~65V for 48V model	
	Type	Shut down o/p voltage, auto-recovery	
Setup, rise, hold up time	2000ms, 70ms, 10ms at full load and 230VAC; 2000ms, 70ms, 50ms at full load and 400VAC	1500ms, 150ms, 18ms at full load and 230VAC; 800ms, 150ms, 18ms at full load and 400VAC	2000ms, 150ms, 16ms at full load and 230VAC; 800ms, 150ms, 18ms at full load and 400VAC
Over temp. protection	Shut down output voltage, recovers automatically after temperature goes down		
Withstand voltage	I/P-O/P:3kVAC, I/P-FG:1.5kVAC, O/P-FG:0.5kVAC, O/P-DC OK:0.5kVAC, 1 minute		
Isolation resistance	100MΩ(min.)@500VDC		
Working temperature	-25~+70°C (refer to output derating curve)	-30~+70°C (refer to output derating curve)	
DC OK signal	Relay Contact		
Leakage current	<3.5mA at 530VAC		
Vibration	10~500Hz, 2G 10 minutes / 1 cycle, period of 60 minutes each along X, Y, Z axes		
Safety standards	UL508 approved ; IEC60950-1 CB approved by SIQ ; Design refer to GL		
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61000-6-2 (EN50082-2), EN61204-3, heavy industry level		
Connection (screw DIN terminal)	I/P: 3 poles, O/P: 4 poles	I/P: 3 poles, O/P: 6 poles	
Dimension (WxHxD)(mm)	40x125.2x113.5	63x125.2x113.5	85.5x125.2x128.5
Packing	20pcs / 14kg	12pcs / 13.7kg	8pcs / 14.6kg

### ■ WDR-120 Series

Model No.	Output	Tol.	R&N	Effi.
WDR-120-12	12V, 0~10A	±1.5%	120mV	89.5%
WDR-120-24	24V, 0~5A	±1.0%	120mV	91%
WDR-120-48	48V, 0~2.5A	±1.0%	150mV	92%

### ■ WDR-480 Series

Model No.	Output	Tol.	R&N	Effi.
WDR-480-24	24V, 0~20A	±1.0%	100mV	92%
WDR-480-48	48V, 0~10A	±1.0%	150mV	93%

### ■ WDR-240 Series

Model No.	Output	Tol.	R&N	Effi.
WDR-240-24	24V, 0~10A	±1.0%	150mV	91%
WDR-240-48	48V, 0~5A	±1.0%	150mV	91%



### Features

- 3-phase, 340~550VAC wide range input (2-phase operation possible)
- Width only 110mm for TDR-960; 85.5mm for TDR-480
- Built-in active PFC function
- High efficiency up to 94.5%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Built-in constant current limiting circuit
- Can be installed on DIN rail TS-35/7.5 or 15
- UL508(industrial control equipment)approved
- EN61000-6-2(EN50082-2) industrial immunity level
- Current sharing up to 3840W(3+1) for TDR-960
- Built-in DC OK relay contact (optional for TDR-480)
- 100% full load burn-in test
- 3 years warranty



Model No.	TDR-480	TDR-960
AC input voltage range	3-phase 340~550VAC (2-phase operation possible), 480~780VDC	
AC input current (Typ.)	1.6A / 400VAC, 1.3A / 500VAC	2.0A / 400VAC, 1.4A / 500VAC
AC inrush current (max.)	Cold start, 50A at 400VAC	Cold start, 60A at 400VAC
DC adjustment range	24V: 24~28V, 48V: 48~55V	
Overload protection	105%~130% rated output power, constant current limiting, unit will shut down after 3 sec., re-power on to recover	
Over voltage protection	Range	29~33V for 24V model, 56~65V for 48V model
	Type	Shut down o/p voltage, re-power on to recover
Over temperature protection	Shut down o/p voltage, auto-recovery after temperature goes down	
Withstand voltage	I/P-O/P:3kVAC I/P-FG:2kVAC O/P-FG:0.5kVAC, O/P-DC OK: 0.5kVAC(TDR-960)	
Working temperature	-30~+70°C (refer to output derating curve)	
Safety standards	UL508 approved; IEC60950-1 CB approved by SIO (TDR-480 pending); Design refer to EN61558-1/-2-16 for TDR-480	
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61204, heavy industry level	
Connection (screw DIN terminal)	I/P: 3 poles, O/P: 4 poles	I/P: 3 poles, O/P: 6 poles
Case No.	984	214A
Dimension (WxHxD)(mm)	85.5x 125.2x 128.5	110x 125.2x 150

### 480W Under Development TDR-480

Model No.	Output	Tol.	R&N	Effi.
TDR-480-24	24V, 0~20A	±1.0%	150mV	92%
TDR-480-48	48V, 0~10A	±1.0%	240mV	92%

### 960W TDR-960

Model No.	Output	Tol.	R&N	Effi.
TDR-960-24	24V, 0~40A	±1.0%	180mV	94.0%
TDR-960-48	48V, 0~20A	±1.0%	250mV	94.5%

Under Development **HDR-15/30/60/100 Series**  
15~100W  
**Ultra Slim Step Shape**



- Ultra slim design, 17.5mm(1SU) / 35mm(2SU) / 52.5mm(3SU) / 70mm(4SU) for HDR-15/30/60/100 respectively
- Universal AC input / Full range
- No load power consumption<0.3W
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- NEC class 2 / LPS (15~60W)
- Isolation class II
- LED indicator for power on
- Design refer to UL60950-1/508/1310, EN60950-1/61558-2-16
- Output models: 5V / 12V / 15V / 24V / 48V
- 3 years warranty

## 40W & 60W Output Current Programmable

- Universal AC input / Full range
- **Io can be trimmed 10-100% by 1-10Vdc, PWM signal or resistance**
- Installed on DIN rail TS-35 / 7.5 or 15
- Protections: Short circuit / Overload / Over voltage
- Pass LPS
- Cooling by free air convection
- LED indicator for power on
- 100% full load burn-in test
- **Suitable for machine vision inspection system and plant cultivation application**
- 3 years warranty



AC input voltage range ..... 90~264VAC; 127~370VDC  
 AC inrush current ..... Cold start, 60A at 230VAC  
 DC adjustment range ..... 12V: 12~15V, 24V: 24~30V  
 Current adjustment range ..... 10%-100% rated output current adjustable by 1-10VDCc, PWM signal or resistance  
 Overload protection ..... 95%-108% rated output power, constant current limiting, auto-recovery  
 Over voltage protection..... 120%-155% rated output power, shut down o/p voltage, re-power on to recover  
 Withstand voltage ..... I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC  
 Working temperature ..... -30~+70°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, TUV EN60950-1 approved  
 EMC standards ..... EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61204-3  
 Connection ..... I/P: 3 poles, O/P: 6 poles screw DIN terminal

### ◆ DRA-40 Series

Model No.	Output	Tol.	R&N	Effi.
DRA-40-12	12V, 0~3.34A	±1.0%	120mV	85%
DRA-40-24	24V, 0~1.7A	±1.0%	150mV	87%

### ◆ DRA-60 Series

Model No.	Output	Tol.	R&N	Effi.
DRA-60-12	12V, 0~5A	±1.0%	120mV	85%
DRA-60-24	24V, 0~2.5A	±1.0%	150mV	87%

## 20W KNX Power Supply



- **EIB / KNX power supply with integrated choke**
- **Compact size with 3SU(52.5mm) width**
- 180~264VAC input
- No load power consumption <0.5W
- 200ms mains failure back-up time
- Button for bus reset on top
- 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
- Installed on DIN rail TS-35/7.5 or 15
- 3 years warranty

AC input voltage range ..... 180~264VAC; 254~370VDC  
 AC inrush current ..... Cold start, 40A at 230VAC  
 LED indicators ..... ON: Green LED, normal operation, no fault  
 Reset: Red LED, reset of the KNX bus  
 I<sub>out</sub>> I<sub>max</sub>: Red LED, KNX bus overload  
 Overload protection ..... 205%~235% rated output power ; constant current limiting, auto-recovery after fault condition is removed  
 Over voltage protection ..... 110%~115% ; Shut down o/p voltage, re-power on to recover  
 Setup, rise, hold up time ..... 1000ms, 50ms, 200ms at 230VAC  
 Working temperature ..... -30~+70°C  
 (-30~+50°C@100% load, 70°C@60% load)  
 Safety standards ..... EN61558-1, EN61558-2-16 approved  
 EMC standards ..... EN50491-5-1, -5-2, -5-3  
 Connection ..... I/P: 3 poles; O/P: 2 poles screw DIN terminal & 2 KNX bus terminals (black/red)

Model No.	V <sub>out1</sub> (with choke)	V <sub>out2</sub> (without choke)	I <sub>out</sub> (I <sub>1</sub> +I <sub>2</sub> )	R&N	Effi.
KNX-20E-640	Bus, 30VDC	30VDC	640mA	100mV	86%

## ► KNX-20E Feature Description



The KNX Power Supply KNX-20E is a 640mA power supply with high efficiency and a small footprint of only 3SU (52.5 mm).

The device has a KNX bus choke output and an additional output for ancillary power. The -30~+70°C wide temperature operating range can meet all kinds of applications. LED indicators are used in case of normal operation, overload conditions and RESET operation. It is perfectly suitable to power up any products labeled with the KNX trademark. With over 30 years of industrial power supply experience, KNX-20E is engineered to be a reliable and safe solution for KNX bus environment.

## ■ Applications

### KNX-based home, office, building

- Lighting control
- Heating/ventilation & Air Conditioning control
- Shutter/Blind control
- Alarm monitoring
- Energy management & Electricity / Gas / Water metering
- Security systems control
- Automation & remote access control

### 20A Power Supply Redundancy Module

- Suitable for redundant operation of 24V system
- Installed on DIN rail TS-35 / 7.5 or 15
- Relay contact signal output and LED indicator for input failure alarm
- Cooling by free air convection
- 3 years warranty



DC input voltage range .....21~28V, 20A max. x 2 channels  
 Reverse voltage ..... 30V  
 DC output current ..... 20A max.  
 DC output voltage drop ..... 0.6V max.  
 Input voltage alarm ..... When input is > 20V(±5%) and <30V(±5%), relay contacts  
 Relay contact rating .....30VDC, 1A  
 Working temperature .....-40~+70°C  
 Safety standard .....UL508 approved  
 EMC standards .....EN55022 class B, EN61000-4-2,3,4,5,6,8,11  
 Connection .....I/P: 4 poles, O/P: 2 poles screw DIN terminal,  
 Single output: 4 poles

Model No.	Output	Reverse Voltage	Current
DR-RDN20	24V, 20A	30V max.	20A max.

#### ► Feature Description

**DR-RDN20** is a 20A redundancy (decoupling) module for the 24VDC power system. Containing 2 sets of 20A Or-ing diodes with wonderful heat dissipation deployment, DR-RDN20 offers a safe option of 1+1 redundant set-up. Not only perfectly decouple power sources from each other as well as from the load, DR-RDN-20 also provides users monitoring signals for both input channels through the built-in relays.

**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 to check the situation of external batteries, users can customize their own DC UPS system to back up critical loads and capture the status of the whole system easily.

### 40A DC UPS Module

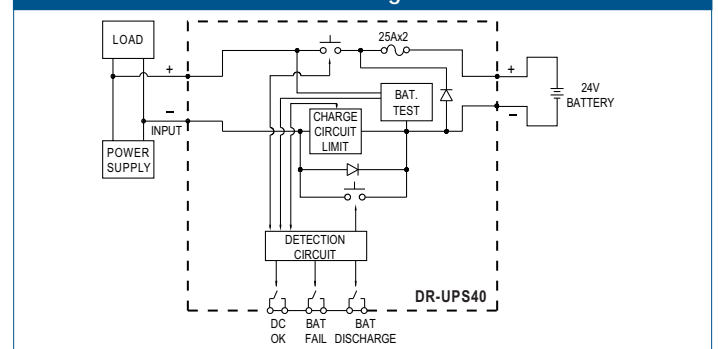
- Battery controller for DIN rail UPS system
- Parallel connected to DC BUS
- Suitable for 24V system up to 40A
- Installed on DIN Rail TS-35 / 7.5 or 15
- Built-in battery test function
- Battery polarity protection
- Relay contact signal output and LED indicator for DC BUS OK, Battery Fail, and Battery Discharge
- Cooling by free air convection
- 3 years warranty



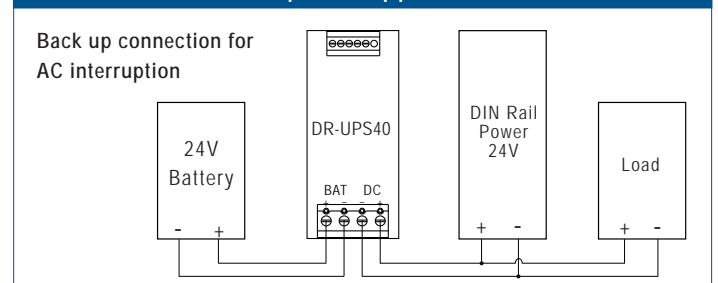
DC input / DC bus ..... 24~29V, 40A max.  
 Battery input voltage ..... 21~29V  
 Battery input Current ..... 0~40A  
 Charge current (typ.) ..... 2A  
 External battery (typ.) ..... 24V, 4AH / 7AH / 12AH  
 DC bus ok ..... Relay status : Short when DC voltage between 21~29V(±3%), relay contacts  
 LED(Green) : DC bus OK : light;  
 DC bus fail : dark  
 Battery fail ..... Relay status : Short when battery failure is observed through the battery test function, relay contacts  
 LED(Red) : Battery over-discharge warning or battery broken: light;  
 Battery OK: dark  
 Battery discharge ..... Relay status : Short when battery in discharge condition, relay contacts  
 LED(Yellow) : Battery discharging: light;  
 Battery is not discharging or discharging current <2A: dark  
 Working temperature ..... -20~+70°C  
 EMC standards ..... EN55022 class B, EN61000-4-2,3,4,5,6,8,11  
 Connection ..... I/P: 2 poles, O/P: 2 poles screw DIN terminal,  
 Single output: 6 poles

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

#### Block Diagram



#### Example of Application





# Green Open Frame 5~20W Medical Encapsulated Type



## Features

- Universal AC input / Full range
- Medical safety approved (2xMOPP)
- Suitable for BF application with appropriate system consideration
- Protections: Short circuit / Overload / Over voltage
- Low leakage current < 300μA (20W)
- No load power consumption <0.5W (<0.75W for 20W models)
- Fully isolated plastic case
- Isolation class II (5-15W), class I (20W)
- Cooling by free air convection
- Meet industrial, IT safety requirements
- 100% full load burn-in test
- 3 years warranty



PM-05 / 10 / 15 Series				PM-20 Series		
		<b>5W</b>	<b>10W</b>	<b>15W</b>		
	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)		

## General Specification

AC input voltage range ..... 85-264VAC; 120-370VDC  
 Frequency range ..... 47-440Hz  
 AC inrush current (max.) ... Cold start, 25A at 115VAC, 45A at 230VAC  
 (PM-15: 30A at 115VAC, 50A at 230VAC)  
 (PM-20: 30A at 115VAC, 65A at 230VAC)  
 Overload protection ..... >105% hiccup mode, auto recovery  
 Over voltage protection ..... 115%~135% rated output voltage, shut off,  
 AC recycle to re-start  
 Setup, rise, hold up time ... PM-5/15: 1000ms, 20ms, 100ms @ 230VAC  
 PM-10: 1800ms, 20ms, 100ms @ 230VAC  
 PM-20: 500ms, 20ms, 50ms @ 230VAC  
 Withstand voltage ..... I/P-O/P: 4kVAC, 1 minute  
 Working temperature ..... PM-5/10/15: -20~+70°C  
 PM-20: -20~+60°C  
 Safety standards ..... ANSI/AAMI ES60601-1, TUV EN60601-1,  
 UL60950-1 (PM-15) approved  
 EMC standards ..... EN55011, EN55022 class B, EN61000-3-2,3  
 EN61000-4-2,3,4,5,6,8,11, EN55024,  
 EN60601-1-2, EN61204-3 Medical level, criteria A  
 Connection ..... 4 industrial pins (20W: 6 industrial pins)  
 Packing ..... 0.085kg ; 120pcs / 11.2kg / 0.97CUFT(PM-05)  
 0.105kg ; 120pcs / 13.6kg / 0.97CUFT(PM-10)  
 0.14kg ; 120pcs / 17.8kg / 0.97CUFT(PM-15)  
 0.18kg ; 90pcs / 17.2kg / 0.97CUFT(PM-20)

## PM-05 Series

Model No.	Output	Tol.	R&N	Effi.
PM-05-3.3	3.3V, 0~1.25A	±3%	80mV	67%
PM-05-5	5V, 0~1.00A	±2%	80mV	71%
PM-05-12	12V, 0~0.42A	±2%	150mV	73%
PM-05-15	15V, 0~0.33A	±2%	150mV	74%
PM-05-24	24V, 0~0.23A	±2%	240mV	76%

## PM-10 Series

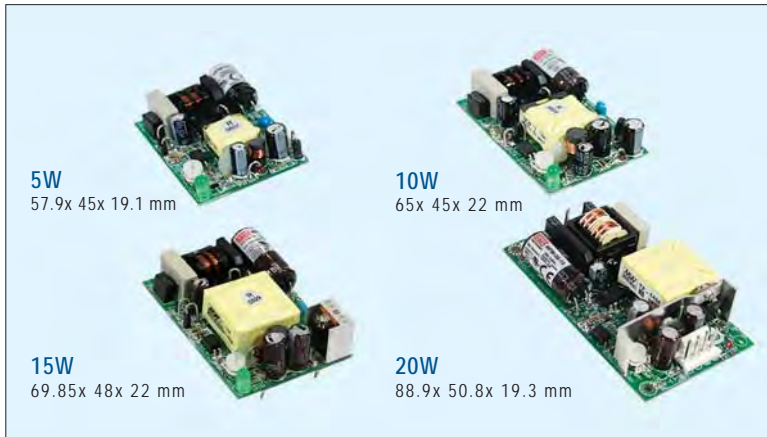
Model No.	Output	Tol.	R&N	Effi.
PM-10-3.3	3.3V, 0~2.50A	±3%	150mV	66%
PM-10-5	5V, 0~2.00A	±2%	150mV	74%
PM-10-12	12V, 0~0.85A	±2%	150mV	78%
PM-10-15	15V, 0~0.67A	±2%	150mV	79%
PM-10-24	24V, 0~0.42A	±2%	240mV	79%

## PM-15 Series

Model No.	Output	Tol.	R&N	Effi.
PM-15-3.3	3.3V, 0~3.50A	±3%	80mV	73%
PM-15-5	5V, 0~3.00A	±2%	80mV	76%
PM-15-12	12V, 0~1.25A	±2%	150mV	78%
PM-15-15	15V, 0~1.00A	±2%	150mV	79%
PM-15-24	24V, 0~0.63A	±2%	240mV	81%

## PM-20 Series

Model No.	Output	Tol.	R&N	Effi.
PM-20-3.3	3.3V, 0~4.50A	±3%	80mV	71%
PM-20-5	5V, 0~4.40A	±2%	80mV	75%
PM-20-12	12V, 0~1.80A	±2%	150mV	81%
PM-20-15	15V, 0~1.40A	±2%	150mV	83%
PM-20-24	24V, 0~0.92A	±2%	240mV	84%

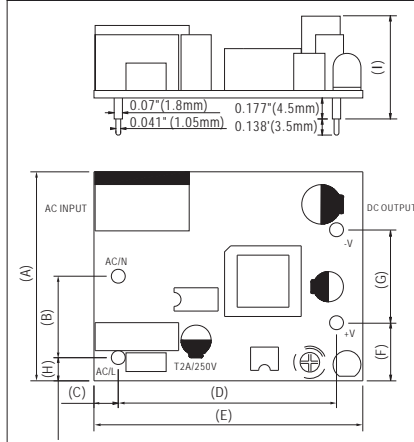


### Features

- Universal AC input / Full range
- Medical safety approved (2xMOPP)
- Suitable for BF application with appropriate system consideration
- Protections:
  - Short circuit / Overload / Over voltage / Over temperature
- Low leakage current < 300µA (20W)
- No load power consumption < 0.5W (< 0.75W for 20W models)
- Isolation class II (5~15W), class I (20W)
- On-board type version available for 20W (optional)
- Cooling by free air convection
- Meet industrial, IT safety requirements
- 100% full load burn-in test
- 3 years warranty

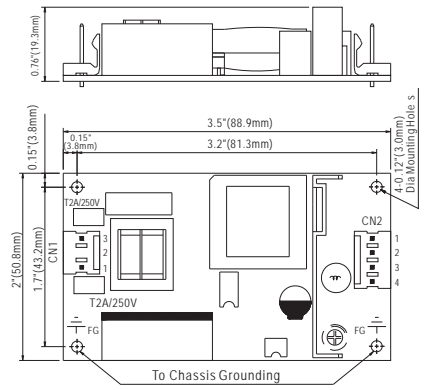


### NFM-05 / 10 / 15 Series



	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)

### NFM-20 Series



### General Specification

AC input voltage range ..... 85~264VAC; 120~370VDC  
 Frequency range ..... 47-440Hz  
 AC inrush current (max.) ..... Cold start, 25A at 115VAC, 45A at 230VAC  
 ( NFM-15: 30A at 115VAC, 50A at 230VAC )  
 ( NFM-20: 30A at 115VAC, 65A at 230VAC )  
 DC adjustment range ..... ±10% rated output voltage  
 Overload protection ..... >105% hiccup mode, auto recovery  
 Over voltage protection ..... 115%~135% rated output voltage, shut off,  
 AC recycle to re-start  
 Over temp. protection ..... Shutdown o/p voltage, recovers automatically  
 after temperature goes down  
 Setup, rise, hold up time ..... NFM-5/15: 1000ms, 20ms, 100ms @ 230VAC  
 NFM-10: 1800ms, 20ms, 100ms @ 230VAC  
 NFM-20: 500ms, 20ms, 50ms @ 230VAC  
 Withstand voltage ..... I/P-O/P: 4kVAC, 1 minute  
 Working temperature ..... NFM-5/10/15: -20~+70°C  
 NFM-20: -20~+60°C  
 Safety standards ..... ANSI/AAMI ES60601-1, TUV EN60601-1,  
 UL60950-1 (NFM-15) approved  
 EMC standards ..... EN55011, EN55022 class B, EN61000-3-2,3  
 EN61000-4-2,3,4,5,6,8,11, EN55024,  
 EN60601-1-2, EN61204-3 Medical level,  
 criteria A  
 Connection ..... 4 industrial pins for 5~15W  
 3P/4P/3.96mm pitch, Molex 41791-03/04 for 20W  
 Packing ..... 0.03kg ; 120pcs / 4.6kg / 0.97CUFT(NFM-05)  
 0.045kg ; 120pcs / 6.4kg / 0.97CUFT(NFM-10)  
 0.065kg ; 120pcs / 8.8kg / 0.97CUFT(NFM-15)  
 0.09kg ; 105pcs / 10.5kg / 0.97CUFT(NFM-20)

### 5W

### NFM-05

Model No.	Output	Tol.	R&N	Effi.
NFM-05-3.3	3.3V, 0-1.25A	±2%	80mV	67%
NFM-05-5	5V, 0-1.00A	±2%	80mV	71%
NFM-05-12	12V, 0-0.42A	±1%	150mV	73%
NFM-05-15	15V, 0-0.33A	±1%	150mV	74%
NFM-05-24	24V, 0-0.23A	±1%	240mV	76%

### 10W

### NFM-10

Model No.	Output	Tol.	R&N	Effi.
NFM-10-3.3	3.3V, 0-2.50A	±2%	150mV	66%
NFM-10-5	5V, 0-2.00A	±2%	150mV	74%
NFM-10-12	12V, 0-0.85A	±1%	150mV	78%
NFM-10-15	15V, 0-0.67A	±1%	150mV	79%
NFM-10-24	24V, 0-0.42A	±1%	240mV	79%

### 15W

### NFM-15

Model No.	Output	Tol.	R&N	Effi.
NFM-15-3.3	3.3V, 0-3.50A	±2%	80mV	73%
NFM-15-5	5V, 0-3.00A	±2%	80mV	76%
NFM-15-12	12V, 0-1.25A	±1%	150mV	78%
NFM-15-15	15V, 0-1.00A	±1%	150mV	79%
NFM-15-24	24V, 0-0.63A	±1%	240mV	81%

### 20W

### NFM-20

Model No.	Output	Tol.	R&N	Effi.
NFM-20-3.3	3.3V, 0-4.50A	±2%	80mV	71%
NFM-20-5	5V, 0-4.40A	±2%	80mV	75%
NFM-20-12	12V, 0-1.80A	±1%	150mV	81%
NFM-20-15	15V, 0-1.40A	±1%	150mV	83%
NFM-20-24	24V, 0-0.92A	±1%	240mV	84%

# Green Open Frame 30~200W 1~3 Output Medical Type



## Features

- Universal AC input / Full range
- Built-in active PFC function (RPS-200)
- Class I or Class II installations (Class I only for enclosed type)
- Medical safety approved (2x MOPP)
- Suitable for BF application with appropriate system consideration
- Low leakage current <100µA (<150µA for RPS/D/T-60, 190µA for RPS-120/200)
- No load power consumption <0.1W (<0.3W for 120W, <0.5W for 200W, <0.75W for 60W)
- High efficiency up to 94%
- Protections: Short circuit / Overload / Over voltage / Over temp. (RPS-120/200)
- Built-in 12V/0.5A fan supply (RPS-120/200)
- LED indicator for power on (except for RPS/D/T-60)
- 3 years warranty



Model No.	RPS-30	RPS-45	RPS-65	RPS/D/T-60	RPS-120-x <input type="checkbox"/>	RPS-200-x <input type="checkbox"/>
Rated Power	Fan	NA			120W (10CFM)	200W (10CFM)
	Convection	30W	45W	65W	60W	84W
AC input voltage range	80~264VAC			90~264VAC	80~264VAC	
DC adjustment range	±10% rated output voltage			-5%~+10%	±5% rated output voltage	
Overload protection	115%~150% hiccup mode, auto-recovery					
Over voltage protection	115%~135% shut down o/p voltage, re-power on to recover				110%~130%	
Withstand voltage	I/P-O/P: 4kVAC, I/P-FG:2kVAC, O/P-FG: 1.5kVAC					
Working temperature	-30~+70°C			-20~+70°C(RPS), -20~+65°C(RPD/T)	-30~+70°C	
Safety standards	ANSI/AAMI ES60601-1, TUV EN60601-1 approved; UL/EN60950-1 for RPS/D/T-60 only					
EMC standards	EN55022 (RPS/D/T-60), EN55011 class B, EN61000-3-2,-3, EN61000-4,2,3,4,5,6,8,11, EN60601-1-1-2					
Connection	JST B3P / B2P-VH		JST B3P / B4P-VH		JST B3P / B4P-VH (RPS-60) JST B3P / B6P-VH (RPD/T-60)	JST B3P / B6P-VH
Dimension (LxWxH)(mm)	76.2x 50.8x 24			101.6x 50.8x 29		PCB: 101.6x 50.8x 29 ; Case: 103.4x 62x 40

## 30W—Class II

**NEW** RPS-30

Model No.	Output (Rated / Peak)	Tol.	R&N	Effi.
RPS-30-3.3	3.3V, 6A / 6.6A	±2%	80mV	80.0%
RPS-30-5	5V, 6A / 6.6A	±2%	80mV	82.0%
RPS-30-7.5	7.5V, 4A / 4.4A	±2%	80mV	84.0%
RPS-30-12	12V, 2.5A / 2.75A	±2%	120mV	88.0%
RPS-30-15	15V, 2A / 2.2A	±2%	150mV	89.0%
RPS-30-24	24V, 1.25A / 1.375A	±1%	240mV	89.5%
RPS-30-48	48V, 0.625A / 0.687A	±1%	300mV	91.0%

## 45W—Class II

**NEW** RPS-45

Model No.	Output (Rated / Peak)	Tol.	R&N	Effi.
RPS-45-3.3	3.3V, 8A / 8.8A	±2%	80mV	80.0%
RPS-45-5	5V, 8A / 8.8A	±2%	80mV	83.0%
RPS-45-7.5	7.5V, 5.4A / 5.95A	±2%	80mV	85.0%
RPS-45-12	12V, 3.8A / 4.18A	±2%	120mV	88.0%
RPS-45-15	15V, 3A / 3.3A	±2%	150mV	89.0%
RPS-45-24	24V, 1.9A / 2.1A	±1%	240mV	90.0%
RPS-45-48	48V, 0.94A / 1.03A	±1%	300mV	91.0%

## 65W—Class II

**NEW** RPS-65

Model No.	Output (Rated / Peak)	Tol.	R&N	Effi.
RPS-65-3.3	3.3V, 10A / 11A	±2%	80mV	80.0%
RPS-65-5	5V, 10A / 11A	±2%	80mV	84.0%
RPS-65-7.5	7.5V, 8A / 8.8A	±2%	80mV	85.0%
RPS-65-12	12V, 5.42A / 5.96A	±2%	120mV	88.0%
RPS-65-15	15V, 4.34A / 4.77A	±1%	150mV	89.0%
RPS-65-24	24V, 2.71A / 2.98A	±1%	240mV	90.0%
RPS-65-48	48V, 1.36A / 1.49A	±1%	300mV	91.0%

## 60W:Single Output—Class I

RPS-60

Model No.	Output (Rated / Peak)	Tol.	R&N	Effi.
RPS-60-3.3	3.3V, 10A / 11A	±2%	80mV	74.0%
RPS-60-5	5V, 10A / 11A	±2%	80mV	79.0%
RPS-60-12	12V, 5A / 5.5A	±2%	120mV	83.0%
RPS-60-15	15V, 4A / 4.4A	±2%	150mV	84.0%
RPS-60-24	24V, 2.5A / 2.75A	±1%	240mV	85.0%
RPS-60-48	48V, 1.25A / 1.375A	±1%	300mV	86.0%

## 60W:Dual Output—Class I

RPD-60

Model No.	Output	Tol.	R&N	Effi.	Max.
RPD-60A	5V, 0.5~5.5A	+3%, -2%	80mV	78%	54W
RPD-60B	12V, 0.1~2.2A	±6%	80mV	82%	59W
	5V, 0.5~3.85A	+3%, -2%	80mV		
	24V, 0.1~1.65A	+8%, -4%	100mV		

## 60W:Triple Output—Class I

RPT-60

Model No.	Output	Tol.	R&N	Effi.	Max.
RPT-60A	5V, 0.5~4.4A	+3%, -2%	80mV	77%	51W
	12V, 0.1~2.2A	±6%	80mV		
RPT-60B	-5V, 0.1~0.55A	+9%, -8%	80mV	78%	55W
	5V, 0.5~4.4A	+3%, -2%	80mV		
	12V, 0.1~2.2A	±6%	80mV		
RPT-60C	-12V, 0.1~0.55A	+10%, -6%	100mV	79%	55W
	5V, 0.5~4.4A	+3%, -2%	80mV		
RPT-60D	15V, 0.1~0.65A	±6%	100mV	79%	52W
	-15V, 0.1~0.55A	±8%	150mV		
	5V, 0.5~3.85A	+3%, -2%	80mV		
RPT-6003	24V, 0.1~1.1A	±6%	150mV	75%	44W
	12V, 0.1~0.55A	±8%	80mV		
	3.3V, 0.5~5.5A	+3%, -2%	80mV		
	5V, 0.3~3.3A	±8%	80mV		
	12V, 0.1~0.77A	+10%, -6%	80mV		

## 120W—Class I or II

**NEW** RPS-120

Model No.	Output (Convection/10CFM)	Tol.	R&N	Effi.
RPS-120-12 <input type="checkbox"/>	12V, 7A / 10A	±2%	120mV	88.0%
RPS-120-15 <input type="checkbox"/>	15V, 5.6A / 8A	±2%	120mV	88.5%
RPS-120-24 <input type="checkbox"/>	24V, 3.5A / 5A	±1%	150mV	90.0%
RPS-120-27 <input type="checkbox"/>	27V, 3.15A / 4.5A	±1%	150mV	90.0%
RPS-120-48 <input type="checkbox"/>	48V, 1.75A / 2.5A	±1%	200mV	91.0%

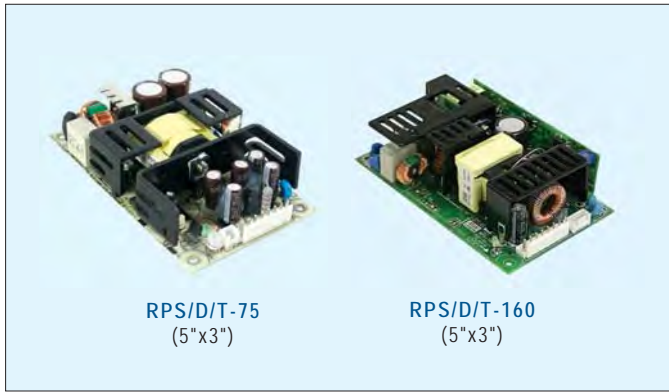
= blank, -C ; blank: PCB type, -C: Enclosed type

## 200W—Class I or II

**NEW** RPS-200

Model No.	Output (Convection/10CFM)	Tol.	R&N	Effi.
RPS-200-12 <input type="checkbox"/>	12V, 11.7A / 16.7A	±2%	100mV	93%
RPS-200-15 <input type="checkbox"/>	15V, 9.4A / 13.4A	±2%	100mV	93%
RPS-200-24 <input type="checkbox"/>	24V, 5.9A / 8.4A	±1%	150mV	94%
RPS-200-27 <input type="checkbox"/>	27V, 5.3A / 7.5A	±1%	150mV	94%
RPS-200-48 <input type="checkbox"/>	48V, 3A / 4.2A	±1%	200mV	94%

= blank, -C ; blank: PCB type, -C: Enclosed type



## Features

- Universal AC input / Full range
- Medical safety approved (2xMOPP)
- Suitable for BF application with appropriate system consideration (RPS/D/T-160)
- Built-in active PFC function (RPS/D/T-160)
- Protections: Short circuit / Overload / Over voltage / Over temperature (RPS/D/T-160)
- Low leakage current <150μA (<200μA for RPS/D/T-160)
- With power good and fail signal output (RPS/D/T-160)
- Built-in remote sense function (RPS-160 5-15V)
- No load power consumption <0.75W (RPS-75&RPS/D/T-160 G model)
- Standby 5V@0.8A (RPS/D/T-160 G model)
- LED indicator for power on
- 3 years warranty



Model No.	RPS/D/T-75	RPS□-160	RPD□-160	RPT□-160
Rated Power	100W (23.5CFM)	160W (20.5CFM)	150W (20.5CFM)	
Fan				
Convection	75W	110W	100W	
AC input voltage range	90~264VAC			
DC adjustment range	CH1: -5%~+10% rated output voltage	±10%	0~+10%	
Overload protection	140%~180% hiccup mode, auto-recovery	105%~135% hiccup mode, auto-recovery		
Over voltage protection	CH1: 110%~135% shut down o/p voltage, re-power on to recover			
Withstand voltage	I/P-O/P: 4kVAC, I/P-FG:2kVAC, O/P-FG: 1.5kVAC			
Working temperature	-20~+70°C (refer to output derating curve)			
Safety standards	ANSI/AAMI ES60601-1, TUV EN60601-1 approved			
EMC standards	EN55022, EN55011 class B, EN61000-3-2,-3; EN60601-1-2			
Connection	JST B3P / B8P-VH			
Dimension (LxWxH)(mm)	127x 76.2x 31	127x 76.2x 34.6		

## 75W:Single Output—Class I RPS-75

Model No.	Output (Rated / 23.5CFM)	Tol.	R&N	Effi.
RPS-75-3.3	3.3V, 15A / 20A	±2%	80mV	73%
RPS-75-5	5V, 14A / 18.7A	±2%	80mV	78%
RPS-75-12	12V, 6.3A / 8.3A	±1%	120mV	82%
RPS-75-15	15V, 5A / 6.7A	±1%	150mV	83%
RPS-75-24	24V, 3.2A / 4.2A	±1%	240mV	85%
RPS-75-36	36V, 2.1A / 2.8A	±1%	300mV	86%
RPS-75-48	48V, 1.6A / 2.1A	±1%	300mV	86%

## 160W:Single Output—Class I RPS-160

Model No.	Output (Convection / 20.5CFM)	Tol.	R&N	Effi.
RPS□-160-5	5V, 20A / 30A	±4%	100mV	85%
RPS□-160-12	12V, 9.1A / 12.9A	±3%	100mV	87%
RPS□-160-15	15V, 7.3A / 10.3A	±3%	120mV	87%
RPS□-160-24	24V, 4.6A / 6.5A	±2%	150mV	87%
RPS□-160-48	48V, 2.3A / 3.25A	±2%	250mV	88%

## 75W:Dual Output—Class I RPD-75

Model No.	Output	Tol.	R&N	Effi.	Max.
RPD-75A	5V, 1.0~9.5A	±2%	80mV	77%	96W
	12V, 0.3~4.0A	±6%	120mV		
RPD-75B	5V, 1.0~6.8A	±2%	80mV	79%	99W
	24V, 0.2~2.7A	±6%	200mV		

## 160W:Dual Output—Class I RPD-160

Model No.	Output	Tol.	R&N	Effi.	Max.
RPD□-160B	5V, 1.0~12A	±2.5%	80mV	84%	150W
	24V, 0.2~3.6A	±6%	200mV		

## 75W:Triple Output—Class I RPT-75

Model No.	Output	Tol.	R&N	Effi.	Max.
RPT-75A	5V, 0.6~8.0A	±2%	80mV	76%	93W
	12V, 0.2~4.0A	±6%	120mV		
	-5V, 0.1~1.0A	±5%	120mV		
RPT-75B	5V, 0.6~8.0A	±2%	80mV	77%	100W
	12V, 0.2~4.0A	±6%	120mV		
	-12V, 0.1~1.0A	±5%	120mV		
RPT-75C	5V, 0.6~8.0A	±2%	80mV	77%	100W
	15V, 0.1~3.0A	±8%	150mV		
	-15V, 0.1~1.0A	±5%	150mV		
RPT-75D	5V, 0.6~7.0A	±2%	80mV	79%	95W
	24V, 0.1~2.0A	±8%	200mV		
	12V, 0.1~1.0A	±8%	120mV		
RPT-7503	3.3V, 0.7~7.0A	±4%	80mV	74%	81W
	5V, 0.0~8.0A	±6%	120mV		
	12V, 0.0~1.5A	+10%,-6%	120mV		

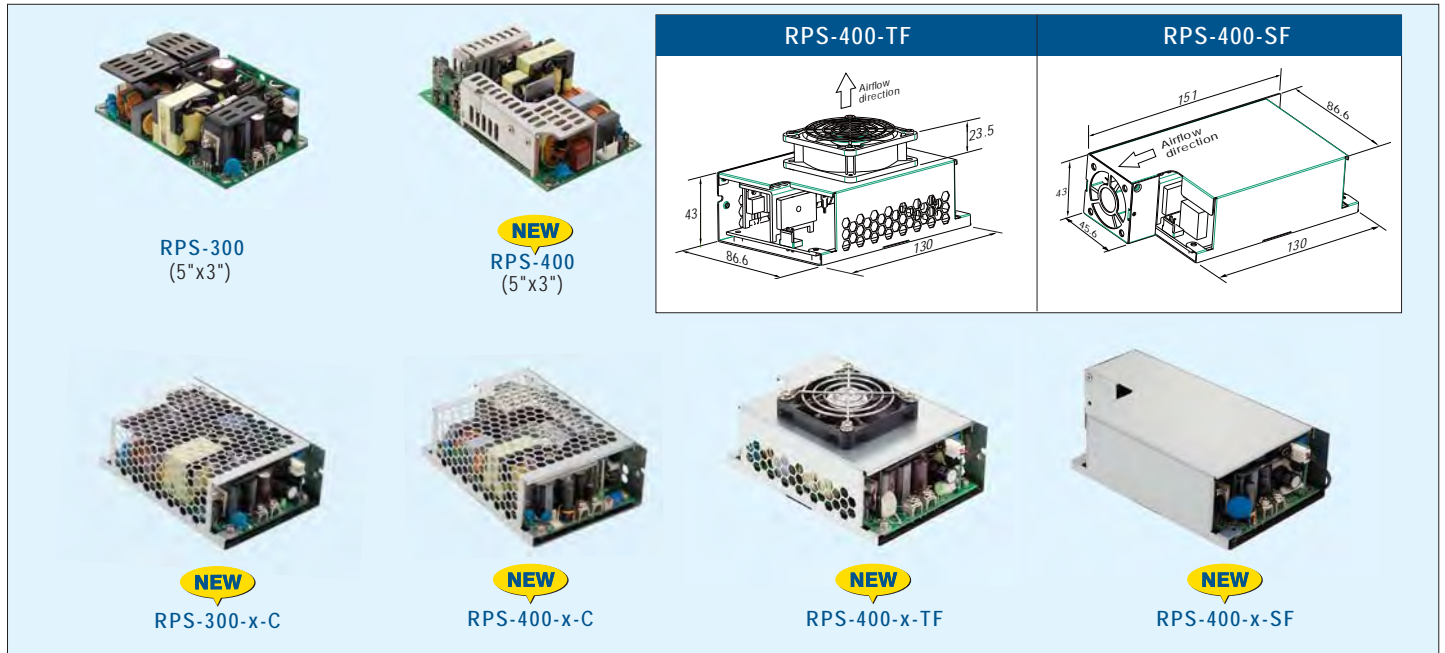
## 160W:Triple Output—Class I RPT-160

Model No.	Output	Tol.	R&N	Effi.	Max.
RPT□-160A	5V, 0.6~14A	±2%	100mV	84%	145W
	12V, 0.2~5.5A	±5%	120mV		
	-5V, 0.1~1.0A	-5%,+7%	120mV		
RPT□-160B	5V, 0.6~14A	±2%	100mV	84%	146W
	12V, 0.2~5.0A	±5%	120mV		
	-12V, 0.1~1.0A	-4%,+5%	120mV		
RPT□-160C	5V, 0.6~14A	±2%	100mV	83%	143W
	15V, 0.1~3.6A	±4%	150mV		
	-15V, 0.1~1.0A	±8%	150mV		
RPT□-160D	5V, 0.3~11A	±2%	100mV	83%	148W
	12V, 0.2~5.0A	±5%	120mV		
	24V, 0.15~1.2A	-5%,+7%	200mV		

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



# Green Open Frame 300~400W Single Output Medical Type



## Features

- Universal AC input / Full range
- Medical safety approved (2xMOPP)
- Suitable for BF application with appropriate system consideration
- Built-in active PFC function
- Protections:
  - Short circuit / Overload / Over voltage / Over temperature
- Low leakage current <250μA
- Built-in P.G and P.F signal output
- Built-in remote sense function
- No load power consumption <0.5W
- Built-in 12V/0.5A fan supply
- Standby 5V@1A
- LED indicator for power on
- 3 years warranty



Model No.	RPS-300-x <input type="checkbox"/>	RPS-400-x <input type="checkbox"/>	
Rated Power	Fan	300W (20.5CFM)	400W (25CFM)
	Convection	200W	250W
AC input voltage range	90~264VAC	80~264VAC	
DC adjustment range	±5%		
Overload protection	105%~135% hiccup mode, auto-recovery		
Withstand voltage	I/P-O/P: 4kVAC, I/P-FG:2kVAC, O/P-FG: 1.5kVAC		
Working temperature	-30~+70°C (refer to output derating curve)		
Safety standards	ANSI/AAMI ES60601-1, TUV EN60601-1 approved (RPS-300-C & RPS-400/400-C/400-TF/400-SF pending )		
EMC standards	EN55022 (except for 400W), EN55011 class B (Radiation class A), EN61000-3-2,-3; EN60601-1-2		
Connection	JST B5P / screw terminal		
Dimension (LxWxH)(mm)	PCB : 127x 76.2x 35 (5"x3") Case: 130x 86.6x 43	PCB : 127x 76.2x 35 (5"x3") Case: 130x 86.6x 43(-C); 130x 86.6x 66.5(-TF); 151x 86.6x 43(-SF)	

## 300W—Class I RPS-300

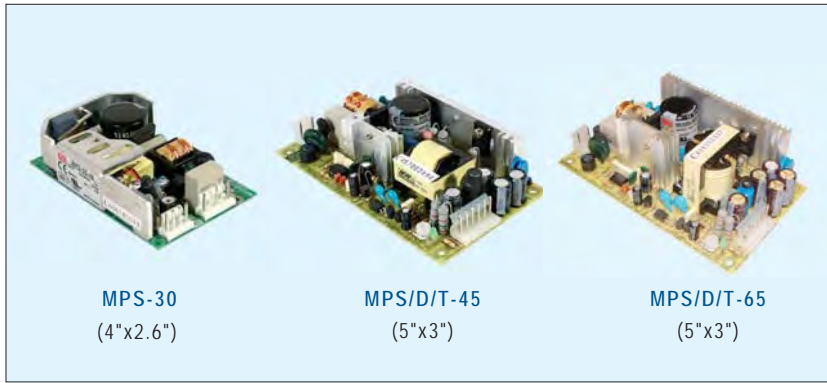
Model No.	Output (Convection / 20.5CFM)	Tol.	R&N	Effi.
RPS-300-12□	12V, 16.67A / 25A	±3%	120mV	90.0%
RPS-300-15□	15V, 13.33A / 20A	±3%	120mV	90.0%
RPS-300-24□	24V, 8.33A / 12.5A	±2%	150mV	92.5%
RPS-300-27□	27V, 7.4A / 11.12A	±2%	200mV	93.0%
RPS-300-48□	48V, 4.17A / 6.25A	±2%	250mV	93.0%

## 400W—Class I RPS-400

Model No.	Output (Convection/with fan)	Tol.	R&N	Effi.
RPS-400-12□	12V, 20.8A / 33.3A	±3%	120mV	92%
RPS-400-15□	15V, 16.7A / 26.7A	±3%	150mV	92%
RPS-400-24□	24V, 10.5A / 16.7A	±2%	200mV	93%
RPS-400-27□	27V, 9.3A / 14.9A	±1%	200mV	93%
RPS-400-36□	36V, 7A / 11.2A	±1%	250mV	93%
RPS-400-48□	48V, 5.3A / 8.4A	±1%	250mV	94%

□ = blank, -C, -TF, -SF; -TF:  
blank: PCB type, -C: Enclosed type, -TF: Built-in top fan with cover,  
-SF: Built-in side fan with cover

□ = blank, -C; blank: PCB type, -C: Enclosed type



### Features

- Universal AC input / Full range
- **Medical safety approved (2x MOPP)**
- Protections: Short circuit / Overload / Over voltage / Over temperature (MPS-30)
- Low leakage current <250μA (<200μA for MPS-30)
- Cooling by free air convection
- 3 years warranty



Model No.	MPS-30	MPS/D/T-45	MPS/D/T-65
AC input voltage range	88~264VAC; 120~370VDC	90~264VAC; 127~370VDC	
DC adjustment range	NA	CH1: ±10% rated output voltage	
Overload protection	>105% rated output power	53~75W rated output power	73~105W rated output power
Over voltage protection	110%~135%	CH1: 115%~135% hiccup mode, auto-recovery	
Withstand voltage	I/P-O/P: 4kVAC, I/P-FG:2kVAC, 1 minute		
Working temperature	-10~+60°C (refer to output dersting curve)		
Safety standards	ANSI/AAMI ES60601-1, TUV EN60601-1 approved		
EMC standards	EN55011 class B, EN61000-3-2,-3, EN61000-4-2,3,4,5,6,8,11, EN60601-1-2		
Connection	5+4P/3.96mm pitch, Molex P/N:41791-05,04	2P+6P/3.96mm pitch, Molex P/N:5277-02, 5273-06	
Dimension (LxWxH)(mm)	101.6x 65.8x 23.5	127x 76x 28	127x 76x 42

### 30W:Single Output—Class I MPS-30

Model No.	Output	Tol.	R&N	Effi.
MPS-30-5	5V, 0~5.0A	±3%	80mV	72%
MPS-30-12	12V, 0~2.5A	±3%	120mV	75%
MPS-30-15	15V, 0~2.0A	±3%	150mV	76%
MPS-30-24	24V, 0~1.2A	±3%	240mV	77%
MPS-30-27	27V, 0~1.1A	±3%	240mV	78%
MPS-30-48	48V, 0~0.6A	±2%	240mV	78%

### 45W:Single Output—Class I MPS-45

Model No.	Output	Tol.	R&N	Effi.
MPS-45-3.3	3.3V, 0~8.0A	±3%	80mV	65%
MPS-45-5	5V, 0~8.0A	±3%	100mV	72%
MPS-45-7.5	7.5V, 0~5.4A	±3%	100mV	75%
MPS-45-12	12V, 0~3.7A	±2%	100mV	76%
MPS-45-13.5	13.5V, 0~3.3A	±2%	100mV	76%
MPS-45-15	15V, 0~3.0A	±2%	100mV	77%
MPS-45-24	24V, 0~1.9A	±2%	100mV	78%
MPS-45-27	27V, 0~1.7A	±2%	100mV	78%
MPS-45-48	48V, 0~1.0A	±2%	100mV	78%

### 45W: Dual Output—Class I MPD-45

Model No.	Output	Tol.	R&N	Effi.	Max.
MPD-45A	5V, 0.4~5.0A	±4%	60mV	76%	40W
	12V, 0.2~2.5A	±7%	120mV		
MPD-45B	5V, 0.4~5.0A	±4%	60mV	78%	45W
	24V, 0.2~1.8A	±7%	150mV		

### 45W: Triple Output—Class I MPT-45

Model No.	Output	Tol.	R&N	Effi.	Max.
MPT-45A	5V, 0.4~5.0A	±4%	60mV	73%	41W
	12V, 0.2~2.5A	±7%	120mV		
	-5V, 0.0~0.5A	±5%	60mV		
MPT-45B	5V, 0.4~5.0A	±4%	60mV	75%	43W
	12V, 0.2~2.5A	±7%	120mV		
	-12V, 0.0~0.5A	±5%	100mV		

Model No.	Output	Tol.	R&N	Effi.	Max.
MPT-45C	5V, 0.4~5.0A	±4%	60mV	75%	44W
	15V, 0.2~2.3A	±7%	120mV		
	-15V, 0.0~0.5A	±5%	100mV		

### 65W:Single Output—Class I MPS-65

Model No.	Output	Tol.	R&N	Effi.
MPS-65-3.3	3.3V, 0~12A	±3%	80mV	66%
MPS-65-5	5V, 0~12A	±3%	100mV	74%
MPS-65-7.5	7.5V, 0~8.0A	±3%	100mV	76%
MPS-65-12	12V, 0~5.2A	±2%	100mV	77%
MPS-65-13.5	13.5V, 0~4.7A	±2%	100mV	78%
MPS-65-15	15V, 0~4.2A	±2%	100mV	79%
MPS-65-24	24V, 0~2.7A	±2%	100mV	80%
MPS-65-27	27V, 0~2.4A	±2%	100mV	80%
MPS-65-48	48V, 0~1.35A	±2%	100mV	80%

### 65W: Dual Output—Class I MPD-65

Model No.	Output	Tol.	R&N	Effi.	Max.
MPD-65A	5V, 0.4~7.0A	±4%	60mV	75%	61W
	12V, 0.2~3.2A	±7%	150mV		
MPD-65B	5V, 0.4~6.0A	±4%	60mV	78%	66W
	24V, 0.2~2.6A	±7%	150mV		

### 65W: Triple Output—Class I MPT-65

Model No.	Output	Tol.	R&N	Effi.	Max.
MPT-65A	5V, 0.4~7.0A	±4%	60mV	74%	60W
	12V, 0.2~3.2A	+10%, -7%	120mV		
	-5V, 0.0~0.7A	±5%	60mV		
MPT-65B	5V, 0.4~7.0A	±4%	60mV	74%	64W
	12V, 0.2~3.2A	+10%, -7%	160mV		
	-12V, 0.0~0.7A	±5%	100mV		
MPT-65C	5V, 0.4~7.0A	±4%	60mV	74%	65W
	15V, 0.2~2.6A	+10%, -7%	180mV		
	-15V, 0.0~0.7A	±5%	100mV		



### ■ Features

- Universal AC input / Full range
- Built-in active PFC function
- **Medical safety approved (2xMOPP)**
- **Suitable for BF application with appropriate system consideration**
- Low leakage current <180µA
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in remote sense function and remote ON/OFF control
- Free air convection for 140W, 200W with 25CFM forced air
- With P.G and P.F signal output
- 3 years warranty



Model No.	MPS/D/T/Q-200	
AC input voltage range	90~264VAC	
AC inrush current (max.)	Cold start, 60A at 230VAC	
DC adjustment range	CH1: -5~+10% rated output voltage	
Overload protection	Range	120%-160% rated output power
	Type	Hiccup mode, auto-recovery
Over voltage protection	Range	CH1: 115%~135% rated output voltage
	Type	Shut down o/p voltage
Withstand voltage	I/P-O/P: 4kVAC, I/P-FG:1.5kVAC, O/P-FG: 1.5kVAC	
Working temperature	-20~+70°C (refer to output derating curve)	
Safety standards	ANSI/AAMI ES60601-1, TUV EN60601-1, IEC60601-1 approved; Design refer to UL60950-1, TUV EN60950-1	
EMC standards	EN55011/EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN60601-1-2, EN61000-6-2	
Connection	3P, 20P / 3.96mm pitch, JST B3P/VH, Molex 5566-20; 3P, 8Px2 / 3.96mm pitch. JSTB3P / B8Px2-VH	
Dimension (LxWxH)(mm)	177.8x 107.2x 35.5	

### ■ 200W:Single Output—Class I MPS-200

Model No.	Output	Tol.	R&N	Effi.
MPS-200-3.3	3.3V, 0~40A	±2%	80mV	77%
MPS-200-5	5V, 0~40A	±2%	80mV	81%
MPS-200-12	12V, 0~16.7A	±2%	100mV	84%
MPS-200-15	15V, 0~13.4A	±2%	100mV	85%
MPS-200-24	24V, 0~8.4A	±1%	150mV	86%
MPS-200-48	48V, 0~4.2A	±1%	200mV	87%

Model No.	Output	Tol.	R&N	Effi.	Max.
MPT-200D	5V, 4.0~24A	±2%	80mV	81%	196W
	24V, 0.3~3.6A	±8%	180mV		
	12V, 0.0~2.4A	±5%	80mV		

### ■ 200W:Dual Output—Class I MPD-200

Model No.	Output	Tol.	R&N	Effi.	Max.
MPD-200A	5V, 4.0~24A	±2%	80mV	82%	196W
	12V, 0.8~9.6A	+8%, -5%	120mV		
MPD-200B	5V, 4.0~24A	±2%	80mV	83%	196W
	24V, 0.4~4.8A	±6.5%	180mV		

### ■ 200W:Quad Output—Class I MPQ-200

Model No.	Output	Tol.	R&N	Effi.	Max.
MPQ-200B	5V, 3.0~18A	±2%	80mV	78%	193W
	12V, 0.7~8.4A	±8%	120mV		
	-5V, 0.0~2.4A	±5%	80mV		
MPQ-200C	-12V, 0.0~2.4A	±5%	80mV		
	5V, 3.0~18A	±2%	80mV	78%	190W
	15V, 0.5~6.0A	±6%	150mV		
MPQ-200D	-5V, 0.0~2.4A	±5%	80mV		
	-15V, 0.0~2.4A	±5%	80mV		
	5V, 3.0~18A	±2%	80mV	79%	195W
MPQ-200F	24V, 0.3~3.6A	±8%	180mV		
	12V, 0.0~2.4A	±5%	80mV		
	-12V, 0.0~2.4A	±5%	80mV		
MPQ-200G	5V, 3.0~18A	±2%	80mV	81%	200W
	24V, 0.3~3.3A	±8%	180mV		
	15V, 0.0~2.4A	±5%	80mV		
MPQ-200H	-15V, 0.0~2.4A	±5%	80mV		

### ■ 200W:Triple Output—Class I MPT-200

Model No.	Output	Tol.	R&N	Effi.	Max.
MPT-200A	5V, 4.0~24A	±2%	80mV	80%	200W
	12V, 0.8~9.0A	±8%	120mV		
	-5V, 0.0~2.4A	±5%	80mV		
MPT-200B	5V, 4.0~24A	±2%	80mV	80%	196W
	12V, 0.6~7.2A	±8%	120mV		
	-12V, 0.0~2.4A	±5%	80mV		
MPT-200C	5V, 4.0~24A	±2%	80mV	80%	201W
	15V, 0.5~5.6A	±8%	150mV		
	-15V, 0.0~2.4A	±5%	80mV		

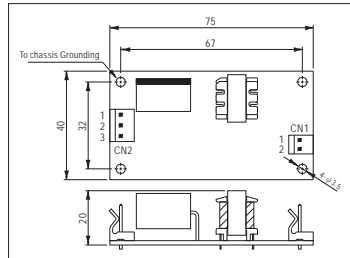
### 5W & 15W & 35W Single Output

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage / Over temperature(PS-05/15)
- Cooling by free air convection
- Low leakage current <0.5mA(PS-05/15)
- 100% full load burn-in test
- Low cost, high reliability
- 2 years warranty

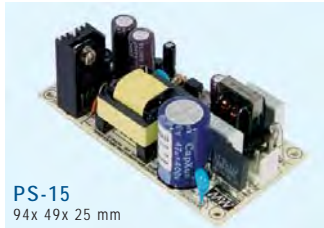
CB CE



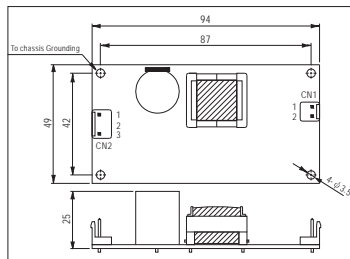
PS-05  
75x 40x 20 mm



CB CE



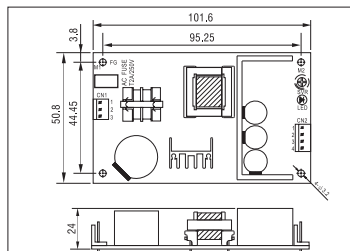
PS-15  
94x 49x 25 mm



CB CE



PS-35  
101.6x 50.8x 24 mm



- AC input voltage range ..... 85~264VAC; 120~370VDC(PS-05/15)  
90~264VAC; 127~370VDC(PS-35)
- AC inrush current ..... Cold start, 30A at 230VAC(PS-05),  
40A at 230VAC(PS-15), 45A at 230VAC(PS-35)
- Overload protection ..... 105%~160% hiccup mode, auto-recovery
- Over voltage protection ..... 115%~150% rated output voltage
- Over temp. protection ..... Hiccup mode, auto-recovery(PS-05/15)
- Withstand voltage ..... I/P-O/P: 3kVAC, I/P-FG:1.5kVAC, 1minute
- Working temperature ..... -10~+60°C (PS-05/15); -20~+65°C (PS-35)
- Safety standards ..... IEC60950-1 CB approved(PS-05/15)  
UL60950-1, TUV EN60950-1 approved(PS-35)
- EMC standards ..... EN55022 class B, EN61000-3-2,3,  
EN61000-4-2,3,4,5,6,8,11

- Connection ..... PS-05: 3P/ 5mm, 2P/ 3.96mm pitch, Molex 5285-03,5273-02  
PS-15: 3+2P/3.96mm pitch, JST B3P/B2P-VH  
PS-35: 3+4P/3.96mm pitch, JST B3P/B4P-VH-B

❖ 5W

Model No.	Output	Tol.	R&N	Effi.
PS-05-5	5V, 0~1.0A	±2%	100mV	70%
PS-05-12	12V, 0~0.45A	±2%	120mV	75%
PS-05-15	15V, 0~0.35A	±2%	120mV	75%
PS-05-24	24V, 0~0.22A	±2%	200mV	76%
PS-05-48	48V, 0~0.11A	±1%	200mV	76%

❖ 10W

Model No.	Output	Tol.	R&N	Effi.
PS-15-5	5V, 0~2.80A	±2%	100mV	74%
PS-15-12	12V, 0~1.25A	±2%	120mV	77%
PS-15-15	15V, 0~1.00A	±2%	120mV	78%
PS-15-24	24V, 0~0.625A	±2%	150mV	79%
PS-15-48	48V, 0~0.313A	±2%	200mV	77%

❖ 35W

Model No.	Output	Tol.	R&N	Effi.
PS-35-3.3	3.3V, 0~6.0A	±2%	80mV	70%
PS-35-5	5V, 0~6.0A	±2%	100mV	78%
PS-35-7.5	7.5V, 0~4.7A	±2%	100mV	80%
PS-35-12	12V, 0~3.0A	±1%	120mV	81%
PS-35-13.5	13.5V, 0~2.6A	±1%	120mV	81%
PS-35-15	15V, 0~2.4A	±1%	150mV	81%
PS-35-24	24V, 0~1.5A	±1%	200mV	85%
PS-35-48	48V, 0~0.75A	±1%	240mV	84%

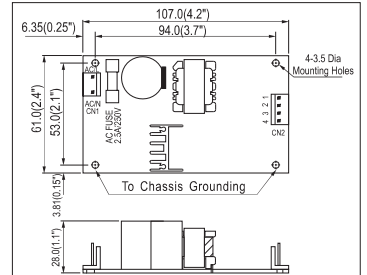
### 25W 1~2 Output

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Cooling by free air convection
- Low leakage current <0.5mA
- 100% full load burn-in test
- Low cost, high reliability
- 2 years warranty

CB CE



107x 61x 28 mm



- AC input voltage range ..... 85~264VAC; 120~370VDC
- AC inrush current ..... Cold start, 36A at 230VAC
- Overload protection ..... >105% hiccup mode, auto-recovery
- Over voltage protection ..... 115%~135% rated output voltage
- Over temp. protection ..... Shut down o/p voltage, re-power on to recover
- Leakage current ..... Less than 0.5mA at 240VAC
- Withstand voltage ..... I/P-O/P: 3kVAC, I/P-FG:2kVAC, 1minute
- Working temperature ..... -10~+60°C (refer to output derating curve)
- Safety standards ..... UL60950-1, TUV EN60950-1 approved
- EMC standards ..... EN55022 class B, EN61000-3-2,3,  
EN61000-4-2,3,4,5
- Connection ..... 3P, 4P/ 3.96mm pitch, Molex P/N: 41791-03, 04
- Packing ..... 0.14kg ; 96pcs / 15.0kg / 1.30CUFT(PS-25)  
0.15kg ; 96pcs / 15.9kg / 1.30CUFT(PD-25)  
0.13kg ; 96pcs / 15.4kg / 1.30CUFT(PD-2503)

#### ❖ Single Output

Model No.	Output	Tol.	R&N	Effi.
PS-25-3.3	3.3V, 0~5.0A	±3%	80mV	66%
PS-25-5	5V, 0~5.0A	±2%	80mV	74%
PS-25-7.5	7.5V, 0~3.3A	±2%	80mV	76%
PS-25-12	12V, 0~2.1A	±2%	100mV	78%
PS-25-13.5	13.5V, 0~1.9A	±2%	100mV	78%
PS-25-15	15V, 0~1.7A	±2%	100mV	78%
PS-25-24	24V, 0~1.0A	±2%	240mV	79%
PS-25-27	27V, 0~0.9A	±2%	240mV	79%
PS-25-48	48V, 0~0.5A	±2%	350mV	79%

#### ❖ Dual Output

Model No.	Output	Tol.	R&N	Effi.	Max.
PD-25A	5V, 0.2~2.5A	±2%	50mV	71%	25W
	12V, 0.1~1.5A	±6%	150mV		
PD-25B	5V, 0.2~2.0A	±2%	50mV	77%	25W
	24V, 0.1~1.0A	±6%	200mV		
PD-2505	5V, 0.1~3.0A	±6%	50mV	73%	25W
	-5V, 0.1~2.5A	±6%	50mV		
PD-2512	12V, 0.1~1.2A	±4%	50mV	74%	24W
	-12V, 0.1~1.2A	±4%	50mV		
PD-2515	15V, 0.1~1.0A	±4%	50mV	75%	24W
	-15V, 0.1~1.0A	±4%	50mV		
PD-2503	3.3V, 0.2~5.0A	±2%	50mV	72%	25W
	5V, 0.1~4.0A	+5%,-8%	50mV		

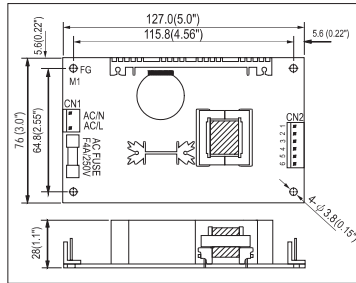


### 45W 1~3 Output

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- Fixed switching frequency at 65kHz
- Low leakage current <0.75mA
- 100% full load burn-in test
- Low cost, high reliability
- 2 years warranty



127x 76x 28 mm



AC input voltage range ... 90~264VAC; 127~370VDC  
 AC inrush current ..... Cold start, 15A at 115VAC, 30A at 230VAC  
 DC adjustment range ..... CH1: -5%~+10% rated output voltage  
 Overload protection ..... 53~75W hiccup mode, auto-recovery  
 Over voltage protection .. CH1: 115%~135% rated output voltage  
 Leakage current ..... Less than 0.75mA at 240VAC  
 Withstand voltage ..... I/P-O/P: 3kVAC, I/P-FG: 1.5kVAC(PS-45 2kVAC)  
 Working temperature ..... -10~+60°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, TUV EN60950-1 approved  
 EMC standards ..... EN55022 class B, EN61000-3-2,3,  
 EN61000-4-2,3,4,5,6,8,11  
 Connection ..... 2P, 6P/ 3.96mm pitch, Molex 5277-02 / 5273-06  
 Packing ..... 0.19kg ; 72pcs / 15.6kg / 1.35CUFT(PS-45)  
 0.20kg ; 72pcs / 16.0kg / 1.35CUFT(PD-45)  
 0.21kg ; 72pcs / 17.0kg / 1.35CUFT(PT-45)

#### Single Output

Model No.	Output	Tol.	R&N	Effi.
PS-45-3.3	3.3V, 0~8.0A	±3%	80mV	69%
PS-45-5	5V, 0~8.0A	±3%	100mV	74%
PS-45-7.5	7.5V, 0~5.4A	±3%	100mV	75%
PS-45-12	12V, 0~3.7A	±2%	100mV	76%
PS-45-13.5	13.5V, 0~3.3A	±2%	100mV	77%
PS-45-15	15V, 0~3.0A	±2%	100mV	77%
PS-45-24	24V, 0~1.9A	±2%	100mV	78%
PS-45-27	27V, 0~1.7A	±2%	100mV	78%
PS-45-48	48V, 0~1.0A	±2%	100mV	78%

#### Dual Output

Model No.	Output	Tol.	R&N	Effi.	Max.
PD-45A	5V, 0.4~5.0A	±4%	50mV	77%	40W
	12V, 0.2~2.5A	±7%	120mV		
PD-45B	5V, 0.4~5.0A	±4%	50mV	78%	45W
	24V, 0.2~1.8A	±7%	120mV		

#### Triple Output

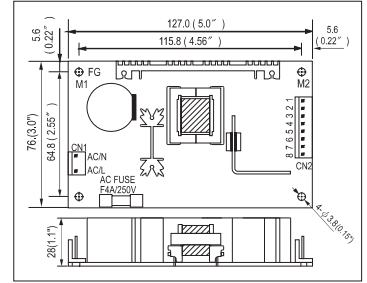
Model No.	Output	Tol.	R&N	Effi.	Max.
PT-45A	5V, 0.4~5.0A	±4%	50mV	75%	41W
	12V, 0.2~2.5A	±7%	120mV		
	-5V, 0.0~0.5A	±5%	50mV		
PT-45B	5V, 0.4~5.0A	±4%	50mV	75%	43W
	12V, 0.2~2.5A	±7%	120mV		
	-12V, 0.0~0.5A	±5%	100mV		
PT-45C	5V, 0.4~5.0A	±4%	50mV	75%	44W
	15V, 0.2~2.3A	±7%	120mV		
	-15V, 0.0~0.5A	±5%	100mV		

### 45W & 65W Triple Output with 3.3V Channel

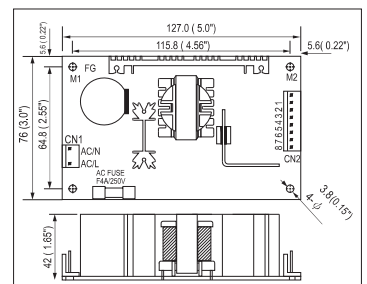
- Universal AC input / Full range
- Total power for CH1+2: 35W (PT-45)
- Total power for CH1+2: 54W (PT-65)
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- 100% full load burn-in test
- 2 years warranty



PT-4503  
127x 76x 28 mm



PT-6503  
127x 76x 42 mm



AC input voltage range ..... 90~264VAC; 127~370VDC  
 AC inrush current ..... Cold start, 20A at 115VAC, 40A at 230VAC  
 DC adjustment range ..... 3.3V: ±10% rated output voltage  
 Overload protection ..... 120%~160% hiccup mode, auto-recovery  
 Over voltage protection ..... 5V: 115%~135% rated output voltage  
 Leakage current ..... Less than 1.0mA at 240VAC  
 Setup, rise, hold up time ..... 800ms, 50ms, 60ms at full load and 230VAC  
 Withstand voltage ..... I/P-O/P: 3kVAC, I/P-FG: 1.5kVAC, 1minute  
 Working temperature ..... -10~+60°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, TUV EN60950-1 approved  
 EMC standards ..... EN55022 class B, EN61000-3-2,3,  
 EN61000-4-2,3,4,5,6,11  
 Connection ..... 2P, 8P/ 3.96mm pitch, Molex: 5277-02, 5273-08  
 Packing ..... 0.23kg ; 72pcs / 17.6kg / 1.35CUFT(PT-4503)  
 0.28kg ; 54pcs / 16.2kg / 1.35CUFT(PT-6503)

#### Triple Output (45W)

Model No.	Output	Tol.	R&N	Effi.	Max.
PT-4503	3.3V, 0.0~5.0A	±2%	50mV	72%	45W
	5V, 0.2~7.0A	+4%, -2%	50mV		
	12V, 0.0~1.2A	±8%	100mV		

#### Triple Output (65W)

Model No.	Output	Tol.	R&N	Effi.	Max.
PT-6503	3.3V, 0.0~7.0A	±3%	50mV	72%	62W
	5V, 0.2~10A	+4%, -2%	50mV		
	12V, 0.0~1.2A	±8%	100mV		





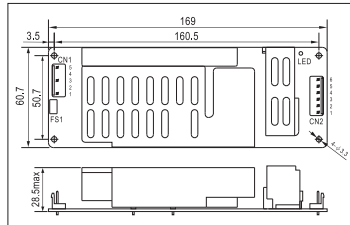


### 150W Single Output with PFC Function

- Universal AC input / Full range
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Cooling by free air convection
- High power density 8.4W/in<sup>3</sup>
- No load power consumption <1W
- 100% full load burn-in test
- 3 years warranty



169x 60.7x 28.5 mm



AC input voltage range ..... 90~264VAC ; 127~370VDC  
 DC adjustment range ..... Can be modified between ±10% rated output voltage by factory  
 Overload protection ..... 105%~135% hiccup mode, auto-recovery  
 Over voltage protection ..... 110%~135% rated output voltage  
 Withstand voltage ..... I/P-O/P: 4.25kVDC, I/P-FG:1.5kVAC, 1minute  
 Working temperature ..... -20~+60°C (refer to output derating curve)  
 Safety standards ..... UL60950-1 approved  
 EMC standards ..... EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11  
 Connection ..... 5+6P/3.96mm pitch, JST P/N :B5P/B6P-VH  
 Packing ..... 0.32kg ; 48pcs / 15.8kg / 0.79CUFT

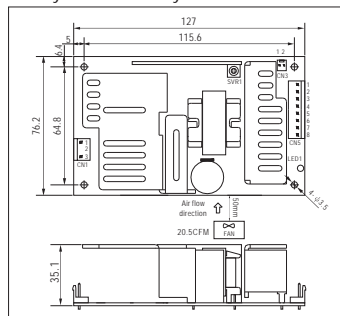
Model No.	Output	Tol.	R&N	Effi.
ASP-150-12	12V, 0~11A	±2%	150mV	88%
ASP-150-15	15V, 0~9.5A	±2%	180mV	88%
ASP-150-20	20V, 0~7.5A	±1%	200mV	90%
ASP-150-24	24V, 0~6.3A	±1%	240mV	90%
ASP-150-48	48V, 0~3.2A	±1%	240mV	89%

### 200W Single Output with PFC Function

- Universal AC input / Full range
- High efficiency up to 90%
- PF>0.98@115VAC; >0.93@230VAC
- Protections: Short circuit / Overload / Over voltage / Over temp.
- High power density 9.78W/in<sup>3</sup>
- 5"x3" compact size
- ZVS technology to reduce power dissipation
- Built-in remote sense function
- Free air convection for 150W and 200W with 20.5 CFM forced air
- 3 years warranty



127x 76.2x 35.1 mm



AC input voltage range ..... 90~264VAC; 127~370VDC  
 DC adjustment range ..... ±10% rated output voltage  
 Overload protection ..... 105%~135% hiccup mode, auto-recovery  
 Over voltage protection ..... 115%~135% rated output voltage  
 Withstand voltage ..... I/P-O/P: 3kVAC, I/P-FG:1.5kVAC, 1minute  
 Working temperature ..... -20~+70°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, TUV EN60950-1 approved  
 EMC standards ..... EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11  
 Connection ..... 3+8P/3.96mm pitch, JST B3P/B8P-VH  
 Packing ..... 0.37kg ; 36pcs / 14.3kg / 0.79CUFT

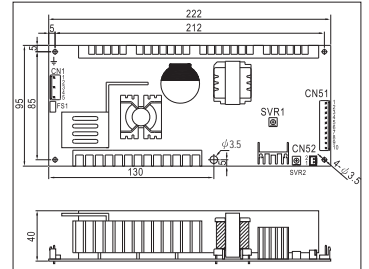
Model No.	Output	Tol.	R&N	Effi.
PPS-200-5	5V, 0~36.0A	±4%	100mV	86%
PPS-200-12	12V, 0~16.6A	±3%	100mV	89%
PPS-200-15	15V, 0~13.3A	±3%	100mV	89%
PPS-200-24	24V, 0~8.30A	±2%	150mV	89%
PPS-200-27	27V, 0~7.40A	±2%	150mV	89%
PPS-200-48	48V, 0~4.167A	±2%	250mV	90%

### 250W Isolated Dual Output with PFC Function

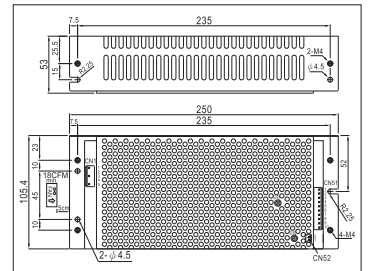
- Universal AC input / Full range
- Isolated output & GND for CH1,CH2
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Optional case available
- Cooling by free air convection
- Remote control function for CH1
- Peak load 170% for 10 sec. (CH1)
- 100% full load burn-in test
- 3 years warranty



222x 95x 40 mm



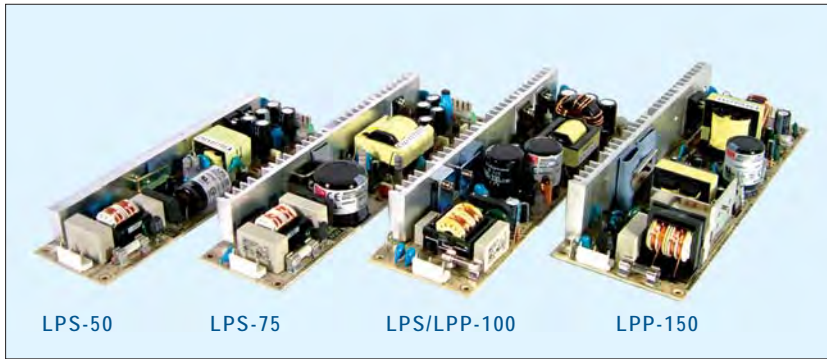
250x 105.4x 53 mm



AC input voltage range ..... 90~264VAC; 127~370VDC  
 AC inrush current ..... Cold start, 58A at 230VAC  
 Leakage current ..... Less than 3.5mA at 240VAC  
 DC adjustment range ..... ±10% for CH1; ±5% for CH2  
 Overload protection(CH1) ..... 105%~170% normally operation, shut off after 10 sec.; >180%, constant current, shut off after 10 sec.  
 (CH2) ..... 101%~150% hiccup mode, auto-recovery  
 Over voltage protection ..... CH1: 115%~140%, CH2: 110%~135%  
 Setup, rise, hold up time ..... 1200ms, 60ms, 30ms at full load and 230VAC  
 Withstand voltage ..... I/P-O/P:3.0kVAC, I/P-FG:2kVAC, 1minute  
 Working temperature ..... -20~+70°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, TUV EN60950-1 approved  
 EMC standards ..... EN55022 class B, EN61000-3-2,-3, EN61000-4-2,3,4,5,6,8,11, EN61000-6-2  
 Connection ..... 5+10+2P/3.96mm pitch JST B5P/B10P-VH, B2B-XH  
 Packing ..... 0.74kg ; 18pcs / 14.3kg / 0.88CUFT (PCB type); 1.6kg ; 9pcs / 15.4kg / 0.61CUFT (Enclosed type)

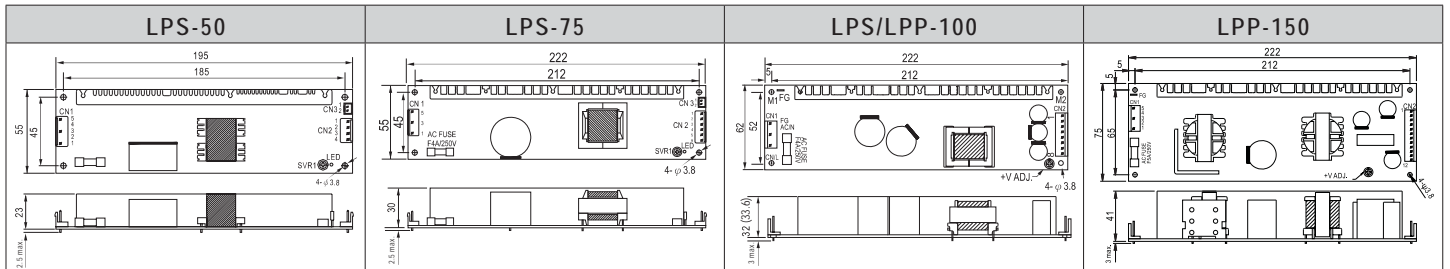
Model No.	Output	Tol.	R&N	Effi.
PID-250A	12V, 0~15A	±3%	120mV	83%
	5V, 0~5.0A	±2%	50mV	
PID-250B	24V, 0~9.4A	±2%	150mV	86%
	5V, 0~5.0A	±2%	50mV	
PID-250C	36V, 0~6.3A	±2%	200mV	86%
	5V, 0~5.0A	±2%	50mV	
PID-250D	48V, 0~4.7A	±2%	200mV	86%
	5V, 0~5.0A	±2%	50mV	





### Features

- Universal AC input / Full range
- Built-in active PFC function (LPP-100/150)
- Protections: Short circuit / Overload / Over voltage
- Optional over temperature protection for LPP-150
- Built-in remote ON/OFF control (LPS-50/75)
- Cooling by free air convection
- 100% full load burn-in test
- 2 years warranty for LPS series
- 3 years warranty for LPP series



Model No.		LPS-50	LPS-75	LPS-100	LPP-100	LPP-150
AC input voltage range		90~264VAC		115/230 auto switch	85~264VAC	
AC inrush current (230VAC)		35A	36A	60A	30A	55A
DC adjustment range		±10% rated output voltage			-5%~+10% rated output voltage	
Overload protection	Range	122%~160%	115%~150%	105%~140%	105%~150% rated output power	
	Type	Hiccup mode, auto recovery			Constant current limiting, auto recovery	
Over voltage protection	Range	110%~135% of rated output voltage				Shut off, AC recycle to re-start
	Type	Hiccup mode, auto recovery				
Withstand voltage		I/P-O/P: 3kVAC, I/P-FG: 1.5kVAC(2kVAC for LPP-150), O/P-FG: 0.5kVAC, 1 minute				
Working temperature		-20~+70°C (refer to output derating curve)		-10~+60°C (refer to output derating curve)		
Safety standards		UL60950-1, TUV EN60950-1 approved				
EMC standards		EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11 (EN61000-6-2 heavy industry level for LPS-50/75 only)				
Connection		JST B5P / B4P-VH	JST B5P / B6P-VH	JST B5P / B8P-VH		JST B5P / B6Px2-VH
Dimension (LxWxH)(mm)		195x 55x 23	222x 55x 30	222x 62x 32	222x 62x 33.6	222x 75x 41
Packing		48pcs / 12.5kg	48pcs / 15.6kg	24pcs / 12.5kg	24pcs / 13.9kg	24pcs / 16.6kg

### 50W LPS-50

Model No.	Output	Tol.	R&N	Effi.
LPS-50-3.3	3.3V, 0~10A	±3%	50mV	75%
LPS-50-5	5V, 0~10A	±3%	50mV	81%
LPS-50-12	12V, 0~4.2A	±2%	80mV	82%
LPS-50-15	15V, 0~3.4A	±2%	80mV	84%
LPS-50-24	24V, 0~2.1A	±1%	80mV	85%
LPS-50-48	48V, 0~1.1A	±1%	100mV	86%

### 75W LPS-75

Model No.	Output	Tol.	R&N	Effi.
LPS-75-3.3	3.3V, 0~15A	±3%	80mV	69%
LPS-75-5	5V, 0~15A	±3%	80mV	77%
LPS-75-12	12V, 0~6.2A	±2%	100mV	80%
LPS-75-15	15V, 0~5.0A	±2%	100mV	81%
LPS-75-24	24V, 0~3.2A	±2%	120mV	83%
LPS-75-48	48V, 0~1.56A	±2%	120mV	83%

### 100W LPS-100

Model No.	Output	Tol.	R&N	Effi.
LPS-100-3.3	3.3V, 0~20A	±3%	150mV	69%
LPS-100-5	5V, 0~20A	±3%	100mV	77%
LPS-100-7.5	7.5V, 0~13.3A	±2%	100mV	77%
LPS-100-12	12V, 0~8.4A	±2%	100mV	79%
LPS-100-13.5	13.5V, 0~7.5A	±2%	100mV	79%
LPS-100-15	15V, 0~6.7A	±2%	100mV	80%

LPS-100-24	24V, 0~4.2A	±1%	150mV	80%
LPS-100-27	27V, 0~3.8A	±1%	150mV	81%
LPS-100-48	48V, 0~2.1A	±1%	200mV	81%

### 100W (with PFC Function) LPP-100

Model No.	Output	Tol.	R&N	Effi.
LPP-100-3.3	3.3V, 0~20A	±2%	100mV	69%
LPP-100-5	5V, 0~20A	±2%	100mV	75%
LPP-100-7.5	7.5V, 0~13.5A	±2%	100mV	76%
LPP-100-12	12V, 0~8.5A	±2%	100mV	79%
LPP-100-13.5	13.5V, 0~7.5A	±2%	100mV	79%
LPP-100-15	15V, 0~6.7A	±2%	100mV	80%
LPP-100-24	24V, 0~4.2A	±1%	150mV	83%
LPP-100-27	27V, 0~3.8A	±1%	150mV	83%
LPP-100-48	48V, 0~2.1A	±1%	250mV	83%

### 150W (with PFC Function) LPP-150

Model No.	Output	Tol.	R&N	Effi.
LPP-150-3.3	3.3V, 0~30A	±2%	100mV	70%
LPP-150-5	5V, 0~30A	±2%	100mV	76%
LPP-150-7.5	7.5V, 0~20A	±2%	100mV	80%
LPP-150-12	12V, 0~12.5A	±2%	100mV	82%
LPP-150-13.5	13.5V, 0~11.2A	±2%	100mV	83%
LPP-150-15	15V, 0~10A	±2%	100mV	83%
LPP-150-24	24V, 0~6.3A	±1%	150mV	85%
LPP-150-27	27V, 0~5.6A	±1%	150mV	85%
LPP-150-48	48V, 0~3.2A	±1%	250mV	85%

# Green Open Frame

1~20W AC/DC Miniature Encapsulated Type



## Features

- Universal AC input / Full range
- No load power consumption < 0.075W (<0.1W for IRM-05-20)
- Miniature size, high power density
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- Isolation Class II
- Comply with EN55022 class B without any additional components
- Fully isolated plastic case
- Withstand 5G vibration test
- Low cost, high reliability
- Pass LPS
- 3 years warranty



Model No.	IRM-01-x[S]	IRM-02-x[S]	IRM-03-x[S]	IRM-05	IRM-10	IRM-15	IRM-20
AC input voltage range	85-305VAC			85-264VAC; 120-370VDC			
Overload protection	>110%		105%-260%	115%-260%	115%-190%		115%-160%
Over voltage protection	115%~135% rated output voltage						
Withstand voltage	I/P-O/P: 3kVAC						
Working temperature	-30~+85°C			-30~+70°C (refer to output derating curve)			
Safety standards	UL60950-1, TUV EN60950-1 approved; Design refer to IEC60601-1 for IRM-01/02/03						
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11						
Dimension (LxWxH)(mm)	PCB: 33.7x 22.2x 15 SMD: 33.7x 22.2x 16		PCB: 37x 24x 15 SMD: 37x 24x 16	45.7x 25.4x 21.5		52.4x 27.2x 24	

### 1W NEW IRM-01

Model No.	Output	Tol.	R&N	Effi.
IRM-01-3.3□	3.3V, 0~300mA	±2.5%	150mV	66%
IRM-01-5□	5V, 0~200mA	±2.5%	150mV	70%
IRM-01-9□	9V, 0~111mA	±2.5%	150mV	72%
IRM-01-12□	12V, 0~83mA	±2.5%	150mV	74%
IRM-01-15□	15V, 0~67mA	±2.5%	200mV	75%
IRM-01-24□	24V, 0~42mA	±2.5%	240mV	77%

□ = Blank, S ; Blank: PCB mounting style, S: SMD type

### 5W IRM-05

Model No.	Output	Tol.	R&N	Effi.
IRM-05-3.3	3.3V, 0~1.25A	±2.5%	200mV	68%
IRM-05-5	5V, 0~1A	±2.5%	200mV	71%
IRM-05-12	12V, 0~0.42A	±2.5%	200mV	75%
IRM-05-15	15V, 0~0.33A	±2.5%	200mV	75%
IRM-05-24	24V, 0~0.23A	±2.5%	200mV	77%

### 2W NEW IRM-02

Model No.	Output	Tol.	R&N	Effi.
IRM-02-3.3□	3.3V, 0~600mA	±2.5%	150mV	66%
IRM-02-5□	5V, 0~400mA	±2.5%	150mV	70%
IRM-02-9□	9V, 0~222mA	±2.5%	150mV	72%
IRM-02-12□	12V, 0~167mA	±2.5%	150mV	74%
IRM-02-15□	15V, 0~133mA	±2.5%	200mV	75%
IRM-02-24□	24V, 0~83mA	±2.5%	240mV	77%

□ = Blank, S ; Blank: PCB mounting style, S: SMD type

### 10W IRM-10

Model No.	Output	Tol.	R&N	Effi.
IRM-10-3.3	3.3V, 0~2.5A	±2.5%	200mV	74%
IRM-10-5	5V, 0~2A	±2.5%	200mV	77%
IRM-10-12	12V, 0~0.85A	±2.5%	200mV	82%
IRM-10-15	15V, 0~0.67A	±2.5%	200mV	82%
IRM-10-24	24V, 0~0.42A	±2.5%	200mV	82%

### 3W NEW IRM-03

Model No.	Output	Tol.	R&N	Effi.
IRM-03-3.3□	3.3V, 0~900mA	±2.5%	100mV	68%
IRM-03-5□	5V, 0~600mA	±2.5%	100mV	72%
IRM-03-9□	9V, 0~333mA	±2.5%	100mV	77%
IRM-03-12□	12V, 0~250mA	±2.5%	150mV	78%
IRM-03-15□	15V, 0~200mA	±2.5%	200mV	78%
IRM-03-24□	24V, 0~125mA	±2.5%	240mV	80%

□ = Blank, S ; Blank: PCB mounting style, S: SMD type

### 15W IRM-15

Model No.	Output	Tol.	R&N	Effi.
IRM-15-3.3	3.3V, 0~3.5A	±2.5%	200mV	74%
IRM-15-5	5V, 0~3A	±2.5%	200mV	78%
IRM-15-12	12V, 0~1.25A	±2.5%	200mV	82%
IRM-15-15	15V, 0~1A	±2.5%	200mV	82%
IRM-15-24	24V, 0~0.63A	±2.5%	200mV	83%

### 20W IRM-20

Model No.	Output	Tol.	R&N	Effi.
IRM-20-3.3	3.3V, 0~4.5A	±2.5%	200mV	76%
IRM-20-5	5V, 0~4A	±2.5%	200mV	79%
IRM-20-12	12V, 0~1.8A	±2.5%	200mV	84%
IRM-20-15	15V, 0~1.4A	±2.5%	200mV	84%
IRM-20-24	24V, 0~0.9A	±2.5%	200mV	85%

# Green Open Frame

30~60W AC/DC Miniature Encapsulated Type



## Features

- Universal AC input / Full range
- No load power consumption < 0.1W
- Miniature size, high power density
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- Isolation Class II
- Fully isolated plastic case
- Comply with EN55022 class B without any additional components
- Withstand 5G vibration test
- Low cost, high reliability
- Pass LPS (except for IRM-45/60 5V)
- 3 years warranty



Model No.	IRM-30-x <sup>[ST]</sup>	IRM-45-x <sup>[ST]</sup>	IRM-60-x <sup>[ST]</sup>
AC input voltage range	85~264VAC		
AC inrush current (max.)	Cold start, 25A at 115VAC, 45A at 230VAC		Cold start, 30A at 115VAC, 60A at 230VAC
Overload protection	105%~160%		115%~160%
Over voltage protection	105%~135%		
Setup, rise, hold up time	1000ms, 30ms, 40ms at 230VAC		1000ms, 30ms, 50ms at 230VAC
Leakage current	Less than 0.25mA at 240VAC		
Withstand voltage	I/P-O/P: 3kVAC		
Working temperature	-30~+70°C (refer to output derating curve)		
Vibration	10~500Hz, 5G 10min./1 cycle, period for 60 min. each along X, Y, Z axes		
Safety standards	UL60950-1, TUV EN60950-1 approved		
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11		
Connection	4 industrial pins		
Dimension (LxWxH)(mm)	PCB mounting: 69.5x 39x 24; Screw I/O: 91x 39.5x 28.5		PCB mounting: 87x 52x 29.5; Screw I/O: 109x 52x 33.5

## 30W IRM-30

Model No.	Output	Tol.	R&N	Effi.
IRM-30-5□	5V, 0~6A	±2.5%	120mV	83%
IRM-30-12□	12V, 0~2.5A	±2.5%	150mV	88%
IRM-30-15□	15V, 0~2A	±2.5%	200mV	88%
IRM-30-24□	24V, 0~1.3A	±2.5%	240mV	88.5%
IRM-30-48□	48V, 0~0.63A	±2.5%	300mV	90%

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

Model No.	Output	Tol.	R&N	Effi.
IRM-45-24□	24V, 0~1.9A	±2.5%	200mV	89.5%
IRM-45-48□	48V, 0~0.94A	±2.5%	300mV	90.5%

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

## 45W IRM-45

Model No.	Output	Tol.	R&N	Effi.
IRM-45-5□	5V, 0~8A	±2.5%	80mV	83.5%
IRM-45-12□	12V, 0~3.8A	±2.5%	150mV	87.5%
IRM-45-15□	15V, 0~3A	±2.5%	180mV	88.5%

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

## 60W IRM-60

Model No.	Output	Tol.	R&N	Effi.
IRM-60-5□	5V, 0~10A	±2.5%	80mV	84%
IRM-60-12□	12V, 0~5A	±2.5%	120mV	87.5%
IRM-60-15□	15V, 0~4A	±2.5%	120mV	89%
IRM-60-24□	24V, 0~2.5A	±2.5%	150mV	90%
IRM-60-48□	48V, 0~1.25A	±2.5%	240mV	91%

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



### ■ Features

- Universal AC input / Full range
- **No load power consumption <0.1W (<0.3W for 15~35W)**
- High efficiency up to 91%
- Compact size, 1U low profile
- Cooling by free air convection
- Protections: Short circuit / Overload / Over voltage
- Class I or Class II installations
- LED indicator for power on (EPS-25/35/45S/65S)
- 3 years warranty



Model No.	EPS-15	EPS-25	EPS-35	EPS-45S	EPS-65S
AC input voltage range	85~264VAC; 120~370VDC			80~264VAC	
AC inrush current (max.)	Cold start, 45A at 230VAC	Cold start, 35A at 230VAC	Cold start, 40A at 230VAC	Cold start, 60A at 230VAC	
DC adjustment range	±10% rated output voltage			-5~+10% rated output voltage	
Overload protection	Range	115%~150% rated output power	115%~170% rated output power	115%~150% rated output power	
	Type	Hiccup mode, auto-recovery			
Over voltage protection	110%~135% shut down o/p voltage, re-power on to recover				
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG:2kVAC, O/P-FG: 0.5kVAC				
Working temperature	-30~+70°C (refer to output derating curve)				
Safety standards	UL60950-1, TUV EN60950-1 approved				
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11				
Connection	JST B3P/B2P-VH			JST B3P/B4P-VH	
Dimension (LxWxH)(mm)	63.5x45.7x24		76.2x50.8x24		

### ■ 15W—Class I EPS-15

Model No.	Output(Rated / Peak 10 sec.)	Tol.	R&N	Effi.
EPS-15-3.3	3.3V, 0~3A / 3.3A	±2%	50mV	75%
EPS-15-5	5V, 0~3A / 3.3A	±2%	50mV	78%
EPS-15-7.5	7.5V, 0~2A / 2.2A	±2%	80mV	81%
EPS-15-12	12V, 0~1.25A / 1.38A	±1%	80mV	82%
EPS-15-15	15V, 0~1A / 1.1A	±1%	100mV	83%
EPS-15-24	24V, 0~0.625A / 0.69A	±1%	150mV	83%
EPS-15-27	27V, 0~0.56A / 0.615A	±1%	180mV	84%
EPS-15-36	36V, 0~0.42A / 0.46A	±1%	200mV	85%
EPS-15-48	48V, 0~0.313A / 0.344A	±1%	200mV	85%

### ■ 25W—Class I EPS-25

Model No.	Output(Rated / Peak 10 sec.)	Tol.	R&N	Effi.
EPS-25-3.3	3.3V, 0~5A / 5.5A	±2%	60mV	79%
EPS-25-5	5V, 0~5A / 5.5A	±2%	60mV	81%
EPS-25-7.5	7.5V, 0~3.4A / 3.74A	±2%	80mV	83%
EPS-25-12	12V, 0~2.1A / 2.34A	±1%	100mV	86%
EPS-25-15	15V, 0~1.7A / 1.87A	±1%	100mV	87%
EPS-25-24	24V, 0~1.05A / 1.17A	±1%	180mV	88%
EPS-25-27	27V, 0~0.95A / 1.05A	±1%	180mV	89%
EPS-25-36	36V, 0~0.7A / 0.78A	±1%	200mV	89%
EPS-25-48	48V, 0~0.53A / 0.59A	±1%	240mV	90%

### ■ 35W—Class I EPS-35

Model No.	Output(Rated / Peak 10 sec.)	Tol.	R&N	Effi.
EPS-35-3.3	3.3V, 0~6A / 6.6A	±2.5%	60mV	80%
EPS-35-5	5V, 0~6A / 6.6A	±2.0%	70mV	82%
EPS-35-7.5	7.5V, 0~4.7A / 5.2A	±2.0%	80mV	84%

Model No.	Output(Rated / Peak 10 sec.)	Tol.	R&N	Effi.
EPS-35-12	12V, 0~3A / 3.3A	±1.0%	100mV	87%
EPS-35-15	15V, 0~2.4A / 2.65A	±1.0%	100mV	88%
EPS-35-24	24V, 0~1.5A / 1.65A	±1%	180mV	89%
EPS-35-27	27V, 0~1.3A / 1.45A	±1%	180mV	89%
EPS-35-36	36V, 0~1A / 1.1A	±1%	200mV	89%
EPS-35-48	48V, 0~0.75A / 0.82A	±1%	240mV	90%

### ■ 45W—Class II NEW EPS-45S

Model No.	Output(Rated / Peak 10 sec.)	Tol.	R&N	Effi.
EPS-45S-3.3	3.3V, 0~8A / 8.8A	±2%	80mV	80%
EPS-45S-5	5V, 0~8A / 8.8A	±2%	80mV	83%
EPS-45S-7.5	7.5V, 0~5.4A / 5.95A	±2%	80mV	85%
EPS-45S-12	12V, 0~3.8A / 4.18A	±2%	120mV	88%
EPS-45S-15	15V, 0~3A / 3.3A	±2%	150mV	89%
EPS-45S-24	24V, 0~1.9A / 2.1A	±1%	240mV	90%
EPS-45S-48	48V, 0~0.94A / 1.03A	±1%	300mV	91%

### ■ 65W—Class II NEW EPS-65S

Model No.	Output(Rated / Peak 10 sec.)	Tol.	R&N	Effi.
EPS-65S-3.3	3.3V, 0~10A / 11A	±2%	80mV	80%
EPS-65S-5	5V, 0~10A / 11A	±2%	80mV	84%
EPS-65S-7.5	7.5V, 0~8A / 8.8A	±2%	80mV	85%
EPS-65S-12	12V, 0~5.42A / 5.96A	±2%	120mV	88%
EPS-65S-15	15V, 0~4.34A / 4.77A	±2%	150mV	89%
EPS-65S-24	24V, 0~2.71A / 2.98A	±1%	240mV	90%
EPS-65S-48	48V, 0~1.36A / 1.49A	±1%	300mV	91%





### Features

- Compact size, 1U low profile
- Universal AC input / Full range
- Built-in active PFC function (ELP-75)
- Class I or Class II installations
- **No load power consumption < 0.3W (<0.5W for ELP-75)**
- High efficiency up to 91%
- Protections: Short circuit / Overload / Over voltage / Over temp.(EPS-120)
- Cooling by free air convection
- Built-in 12V/0.5A auxiliary output (EPS-120)
- LED indicator for power on
- 3 years warranty



Model No.	EPS-45-x <input type="checkbox"/>	EPS-65-x <input type="checkbox"/>	EPS-120	ELP-75-x <input type="checkbox"/>
Rated Power	Fan	NA	120W (10CFM)	NA
	Convection	45W	65W	75W
AC input voltage range	90~264VAC		80~264VAC	90~264VAC
DC adjustment range	±10% rated output voltage		±5%	±10%
Overload protection	Range	115%~150% rated output power		105%~150% rated output power
	Type	Hiccup mode, auto-recovery		
Over voltage protection	110%~130% shut down o/p voltage, re-power on to recover			
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG:2kVAC, O/P-FG: 0.5kVAC, 1 minute			I/P-O/P: 3kVAC, I/P-FG:1.5kVAC, O/P-FG: 0.5kVAC
Working temperature	-30~+70°C (refer to output derating curve)			
Safety standards	UL60950-1, TUV EN60950-1 approved			
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11			
Connection	3+4P/3.96mm pitch, JST B3P/B4P-VH			3+4P/3.96mm pitch, JST B3P/B6P-VH
Dimension (LxWxH)(mm)	PCB: 101.6x50.8x29 ; Case: 103.4x62x37		101.6x 50.8x 29	PCB: 175x 60x 27 ; Case: 195x 68.5x 33

### 45W—Class I EPS-45

Model No.	Output(Rated / Peak 10 sec.)	Tol.	R&N	Effi.
EPS-45-3.3 <input type="checkbox"/>	3.3V, 8A / 9A	±3%	80mV	80%
EPS-45-5 <input type="checkbox"/>	5V, 8A / 9A	±2%	80mV	82%
EPS-45-7.5 <input type="checkbox"/>	7.5V, 5.4A / 5.6A	±2%	100mV	84%
EPS-45-12 <input type="checkbox"/>	12V, 3.75A / 4.2A	±2%	120mV	87%
EPS-45-15 <input type="checkbox"/>	15V, 3A / 3.3A	±2%	150mV	88%
EPS-45-24 <input type="checkbox"/>	24V, 1.9A / 2.1A	±1%	240mV	89%
EPS-45-36 <input type="checkbox"/>	36V, 1.25A / 1.4A	±1%	280mV	89%
EPS-45-48 <input type="checkbox"/>	48V, 1A / 1.1A	±1%	300mV	90%

= blank, -C ; blank: PCB type, -C: Enclosed type

### 120W—Class I or II NEW EPS-120

Model No.	Output(Convection/10CFM)	Tol.	R&N	Effi.
EPS-120-12	12V, 7A / 10A	±2%	120mV	88.0%
EPS-120-15	15V, 5.6A / 8A	±2%	120mV	88.5%
EPS-120-24	24V, 3.5A / 5A	±1%	150mV	90.0%
EPS-120-27	27V, 3.15A / 4.5A	±1%	150mV	90.0%
EPS-120-48	48V, 1.75A / 2.5A	±1%	200mV	91.0%

### 65W—Class I EPS-65

Model No.	Output(Rated / Peak 10 sec.)	Tol.	R&N	Effi.
EPS-65-3.3 <input type="checkbox"/>	3.3V, 11A / 12A	±3%	80mV	80%
EPS-65-5 <input type="checkbox"/>	5V, 11A / 12A	±2%	80mV	82%
EPS-65-7.5 <input type="checkbox"/>	7.5V, 8A / 8.8A	±2%	100mV	84%
EPS-65-12 <input type="checkbox"/>	12V, 5.42A / 6A	±2%	120mV	86%
EPS-65-15 <input type="checkbox"/>	15V, 4.34A / 4.8A	±2%	150mV	87%
EPS-65-24 <input type="checkbox"/>	24V, 2.71A / 3A	±1%	240mV	88%
EPS-65-36 <input type="checkbox"/>	36V, 1.81A / 2A	±1%	280mV	89%
EPS-65-48 <input type="checkbox"/>	48V, 1.36A / 1.5A	±1%	300mV	90%

= blank, -C ; blank: PCB type, -C: Enclosed type

### 75W—Class I ELP-75

Model No.	Output	Tol.	R&N	Effi.
ELP-75-3.3 <input type="checkbox"/>	3.3V, 15A	±3%	80mV	80%
ELP-75-5 <input type="checkbox"/>	5V, 15A	±2%	80mV	82%
ELP-75-12 <input type="checkbox"/>	12V, 6.25A	±2%	120mV	89%
ELP-75-15 <input type="checkbox"/>	15V, 5A	±2%	150mV	90%
ELP-75-24 <input type="checkbox"/>	24V, 3.15A	±1%	240mV	90%
ELP-75-36 <input type="checkbox"/>	36V, 2.1A	±1%	280mV	90%
ELP-75-48 <input type="checkbox"/>	48V, 1.6A	±1%	300mV	90%

= blank, -C ; blank: PCB type, -C: Enclosed type



### Features

- Universal AC input / Full range
- Built-in active PFC function
- Class I or Class II installations
- **No load power consumption <0.5W**
- High efficiency up to 94%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in 12V/0.5A auxiliary output (12V/0.3A for EPP-100/150)
- Standby 5V@1A with fan, @ 0.6A without fan (EPP-300/400)
- Built-in remote sense function (EPP-300/400)
- LED indicator for power on
- 3 years warranty



Model No.		EPP-100	EPP-150	EPP-200	EPP-300	EPP-400
Rated Power	Fan	100W (20CFM)	150W (20CFM)	200W (10CFM)	300W (20.5CFM)	400W (25CFM)
	Convection	75W	100W	140W	200W	250W
AC input voltage range		90~264VAC		80~264VAC	90~264VAC	80~264VAC
DC adjustment range		-2%~+5% rated output voltage		±5% rated output voltage		
Overload protection	Range	105%~145%		115%~150%	105%~135%	115%~135%
	Type	Hiccup mode, auto-recovery				
Over voltage protection	Range	115%~135% rated output voltage		110%~130%	115%~135%	110%~130%
	Type	Shut down o/p voltage, re-power on to recover				
Withstand voltage		I/P-O/P: 3kVAC, I/P-FG:2kVAC, O/P-FG: 0.5kVAC				I/P-O/P: 3kVAC, I/P-FG:2kVAC, O/P-FG: 1.5kVAC
Working temperature		-30~+70°C (refer to output derating curve)				
Safety standards		UL60950-1, TUV EN60950-1 approved				
EMC standards		EN55011 (EPP-300) / EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11				
Connection		JST B3P / B4P-VH		JST B3P / B6P-VH	JST B5P-VH / Screw terminal	
Dimension (LxWxH)(mm)		101.6x 50.8x 29			127x 76.2x 35	

### 100W—Class I EPP-100

Model No.	Output(Convection/20CFM)	Tol.	R&N	Effi.
EPP-100-12	12V, 6.3A / 8.5A	±2%	120mV	91.0%
EPP-100-15	15V, 5A / 6.67A	±2%	150mV	91.0%
EPP-100-24	24V, 3.2A / 4.2A	±1%	240mV	92.0%
EPP-100-27	27V, 2.8A / 3.71A	±1%	240mV	92.5%
EPP-100-48	48V, 1.6A / 2.1A	±1%	300mV	92.5%

### 150W—Class I EPP-150

Model No.	Output(Convection/20CFM)	Tol.	R&N	Effi.
EPP-150-12	12V, 8.4A / 12.5A	±2%	130mV	91.5%
EPP-150-15	15V, 6.7A / 10.0A	±2%	150mV	92.0%
EPP-150-24	24V, 4.2A / 6.25A	±1%	240mV	93.0%
EPP-150-27	27V, 3.71A / 5.56A	±1%	240mV	92.0%
EPP-150-48	48V, 2.1A / 3.125A	±1%	300mV	92.0%

### 200W—Class I or II NEW EPP-200

Model No.	Output(Convection/10CFM)	Tol.	R&N	Effi.
EPP-200-12	12V, 11.7A / 16.7A	±2%	100mV	92%
EPP-200-15	15V, 9.4A / 13.4A	±2%	100mV	92%
EPP-200-24	24V, 5.9A / 8.4A	±1%	150mV	93%
EPP-200-27	27V, 5.3A / 7.5A	±1%	150mV	93%
EPP-200-48	48V, 3A / 4.2A	±1%	200mV	94%

### 300W—Class I EPP-300

Model No.	Output(Convection/20.5CFM)	Tol.	R&N	Effi.
EPP-300-12	12V, 16.67A / 25.0A	±3%	120mV	90.0%
EPP-300-15	15V, 13.33A / 20.0A	±3%	120mV	90.0%
EPP-300-24	4V, 8.33A / 12.5A	±2%	150mV	92.5%
EPP-300-27	27V, 7.4A / 11.12A	±2%	200mV	93.0%
EPP-300-48	48V, 4.17A / 6.25A	±2%	250mV	93.0%

### 400W—Class I NEW EPP-400

Model No.	Output(Convection/25CFM)	Tol.	R&N	Effi.
EPP-400-12	12V, 20.8A / 33.3A	±3%	120mV	92%
EPP-400-15	15V, 16.7A / 26.7A	±3%	150mV	92%
EPP-400-24	24V, 10.5A / 16.7A	±2%	200mV	93%
EPP-400-27	27V, 9.3A / 14.9A	±1%	200mV	93%
EPP-400-36	36V, 7A / 11.2A	±1%	250mV	93%
EPP-400-48	48V, 5.3A / 8.4A	±1%	250mV	94%

# Industrial Adaptor

12~30W Interchangeable Type



## ■ Features

- Interchangeable AC plugs (plug kit sold separately)
- Universal AC input / Full range
- No load power consumption <0.075W
- Energy efficiency Level VI
- Comply with EISA 2007/DoE and EU ErP
- Class II power (without earth pin)
- Protections: Short circuit / Over voltage / Overload
- Fully enclosed plastic case
- LED indicator for power on
- Pass LPS
- Approvals: UL / CUL / TUV / CCC / RCM / FCC / CE
- 2 years warranty



Model No.	GE12	GE18	GE24	GE30
AC input voltage range	90~264VAC / 0.4A for GE12; 90~264VAC / 0.7A for GE18/24/30			
AC inrush current (max.)	Cold start, 40A at 100VAC; 80A at 230VAC			
Overload protection	Hiccup mode, auto-recovery			
Over voltage protection	115%~135% rated output voltage			
Setup, rise, hold up time	4000ms, 100ms, 30ms at 230VAC input			
Withstand voltage	I/P-O/P:4242VDC, 1 minute			
Working temperature	-10~+50°C (refer to output derating curve)			
Safety standards	UL60950-1, CSA22.2, TUV EN60950-1, CCC GB4943, AS/NZS 60950.1 approved			
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, FCC part15 class B, GB9254			
Length of output cable	100cm of 16AWG for GE12 5~12V and GE18/24 5~12V 150cm of 18AWG for GE12/18 15~48V and GE24 15~48V			
Standard DC plug	P1J: 2.1øx5.5øx11mm / C+, tuning fork type (refer to page 62 for DC plug list)			

## ■ Wall-mounted (Interchangeable Type)—12W

Order No. (Main body)	Output	Tol.	R&N	Effi.
GE12105-P1J	5V, 0~2.00A	±5%	50mV	80.0%
GE12107-P1J	7.5V, 0~1.33A	±5%	75mV	82.0%
GE12109-P1J	9V, 0~1.33A	±5%	100mV	84.0%
GE12112-P1J	12V, 0~1.00A	±3%	120mV	84.0%
GE12115-P1J	15V, 0~0.80A	±3%	150mV	85.0%
GE12118-P1J	18V, 0~0.83A	±3%	180mV	85.0%
GE12124-P1J	24V, 0~0.625A	±3%	240mV	85.5%

## ■ Wall-mounted (Interchangeable Type)—24W

Order No. (Main body)	Output	Tol.	R&N	Effi.
GE24105-P1J	5V, 0~3.00A	±5%	50mV	81.0%
GE24107-P1J	7.5V, 0~2.00A	±5%	75mV	83.0%
GE24109-P1J	9V, 0~2.22A	±5%	100mV	85.5%
GE24112-P1J	12V, 0~2.00A	±3%	120mV	86.0%
GE24115-P1J	15V, 0~1.60A	±3%	150mV	86.0%
GE24118-P1J	18V, 0~1.33A	±3%	180mV	87.0%
GE24124-P1J	24V, 0~1.00A	±3%	240mV	87.5%
GE24148-P1J	48V, 0~0.50A	±3%	300mV	89.0%

## ■ Wall-mounted (Interchangeable Type)—18W

Order No. (Main body)	Output	Tol.	R&N	Effi.
GE18105-P1J	5V, 0~2.40A	±5%	50mV	80.5%
GE18107-P1J	7.5V, 0~1.73A	±5%	75mV	82.5%
GE18109-P1J	9V, 0~2.00A	±5%	100mV	85.0%
GE18112-P1J	12V, 0~1.50A	±3%	120mV	86.0%
GE18115-P1J	15V, 0~1.20A	±3%	150mV	86.5%
GE18118-P1J	18V, 0~1.00A	±3%	180mV	87.0%
GE18124-P1J	24V, 0~0.75A	±3%	240mV	87.0%
GE18148-P1J	48V, 0~0.375A	±3%	300mV	87.0%

## ■ Wall-mounted (Interchangeable Type)—30W NEW

Order No. (Main body)	Output	Tol.	R&N	Effi.
GE30112-P1J	12V, 0~2.50A	±3%	120mV	84%
GE30115-P1J	15V, 0~2.00A	±3%	150mV	86%
GE30118-P1J	18V, 0~1.66A	±3%	180mV	87%
GE30124-P1J	24V, 0~1.25A	±3%	240mV	87%

## ■ Interchangeable AC Plug Specifically for GE12/18/24/30

AC Plug Type and Order No.				
AC Plug-AU	AC Plug-UK	AC Plug-EU	AC Plug-US	AC Plug-MIX
Australian Type	U.K. Type	European Type	U.S. Type	Mixed Four Type

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



### 6W Green Adaptor

- Universal AC input / Full range
- No load power consumption < 0.075W
- **Energy efficiency Level VI**
- Comply with EISA 2007/DoE and EU ErP
- 2 pole US / European type plug
- Class II power (without earth pin)
- Protections: Short circuit / Overload / Over voltage
- Pass LPS
- Fully enclosed plastic case
- Approvals: UL/CUL/FCC for GS06U, TUV/CE for GS06E
- 2 years warranty



AC input voltage range ..... 90~264VAC ; 127~370VDC  
 AC inrush current(max.) ... Cold start, 50A at 230VAC  
 Overload protection ..... Hiccup mode, auto-recovery  
 Over voltage protection ... Clamp by zener diode >120%  
 Withstand voltage ..... I/P-O/P: 4242VDC, 1minute  
 Working temperature ..... 0~+50°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, CSA 22.2, TUV EN60950-1  
 EMC standards ..... FCC part15 class B(U Type); EN55022 class B(E Type)  
 Length of output cable ..... 120cm of 18AWG for 5~9V; 180cm of 24AWG for 12~48V

Order No.	Output	Tol.	R&N	Effi.
GS06□-1P1J	5V, 0~1.00A	±5%	80mV	75.0%
GS06□-11P1J	7.5V, 0~0.80A	±5%	80mV	80.5%
GS06□-2P1J	9V, 0~0.66A	±5%	80mV	79.5%
GS06□-3P1J	12V, 0~0.50A	±3%	100mV	79.5%
GS06□-4P1J	15V, 0~0.40A	±3%	120mV	80.5%
GS06□-5P1J	18V, 0~0.33A	±3%	150mV	81.5%
GS06□-6P1J	24V, 0~0.25A	±2%	180mV	82.0%
GS06□-8P1J	48V, 0~0.125A	±2%	200mV	85.0%

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

### 12W Green Adaptor

- Universal AC input / Full range
- No load power consumption < 0.3W
- **Energy efficiency Level V**
- Comply with EISA 2007 and EU ErP
- 2 pole US / European type plug
- Class II power (without earth pin)
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Pass LPS
- Fully enclosed plastic case
- Approvals: UL/CUL/BSMI/CB/FCC for GS12U, TUV/CB/CE for GS12E
- 2 years warranty



AC input voltage range ..... 90~264VAC ; 127~370VDC  
 AC inrush current(max.) ... Cold start, 45A at 230VAC  
 Overload protection ..... Hiccup mode, auto-recovery  
 Over voltage protection ... 115%~135% clamp by zener diode  
 Withstand voltage ..... I/P-O/P: 3kVAC, 1minute  
 Working temperature ..... 0~+50°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, CSA 22.2, BSMI CNS14336, TUV EN60950-1  
 EMC standards ..... EN55022, EN61204-3, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, FCC part15 class B

Order No.	Output	Tol.	R&N	Effi.
GS12□ 05-P11	5V, 0~2.00A	±5%	75mV	76.0%
GS12□ 07-P11	7.5V, 0~1.60A	±4%	90mV	78.5%
GS12□ 09-P11	9V, 0~1.33A	±4%	90mV	78.5%
GS12□ 12-P11	12V, 0~1.00A	±3%	120mV	78.5%
GS12□ 15-P11	15V, 0~0.80A	±3%	150mV	80.0%
GS12□ 18-P11	18V, 0~0.67A	±3%	180mV	80.0%
GS12□ 24-P11	24V, 0~0.50A	±3%	200mV	80.5%

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

### 5W Green USB Adaptor



- Universal AC input / Full range
- No load power consumption < 0.075W
- **Energy efficiency Level VI**
- Comply with EISA 2007/DoE and EU ErP
- Compact size
- 2 pole US / European type plug
- Class II power (without earth pin)
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Pass LPS
- Fully enclosed plastic case
- 2 years warranty

AC input voltage range ..... 90~264VAC ; 127~370VDC  
 Overload protection ..... 105%~135% rated output power, hiccup mode, auto-recovery  
 Over voltage protection ..... 105%~200% rated output voltage, hiccup mode, auto-recovery  
 Withstand voltage ..... I/P-O/P: 4242VDC, 1 minute  
 Working temperature ..... -20~+50°C (refer to output derating curve)  
 Safety standards ..... U-Type: UL60950-1, CSA22.2 approved  
 E-Type: TUV EN60950-1 approved  
 EMC standards ..... FCC part15 class B(U Type); EN55022 class B(E Type)  
 Standard DC plug ..... USB Type A

Order No.	Output	Tol.	R&N	Effi.
GS05U-USB	5V, 0~1A	±4%	90mV	74.0%
GS05E-USB	5V, 0~1A	±4%	80mV	74.5%

### 15W Green Adaptor

- Universal AC input / Full range
- No load power consumption < 0.075W
- **Energy efficiency Level VI**
- Comply with EISA 2007/DoE and EU ErP
- Protections: Short circuit / Overload / Over voltage
- Pass LPS
- Fully enclosed plastic case
- 2 years warranty



AC input voltage range ..... 90~264VAC ; 127~370VDC  
 AC inrush current(max.) ..... Cold start, 50A at 230VAC  
 Overload protection ..... Hiccup mode, auto-recovery  
 Over voltage protection ..... Clamp by zener diode > 120%  
 Withstand voltage ..... I/P-O/P: 3kVAC, I/P-FG: 1.5kVAC, 1 minute  
 Working temperature ..... 0~+50°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, CSA 22.2, TUV EN60950-1 approved  
 EMC standards ..... EN55022-B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,11, FCC part 15 class B  
 Length of output cable ..... 120cm of 18AWG for 5~15V; 180cm of 18AWG for 18~48V  
 Standard DC plug ..... P1J: 2.1øx5.5øx11mm / C+, tuning fork type (refer to page 62 for DC plug list)

Order No.	Output	Tol.	R&N	Effi.
GS15□-1P1J	5.0V, 0~2.40A	±5%	50mV	80.0%
GS15□-11P1J	7.5V, 0~1.60A	±5%	80mV	82.5%
GS15□-2P1J	9.0V, 0~1.66A	±5%	80mV	85.0%
GS15□-3P1J	12V, 0~1.25A	±3%	80mV	85.0%
GS15□-4P1J	15V, 0~1.00A	±3%	100mV	85.0%
GS15□-5P1J	18V, 0~0.83A	±3%	120mV	85.0%
GS15□-6P1J	24V, 0~0.625A	±2%	150mV	85.5%
GS15□-8P1J	48V, 0~0.31A	±2%	240mV	87.0%

□ = A/B/E/U ; A: IEC320-C14, B: IEC320-C8  
 E: European 2P, U: American 2P





**GS18/25A**

93x 54x 36 mm

**GS18/25B**

79x 54x 33 mm

**GS18/25/36U**

79x 54x 33 mm

**GS18/25/36E**

79x 54x 33 mm

### Features

- Universal AC input / Full range
- No load power consumption < 0.3W
- **Energy efficiency Level V**
- Comply with EISA 2007, NRCAN, AU/NZ MEPS and EU ErP
- 2 pole US / European plug or IEC320-C14/C8
- Class II power (without earth pin) for B/U/E type
- Class I power (with earth pin) only for A type
- Protections: Short circuit / Overload / Over voltage
- Fully enclosed plastic case
- LED indicator for power on (except for GS36)
- Pass LPS
- Approvals:
  - A type: UL / CUL / TUV / BSMI / CCC / PSE / CB / FCC / CE
  - B type: UL / CUL / TUV / BSMI / CCC / CB / FCC / CE
  - U type: UL / CUL / BSMI / CB / FCC
  - E type: TUV / CB / CE
- 2 years warranty

Order No.	GS18□	GS25□	GS36□
AC input voltage range	90~264VAC ; 135~370VDC		
AC inrush current (max.)	Cold start, 45A at 230VAC		Cold start, 60A at 230VAC
Overload protection	Range	105%~150% rated output power	110%~250% rated output power
	Type	Hiccup mode, auto-recovery	
Over voltage protection	105%~135% rated output voltage, clamp by zener diode		
Withstand voltage	I/P-O/P: 4242VDC, 1 minute		
Working temperature	0~+50°C (refer to output derating curve )		-20~+50°C (refer to output derating curve )
Safety standards	A-Type: UL60950-1, CSA 22.2, TUV EN60950-1, BSMI CNS14336, PSE J60950-1(GS18A/GS25A-5V~28V only), CCC GB4943 approved B-Type: UL60950-1, CSA 22.2, TUV EN60950-1, BSMI CNS14336, CCC GB4943 approved U-Type: UL60950-1, CSA22.2, BSMI CNS14336 approved E-Type: TUV EN60950-1 approved		
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11(A/B/E type); FCC part 15 class B, CNS13438(A/B/U type); GB9254(A/B type)		
Length of output cable	120cm of 16AWG for 5~12V ; 180cm of UL1185, 18AWG for 15~48V		100cm of UL1185, 16AWG
Standard DC plug (refer to page 62 for DC plug list)	P1J: 2.1øx5.5øx11mm / C+, tuning fork type		

### Desktop / Wall-mounted — 18W



Order No.	Output	Tol.	R&N	Effi.
GS18□05-P1J	5V, 0~3.00A	±5%	50mV	79.5%
GS18□07-P1J	7.5V, 0~2.00A	±5%	80mV	82.0%
GS18□09-P1J	9V, 0~2.00A	±5%	80mV	83.0%
GS18□12-P1J	12V, 0~1.50A	±3%	80mV	85.0%
GS18□15-P1J	15V, 0~1.20A	±3%	100mV	85.0%
GS18□18-P1J	18V, 0~1.00A	±3%	150mV	85.0%

Order No.	Output	Tol.	R&N	Effi.
GS18□24-P1J	24V, 0~0.75A	±2%	180mV	86.0%
GS18□28-P1J	28V, 0~0.64A	±2%	240mV	86.5%
GS18□48-P1J	48V, 0~0.375A	±2%	240mV	87.0%

□ = A / B / U / E  
 Class I — A: IEC320-C14  
 Class II — B: IEC320-C8, U: American 2P, E: European 2P

### Desktop / Wall-mounted — 25W



Order No.	Output	Tol.	R&N	Effi.
GS25□05-P1J	5V, 0~4.00A	±5%	50mV	78.5%
GS25□07-P1J	7.5V, 0~2.93A	±5%	80mV	81.5%
GS25□09-P1J	9V, 0~2.77A	±5%	80mV	82.5%
GS25□12-P1J	12V, 0~2.08A	±3%	80mV	84.5%
GS25□15-P1J	15V, 0~1.66A	±3%	100mV	84.5%
GS25□18-P1J	18V, 0~1.38A	±3%	150mV	84.5%

Order No.	Output	Tol.	R&N	Effi.
GS25□24-P1J	24V, 0~1.04A	±2%	180mV	85.5%
GS25□28-P1J	28V, 0~0.89A	±2%	240mV	85.5%
GS25□48-P1J	48V, 0~0.52A	±2%	240mV	87.0%

□ = A / B / U / E  
 Class I — A: IEC320-C14  
 Class II — B: IEC320-C8, U: American 2P, E: European 2P

### Wall-mounted — 36W



Order No.	Output	Tol.	R&N	Effi.
GS36□05-P1J	5V, 0~4.50A	±5%	90mV	76.5%
GS36□09-P1J	9V, 0~3.50A	±5%	90mV	81.5%
GS36□12-P1J	12V, 0~3.00A	±3%	100mV	84.5%

Order No.	Output	Tol.	R&N	Effi.
GS36□24-P1J	24V, 0~1.50A	±2%	180mV	85.5%
GS36□48-P1J	48V, 0~0.75A	±2%	240mV	87.5%

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



### ■ Features

- Universal AC input / Full range
- No load power consumption <0.3W for GS40/60; <0.5W for GS90/120
- **Energy efficiency Level V**
- Comply with EISA 2007, NRCAN, AU/NZ MEPS and EU ErP
- Built-in active PFC function for GS90/120
- 3 pole AC inlet IEC320-C14
- Class I power (with earth pin)
- Protections: Short circuit / Over voltage / Overload / Over temp. (except for GS40)
- Fully enclosed plastic case
- LED indicator for power on
- Pass LPS (except for GS120)
- 2 years warranty



Order No.	GS40A	GS60A	GS90A	GS120A
AC input voltage range	90~264VAC ; 127~370VDC			85~264VAC ; 120~370VDC
AC inrush current (max.)	Cold start, 65A at 230VAC		Cold start, 70A at 230VAC	
Overload protection	Range	105%~150% rated output power	110%~150%	105%~160%
	Type	Hiccup mode, auto-recovery		
Over voltage protection	105%~135% rated output voltage			
Setup, rise, hold up time	1000ms, 30ms, 50ms at 230VAC input		1000ms, 20ms, 20ms at 230VAC input	
Withstand voltage	I/P-O/P:3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC			I/P-FG: 3kVAC
Working temperature	-30~+60°C		-30~+50°C	
Safety standards	UL60950-1, TUV EN60950-1, BSMI CNS14336, CCC GB4943, PSE J60950-1(except for 48V) approved			
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, CNS13438, GB9254, FCC part15 class B			
Length of output cable	GS40: 100cm of UL1185, 16AWG for 5~15V; 180cm of UL1185, 18AWG for 18~48V GS60: 100cm of UL2464, 16AWG for 5~9V; 100cm of UL1185, 16AWG for 12~15V; 180cm of UL1185, 18AWG for 18~48V		100cm of UL1185, 14AWG for 12~15V; 120cm of UL1185, 16AWG for 19~48V	
Standard DC plug (refer to page 62 for DC plug list)	P1J: 2.1øx5.5øx11mm / C+, tuning fork type		P1M: 2.5øx5.5øx11mm / C+, tuning fork type	
				R7B: Power DIN 4P with lock type P1M: 2.5øx5.5øx11mm/C+, tuning fork type (20~48V only)

### ■ Desktop (IEC 320-C14 / Class I) — 40W

Order No.	Output	Tol.	R&N	Effi.
GS40A05-P1J	5V, 0~5.00A	±5%	100mV	80.5%
GS40A07-P1J	7.5V, 0~5.34A	±5%	100mV	85.5%
GS40A09-P1J	9V, 0~4.45A	±5%	100mV	85.0%
GS40A12-P1J	12V, 0~3.34A	±3%	100mV	89.0%
GS40A15-P1J	15V, 0~2.67A	±3%	100mV	89.5%
GS40A18-P1J	18V, 0~2.22A	±3%	150mV	90.0%
GS40A24-P1J	24V, 0~1.67A	±2.5%	180mV	91.0%
GS40A48-P1J	48V, 0~0.84A	±2.5%	240mV	92.0%

### ■ Desktop (IEC 320-C14 / Class I) — 60W

Order No.	Output	Tol.	R&N	Effi.
GS60A05-P1J	5V, 0~6.00A	±5%	100mV	81.0%
GS60A07-P1J	7.5V, 0~6.00A	±5%	100mV	85.5%
GS60A09-P1J	9V, 0~6.00A	±5%	100mV	87.5%
GS60A12-P1J	12V, 0~5.00A	±3%	100mV	88.0%
GS60A15-P1J	15V, 0~4.00A	±3%	100mV	88.5%
GS60A18-P1J	18V, 0~3.33A	±3%	150mV	88.5%
GS60A24-P1J	24V, 0~2.50A	±3%	180mV	90.0%
GS60A48-P1J	48V, 0~1.25A	±2.5%	240mV	92.0%

### ■ Desktop (IEC 320-C14 / Class I) — 90W

Order No.	Output	Tol.	R&N	Effi.
GS90A12-P1M	12V, 0~6.67A	±5%	80mV	88.0%
GS90A15-P1M	15V, 0~6.00A	±5%	100mV	89.0%
GS90A19-P1M	19V, 0~4.74A	±4%	150mV	89.0%
GS90A24-P1M	24V, 0~3.75A	±3%	180mV	89.5%
GS90A48-P1M	48V, 0~1.87A	±2%	240mV	91.0%

### ■ Desktop (IEC 320-C14 / Class I) — 120W

Order No.	Output	Tol.	R&N	Effi.
GS120A12-R7B	12V, 0~8.5A	±5%	80mV	87.5%
GS120A15-R7B	15V, 0~7.0A	±5%	120mV	89.0%
GS120A20-□	20V, 0~6.0A	±5%	150mV	89.0%
GS120A24-□	24V, 0~5.0A	±3%	180mV	90.0%
GS120A48-□	48V, 0~2.5A	±2%	240mV	91.0%

□ = P1M / R7B

# Industrial Adaptor 160~280W Single Output



## ■ Features

- Universal AC input / Full range
- No load power consumption < 0.5W
- **Energy efficiency Level V**
- Comply with EISA 2007, NRCAN, AU/NZ MEPS and EU ErP
- Built-in active PFC function
- 3 pole AC inlet IEC320-C14
- Class I power (with earth pin)
- **Fanless design, high operating temperature up to +70°C**
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fully enclosed plastic case
- LED indicator for power on
- 2 years warranty



Order No.	GS160A	GS220A	GS280A
AC input voltage range	85~264VAC ; 120~370VDC	90~264VAC ; 127~370VDC	
AC inrush current (max.)	Cold start, 120A at 230VAC		
Overload protection	Range	105%~135% rated output power	
	Type	Hiccup mode, auto-recovery	
Over voltage protection	Range	105%~135% rated output power	
	Type	Shut down o/p voltage, re-power on to recover	
Hold up time	20ms at full load		16ms at full load
Withstand voltage	I/P-O/P: 3kVAC, 1 minute		
Working temperature	-30~+70°C	-30~+60°C (refer to output derating curve)	
Safety standards	UL60950-1, TUV EN60950-1, BSMI CNS14336, CCC GB4943, PSE J60950-1(except for 48V) approved		
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, FCC part 15 class B, CNS13438, GB9254		
Length of output cable	120cm of UL2464, 18AWGx4C	100cm of UL2464, 16AWGx4C	
Standard DC plug (refer to page 62 for DC plug list)	R7B: Power DIN 4P with lock type		4P/6.35mm pitch, AMP 1-480702-0 (power supply side); AMP 1-480703-0(customer side, not provided with GS280)

## ■ Desktop (IEC320-C14/Class I) — 160W

Order No.	Output	Tol.	R&N	Effi.
GS160A12-R7B	12V, 0~11.5A	±5%	80mV	89.0%
GS160A15-R7B	15V, 0~9.6A	±5%	100mV	90.0%
GS160A20-R7B	20V, 0~8.0A	±4%	150mV	92.0%
GS160A24-R7B	24V, 0~6.67A	±3%	180mV	92.5%
GS160A48-R7B	48V, 0~3.34A	±3%	240mV	94.0%

## ■ Desktop (IEC320-C14/Class I) — 280W

Order No.	Output	Tol.	R&N	Effi.
GS280A12-C4P	12V, 0~18.5A	±5%	120mV	89.0%
GS280A15-C4P	15V, 0~16A	±5%	120mV	89.5%
GS280A20-C4P	20V, 0~13A	±4%	150mV	92.0%
GS280A24-C4P	24V, 0~11.67A	±3%	280mV	93.0%
GS280A48-C4P	48V, 0~5.84A	±2%	280mV	94.0%

## ■ Desktop (IEC320-C14/Class I) — 220W

Order No.	Output	Tol.	R&N	Effi.
GS220A12-R7B	12V, 0~15.0A	±5%	80mV	90.0%
GS220A15-R7B	15V, 0~13.4A	±5%	100mV	90.0%
GS220A20-R7B	20V, 0~11.0A	±4%	150mV	92.0%
GS220A24-R7B	24V, 0~9.20A	±3%	180mV	93.5%
GS220A48-R7B	48V, 0~4.60A	±2%	240mV	94.5%



**GST18/25A**  
93x 54x 36 mm



**GST18/25/36B**  
79x 54x 33 mm



**GST18/25/36U**  
79x 54x 33 mm



**GST18/25/36E**  
79x 54x 33 mm

### Features

- Global certificate
- Universal AC input / Full range
- No load power consumption < 0.075W
- Energy efficiency Level VI
- Comply with EISA 2007 / DoE, NRCAN, AU/NZ MEPS, EU ErP and CoC Version 5
- 2 pole USA / EURO plug or IEC320-C14/C8
- Class II power (without earth pin) for B/U/E type  
Class I power (with earth pin) only for A type
- Protections: Short circuit / Overload / Over voltage
- Fully enclosed plastic case
- LED indicator for power on
- Pass LPS
- Approvals:  
A type: UL / CUL / TUV / BSMI / CCC / PSE / RCM / CB / FCC / CE  
B type: UL / CUL / TUV / BSMI / CCC / PSE / RCM / CB / FCC / CE  
U type: UL / CUL / BSMI / CB / FCC  
E type: TUV / CB / CE
- 3 years warranty

Order No.	GST18 <input type="checkbox"/>	GST25 <input type="checkbox"/>	GST36 <input type="checkbox"/>
AC input voltage range	85-264VAC		
AC inrush current (max.)	Cold start, 70A at 230VAC		
Overload protection	Range	110%~150% rated output power	110%~250% rated output power
	Type	Hiccup mode, auto-recovery	
Over voltage protection	110%~140% rated output voltage, clamp by zener diode		
Withstand voltage	I/P-O/P: 4242VDC, 1 minute		
Working temperature	-30~+70°C (refer to output derating curve)		
Safety standards	A-Type: UL60950-1, CSA 22.2, TUV EN60950-1, BSMI CNS14336, PSE J60950-1, CCC GB4943, AS/NZS60950.1 approved (SIRIM/KC/BIS pending)		
	B-Type: UL60950-1, CSA 22.2, TUV EN60950-1, BSMI CNS14336, PSE J60950-1, CCC GB4943, AS/NZS60950.1 approved		
	U-Type: UL60950-1, CSA22.2, BSMI CNS14336 approved		
	E-Type: TUV EN60950-1 approved		
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11(A/B/E type); FCC part 15 class B, CNS13438 class B(A/B/U type); GB9254(A/B type)		
Length of output cable	120cm of UL1185, 16AWG for 5-12V ; 180cm of UL1185, 18AWG for 15-48V	100cm of UL2468, 16AWG for 5-12V; 180cm of UL1185, 18AWG for 15-48V	100cm of UL2468, 16AWG
Standard DC plug	P1J: 2.1øx5.5øx11mm / C+, tuning fork type (refer to page 62 for DC plug list)		

### Desktop / Wall-mounted — 18W



Order No.	Output	Tol.	R&N	Effi.
GST18□05-P1J	5V, 0~3.00A	±5%	80mV	81.0%
GST18□07-P1J	7.5V, 0~2.00A	±5%	80mV	85.0%
GST18□09-P1J	9V, 0~2.00A	±5%	80mV	85.0%
GST18□12-P1J	12V, 0~1.50A	±3%	80mV	86.0%
GST18□15-P1J	15V, 0~1.20A	±3%	100mV	87.0%
GST18□18-P1J	18V, 0~1.00A	±3%	150mV	88.0%

Order No.	Output	Tol.	R&N	Effi.
GST18□24-P1J	24V, 0~0.75A	±2%	180mV	88.0%
GST18□28-P1J	28V, 0~0.64A	±2%	240mV	88.5%
GST18□48-P1J	48V, 0~0.375A	±2%	240mV	89.0%

□ = A / B / U / E  
 Class I — A: IEC320-C14  
 Class II — B: IEC320-C8, U: American 2P, E: European 2P

### Desktop / Wall-mounted — 25W



Order No.	Output	Tol.	R&N	Effi.
GST25□05-P1J	5V, 0~4.00A	±5%	80mV	81.5%
GST25□07-P1J	7.5V, 0~2.93A	±5%	80mV	84.5%
GST25□09-P1J	9V, 0~2.55A	±5%	80mV	85.0%
GST25□12-P1J	12V, 0~2.08A	±3%	80mV	86.5%
GST25□15-P1J	15V, 0~1.66A	±3%	100mV	87.0%
GST25□18-P1J	18V, 0~1.38A	±3%	150mV	87.0%

Order No.	Output	Tol.	R&N	Effi.
GST25□24-P1J	24V, 0~1.04A	±2%	180mV	88.0%
GST25□28-P1J	28V, 0~0.89A	±2%	240mV	88.0%
GST25□48-P1J	48V, 0~0.52A	±2%	240mV	89.0%

□ = A / B / U / E  
 Class I — A: IEC320-C14  
 Class II — B: IEC320-C8, U: American 2P, E: European 2P

### Wall-mounted — 36W



Order No.	Output	Tol.	R&N	Effi.
GST36□05-P1J	5V, 0~4.30A	±5%	90mV	82.0%
GST36□09-P1J	9V, 0~3.11A	±5%	90mV	86.0%
GST36□12-P1J	12V, 0~3.00A	±3%	100mV	87.5%

Order No.	Output	Tol.	R&N	Effi.
GST36□24-P1J	24V, 0~1.50A	±2%	180mV	88.5%
GST36□48-P1J	48V, 0~0.75A	±2%	240mV	90.0%

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





### ■ Features

- **Global certificate**
- Universal AC input / Full range
- No load power consumption <0.075W for GST40A/60A; <0.15W for GST90A/120A
- **Energy efficiency Level VI**
- Comply with EISA 2007 / DoE, NRCAN, AU/NZ MEPS, EU ErP and CoC Version 5
- Built-in active PFC function for GST90A/120A
- 3 pole AC inlet IEC320-C14
- Class I power (with earth pin)
- Protections: Short circuit / Over voltage / Overload / Over temp. (except for GST40A)
- Fully enclosed plastic case
- LED indicator for power on
- Pass LPS (except for GST90A/120A)
- 3 years warranty



Order No.	GST40A	GST60A	GST90A	GST120A
AC input voltage range	90~264VAC; 127~370VDC			85~264VAC; 120~370VDC
AC inrush current (max.)	Cold start, 65A at 230VAC		Cold start, 70A at 230VAC	
Overload protection	Range	105%~150% rated output power	110%~150%	105%~160%
	Type	Hiccup mode, auto-recovery		
Over voltage protection	105%~135% rated output voltage			
Setup, rise, hold up time	1000ms, 50ms, 50ms at 230VAC input		1000ms, 20ms, 20ms at 230VAC input	
Withstand voltage	I/P-O/P:3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC			I/P-FG: 3kVAC
Working temperature	-30~+70°C (refer to output derating curve)			
Safety standards	UL60950-1, TUV EN60950-1, BSMI CNS14336, CCC GB4943, PSE J60950-1, AS/NZS60950.1 approved (SIRIM/KC/BIS pending)			
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, CNS13438, GB9254, FCC part15 class B			
Length of output cable	GST40A: 100cm of UL1185, 16AWG for 5~15V; 180cm of UL1185, 18AWG for 18~48V GST60A: 100cm of UL2464, 16AWG for 5~9V; 100cm of UL1185, 16AWG for 12~15V; 150cm of UL1185, 16AWG for 18V; 180cm of UL1185, 18AWG for 24~48V	100cm of UL1185, 14AWG for 12~15V; 120cm of UL1185, 16AWG for 19~48V		100cm of UL2464, 16AWGx4C for 12V 120cm of UL2464, 18AWGx4C for 15~48V
Standard DC plug (refer to page 62 for DC plug list)	P1J: 2.1øx5.5øx11mm / C+, tuning fork type		P1M: 2.5øx5.5øx11mm / C+, tuning fork type	
				R7B: Power DIN 4P with lock type P1M: 2.5øx5.5øx11mm/C+, tuning fork type (20~48V only)

### ■ Desktop (IEC 320-C14 / Class I) — 40W

Order No.	Output	Tol.	R&N	Effi.
GST40A05-P1J	5V, 0~5.00A	±5%	150mV	84.5%
GST40A07-P1J	7.5V, 0~5.34A	±5%	150mV	87.5%
GST40A09-P1J	9V, 0~4.45A	±5%	150mV	88.5%
GST40A12-P1J	12V, 0~3.34A	±3%	150mV	89.5%
GST40A15-P1J	15V, 0~2.67A	±3%	150mV	90.0%
GST40A18-P1J	18V, 0~2.22A	±3%	150mV	90.0%
GST40A24-P1J	24V, 0~1.67A	±2.5%	180mV	91.0%
GST40A48-P1J	48V, 0~0.84A	±2.5%	240mV	92.0%

### ■ Desktop (IEC 320-C14 / Class I) — 60W

Order No.	Output	Tol.	R&N	Effi.
GST60A05-P1J	5V, 0~6.00A	±5%	150mV	85.5%
GST60A07-P1J	7.5V, 0~6.00A	±5%	150mV	88.5%
GST60A09-P1J	9V, 0~6.00A	±5%	150mV	89.0%
GST60A12-P1J	12V, 0~5.00A	±3%	150mV	89.5%
GST60A15-P1J	15V, 0~4.00A	±3%	150mV	89.5%
GST60A18-P1J	18V, 0~3.33A	±3%	150mV	89.5%
GST60A24-P1J	24V, 0~2.50A	±3%	180mV	90.5%
GST60A48-P1J	48V, 0~1.25A	±2.5%	240mV	92.0%

### ■ Desktop (IEC 320-C14 / Class I) — 90W

Order No.	Output	Tol.	R&N	Effi.
GST90A12-P1M	12V, 0~6.67A	±5%	120mV	89.0%
GST90A15-P1M	15V, 0~6.00A	±5%	150mV	89.5%
GST90A19-P1M	19V, 0~4.74A	±4%	180mV	90.0%
GST90A24-P1M	24V, 0~3.75A	±3%	200mV	90.0%
GST90A48-P1M	48V, 0~1.87A	±2.5%	240mV	91.0%

### ■ Desktop (IEC 320-C14 / Class I) — 120W

Order No.	Output	Tol.	R&N	Effi.
GST120A12-R7B	12V, 0~8.5A	±5%	120mV	88.5%
GST120A15-R7B	15V, 0~7.0A	±5%	150mV	89.0%
GST120A20-□	20V, 0~6.0A	±5%	180mV	90.0%
GST120A24-□	24V, 0~5.0A	±3%	200mV	90.5%
GST120A48-□	48V, 0~2.5A	±2.5%	240mV	91.0%

□ = P1M / R7B



### ■ Features

- Global certificate
- Universal AC input / Full range
- No load power consumption < 0.15W (GST280A < 0.5W)
- Energy efficiency Level VI
- Comply with EISA 2007 / DoE, NRCAN, AU/NZ MEPS, EU ErP and CoC Version 5
- Built-in active PFC function
- 3 pole AC inlet IEC320-C14
- Class I power (with earth pin)
- Fanless design, high operating temperature up to +70°C
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fully enclosed plastic case
- LED indicator for power on
- 3 years warranty



Order No.	GST160A	GST220A	GST280A
AC input voltage range	85~264VAC ; 120~370VDC		
AC inrush current (max.)	Cold start, 120A at 230VAC		
Overload protection	Range	105%~135% rated output power	
	Type	Hiccup mode, auto-recovery	
Over voltage protection	Range	105%~135% rated output power	
	Type	Shut down o/p voltage, re-power on to recover	
Hold up time	20ms at full load	16ms at full load	
Withstand voltage	I/P-O/P: 3kVAC, 1 minute		
Working temperature	-30~+70°C (refer to output derating curve)		
Safety standards	UL60950-1, TUV EN60950-1, BSMI CNS14336, CCC GB4943, PSE J60950-1, AS/NZS60950.1 approved (SIRIM/KC/BIS pending)		
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, FCC part 15 class B, CNS13438, GB9254, GB17625.1		
Length of output cable	100cm of UL2464, 18AWGx4C for 12V 120cm of UL2464, 18AWGx4C for 15-48V	100cm of UL2464, 16AWGx4C	
Standard DC plug (refer to page 62 for DC plug list)	R7B: Power DIN 4P with lock type		6P/4.2mm pitch, MOLEX 39-01-2060(power supply side); MOLEX 39-01-2061(customer side, not provided with GST280A)

### ■ Desktop (IEC320-C14/Class I) — 160W

Order No.	Output	Tol.	R&N	Effi.
GST160A12-R7B	12V, 0~11.5A	±5%	80mV	90.0%
GST160A15-R7B	15V, 0~9.6A	±5%	100mV	91.0%
GST160A20-R7B	20V, 0~8.0A	±4%	150mV	93.0%
GST160A24-R7B	24V, 0~6.67A	±3%	180mV	93.0%
<b>NEW</b> GST160A36-R7B	36V, 0~4.44A	±3%	240mV	93.0%
GST160A48-R7B	48V, 0~3.34A	±3%	240mV	94.0%

### ■ Desktop (IEC320-C14/Class I) — 280W

Order No.	Output	Tol.	R&N	Effi.
GST280A12-C6P	12V, 0~21A	±5%	120mV	90.0%
GST280A15-C6P	15V, 0~17A	±5%	120mV	90.0%
GST280A20-C6P	20V, 0~13A	±4%	150mV	92.0%
GST280A24-C6P	24V, 0~11.67A	±3%	280mV	93.0%
GST280A48-C6P	48V, 0~5.84A	±2%	280mV	94.0%

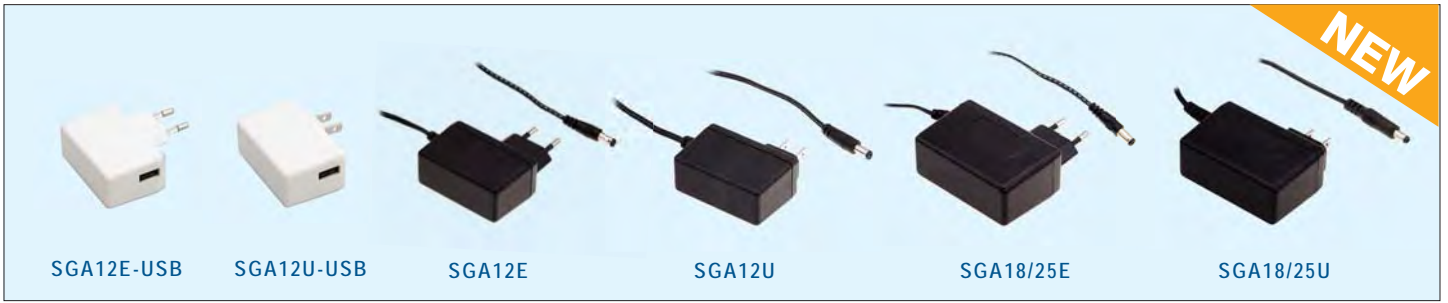
### ■ Desktop (IEC320-C14/Class I) — 220W

Order No.	Output	Tol.	R&N	Effi.
GST220A12-R7B	12V, 0~15.0A	±5%	80mV	90.0%
GST220A15-R7B	15V, 0~13.4A	±5%	100mV	90.0%
GST220A20-R7B	20V, 0~11.0A	±4%	150mV	92.0%
GST220A24-R7B	24V, 0~9.20A	±3%	180mV	93.5%
GST220A48-R7B	48V, 0~4.60A	±2%	240mV	94.5%

### ► Optional Grayish Model



Optional grayish models (PANTONE Cool Gray 2C) are available for GST&GSM18/25/36 series. MOQ is 200pcs per model. Please contact MEAN WELL sales representatives for more details.



### Features

- Universal AC input / Full range
- No load power consumption <0.075W
- **Energy efficiency level VI**
- Comply with EISA 2007/DoE, EU ErP
- 2 pole US/European type plug
- Class II power (without earth pin)
- Protections: Short circuit / Over load / Over voltage
- Pass LPS
- Fully enclosed plastic case
- Approvals:
  - U type: UL / CUL / CB / FCC; E type: TUV / CB / CE
- 3 years warranty



Model No.	SGA12□	SGA18□	SGA25□
AC input voltage range	90~264VAC; 127~370VDC		
AC inrush current (max.)	Cold start, 45A at 230VAC	Cold start, 50A at 230VAC	Cold start, 60A at 230VAC
DC adjustment range	±10% rated output voltage		
Overload protection	Range	110%~250% rated output power	
	Type	Hiccup mode, auto recovery	
Over voltage protection	Range	110%~140% rated output voltage	
	Type	Clamp by Zener diode	
Setup, rise, hold up time	1300ms, 50ms, 16ms	300ms, 30ms, 16ms	300ms, 60ms, 18ms
Withstand voltage	I/P-O/P: 4242VDC		
Working temperature	-20~+60°C (refer to output derating curve)		
Safety standards	U-Type: UL60950-1, CSA22.2 approved; E-Type: TUV EN60950-1 approved		
EMC standards	U-Type: FCC part15 class B; E-Type: EN55022 class B		
Length of output cable	100cm of 18AWG for SGA12□05-07-P1J 120cm of 22AWG for SGA12□09-P1J 180cm of 24AWG for SGA12□12-48-P1J	100cm of 16AWG for 5~9V 100cm of 18AWG for 12V 150cm of 22AWG for 15~48V	100cm of 16AWG for 5~12V 180cm of 18AWG for 15~18V 180cm of 20AWG for 24~48V
Standard DC Plug (refer to page 62 for DC plug list)	USB: Type A; P1J: 2.1øx5.5øx11mm / C+, tuning fork type		
Dimension (LxWxH)(mm)	62.2x 27.4x 39.7	75.5x 32x 47.5	

### Wall-mounted – 12W

Model No.	Output	Tol.	R&N	Effi.
SGA12□05-USB	5V, 2.40A	±5%	50mV	80.0%
SGA12□05-P1J	5V, 2.40A	±5%	50mV	80.0%
SGA12□07-P1J	7.5V, 1.60A	±5%	50mV	83.0%
SGA12□09-P1J	9V, 1.33A	±3%	80mV	83.0%
SGA12□12-P1J	12V, 1.00A	±3%	80mV	83.0%
SGA12□15-P1J	15V, 0.80A	±3%	80mV	84.5%
SGA12□18-P1J	18V, 0.666A	±3%	80mV	85.0%
SGA12□24-P1J	24V, 0.50A	±2%	100mV	86.0%
SGA12□48-P1J	48V, 0.25A	±2%	100mV	88.0%

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

### Wall-mounted – 18W

Model No.	Output	Tol.	R&N	Effi.
SGA18□05-P1J	5V, 3.00A	±5%	80mV	80.5%
SGA18□09-P1J	9V, 2.00A	±5%	80mV	84.5%
SGA18□12-P1J	12V, 1.50A	±3%	80mV	84.0%

Model No.	Output	Tol.	R&N	Effi.
SGA18□15-P1J	15V, 1.20A	±3%	80mV	84.0%
SGA18□18-P1J	18V, 1.00A	±3%	80mV	84.5%
SGA18□24-P1J	24V, 0.75A	±2%	80mV	85.0%
SGA18□48-P1J	48V, 0.375A	±2%	120mV	86.0%

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

### Wall-mounted – 25W

Model No.	Output	Tol.	R&N	Effi.
SGA25□05-P1J	5V, 4.00A	±5%	80mV	82.0%
SGA25□07-P1J	7.5V, 2.93A	±5%	80mV	85.5%
SGA25□09-P1J	9V, 2.77A	±5%	80mV	86.0%
SGA25□12-P1J	12V, 2.08A	±3%	80mV	86.0%
SGA25□15-P1J	15V, 1.66A	±3%	80mV	86.5%
SGA25□18-P1J	18V, 1.38A	±3%	80mV	86.5%
SGA25□24-P1J	24V, 1.04A	±2%	80mV	87.0%
SGA25□48-P1J	48V, 0.52A	±2%	120mV	88.5%

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



### Features

- Universal AC input / Full range
- No load power consumption <0.075W for SGA40 and SGA60 5~7.5V; <0.15W for SGA60 9~48V
- Energy efficiency Level VI
- Comply with EISA 2007/DoE, EU ErP
- 2 pole US/European type plug
- Class II power (without earth pin)
- Protections: Short circuit / Overload / Over voltage
- Pass LPS
- Fully enclosed plastic case
- LED indicator for power on (60W only)
- 3 year warranty



Model No.	SGA40□	SGA60□
AC input voltage range	90~264VAC; 127~370VDC	
AC inrush current (max.)	Cold start, 70A at 230VAC	Cold start, 80A at 230VAC
Overload protection	Hiccup mode, auto recovery	
Over voltage protection	110%~140% rated output voltage, clamp by Zener diode	
Setup, rise, hold up time	500ms, 100ms, 12ms at full load	500ms, 50ms, 12ms at full load
Withstand voltage	I/P-O/P:4242VDC, 1 minute	
Working temperature	-20~+50°C (refer to output derating curve)	
Safety standards	U-Type: UL60950-1, CSA 22.2 approved; E-Type: TUV EN60950-1 approved	
EMC standards	U-Type: FCC part15 Class B; E-Type: EN55022 Class B	
Length of output cable	100cm of 14AWG for 5V 100cm of 16AWG for 9-15V 150cm of 20AWG for 18-48V	100cm of 14AWG for 5-9V 100cm of 16AWG for 12-18V 150cm of 18AWG for 24-48V
Standard DC Plug	P1J: 2.1øx5.5øx11mm/C+, turning fork type (refer to page 62 for DC plug list)	
Dimension (LxWxH)(mm)	75.5x 32x 47.5	93.5x 35x 51.5

### Wall-mounted — 40W

Order No.	Output	Tol.	R&N	Effi.
SGA40□05-P1J	5V, 0~5.00A	±5%	120mV	84.0%
SGA40□09-P1J	9V, 0~4.44A	±5%	120mV	87.0%
SGA40□12-P1J	12V, 0~3.33A	±3%	120mV	86.5%
SGA40□15-P1J	15V, 0~2.66A	±2%	120mV	86.5%
SGA40□18-P1J	18V, 0~2.22A	±2%	120mV	87.0%
SGA40□24-P1J	24V, 0~1.67A	±2%	150mV	88.0%
SGA40□48-P1J	48V, 0~0.84A	±2%	150mV	89.0%

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

### Wall-mounted — 60W

Order No.	Output	Tol.	R&N	Effi.
SGA60□05-P1J	5V, 0~6.00A	±5%	80mV	84%
SGA60□07-P1J	7.5V, 0~6.00A	±5%	80mV	86%
SGA60□09-P1J	9V, 0~5.50A	±5%	80mV	87%
SGA60□12-P1J	12V, 0~5.00A	±3%	80mV	88%
SGA60□15-P1J	15V, 0~4.00A	±3%	80mV	87%
SGA60□18-P1J	18V, 0~3.33A	±2%	80mV	88%
SGA60□24-P1J	24V, 0~2.50A	±2%	100mV	88%
SGA60□48-P1J	48V, 0~1.25A	±2%	120mV	91%

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

### Optional DC Plug List

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

▶ Minimum order quantity is varied for different models.





### Features

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage / Over temp. (P25/GP25)
- Energy efficiency Level VI (GP25/50 only)
- Comply with EISA 2007/DoE, EU ErP (GP25/50)
- Class I power unit (with earth pin) for A type; Class II power unit (without earth pin) for B type
- Fully enclosed plastic case
- LED indicator for power on
- 3 years warranty (GP25/50), 1 year warranty (P25/50)



Model No.	P25A	GP25A	P25B	GP25B	P50A	GP50A
AC input voltage range	90~264VAC ; 135~370VDC					
AC inrush current (max.)	Cold start, 60A at 230VAC				Cold start, 40A at 230VAC	
Overload protection	Hiccup mode, auto recovery					
Over voltage protection	110%~140% of +5V output					
Setup, rise, hold up time	200ms, 50ms, 16ms at full load					
Withstand voltage	I/P-O/P:3kVAC, I/P-FG:1.5kVAC , 1 minute					
Working temperature	0~+40°C for P25/50, -20~+70°C for GP25/50 (refer to output derating curve)					
Safety standards	UL1950 (P25/50), UL60950-1, TUV EN60950-1 approved					
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,11, FCC part15 class B					
Length of output cable	150cm of UL2464				120cm of UL2464	100cm of UL2464
Standard DC Plug	R1B: DIN 5P					
Dimension (LxWxH)(mm)	107.5x 67x 36				146x 75.5x 43	

### 25W P25A/B Series

Order No.	Output	Tol.	R&N	Effi.	Max.
P25□13A-R1B	5V, 0.5~2.5A	±5%	50mV	70%	25W
	12V, 0.1~0.8A	±5%	100mV		
	-5V, 0.1~0.3A	±3%	100mV		
P25□13D-R1B	5V, 0.5~2.5A	±5%	50mV	72%	25W
	12V, 0.1~0.8A	±5%	100mV		
	-12V, 0.1~0.3A	±3%	100mV		
P25□14E-R1B	5V, 0.5~2.5A	±5%	50mV	74%	25W
	15V, 0.1~0.5A	±5%	100mV		
	-15V, 0.1~0.3A	±3%	100mV		

□=A / B; A: IEC 320-C14 / Class I, B: IEC 320-C8 / Class II

### 25W GP25A/B Series

Order No.	Output	Tol.	R&N	Effi.	Max.
GP25□13A-R1B	5V, 0.5~2.5A	±5%	50mV	80.0%	28.1W
	12V, 0.1~1.2A	±5%	100mV		
	-5V, 0.1~0.3A	±3%	50mV		
GP25□13D-R1B	5V, 0.5~2.5A	±5%	60mV	80.0%	29W
	12V, 0.1~1.0A	±5%	120mV		
	-12V, 0.1~0.3A	±3%	50mV		
GP25□14E-R1B	5V, 0.5~2.5A	±5%	100mV	80.5%	28.4W
	15V, 0.1~0.8A	±6%	150mV		
	-15V, 0.1~0.3A	±3%	50mV		

□=A / B; A: IEC 320-C14 / Class I, B: IEC 320-C8 / Class II

### 50W P50A Series

Order No.	Output	Tol.	R&N	Effi.	Max.
P50A13A-R1B	5V, 0.5~4.0A	±6%	50mV	70%	46.5W
	12V, 0.5~2.0A	±10%	100mV		
	-5V, 0.1~0.5A	±12%	100mV		
P50A13D-R1B	5V, 0.5~4.0A	±6%	50mV	72%	50.0W
	12V, 0.5~2.0A	±10%	100mV		
	-12V, 0.1~0.5A	±12%	100mV		
P50A14E-R1B	5V, 0.5~4.0A	±6%	50mV	74%	50.0W
	15V, 0.5~1.5A	±10%	100mV		
	-15V, 0.1~0.5A	±12%	100mV		

### 50W GP50A Series

Order No.	Output	Tol.	R&N	Effi.	Max.
GP50A13A-R1B	5V, 0.0~4.0A	±5%	50mV	84.0%	46.5W
	12V, 0.3~2.0A	±3%	100mV		
	-5V, 0.1~0.5A	±5%	100mV		
GP50A13D-R1B	5V, 0.0~4.0A	±5%	50mV	84.0%	50.0W
	12V, 0.3~2.0A	±3%	150mV		
	-12V, 0.1~0.5A	±5%	100mV		
GP50A14E-R1B	5V, 0.0~4.0A	±5%	50mV	84.5%	50.0W
	15V, 0.3~1.5A	±3%	150mV		
	-15V, 0.1~0.5A	±5%	150mV		

# Medical Adaptor

6~36W Single Output



## Features

- Universal AC input / Full range
- **Medical safety approved(2xMOPP)**
- **Suitable for BF application with appropriate system consideration**
- Low leakage current <50µA
- No load power consumption <0.1W(<0.3W for GSM06)
- **Energy efficiency Level VI** (GSM06 and GSM18/25/36 5-9V for Level V)
- Comply with EISA 2007/DoE, NRCAN, AU/NZ MEPS, EU ErP and meet CoC Version 5(GSM18/25/36); EISA 2007 and EU ErP(GSM06)
- Class II power(without earth pin)
- 2 pole USA / EURO plug or IEC320-C8
- Protections: Short circuit / Overload / Over voltage
- Fully enclosed plastic case
- LED indicator for power on(except for GSM06)
- Optional lock type DC plug
- Certificates: B-Type: UL / CUL / TUV / CB / FCC / CE  
U-Type: UL / CUL / CB / FCC  
E-Type: TUV / CB / CE
- 3 years warranty



Order No.	GSM06□	GSM18□	GSM25□	GSM36□
AC input voltage range	80~264VAC; 113~370VDC			
AC inrush current (max.)	Cold start, 30A at 230VAC		Cold start, 55A at 230VAC	
Overload protection	Range	>105% rated output power		105%~170% rated output power
	Type	Hiccup mode, auto-recovery		
Over voltage protection	110%~140%		105%~135% rated output voltage, shut down o/p voltage, re-power on to recover	
Setup, rise, hold up time	1000ms, 50ms, 12ms		500ms, 30ms, 16ms at 230VAC input	
Withstand voltage	I/P-O/P: 5656VDC		I/P-O/P: 4kVAC	
Working temperature	0~+50°C		-25~+60°C (refer to output derating curve )	
Safety standards	B-Type(except for GSM06): ANSI/AAMI ES60601-1/ES60601-1-11 , TUV EN60601-1 / <b>EN60601-1-11</b> approved U-Type: ANSI/AAMI ES60601-1, <b>ES60601-1-11</b> approved E-Type: TUV EN60601-1 / <b>EN60601-1-11</b> approved			
EMC standards	B-Type(except for GSM06): EN55011 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61204-3, EN60601-1-2 medical level, FCC Part 15 class B U-Type: FCC Part 15 class B E-Type: EN55011 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61204-3, EN60601-1-2 medical level			
Length of output cable	120cm of UL2468, 22AWG for 5-9V; 180cm of UL2468, 24AWG for 12-24V		120cm of UL1185, 16AWG for GSM18/25/36 5-9V; 180cm of UL1185, 16AWG for GSM25 12V and GSM36 12-48V; 180cm of UL1185, 18AWG for GSM18 12-48V and GSM25 15-48V	
Standard DC plug	P1J: 2.1øx 5.5øx 11mm / C+, tuning fork type (refer to page 62 for DC plug list)			
Dimension (LxWxH)(mm)	66x 32x 42.5		79x 54x 33	

## Wall-mounted — 6W

Order No.	Output	Tol.	R&N	Effi.	Order No.	Output	Tol.	R&N	Effi.
GSM06□05-P1J	5V, 0~1.20A	±5%	50mV	68%	GSM06□15-P1J	15V, 0~0.40A	±5%	120mV	79%
GSM06□06-P1J	6V, 0~1.00A	±5%	50mV	74%	GSM06□18-P1J	18V, 0~0.33A	±5%	150mV	80%
GSM06□07-P1J	7.5V, 0~0.80A	±5%	80mV	74%	GSM06□24-P1J	24V, 0~0.25A	±4%	180mV	82%
GSM06□09-P1J	9V, 0~0.66A	±5%	80mV	76%	□ = U / E ; U: American 2P, E: European 2P				
GSM06□12-P1J	12V, 0~0.50A	±5%	100mV	77%					

## Desktop / Wall-mounted — 18W

Order No.	Output	Tol.	R&N	Effi.	Order No.	Output	Tol.	R&N	Effi.
GSM18□05-P1J	5V, 0~3.00A	±5%	60mV	80%	GSM18□18-P1J	18V, 0~1.00A	±3%	150mV	86%
GSM18□07-P1J	7.5V, 0~2.00A	±5%	80mV	83%	GSM18□24-P1J	24V, 0~0.75A	±2%	180mV	87%
GSM18□09-P1J	9V, 0~2.00A	±5%	80mV	84%	GSM18□48-P1J	48V, 0~0.375A	±2%	240mV	88%
GSM18□12-P1J	12V, 0~1.50A	±3%	120mV	85%	□ = B / U / E ; B: IEC320-C8, U: American 2P, E: European 2P				
GSM18□15-P1J	15V, 0~1.20A	±3%	120mV	85.5%					

## Desktop / Wall-mounted — 25W

Order No.	Output	Tol.	R&N	Effi.	Order No.	Output	Tol.	R&N	Effi.
GSM25□05-P1J	5V, 0~4.00A	±6%	60mV	80%	GSM25□18-P1J	18V, 0~1.38A	±3%	150mV	86%
GSM25□07-P1J	7.5V, 0~2.93A	±5%	80mV	83%	GSM25□24-P1J	24V, 0~1.04A	±2%	180mV	87%
GSM25□09-P1J	9V, 0~2.77A	±5%	80mV	84%	GSM25□48-P1J	48V, 0~0.52A	±2%	240mV	88%
GSM25□12-P1J	12V, 0~2.08A	±3%	120mV	86%	□ = B / U / E ; B: IEC320-C8, U: American 2P, E: European 2P				
GSM25□15-P1J	15V, 0~1.66A	±3%	120mV	86%					

## Desktop / Wall-mounted — 36W

Order No.	Output	Tol.	R&N	Effi.	Order No.	Output	Tol.	R&N	Effi.
GSM36□05-P1J	5V, 0~4.50A	±6%	80mV	80%	GSM36□18-P1J	18V, 0~2.00A	±3%	150mV	87%
GSM36□07-P1J	7.5V, 0~4.32A	±5%	80mV	83%	GSM36□24-P1J	24V, 0~1.50A	±2%	180mV	87%
GSM36□09-P1J	9V, 0~4.00A	±5%	80mV	84%	GSM36□48-P1J	48V, 0~0.75A	±2%	240mV	88%
GSM36□12-P1J	12V, 0~3.00A	±3%	120mV	86%	□ = B / U / E ; B: IEC320-C8, U: American 2P, E: European 2P				
GSM36□15-P1J	15V, 0~2.40A	±3%	120mV	87%					



GSM40A/60A



GSM40B/60B

### Features

- Universal AC input / Full range
- Medical safety approved(2xMOPP)
- Suitable for BF application with appropriate system consideration (B-Type only)
- Low leakage current < 50µA(<100µA for A-Type)
- No load power consumption <0.1W
- Energy efficiency Level VI (5~9V for Level V)
- Comply with EISA 2007/DoE, NRCAN, AU/NZ MEPS, EU ErP and meet CoC Version 5
- High efficiency up to 91.5%
- A-Type: Class I(with earth Pin)  
B-Type: Class II(without earth Pin)
- Protections: Short circuit / Overload / Over voltage / Over temp.(GSM60 A/B)
- Fully enclosed plastic case
- LED indicator for power on
- Optional lock type DC plug
- 3 years warranty



Order No.	GSM40A	GSM40B	GSM60A	GSM60B
AC input voltage range	80~264VAC; 113~370VDC			
AC inrush current (max.)	Cold start, 65A at 230VAC			
Overload protection	Range	105%~160% rated output power		
	Type	Hiccup mode, auto-recovery		
Over voltage protection	Range	105%~135% rated output voltage		
	Type	Shut down o/p voltage, re-power on to recover		
Setup, rise, hold up time	1000ms, 30ms, 50ms			
Withstand voltage	A-Type: I/P-O/P: 4kVAC, I/P-FG: 2kVAC, O/P-FG: Short B-Type: I/P-O/P: 4kVAC			
Working temperature	-30~+60°C (refer to output derating curve)			
Safety standards	A-Type: ANSI/AAMI ES60601-1 / TUV EN60601-1 approved B-Type: ANSI/AAMI ES60601-1 / ES60601-1-11, TUV EN60601-1 / EN60601-1-11 approved			
EMC standards	EN55011 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61204-3, EN60601-1-2 medical level, FCC Part 15 class B			
Length of output cable	100cm of UL2464, 16AWG for GSM40 5~7.5V and GSM60 5~15V 100cm of UL1185, 16AWG for GSM40 9~12V 150cm of UL1185, 16AWG for GSM40 15~48V and GSM60 18~48V			
Standard DC plug (refer to page 62 for DC plug list)	P1J: 2.1øx5.5øx11mm/c+, tuning fork type			
Dimension (LxWxH)(mm)	125x 50x 31.5			

### Desktop (IEC 320-C14 / Class I) — 40W

Order No.	Output	Tol.	R&N	Effi.
GSM40A05-P1J	5V, 0.1~5A	±5%	100mV	81.0%
GSM40A07-P1J	7.5V, 0.1~5.34A	±5%	100mV	85.5%
GSM40A09-P1J	9V, 0.1~4.45A	±5%	100mV	86.0%
GSM40A12-P1J	12V, 0.1~3.34A	±3%	100mV	88.0%
GSM40A15-P1J	15V, 0.1~2.67A	±3%	100mV	88.5%
GSM40A18-P1J	18V, 0.1~2.22A	±3%	150mV	89.5%
GSM40A24-P1J	24V, 0.1~1.67A	±2.5%	180mV	90.0%
GSM40A48-P1J	48V, 0.1~0.84A	±2.5%	240mV	91.0%

### Desktop (IEC 320-C8 / Class II) — 40W

Order No.	Output	Tol.	R&N	Effi.
GSM40B05-P1J	5V, 0.1~5A	±5%	100mV	81.0%
GSM40B07-P1J	7.5V, 0.1~5.34A	±5%	100mV	85.5%
GSM40B09-P1J	9V, 0.1~4.45A	±5%	100mV	86.0%
GSM40B12-P1J	12V, 0.1~3.34A	±3%	100mV	88.0%
GSM40B15-P1J	15V, 0.1~2.67A	±3%	100mV	88.5%
GSM40B18-P1J	18V, 0.1~2.22A	±3%	150mV	89.0%
GSM40B24-P1J	24V, 0.1~1.67A	±2.5%	180mV	90.0%
GSM40B48-P1J	48V, 0.1~0.84A	±2.5%	240mV	91.0%

### Desktop (IEC 320-C14 / Class I) — 60W

Order No.	Output	Tol.	R&N	Effi.
GSM60A05-P1J	5V, 0.1~6A	±5%	100mV	81.5%
GSM60A07-P1J	7.5V, 0.1~6A	±5%	100mV	86.0%
GSM60A09-P1J	9V, 0.1~6A	±5%	100mV	87.5%
GSM60A12-P1J	12V, 0.1~5A	±3%	100mV	88.0%
GSM60A15-P1J	15V, 0.1~4A	±3%	100mV	88.5%
GSM60A18-P1J	18V, 0.1~3.33A	±3%	150mV	89.0%
GSM60A24-P1J	24V, 0.1~2.50A	±3%	180mV	90.0%
GSM60A48-P1J	48V, 0.1~1.25A	±2.5%	240mV	91.0%

### Desktop (IEC 320-C8 / Class II) — 60W

Order No.	Output	Tol.	R&N	Effi.
GSM60B05-P1J	5V, 0.1~6A	±5%	100mV	81.5%
GSM60B07-P1J	7.5V, 0.1~6A	±5%	100mV	86.0%
GSM60B09-P1J	9V, 0.1~6A	±5%	100mV	87.5%
GSM60B12-P1J	12V, 0.1~5A	±3%	100mV	88.0%
GSM60B15-P1J	15V, 0.1~4A	±3%	100mV	88.5%
GSM60B18-P1J	18V, 0.1~3.33A	±3%	150mV	89.0%
GSM60B24-P1J	24V, 0.1~2.5A	±3%	180mV	90.0%
GSM60B48-P1J	48V, 0.1~1.25A	±2.5%	240mV	91.5%

# Medical Adaptor

90~120W Single Output



## Features

- Universal AC input / Full range
- **Medical safety approved (2xMOPP)**
- **Suitable for BF application with appropriate system consideration (B-Type only)**
- Low leakage current <100µA
- No load power consumption <0.15W
- **Energy efficiency Level VI**
- Comply with EISA 2007/DoE, NRCAN, AU/NZ MEPS, EU ErP and meet CoC Version 5
- Built-in active PFC function
- High efficiency up to 91.5%
- A-Type: Class I (with earth Pin); B-Type: Class II (without earth Pin)
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Fully enclosed plastic case
- LED indicator for power on
- Optional lock type DC plug
- 3 years warranty



Order No.	GSM90A	GSM90B	GSM120A	GSM120B
AC input voltage range	80~264VAC; 113~370VDC			
AC inrush current (max.)	Cold start, 65A at 230VAC		Cold start, 70A at 230VAC	
Overload protection	Range	110%~150% rated output power		105%~160% rated output power
	Type	Hiccup mode, auto-recovery		
Over voltage protection	Range	105%~135% rated output voltage		
	Type	Shut down o/p voltage, re-power on to recover		
Setup, rise, hold up time	1000ms, 50ms, 20ms		1500ms, 30ms, 20ms	
Withstand voltage	A-Type: I/P-O/P: 4kVAC, I/P-FG: 2kVAC, O/P-FG: Short B-Type: I/P-O/P: 4kVAC		A-Type: I/P-O/P: 4kVAC, I/P-FG: 2kVAC, O/P-FG: 1kVAC B-Type: I/P-O/P: 4kVAC	
Working temperature	A-Type: -30~+70°C (refer to output derating curve) ; B-Type: -30~+60°C (refer to output derating curve)			
Safety standards	A-Type: ANSI/AAMI ES60601-1, TUV EN60601-1 approved B-Type: ANSI/AAMI ES60601-1, <b>ES60601-1-11</b> , TUV EN60601-1, <b>EN60601-1-11</b> approved			
EMC standards	EN55011 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61204-3, EN60601-1-2 medical level, FCC Part 15 class B			
Length of output cable	100cm of UL1185, 14AWG for 12~15V; 120cm of UL1185, 16AWG for 19~48V		100cm of UL2464, 18AWGx4C for 12V; 120cm of UL2464, 18AWGx4C for 15~48V	
Standard DC plug (refer to page 62 for DC plug list)	P1M: 2.5øx5.5øx11mm/c+, tuning fork type		R7B: Power DIN 4P with lock type	
Dimension (LxWxH)(mm)	145x 60x 32		167x 67x 35	

## Desktop (IEC 320-C14 / Class I) — 90W NEW

Order No.	Output	Tol.	R&N	Effi.
GSM90A12-P1M	12V, 0~6.67A	±5%	120mV	88.0%
GSM90A15-P1M	15V, 0~6.00A	±5%	150mV	89.0%
GSM90A19-P1M	19V, 0~4.74A	±4%	180mV	89.0%
GSM90A24-P1M	24V, 0~3.75A	±3%	200mV	90.0%
GSM90A48-P1M	48V, 0~1.87A	±2.5%	240mV	91.0%

## Desktop (IEC 320-C8 / Class II) — 90W

Order No.	Output	Tol.	R&N	Effi.
GSM90B12-P1M	12V, 0~6.67A	±5%	120mV	88.0%
GSM90B15-P1M	15V, 0~6.00A	±5%	150mV	89.0%
GSM90B19-P1M	19V, 0~4.74A	±4%	180mV	89.0%
GSM90B24-P1M	24V, 0~3.75A	±3%	200mV	90.0%
GSM90B48-P1M	48V, 0~1.87A	±2.5%	240mV	91.0%

## Desktop (IEC 320-C14 / Class I) — 120W NEW

Order No.	Output	Tol.	R&N	Effi.
GSM120A12-R7B	12V, 0~8.50A	±5%	120mV	88.0%
GSM120A15-R7B	15V, 0~7.00A	±5%	150mV	89.0%
GSM120A20-R7B	20V, 0~6.00A	±4%	180mV	89.0%
GSM120A24-R7B	24V, 0~5.00A	±3%	200mV	90.0%
GSM120A48-R7B	48V, 0~2.50A	±2.5%	240mV	91.5%

## Desktop (IEC 320-C8 / Class II) — 120W

Order No.	Output	Tol.	R&N	Effi.
GSM120B12-R7B	12V, 0~8.50A	±5%	120mV	88.0%
GSM120B15-R7B	15V, 0~7.00A	±5%	150mV	89.0%
GSM120B20-R7B	20V, 0~6.00A	±4%	180mV	89.0%
GSM120B24-R7B	24V, 0~5.00A	±3%	200mV	90.0%
GSM120B48-R7B	48V, 0~2.50A	±2.5%	240mV	91.5%





### Features

- Universal AC input / Full range
- Medical safety approved (2xMOPP)
- Suitable for BF application with appropriate system consideration (B-Type only)
- Low leakage current < 100µA
- No load power consumption < 0.15W
- Energy efficiency Level VI
- Comply with EISA 2007/DoE, NRCAN, AU/NZ MEPS, EU ErP and meet CoC Version 5
- Built-in active PFC function
- High efficiency up to 94.5%
- Fanless design, high operating temperature up to +70°C
- A-Type: Class I (with earth Pin); B-Type: Class II (without earth Pin)
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Fully enclosed plastic case
- LED indicator for power on
- 3 years warranty



Order No.	GSM160A	GSM160B	GSM220A	GSM220B
AC input voltage range	80~264VAC; 113~370VDC			
AC inrush current (max.)	Cold start, 120A at 230VAC			
Overload protection	Range	105%~135% rated output power		
	Type	Hiccup mode, auto-recovery		
Over voltage protection	Range	105%~135% rated output voltage		
	Type	Shut down o/p voltage, re-power on to recover		
Setup, rise, hold up time	A-Type: 2000ms, 50ms, 20ms B-Type: 2000ms, 20ms, 20ms		2000ms, 50ms, 20ms	
Withstand voltage	A-Type: I/P-O/P: 4kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC; B-Type: I/P-O/P: 4kVAC			
Working temperature	-30~+70°C (refer to output derating curve)			
Safety standards	A-Type: ANSI/AAMI ES60601-1, TUV EN60601-1 approved B-Type: ANSI/AAMI ES60601-1, <b>ES60601-1-11</b> , TUV EN60601-1, <b>EN60601-1-11</b> approved			
EMC standards	EN55011 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61204-3, EN60601-1-2 medical level, FCC Part 15 class B			
Length of output cable	100cm of UL2464, 16AWGx4C for 12V; 120cm of UL2464, 18AWGx4C for 15~48V		100cm of UL2464, 16AWGx4C	
Standard DC plug (refer to page 62 for DC plug list)	R7B: power DIN 4P with lock type			
Dimension (LxWxH)(mm)	175x 72x 35		210x 85x 46	

### Desktop (IEC 320-C14 / Class I) — 160W NEW

Order No.	Output	Tol.	R&N	Effi.
GSM160A12-R7B	12V, 0~11.5A	±5%	80mV	90.0%
GSM160A15-R7B	15V, 0~9.6A	±5%	100mV	91.0%
GSM160A20-R7B	20V, 0~8.0A	±4%	150mV	92.5%
GSM160A24-R7B	24V, 0~6.67A	±3%	180mV	93.0%
GSM160A48-R7B	48V, 0~3.34A	±3%	240mV	94.0%

### Desktop (IEC 320-C8 / Class II) — 160W

Order No.	Output	Tol.	R&N	Effi.
GSM160B12-R7B	12V, 0~11.5A	±5%	80mV	90.0%
GSM160B15-R7B	15V, 0~9.6A	±5%	100mV	91.0%
GSM160B20-R7B	20V, 0~8.0A	±4%	150mV	92.5%
GSM160B24-R7B	24V, 0~6.67A	±3%	180mV	93.0%
GSM160B48-R7B	48V, 0~3.34A	±3%	240mV	94.0%

### Desktop (IEC 320-C14 / Class I) — 220W NEW

Order No.	Output	Tol.	R&N	Effi.
GSM220A12-R7B	12V, 0~15.0A	±5%	80mV	90.0%
GSM220A15-R7B	15V, 0~13.4A	±5%	100mV	90.0%
GSM220A20-R7B	20V, 0~11.0A	±4%	150mV	92.0%
GSM220A24-R7B	24V, 0~9.20A	±3%	180mV	93.5%
GSM220A48-R7B	48V, 0~4.60A	±2%	240mV	94.5%

### Desktop (IEC 320-C8 / Class II) — 220W

Order No.	Output	Tol.	R&N	Effi.
GSM220B12-R7B	12V, 0~15.0A	±5%	80mV	90.0%
GSM220B15-R7B	15V, 0~13.4A	±5%	100mV	90.0%
GSM220B20-R7B	20V, 0~11.0A	±4%	150mV	92.0%
GSM220B24-R7B	24V, 0~9.20A	±3%	180mV	93.5%
GSM220B48-R7B	48V, 0~4.60A	±2%	240mV	94.5%



### Features

- Interchangeable AC plugs (plug kit sold separately)
- Medical safety approved (2xMOPP)
- Suitable for BF application with appropriate system consideration
- Universal AC input / Full range
- No load power consumption <0.075W
- Energy efficiency Level VI
- Comply with EISA 2007/DoE and EU ErP
- Class II power (without earth pin)
- Protections: Short circuit / Overload / Over voltage
- Low leakage current <100µA
- Fully enclosed plastic case
- Optional lock type DC plug
- 3 years warranty



Order No.	GEM18I	GEM30I	GEM40I
AC input voltage range	80~264VAC; 113~370VDC		
AC inrush current (max.)	Cold start, 60A at 230VAC	Cold start, 65A at 230VAC	
Overload protection	105%~160% hiccup mode, auto-recovery		
Over voltage protection	110%~140% rated output voltage, clamp by zener diode		
Setup, rise, hold up time	500ms, 30ms, 16ms at 230VAC		250ms, 60ms, 70ms at 230VAC
Withstand voltage	I/P-O/P: 5656VDC, 1 minute		
Working temperature	-20~+50°C		-25~+70°C (refer to output derating curve)
Safety standards	ANSI/AAMI ES60601-1/60601-1-11, TUV EN60601-1/60601-1-11 approved		
EMC standards	EN55022 Class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, FCC part18 class B		
Length of output cable	5-9V: 100cm of 16AWG, 12V: 100cm of 18AWG, 15-48V: 150cm of 22AWG	5-9V: 100cm of 16AWG, 12V: 100cm of 18AWG, 15-24V: 150cm of 20AWG, 48V: 180cm of 24AWG	5V: 100cm of 14AWG, 9-15V: 100cm of 16AWG, 18-48V: 150cm of 20AWG
Standard DC plug (refer to page 62 for DC plug list)	P1J: 2.1øx5.5øx11mm/C+, turning fork type		

### Wall-mounted(Interchangeable Type)—18W

Order No. (main body)	Output	Tol.	R&N	Effi.
GEM18I05-P1J	5V, 0~3.00A	±5%	60mV	80%
GEM18I09-P1J	9V, 0~2.00A	±5%	60mV	84%
GEM18I12-P1J	12V, 0~1.50A	±3%	80mV	84%
GEM18I15-P1J	15V, 0~1.20A	±3%	80mV	84%
GEM18I18-P1J	18V, 0~1.00A	±2%	80mV	84%
GEM18I24-P1J	24V, 0~0.75A	±2%	80mV	85%
GEM18I48-P1J	48V, 0~0.38A	±2%	80mV	87%

### Wall-mounted(Interchangeable Type)—30W

Order No. (main body)	Output	Tol.	R&N	Effi.
GEM30I05-P1J	5V, 0~4.00A	±5%	100mV	82%
GEM30I07-P1J	7.5V, 0~3.33A	±5%	100mV	86%
GEM30I09-P1J	9V, 0~3.33A	±5%	100mV	87%
GEM30I12-P1J	12V, 0~2.50A	±3%	100mV	87%
GEM30I15-P1J	15V, 0~2.00A	±3%	100mV	87%
GEM30I18-P1J	18V, 0~1.66A	±2%	100mV	88%
GEM30I24-P1J	24V, 0~1.25A	±2%	100mV	88.5%
GEM30I48-P1J	48V, 0~0.62A	±2%	100mV	90%

### Wall-mounted(Interchangeable Type)—40W

Order No. (main body)	Output	Tol.	R&N	Effi.
GEM40I05-P1J	5V, 0~5.00A	±5%	100mV	84%
GEM40I09-P1J	9V, 0~4.00A	±5%	100mV	87%
GEM40I12-P1J	12V, 0~3.33A	±3%	100mV	88%
GEM40I15-P1J	15V, 0~2.66A	±3%	120mV	88%
GEM40I18-P1J	18V, 0~2.22A	±2%	120mV	88%
GEM40I24-P1J	24V, 0~1.67A	±2%	120mV	89%
GEM40I48-P1J	48V, 0~0.80A	±2%	200mV	90.5%

### Interchangeable AC Plug Specifically for GEM 18/30/40

AC Plug Type		
	Australian Type	U.K. Type
AC Plug Order No.	AC Plug-AU2	AC Plug-UK2
AC Plug Type		
	European Type	U.S. Type
AC Plug Order No.	AC Plug-EU2	AC Plug-US2
Mixed Four Type		
AC Plug Order No.	AC Plug-MIX2	

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

# Moistureproof Adaptor

60~120W Single Output



## Features

- IP67 design for power body
- Universal AC input / Full range (except for OWA-120E) AC input 180~264VAC only (OWA-120E)
- No load power consumption <0.15W
- Energy efficiency Level VI
- E-Type: meet CoC Version 5 (OWA-60E/90E); comply with EU ErP
- U-Type: Comply with EISA 2007/DoE and NRCan
- Built-in active PFC function (OWA-90/120)
- Class II power (without earth pin)
- High efficiency up to 91%
- Fanless design, cooling by free air convection
- Fully enclosed plastic case
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Suitable for household appliances or the electronic applications at highly dusty or damp environment
- 5 years warranty

Model No.	OWA-60 <input type="checkbox"/>	OWA-90 <input type="checkbox"/>	OWA-120 <input type="checkbox"/>
AC input voltage range	90~264VAC; 127~370VDC (180~264VAC ; 254~370VDC for OWA-120E)		
AC inrush current (max.)	Cold start, 65A at 230VAC		Cold start, 60A at 230VAC
Overload protection	E-Type: 105~115% hiccup mode, auto-recovery; U-Type: 95~108% constant current limiting, auto-recovery		
Over voltage protection	110%~140% rated output voltage, re-power on to recover		
Over temperature protection	Shut down output voltage, re-power on to recover		
Withstand voltage	I/P-O/P: 3.75KVAC		
Working temperature	-35~+70°C		-40~+70°C (refer to output derating curve)
Safety standards	E-Type: DEKRA EN60335-1(except for 48~54V), EN61558-1, EN61558-2-16 approved; U-Type: UL8750 listed approved	E-Type: TUV EN60335-1(except for 42~54V), EN61558-1, EN61558-2-16 approved; U-Type: UL8750 listed approved	E-Type: DEKRA EN60335-1(except for 48~54V), EN61558-1, EN61558-2-16 approved; U-Type: UL8750 listed approved
EMC standards	E-Type: EN55022 class B, EN55014, EN61000-3-2,-3; U-Type: FCC Part 15		
Standard plug	Input	E-Type: CEE 7/7 EU plug; U-Type: NEMA 1-15P plug	
	Output	2.1øx5.5øx11mm / C+, tuning fork type	E-Type: XLR 4P, male type; U-Type: P1M, 2.5øx5.5øx11mm / C+, tuning fork type (OWA-90U 20~54V only) or R7B, Power DIN 4P with lock type
Length of cable	Input	E-Type: 150cm of H05RN-F 1.0mm <sup>2</sup> x2C; U-Type: 150cm of SVT 18AWGx2C	
	Output	E-Type: 30cm of H05RN-F 1.0mm <sup>2</sup> x2C U-Type: 30cm of UL1185 16AWG x2C	E-Type: 30cm of H05RN-F 1.0mm <sup>2</sup> x2C U-Type: 30cm of UL2464 18AWG x4C for R7B; 30cm of UL2464 16AWGx2C for P1M
Dimension (LxWxH)(mm)	130x 53x 35	171x 63x 37.5	191x 63x 37.5

## OWA-60 Series

Model No.	Output	Tol.	R&N	Effi.
OWA-60 <input type="checkbox"/> -12	12V, 0~5A	±4.0%	150mV	88%
OWA-60 <input type="checkbox"/> -15	15V, 0~4A	±4.0%	150mV	89%
OWA-60 <input type="checkbox"/> -20	20V, 0~3A	±4.0%	150mV	89%
OWA-60 <input type="checkbox"/> -24	24V, 0~2.5A	±3.0%	150mV	90%
OWA-60 <input type="checkbox"/> -30	30V, 0~2A	±3.0%	200mV	90%
OWA-60 <input type="checkbox"/> -36	36V, 0~1.67A	±2.0%	200mV	90%
OWA-60 <input type="checkbox"/> -42	42V, 0~1.5A	±1.0%	250mV	90%
OWA-60 <input type="checkbox"/> -48	48V, 0~1.25A	±1.0%	250mV	91%
OWA-60 <input type="checkbox"/> -54	54V, 0~1.12A	±1.0%	350mV	91%

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

OWA-90 <input type="checkbox"/> -30-▲	30V, 0~3A	±3.0%	200mV	90%
OWA-90 <input type="checkbox"/> -36-▲	36V, 0~2.5A	±2.0%	200mV	91%
OWA-90 <input type="checkbox"/> -42-▲	42V, 0~2.15A	±1.0%	250mV	91%
OWA-90 <input type="checkbox"/> -48-▲	48V, 0~1.88A	±1.0%	250mV	91%
OWA-90 <input type="checkbox"/> -54-▲	54V, 0~1.67A	±1.0%	350mV	91%

= E / U ; E: European 2P, U: American 2P ; ▲ = Blank(R7B)/P1M

## OWA-90 Series

Model No.	Output	Tol.	R&N	Effi.
OWA-90 <input type="checkbox"/> -12	12V, 0~7.5A	±4.0%	150mV	89%
OWA-90 <input type="checkbox"/> -15	15V, 0~6A	±4.0%	150mV	90%
OWA-90 <input type="checkbox"/> -20-▲	20V, 0~4.5A	±4.0%	150mV	90%
OWA-90 <input type="checkbox"/> -24-▲	24V, 0~3.75A	±3.0%	150mV	90%

## OWA-120 Series

Model No.	Output	Tol.	R&N	Effi.
OWA-120E-12	12V, 0~9.6A	±4.0%	150mV	87.5%
OWA-120U-12	12V, 0~10A	±4.0%	150mV	87.5%
OWA-120 <input type="checkbox"/> -15	15V, 0~8A	±4.0%	150mV	89.0%
OWA-120 <input type="checkbox"/> -20	20V, 0~6A	±4.0%	150mV	90.0%
OWA-120 <input type="checkbox"/> -24	24V, 0~5A	±4.0%	150mV	90.5%
OWA-120 <input type="checkbox"/> -30	30V, 0~4A	±3.0%	200mV	90.0%
OWA-120 <input type="checkbox"/> -36	36V, 0~3.4A	±2.0%	200mV	90.0%
OWA-120 <input type="checkbox"/> -42	42V, 0~2.9A	±1.0%	250mV	90.5%
OWA-120 <input type="checkbox"/> -48	48V, 0~2.5A	±1.0%	250mV	90.5%
OWA-120 <input type="checkbox"/> -54	54V, 0~2.3A	±1.0%	350mV	90.5%

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



## 30W Green Adaptor with Charging Function

- Universal AC input / Full range
- Class II power (without earth pin)
- **No load power consumption < 1W**
- Constant current and voltage (CC, CV mode)
- High reliability
- Suitable for high surge current equipment
- Protections: Short circuit / Overload / Over voltage / Over temp.
- 2 color LED indicator for charging status
- Fully enclosed plastic case
- 2 years warranty



AC input voltage range ..... 90~264VAC; 127~370VDC  
 Overload protection ..... 90%~110% constant current mode and over 300% pulsing mode  
 Over voltage protection ..... 110%~135% rated output voltage  
 Withstand voltage ..... I/P-O/P: 3kVAC, 1minute  
 Working temperature ..... 0~+50°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, CSA 22.2, TUV EN60950-1 approved  
 EMC standards ..... EN55014-1, EN61000-3-2,3, EN61000-4-2,3,4,5,6,11  
 Length of output cable ..... 120cm of UL1185, 16AWG for 4.2~8.4V  
 180cm of UL1185, 18AWG for 14.3~28.6V  
 Standard DC plug ..... P1J: 2.1øx5.5øx11mm / C+, tuning fork type

Order No.	Output	R&N	Effi.
GC30□-0P1J	4.2V, 0~4.00A	50mV	55%
GC30□-1P1J	5.6V, 0~3.99A	50mV	70%
GC30□-11P1J	7.2V, 0~3.00A	80mV	74%
GC30□-2P1J	8.4V, 0~3.00A	80mV	76%
GC30□-4P1J	14.3V, 0~2.09A	100mV	78%
GC30□-5P1J	16.8V, 0~1.60A	100mV	78%
GC30□-6P1J	28.6V, 0~1.04A	150mV	80%

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

## 120W Green Adaptor with Charging Function



- Universal AC input / Full range
- Built-in active PFC function
- **No load power consumption < 0.5W**
- High efficiency up to 91%
- 2 stage charging characteristic
- Cooling by free air convection
- 3 pole AC inlet IEC320-C14
- Class I power (with earth pin)
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Fully enclosed plastic case
- 2 color LED indicator for charging status
- 2 years warranty

AC input voltage range ..... 85~264VAC; 120~370VDC  
 Overload protection ..... 90~110% constant current, auto-recovery  
 Over voltage protection ..... 105%~135% shut down O/P voltage, re-power on to recover  
 Withstand voltage ..... I/P-O/P: 3kVAC  
 Working temperature ..... -30~+70°C (refer to derating curve)  
 Safety standards ..... UL1012 (GC120Axx-AD1 only), EN60950-1 approved  
 EMC standards ..... EN55022 class B, FCC part 15 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11  
 Length of output cable ..... 120cm of UL2464, 18AWGx 4C  
 Standard DC plug ..... Power DIN 4P with lock type (R7B)

Model No.	Output	Effi.
GC120A12-□	13.6V, 7.5A	86.5%
GC120A24-□	27.2V, 4.42A	90.0%
GC120A48-□	54.4V, 2.21A	91.0%

□ = R7B / AD1 ; R7B= 4 pin power din, AD1= Anderson connector

## 160W Green Adaptor with Charging Function



- Universal AC input / Full range
- Built-in active PFC function
- **No load power consumption < 1W**
- High efficiency up to 94%
- 2 stage charging characteristic
- Cooling by free air convection
- 3 pole AC inlet IEC320-C14
- Class I power (with earth pin)
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Fully enclosed plastic case
- 2 color LED indicator for charging status
- 2 years warranty

AC input voltage range ..... 85~264VAC; 120~370VDC  
 Overload protection ..... 90%~110% constant current, auto-recovery  
 Over voltage protection ..... 105%~135% rated output voltage, re-power on to recover  
 Withstand voltage ..... I/P-O/P: 3kVAC  
 Working temperature ..... -30~+70°C (refer to derating curve)  
 Safety standards ..... UL1012(GC160Axx-AD1 only), EN60950-1 approved  
 EMC standards ..... EN55022 class B, FCC part 15 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11  
 Length of output cable ..... 120cm of UL2464, 18AWGx 4C  
 Standard DC plug ..... Power DIN 4P with lock type (R7B)

Model No.	Output	Effi.
GC160A12-□	13.6V, 10.0A	89.0%
GC160A24-□	27.2V, 5.89A	92.5%
GC160A48-□	54.4V, 2.95A	94.0%

□ = R7B / AD1 ; R7B= 4 pin power din, AD1= Anderson connector

## 218W & 326W Green Adaptor with Charging Function



- Universal AC input / Full range
- Built-in active PFC function
- **No load power consumption < 1W**
- High efficiency up to 93.5%
- 2 stage charging characteristic
- Cooling by free air convection
- 3 pole AC inlet IEC320-C14
- Class I power (with earth pin)
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fully enclosed plastic case
- 2 color LED indicator for charging status
- 2 years warranty

	GC220	GC330
Case (mm)	210x85x46	220x95x46
Connector		

AC input voltage range ..... 90~264VAC; 127~370VDC  
 Overload protection ..... 90%~110% constant current, auto-recovery  
 Over voltage protection ..... 105%~135% rated output voltage, re-power on to recover  
 Withstand voltage ..... I/P-O/P: 3kVAC  
 Working temperature ..... -30~+60°C (refer to output derating curve)  
 Safety standards ..... GC220: TUV EN60950-1, UL1012 (GC220Axx-AD1 only) approved  
 GC330: TUV EN60950-1, UL60950-1 approved  
 EMC standards ..... EN55022 class B, FCC part 15 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11  
 Length of output cable ..... 100cm of UL2464, 16AWGx 4C  
 Standard DC plug ... GC220: Power DIN 4P with lock type (R7B)  
 GC330: 4P/6.35mm pitch, AMP 1-480702-0 (power supply side); AMP 1-480703-0 (customer side)

### GC220 Series

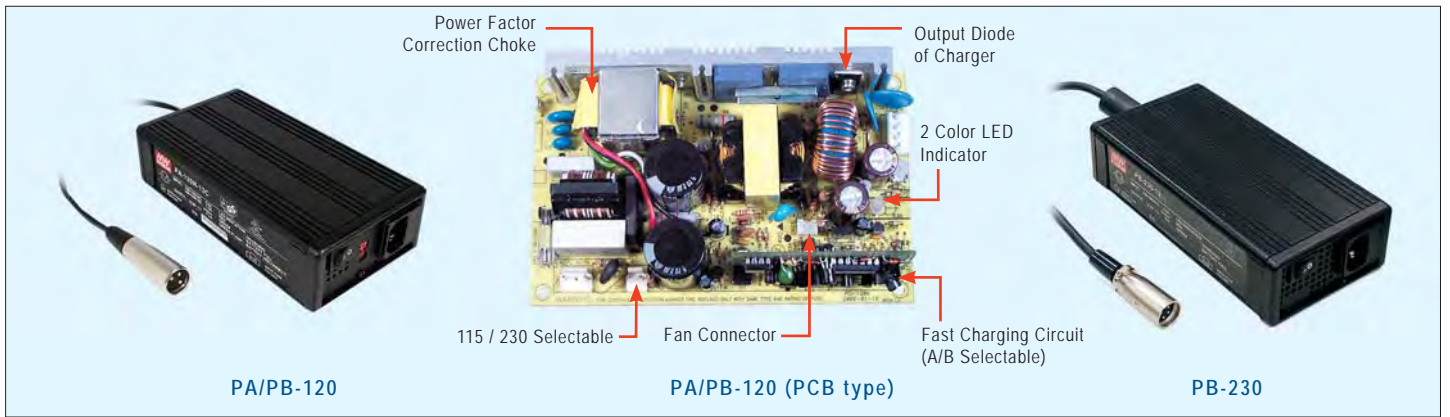
Model No.	Output	Effi.
GC220A12-□	13.6V, 13.5A	89.0%
GC220A24-□	27.2V, 8A	92.5%
GC220A48-□	54.4V, 4A	93.0%

□ = R7B / AD1 ; R7B= 4 pin power din, AD1= Anderson connector

### GC330 Series

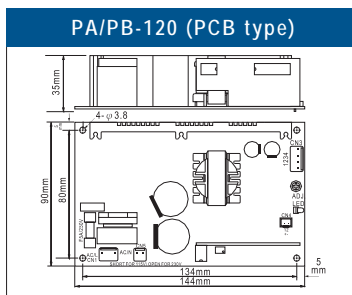
Model No.	Output	Effi.
GC330A36-C4P	40.8V, 8A	93.5%
GC330A48-C4P	54.4V, 6A	93.5%





### Features for PA/PB-120

- Stationary charger for lead-acid batteries
- AC input range selectable by switch
- Charging type selectable (optional)
- Passive PFC option
- Protections:
  - Short circuit / Overload / Over voltage / Over temp.
- Built-in ON/OFF power switch
- 3 poles AC inlet with fuse holder
- 2 color LED loading indicator
- Open frame models available (without safety approvals)
- 2 years warranty

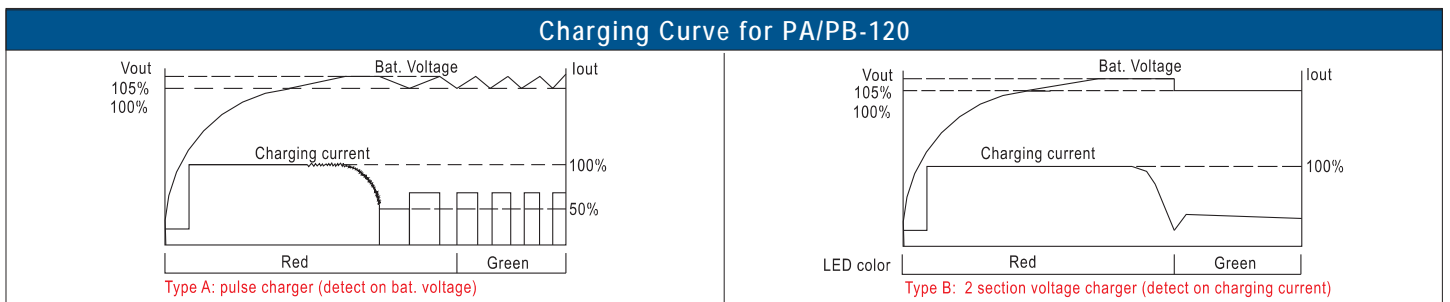


### Features for PB-230

- Stationary charger for lead-acid batteries and Li-ion batteries
- Universal AC input/Full range
- 3 stage charging
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Built-in remote ON/OFF control
- Fan ON/OFF control
- 2 color LED loading indicator
- 2 years warranty

Model No.	PA/B-120	PB-230
AC input voltage range	88-132VAC/ 176-264VAC selectable by switch	90-264VAC; 127-370VDC
AC inrush current (max.)	Cold start, 50A at 230VAC	
Overload protection	90%-110% constant current limiting ,auto-recovery	
Over voltage protection	108%-127% hiccup mode, auto-recovery	102%-125% shut down o/p voltage, auto-recovery
Setup, rise, hold up time	1000ms, 50ms, 16ms at full load and 230VAC	NA
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG: 1.5kVAC, O/P-FG: 0.5kVAC	
Working temperature	-10~+45°C (refer to output derating curve)	-20~+50°C (refer to output derating curve)
Safety standards	UL60950-1, TUV EN60950-1, EN60335-1, EN60335-2-29(except for 55.2V) approved	UL1012(PB-230xx-AD1 only), TUV EN60950-1, PSE J60950-1 approved
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8,11, EN61000-3-2,3	EN55022 class B, EN61000-4-2,3,4,5,6,8,11, EN61000-3-2,3
Dimension (LxWxH)(mm)	Case Type: 180x 96x 49; PCB Type: 144x 90x 35	190x 96x 49

Order Information for PA/PB-120	Order Information for PB-230
<p><b>PA</b> - 120 <b>P</b> - xx <b>C</b></p> <p>A: Voltage detector B: Current detector</p> <p>P: With PFC N: None PFC</p> <p>P: Open PCB C: With case</p> <p>13: 13.8V 27: 27.6V 54: 55.2V</p>	<p><b>PB-230-xxC</b></p> <p>Blank: XLR 4P (standard) AD1: Anderson connector (optional)</p>



PA/B-120 Series					PB-230 Series		
Model No.	Output	Tol.	R&N	Effi.	Model No.	Output	Effi.
P□-120□-13□	13.8V, 0~7.2A	±3~±8.5%	150mV	73%	PB-230-12□	14.4V, 0~16A	81.5%
P□-120□-27□	27.6V, 0~4.3A	±1~±8.0%	200mV	79%	PB-230-24□	28.8V, 0~8A	85.5%
P□-120□-54□	55.2V, 0~2.2A	±1~±7.5%	250mV	79%	PB-230-48□	57.6V, 0~4A	86.0%

□ = Blank, AD1: Blank= XLR 4P, male type, AD1= Anderson connector



### ■ Features for ESP Series

- AC input range selectable by switch
- Fanless design, cooling by free air convection (ESP-120)  
Forced air cooling by built-in DC fan (ESP-240)
- Protections:  
Short circuit / Overload / Over voltage / Over temperature
- 3 color LED loading indicator
- 2 years warranty

### ■ Features for ENP Series

- Universal AC input / Full range
- Built-in active PFC function
- **Energy efficiency Level VI**
- Comply with EISA 2007/DoE, NRCAN, EU ErP and CoC Version 5 (EISA 2007/DoE, NRCAN, EU ErP for ENP-360)
- 125% peak load capability
- Fanless design, cooling by free air convection
- Protections: Short circuit / Overload / Over voltage / Over temp.
- 3 years warranty

Order No.	ESP-120	ESP-240	ENP-120	ENP-180	ENP-240	ENP-360
AC input voltage range	88-132VAC / 176-264VAC selectable by switch		90-264VAC; 127 ~ 370VDC			
AC inrush current (max.)	Cold start, 40A at 230VAC		Cold start, 65A at 230VAC	Cold start, 70A at 230VAC	Cold start, 75A at 230VAC	Cold start, 80A at 230VAC
DC adjustment range	13.5V: 12-15V, 27V: 24-30V, 54V: 48-56V		12V: 11.5-15V, 24V: 23.5-30V, 48V: 47.5-56V			
Overload protection	105%-135% fold back current limiting, auto-recovery		110-125% constant current limiting, auto-recovery			
Over voltage protection	115%-135% constant voltage limiting, auto-recovery		110-130% shut down and latch off o/p voltage, re-power on to recover			
Over temp. protection	Shut down o/p voltage, auto-recovery after temperature goes down					
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG: 1.5kVAC, O/P-FG: 0.5kVAC		I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC			
Working temperature	-10~+60°C (refer to output derating curve)		-30~+70°C (refer to output derating curve)			
Safety standards	CSA 60950-1 approved		UL60950-1 pending			
EMC standards	EN55022 class B, EN61000-3-2,-3, EN61000-4-2,3,4,5,6,8,11 (EN61000-4-2,3,4 for ESP series)					
Dimension (LxWxH)(mm)	150x 140x 75		192x 178x 45.5			

### ■ ESP-120 Series



Model No.	Output	Tol.	R&N	Effi.
ESP-120-13.5	13.5V, 0-8A	±2%	120mV	81%
ESP-120-27	27V, 0-4A	±1%	150mV	83%
ESP-120-54	54V, 0-2A	±1%	400mV	84%

### ■ ENP-180 Series

Under Development



UL/CUL/CB/CE/FCC pending

Model No.	Output	Tol.	R&N	Effi.
ENP-180-12	13.8V, 0-13A	±1%	150mV	91%
ENP-180-24	27.6V, 0-6.5A	±1%	150mV	92%
ENP-180-48	55.2V, 0-3.3A	±1%	350mV	94%

### ■ ESP-240 Series



Model No.	Output	Tol.	R&N	Effi.
ESP-240-13.5	13.5V, 0-16A	±2%	120mV	81%
ESP-240-27	27V, 0-8A	±1%	150mV	84%
ESP-240-54	54V, 0-4A	±1%	400mV	85%

### ■ ENP-240 Series

Under Development



UL/CUL/CB/CE/FCC pending

Model No.	Output	Tol.	R&N	Effi.
ENP-240-12	13.8V, 0-17.4A	±1%	150mV	91%
ENP-240-24	27.6V, 0-8.7A	±1%	150mV	92%
ENP-240-48	55.2V, 0-4.4A	±1%	350mV	94%

### ■ ENP-120 Series

Under Development



UL/CUL/CB/CE/FCC pending

Model No.	Output	Tol.	R&N	Effi.
ENP-120-12	13.8V, 0-8.7A	±1%	150mV	90%
ENP-120-24	27.6V, 0-4.3A	±1%	150mV	91%
ENP-120-48	55.2V, 0-2.2A	±1%	350mV	92%

### ■ ENP-360 Series

Under Development



UL/CUL/CB/CE/FCC pending

Model No.	Output	Tol.	R&N	Effi.
ENP-360-12	13.8V, 0-26A	±1%	150mV	91%
ENP-360-24	27.6V, 0-13A	±1%	150mV	92%
ENP-360-48	55.2V, 0-6.5A	±1%	350mV	94%



### ■ Features for ESC Series

- Desktop charger for lead-acid batteries
- AC input range selectable by switch
- Fanless design, cooling by free air convection (ESC-120)  
Forced air cooling by built-in DC fan (ESC-240)
- Protections: Short circuit / Overload / Over voltage / Over temp.
- Battery under voltage / over voltage and reverse polarity protection
- 3 color LED loading indicator
- 2 years warranty

### ■ Features for ENC Series

- Desktop charger for lead-acid batteries and Li-ion batteries
- Universal AC input / Full range
- Built-in active PFC function
- Built-in 3 stage charging curve, curve programming option available
- Fanless design, cooling by free air convection
- Protections: Short circuit / Over voltage / Over temperature
- Battery under voltage / over voltage and reverse polarity protection
- Built-in temperature compensation function
- 3 years warranty

Order No.	ESC-120	ESC-240	ENC-120	ENC-180	ENC-240	ENC-360
AC input voltage range	88~132VAC / 176~264VAC selectable by switch		90~264VAC; 127 ~ 370VDC			
AC inrush current (max.)	Cold start, 40A at 230VAC		Cold start, 65A at 230VAC	Cold start, 70A at 230VAC	Cold start, 75A at 230VAC	Cold start, 80A at 230VAC
DC adjustment range	13.5V: 12~15V, 27V: 24~30V, 54V: 48~56V		NA			
Overload protection	105%~135% fold back current limiting, auto-recovery		110 ~ 125% constant current limiting, auto-recovery			
Over voltage protection	115%~135% constant voltage limiting, auto-recovery		110 ~ 130% shut down and latch off o/p voltage, re-power on to recover.			
Over temp. protection	Shut down o/p voltage, auto-recovery after temperature goes down					
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG:1.5kVAC, O/P-FG: 0.5kVAV		I/P-O/P:3KVAC, I/P-FG:2KVAC, O/P-FG:0.5KVAC			
Working temperature	-10~+60°C (refer to output derating curve)		-30~+70°C (refer to output derating curve)			
Safety standards	CSA 61010-1 approved		UL60950-1 pending			
EMC standards	EN55022 class B, EN61000-3-2,-3, EN61000-4-2,3,4,5,6,8,11 (EN61000-4-2,3,4 for ESC series)					
Dimension (LxWxH)(mm)	150x 140x 75		192x 178x 45.5			

### ■ ESC-120 Series

Model No.	Output	Tol.	R&N	Effi.
ESC-120-13.5	13.5V, 0~8A	±2%	120mV	81%
ESC-120-27	27V, 0~4A	±1%	150mV	83%
ESC-120-54	54V, 0~2A	±1%	400mV	84%

### ■ ESC-240 Series

Model No.	Output	Tol.	R&N	Effi.
ESC-240-13.5	13.5V, 0~16A	±2%	120mV	81%
ESC-240-27	27V, 0~8A	±1%	150mV	84%
ESC-240-54	54V, 0~4A	±1%	400mV	85%

### ■ ENC-120 Series

Model No.	Output	Tol.	R&N	Effi.
ENC-120-12	14.4V, 0~8A	±1%	150mV	90%
ENC-120-24	28.8V, 0~4A	±1%	150mV	91%
ENC-120-48	57.6V, 0~2A	±1%	350mV	92%

### ■ ENC-180 Series

Model No.	Output	Tol.	R&N	Effi.
ENC-180-12	14.4V, 0~12.5A	±1%	150mV	91%
ENC-180-24	28.8V, 0~6.2A	±1%	150mV	92%
ENC-180-48	57.6V, 0~3.1A	±1%	350mV	94%

### ■ ENC-240 Series

Model No.	Output	Tol.	R&N	Effi.
ENC-240-12	14.4V, 0~16.7A	±1%	150mV	91%
ENC-240-24	28.8V, 0~8.3A	±1%	150mV	92%
ENC-240-48	57.6V, 0~4.2A	±1%	350mV	94%

### ■ ENC-360 Series

Model No.	Output	Tol.	R&N	Effi.
ENC-360-12	14.4V, 0~25A	±1%	150mV	91%
ENC-360-24	28.8V, 0~12.5A	±1%	150mV	92%
ENC-360-48	57.6V, 0~6.3A	±1%	350mV	94%



### ■ Features for PB-300/360

- 3 stage charger for lead-acid batteries and Li-ion batteries
- AC input range selectable by switch
- Passive PFC compliance to EN61000-3-2 class A (option)
- Protections: Reverse polarity / Short circuit / Over voltage / Over temperature
- 2 color LED loading indicator
- Fan ON/OFF control (PB-360 only)
- Cooling by free air convection for PB-300, Cooling by built-in DC fan for PB-360
- 3 years warranty

### ■ Features for PB-600/1000

- 2/3/8 stage smart charger for lead-acid batteries and Li-ion batteries, microprocessor controlled power management
- Universal AC input / Full range
- Built-in active PFC function
- Built-in battery rescue function
- Protections: Reverse polarity / Short circuit / Over voltage / Over temp.
- Built-in temperature compensation function
- 2-bank charger (PB-1000)
- 3 color LED loading indicator
- Built-in remote ON-OFF control
- Fan ON/OFF control (PB-600)
- 3 years warranty

Order No.	PB-300	PB-360	PB-600	PB-1000
AC input voltage range	90~132VAC / 180~264VAC selectable by switch		90~264VAC; 127~370VDC	
AC inrush current (max.)	Cold start, 60A at 230VAC		Cold start, 50A at 230VAC	
Over voltage protection	108%~125% rated output voltage		110%~125% rated output voltage	
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC (I/P-FG: 1.5kVAC for PB-360)			
Working temperature	-10~+50°C		-20~+60°C (refer to output derating curve)	
Safety standards	IEC60335-2-29 CB approval by TUV (except for 48V), UL60950-1 approved		TUV EN60335-1, EN60335-2-29 (except for 48V), EN60950-1 (48V only), UL1012 approved	
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8,11, EN61000-3-2,3 (except for PB-300/360 non-PFC type)			
Case No.	801B	801A	805C	804B
Dimension (LxWxH)(mm)	253x 135x 48.5		230x 158x 67	

### ■ PB-300 Series



Model No.	Output (20 min.) / (Continuous at 25°C)	Effi.
PB-300□-12	14.4V, 20.85A / 12.5A	85%
PB-300□-24	28.8V, 10.50A / 6.25A	86%
PB-300□-48	57.6V, 5.3A / 3.20A	88%

□ = P: with PFC; N: non PFC

### ■ PB-600 Series



Model No.	Output	Effi.
PB-600-12	14.4V, 0~40.0A	86%
PB-600-24	28.8V, 0~21.0A	87%
PB-600-48	57.6V, 0~10.5A	89%

### ■ PB-360 Series



Model No.	Output	Effi.
PB-360□-12	14.4V, 24.3A	85%
PB-360□-24	28.8V, 12.5A	86%
PB-360□-48	57.6V, 6.25A	87%

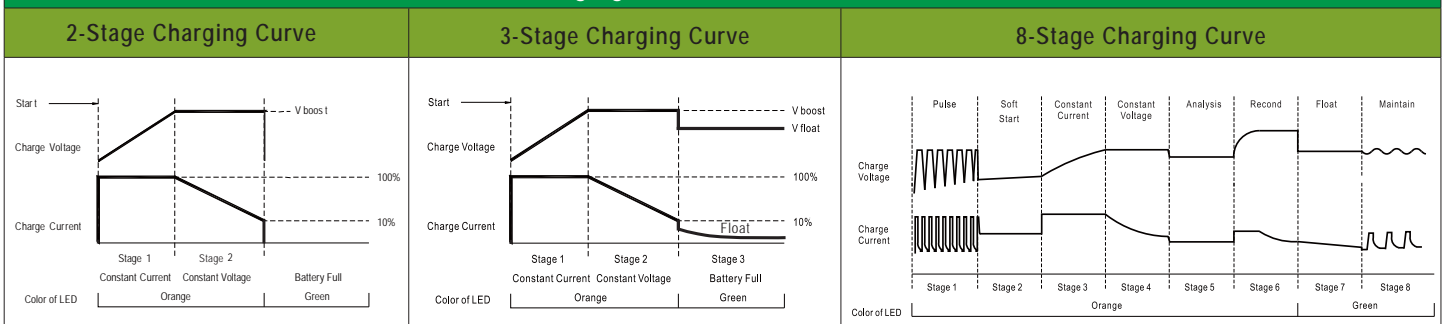
□ = P: with PFC; N: non PFC

### ■ PB-1000 Series



Model No.	Output	Effi.
PB-1000-12	14.4V, 60.0A	85%
PB-1000-24	28.8V, 34.7A	88%
PB-1000-48	57.6V, 17.4A	89%

### Built-in Charging Curves for PB-600 and PB-1000







### ■ Features for HEP-600C

- 3 stage charger for lead-acid batteries and Li-ion batteries in harsh environment
- **Universal AC input 90-305VAC**
- Built-in active PFC function
- No load power consumption < 0.5W at remote OFF
- **High efficiency up to 95.5%**
- **Fanless design, cooling by free air convection**
- **-40~+70°C wide operating range**
- Aluminum case and filling with heat-conducted silicone
- **Withstand 10G vibration test**
- Operating altitude up to 5000 meters
- Vo and Io can be adjusted through internal potentiometer
- Protections: Short circuit / Over voltage / Over temperature
- 3 color LED loading indicator
- **6 years warranty**

### ■ Features for RPB-1600/RCB-1600

- Intelligent charger with programmable 3 stage curve for lead-acid batteries and Li-ion batteries
- Universal AC input / Full range
- Built-in active PFC function
- **Built-in I<sup>2</sup>C interface, PMBus protocol (optional CANBus)**
- **1U low profile (41mm height)**
- **Rack mountable (RCB-1600), support hot swap (hot plug)**
- **Output voltage and current programmable**
- Withstand 300VAC surge input for 5 seconds
- Forced air cooling by built-in DC fan
- Built-in OR-ing FET
- **Active current sharing up to 4800W (2+1) for RPB-1600, 8000W with one 19" rack shelf (RHP-1U□-A) for RCB-1600**
- Protections: Battery under voltage / Battery no connection / Short circuit / Over voltage / Over temperature
- 3 color LED loading indicator
- Optional conformal coating
- **5 years warranty**

Order No.	HEP-600C	RPB-1600	RCB-1600
AC input voltage range	90-305VAC; 127-431VDC	90 ~ 264VAC; 127 ~ 370VDC	
AC inrush current (max.)	Cold start, 70A at 230VAC	Cold start, 35A at 230VAC	
DC adjustment range	Vo: 95%~125% rated output voltage	Vo: -1%~+22.5% by potentiometer, or to 75%-125% of nominal output voltage by 1-5VDC <b>external control signal</b> Io: to 20%~100% of rated output current by 1-5VDC <b>external control signal</b>	
Over voltage protection	112%~142% shut down o/p voltage, re-power on to recover	130%~155% shut down o/p voltage, re-power on to recover	
Working temperature	-40~+70°C (refer to output derating curve)	-30~+70°C (refer to output derating curve)	
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 1.5kVAC	I/P-O/P:3kVAC, I/P-FG:2kVAC, O/P-FG:1.5kVAC	
Safety standards	UL60950-1, TUV EN60950-1 approved		
EMC standards	EN55022 conduction class B, radiation class A; EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11		
Connection	3+7P / 11mm pitch terminal block with cover	bus bars	Postronic PCIM34W13M400A1
Dimension(LxWxH)(mm)	280x 144x 48.5	300x 85x 41	

### ■ HEP-600 Series



Model No.	Output	Effi.
HEP-600C-12	14.4V, 0~35.0A	93.5%
HEP-600C-24	28.8V, 0~21.0A	94.5%
HEP-600C-48	57.6V, 0~10.5A	95.5%

### ■ RPB-1600 Series



Model No.	Output	Effi.
RPB-1600-12	14.4V, 0~100A	87.0%
RPB-1600-24	28.8V, 0~55A	90.5%
RPB-1600-48	57.6V, 0~27.5A	93.0%

### ■ RCB-1600 Series



Model No.	Output	Effi.
RCB-1600-12	14.4V, 0~100A	87.0%
RCB-1600-24	28.8V, 0~55A	90.5%
RCB-1600-48	57.6V, 0~27.5A	93.0%

# 19" Rack Power 1000~24000W Distributed Power



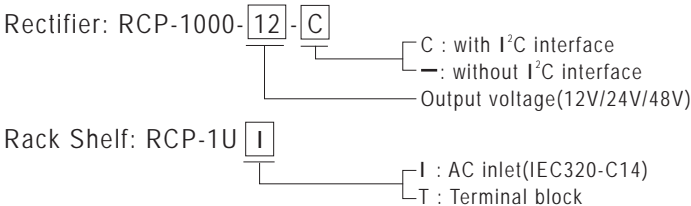
## Features

- Universal AC input / Full range
- Withstand 300VAC surge for 5 seconds (RCP-1600)
- Built-in active PFC function
- Built-in auxiliary power
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- High power density up to 25W/inch<sup>3</sup> (RCP-1600)
- 1U low profile (41mm height)
- Output voltage programmable;
- Constant current level I<sub>cc</sub> programmable (RCP-1600)
- Active current sharing up to 3 units (RCP-1000) or 5 units (RCP-1600) in one 19" rack, 3 racks max. can be operated in parallel (up to 8 units for RCP-1000 or 15 units for RCP-1600)
- Built-in remote ON/OFF control
- Built-in remote sense function
- AC OK (RCP-1000) and DC OK signal output
- Internal OR-ing diode (RCP-1000) or OR-ing FET (RCP-1600), hot-swap operation
- Optional I<sup>2</sup>C serial data bus (RCP-1000); Built-in PMBus serial communication (RCP-1600)
- 5 years warranty

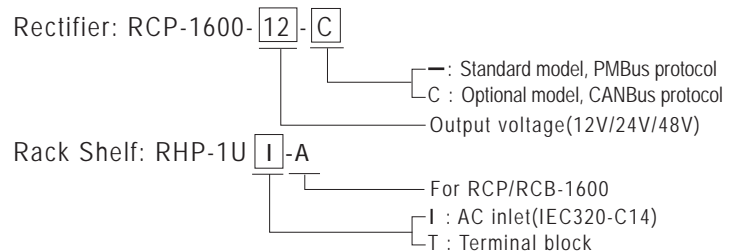


Order No.	RCP-1000	RCP-1600
AC input voltage range	90~264VAC, 127~370VDC	
AC inrush current (max.)	Cold start, 50A at 230VAC	Cold start, 35A at 230VAC
DC adjustment range	V <sub>o</sub> : ±3% by potentiometer, or to 90%~110% of rated output voltage by external resistor	V <sub>o</sub> : -1%~+22.5% by potentiometer, or to 40%~125% of rated output voltage by 1~5VDC external control signal I <sub>cc</sub> : to 20%~100% of rated output current by 1~5VDC external control signal
Overload protection (OLP)	105%~125% constant current limiting, auto-recovery	105%~115% constant current limiting, shut down o/p voltage after 5 sec., re-power on to recover
Over voltage protection	110%~135% shut down o/p voltage, re-power on to recover	130%~155% shut down o/p voltage, re-power on to recover
Withstand voltage	I/P-O/P:3kVAC, I/P-FG:2kVAC, O/P-F/G: 0.7kVDC	I/P-O/P:3kVAC, I/P-FG:2kVAC, O/P-F/G: 1.5kVAC
Working temperature	-20~+60°C (refer to output derating curve)	-30~+70°C (refer to output derating curve)
Safety standards	UL60950-1, TUV EN60950-1 approved	
EMC standards	EN55022 class B (Radiation class A for RCP-1600), EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61000-6-2 heavy industry level	
Connection	Postronic PCB24W9M400A1	Postronic PCIM34W13M400A1
Dimension(LxWxH)	295x 127x 41mm (483.6x 350.8x 44mm for RCP-1U)	300x 85x 41mm (440x 365x 44mm for RHP-1U)
Case No.	952A (959A for RCP-1U)	237A (242A for RHP-1U)
Packing	1.93kg (RCP-1000, single unit); 3.9kg (RCP-1U, single empty rack)	1.87kg (RCP-1600, single unit); 5.5kg (RHP-1U, single empty rack)

## Order Information for RCP-1000 and RCP-1U



## Order Information for RCP-1600 and RHP-1U



## Rectifier — 1000W

Model No.	Output	Tol.	R&N	Effi.
RCP-1000-12	12V, 0~60A	±1%	150mV	81.0%
RCP-1000-24	24V, 0~40A	±1%	200mV	87.0%
RCP-1000-48	48V, 0~21A	±1%	300mV	89.0%

## Rectifier — 1600W

Model No.	Output	Tol.	R&N	Effi.
RCP-1600-12	12V, 0~125A	±1%	150mV	87.0%
RCP-1600-24	24V, 0~67A	±1%	200mV	90.5%
RCP-1600-48	48V, 0~33.5A	±1%	300mV	93.0%



RCP-2000

RKP-1U

### Features

- Universal AC input / Full range
- Withstand 300VAC surge for 5 seconds
- Built-in active PFC function
- Built-in 5V/0.3A, 12V/0.8A auxiliary power
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- High power density 21.4W/inch<sup>3</sup>
- 1U low profile (41mm height)
- **Output voltage programmable**
- Active current sharing up to 3 units in one 19" rack, 3 racks max. can be operated in parallel (up to 9 units)
- Built-in remote ON/OFF control
- Built-in remote sense function
- **Internal OR-ing FET, hot-swap operation**
- **Built-in PMBus serial communication**
- AC OK and DC OK signal, fan fail, OTP alarm signal
- **5 years warranty**

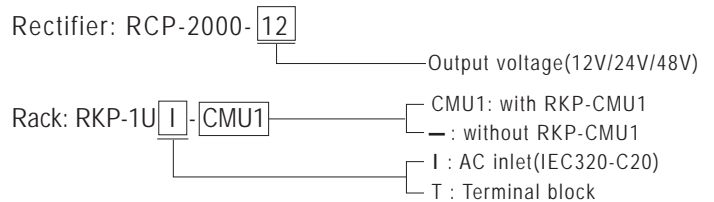


Order No.	RCP-2000
AC input voltage range	90~264VAC, 127~370VDC
AC inrush current (max.)	Cold start, 50A at 230VAC
DC adjustment range	Vo: -12%~+15% by potentiometer, or to 90%~110% of rated output voltage by 1.5~4.5VDC <b>external control signal</b>
Overload protection	105%~125% constant current limiting, shut down o/p voltage after 5 sec., re-power on to recover
Over voltage protection	120%~145% shut down o/p voltage, re-power on to recover
Setup, rise, hold up time	1500ms, 60ms, 10ms at full load and 230VAC
Withstand voltage	I/P-O/P:3kVAC, I/P-FG:2kVAC, O/P-F/G: 0.7kVDC
Working temperature	-40~+70°C (refer to output derating curve)
Safety standards	UL60950-1, TUV EN60950-1 approved
EMC standards	EN55022 class A, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61000-6-2 heavy industry level
Connection	Postronic PCIM34W13M400A
Dimension(LxWxH)	295x 127x 41mm (483.6x 350.8x 44mm for RKP-1U)
Case No.	974A (959A for RKP-1U)
Packing	2kg (RCP-2000, single unit); 4.18kg (RKP-1U, single empty rack)

### Rectifier — 2000W

Model No.	Output	Tol.	R&N	Effi.
RCP-2000-12	12V, 0~100A	±2%	150mV	86.0%
RCP-2000-24	24V, 0~80A	±1%	200mV	90.5%
RCP-2000-48	48V, 0~42A	±1%	300mV	92.0%

### Order Information for RCP-2000 and RKP-1U



### Control and Monitor Unit for RCP-2000



RKP-CMU1

RKP-1U-CMU1

CASE:959A  
147.5x 127x 41 mm

CASE: 959D  
486.6x 350.8x 44 mm

- 1U low profile, rack mountable
- Control and monitor up to 32 RCP-2000 units
- Front panel LCD and buttons for on-site service without PC
- Alarm/event log with time and date
- Easy wire connections on rear side
- Windows-based PC communication software
- USB, RS-232 or Ethernet interface for PC connection locally or remote monitoring and control via GSM modem
- 4 user programmable relay outputs for traditional remote or warning
- **5 years warranty**

- DC input voltage range ..... 12~15VDC
- DC input current ..... 1A at 12VDC, 0.8A at 15VDC
- Output relay contact ..... 4 user programmable relay
- Working temperature ..... -25~+70°C (refer to output derating curve)
- Safety standards ..... UL60950-1, TUV EN60950-1 approved for RKP-1U-CMU1
- Withstand voltage ..... I/P-O/P:3kVAC, I/P-FG:2kVAC, O/P-FG:0.7kVDC for RKP-1U-CMU1; O/P-FG:0.7kVDC for RKP-CMU1
- Isolation resistance ..... I/P-O/P, I/P-FG, O/P-FG: 100M Ohms/500VDC for RKP-1U-CMU1; O/P-FG:100M Ohms/500VDC for RKP-CMU1
- EMC standards ..... EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61000-6-1 light industry level

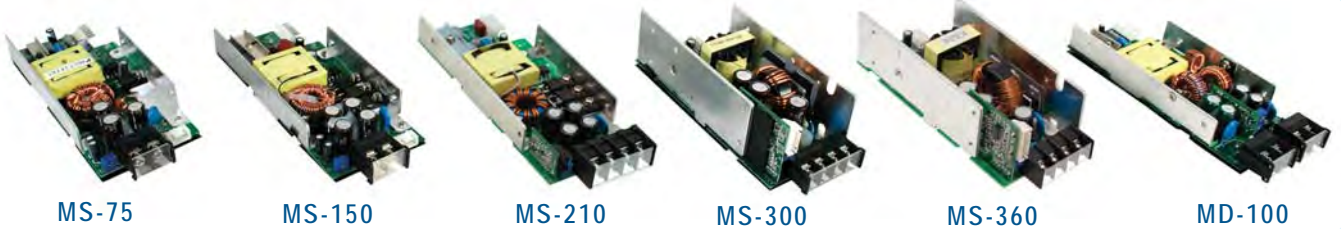
Model No.	Application
RKP-CMU1	Control and monitor RCP-2000 series (single unit of RKP-CMU1)
RKP-1U-CMU1	Control and monitor RCP-2000 series (19" rack with RKP-CMU1)



MP450 (450W, 5 SLOT)

MP650 (650W, 5 SLOT)

MP1K0 (1000W, 7 SLOT)



MS-75

MS-150

MS-210

MS-300

MS-360

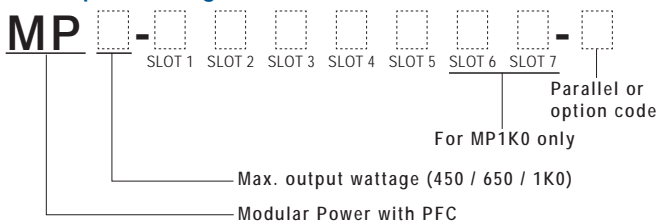
MD-100

## Description

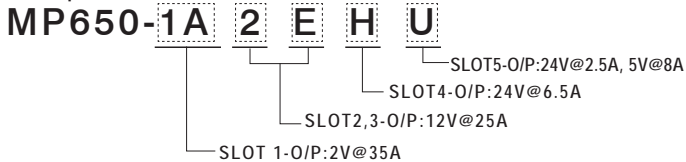
Modular series are switching power supplies with modular design that consist of two stages: front-end PFC and output modules. With the power factor correction, the line input is rectified into high DC voltage (around 390VDC) by the front-end PFC stage, and then the DC output modules will transfer the operating voltage into all kinds of DC output voltages from 1.6V-53V. Right now we offer 75W, 150W, 210W, 300W, 360W single output modules and 100W dual output modules to fulfill all kinds of applications up to 14 isolated outputs.

There are millions of combinations available for the Modular Series. Users can configure the DC outputs and get the fastest solution for their own power requirement with safety and EMC certificates. No NRE / safety application charges and long period of waiting for certificates! Providing standard products as usual, MEAN WELL offers you a revolutionary standard power solution that fulfills your custom-made request!

## Output Configuration Guide



Example:



## Features

- Millions of output configuration is available
- Universal AC input / Full range
- Built-in active PFC compliance to EN61000-3-2
- Built-in constant current limiting circuit for single output modules
- Remote control on each output module
- Remote sense on each single output module (MS-75 / 150 / 210 / 300 / 360)
- Short circuit / Overload / Over voltage protections for all modules
- Parallel function for MS-210 (up to 5 units), MS-300/360 (up to 3 units)
- Margining control function (MS-210 / 360)
- Cooling by built-in DC fan with fan alarm function
- Additional 12V/0.1A auxiliary output for remote control
- 3 years warranty



Model No.	MP450	MP650	MP1K0
AC input voltage range	85-264VAC or 120-370VDC		
Power Factor	PF > 0.95 / 230VAC, PF > 0.98 / 115VAC at full load		
AC inrush current (max.)	Cold start, 40A at 230VAC	Cold start, 50A at 230VAC	Cold start, 40A at 230VAC
Max output voltage	450W	650W	1000W
Efficiency (typical)	82.5%	84%	84%
Over temperature protection	Output shutdown, auto-recovery		
Fan alarm	Output shutdown when fan malfunctions		
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC, 1 minute		
Working temperature	-20~+50°C@100%, +70°C @ 50% load		
Safety standards	UL60950-1, TUV EN60950-1 approved		
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN55024 light industry level, criteria A		
Connection	Input side: 3P/10mm pitch terminal block & JST B3B-XH		
Dimension (LxWxH)(mm)	254x 127x 63.5	278x 127x 63.5	278x 177.8x 63.5



## MS-75: 1-SLOT single output (75W max.)

Item Code	Output	★Peak I	Vdc adj.	Tol.	R&N.
L	3.3V, 0-15A	17.3A	2.6-4.0V	±2%	80mV
M	5V, 0-15A	17.3A	4.0-6.0V	±2%	80mV
N	12V, 0-6.3A	7.30A	9.0-13.2V	±1%	150mV
O	15V, 0-5.0A	5.80A	13.2-16.8V	±1%	150mV
P	24V, 0-3.2A	3.70A	20.0-26.4V	±1%	150mV
Q	48V, 0-1.6A	1.80A	40.0-53.0V	±1%	250mV

## MS-150: 1-SLOT single output (150W max.)

Item Code	Output	★Peak I	Vdc adj.	Tol.	R&N.
A	2V, 0-25A	30.0A	1.6-2.6V	±3%	50mV
B	3.3V, 0-25A	30.0A	2.6-4.0V	±2%	80mV
C	5V, 0-25A	30.0A	4.0-6.0V	±2%	80mV
D	7.5V, 0-18A	20.7A	6.0-9.0V	±2%	100mV
E	12V, 0-13A	15.0A	9.0-13.2V	±1%	150mV
F	15V, 0-10A	11.5A	13.2-16.8V	±1%	150mV
G	18V, 0-8.5A	9.80A	16.8-20.0V	±1%	150mV
H	24V, 0-6.5A	7.50A	20.0-26.4V	±1%	150mV
I	27V, 0-5.8A	6.70A	25.0-31.0V	±1%	150mV
J	33V, 0-4.7A	5.40A	30.0-40.0V	±1%	250mV
K	48V, 0-3.2A	3.68A	40.0-53.0V	±1%	250mV

## MS-210: 1-SLOT parallelable single output (210W max.)

Item Code	Output	★Peak I	Vdc adj.	Tol.	R&N.
1A	2V, 0-35A	38.5A	1.6-2.6V	±3%	70mV
1B	3.3V, 0-35A	38.5A	2.6-4.0V	±2%	80mV
1C	5V, 0-35A	38.5A	4.0-6.0V	±2%	80mV
1D	7.5V, 0-28A	32.2A	6.0-9.0V	±2%	100mV
1E	12V, 0-17.5A	20.1A	9.0-13.2V	±1%	150mV
1F	15V, 0-14A	16.1A	13.2-16.8V	±1%	150mV
1G	18V, 0-11.6A	13.4A	16.8-20.0V	±1%	150mV
1H	24V, 0-8.75A	10.1A	20.0-26.4V	±1%	150mV
1I	27V, 0-7.8A	9.00A	25.0-31.0V	±1%	150mV
1J	33V, 0-6.4A	7.40A	30.0-40.0V	±1%	250mV
1K	48V, 0-4.4A	5.10A	40.0-53.0V	±1%	250mV

## MS-300: 2-SLOT parallelable single output (300W max.)

Item Code	Output	★Peak I	Vdc adj.	Tol.	R&N.
2A	2V, 0-50A	57.5A	1.6-2.6V	±3%	80mV
2B	3.3V, 0-50A	57.5A	2.6-4.0V	±2%	80mV
2C	5V, 0-50A	57.5A	4.0-6.0V	±2%	80mV
2D	7.5V, 0-40A	46.0A	6.0-9.0V	±2%	100mV
2E	12V, 0-25A	29.0A	9.0-13.2V	±1%	150mV
2F	15V, 0-20A	23.0A	13.2-16.8V	±1%	150mV
2G	18V, 0-16.7A	19.2A	16.8-20.0V	±1%	150mV
2H	24V, 0-12.5A	14.4A	20.0-26.4V	±1%	150mV
2I	27V, 0-11.2A	12.9A	25.0-31.0V	±1%	200mV
2J	33V, 0-9.1A	10.5A	30.0-40.0V	±1%	250mV
2K	48V, 0-6.3A	7.2A	40.0-53.0V	±1%	300mV

## MS-360: 2-SLOT parallelable single output (360W max.)

Item Code	Output	★Peak I	Vdc adj.	Tol.	R&N.
3A	2V, 0-60A	69.0A	1.6-2.6V	±3%	80mV
3B	3.3V, 0-60A	69.0A	2.6-4.0V	±2%	100mV
3C	5V, 0-60A	69.0A	4.0-6.0V	±2%	100mV
3D	7.5V, 0-48A	55.2A	6.0-9.0V	±2%	100mV
3E	12V, 0-30A	34.5A	9.0-13.2V	±1%	150mV
3F	15V, 0-24A	27.6A	13.2-16.8V	±1%	150mV
3G	18V, 0-20A	23.0A	16.8-20.0V	±1%	150mV
3H	24V, 0-15A	17.3A	20.0-26.4V	±1%	150mV
3I	27V, 0-13.4A	15.5A	25.0-31.0V	±1%	200mV
3J	33V, 0-11A	12.7A	30.0-40.0V	±1%	250mV
3K	48V, 0-7.5A	8.7A	40.0-53.0V	±1%	300mV

## MD-100: 1-SLOT isolated dual output (100W max.)

Item Code	Output	Vdc adj.	Tol.	R&N.	Max.
R	5V, 2.0-10A	4.75-5.5V	±3%	100mV	90.0W
	5V, 0.0-8.0A	4.75-5.5V	±3%	100mV	
S	5V, 2.0-10A	4.75-5.5V	±3%	100mV	100.4W
	12V, 0.0-5.8A	11.4-13.2V	±3%	150mV	
T	5V, 2.0-10A	4.75-5.5V	±3%	100mV	101.0W
	15V, 0.0-4.7A	14.2-16.5V	±3%	150mV	
U	24V, 0.5-3.0A	22.8-26.4V	±3%	200mV	100.0W
	5V, 0.0-10A	4.75-5.5V	±3%	100mV	
V	24V, 0.6-3.0A	22.8-26.4V	±2%	240mV	100.8W
	12V, 0.0-4.7A	11.4-13.2V	±3%	120mV	
W	12V, 1.0-5.0A	11.4-13.2V	±2%	120mV	100.8W
	12V, 0.0-5.8A	11.4-13.2V	±3%	120mV	
X	15V, 1.0-4.7A	14.2-16.5V	±2%	150mV	100.5W
	15V, 0.0-4.7A	14.2-16.5V	±3%	150mV	

### Parallel Connection Accessory

FAP-001 (For MS-300, 2 units)	
FAP-002 (For MS-300, 3 units)	
FAP-003 (For MS-210, 2 units)	
FAP-004 (For MS-210, 3 units)	
FAP-005 (For MS-210, 4 units)	
FAP-006 (For MS-210, 5 units)	
FAP-007 (For MS-360, 2 units)	
FAP-008 (For MS-360, 3 units)	

### Series Connection Accessory

FAS-001 (For 1-slot modules: MS-75/150, MD-100)	
FAS-002 (For 2-slot modules: MS-300)	
FAS-003 (For 1-slot modules: MS-210)	
FAS-004 (For 2-slot modules: MS-360)	

★Peak I: 35% duty cycle maximum within every 10 seconds. Average output power should not exceed the rated power.

★Please use MP450-CNPOQ, MP650-1A2EHU, MP1K0-2C2CEKL-1.....etc. as the order code. For more detail information about technical issues, please refer to the user manual.

★Please refer to the user manual for more detail information about parallel connection and the parallel codes. About series connection, please contact us or your local MEAN WELL distributor for more details.

# LED Sign Panel

200 ~ 400W Economical Low Profile



## 350W Single Output

UL US (except for 12V) CQC CB



220.4x 130x 48 mm

- AC input 180~264VAC only
- Withstand 300VAC surge input for 5 sec
- **Semi-potted and design against rain splash**
- High efficiency up to 90%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- LED indicator for power on
- **Suitable for channel letter applications**
- 3 years warranty

AC input voltage range ..... 180~264VAC; 254~370VDC  
 AC inrush current ..... Cold start, 90A at 230VAC  
 DC adjustment range .....  $\pm 10\%$  rated output voltage  
 Overload protection ..... 110%~160% hiccup mode, auto-recovery  
 Over voltage protection ..... 12V: 13.8-16.2V; 24V: 27.6-32.4V; 36V: 41.4-46.8V; 48V: 57.6-67.2V hiccup mode, auto-recovery  
 Setup, rise, hold up time ..... 1500ms, 200ms, 20ms at full load and 230VAC  
 Withstand voltage ..... I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC  
 Working temperature ..... -30~+60°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, CQC GB4943.1 approved

Model No.	Output	Tol.	R&N	Effi.
ERP-350-12	12V, 0~26.7A	$\pm 1\%$	150mV	87%
ERP-350-24	24V, 0~14.6A	$\pm 1\%$	150mV	89%
ERP-350-36	36V, 0~9.7A	$\pm 1\%$	240mV	90%
ERP-350-48	48V, 0~7.3A	$\pm 1\%$	240mV	90%

## 200W & 300W Single Output

- 115VAC or 230VAC AC input
- Cooling by conduction
- 1U low profile: 31mm
- **Conformal coating**
- Protections: Short circuit / Overload / Over voltage / Over temperature
- LED indicator for power on
- 2 years warranty

UL US



HSN-200  
210x 62x 31 mm

HSN-300  
210x 81x 31 mm

AC input voltage range ..... 90~132VAC(A-Type); 180~264VAC(B-Type)  
 AC inrush current ..... Cold start, 80A(HSN-200); 90A(HSN-300) at 230VAC  
 DC adjustment range ..... 4.2V: 3.6~4.4V; 5V: 4.5~5.5V  
 Overload protection ..... 105%~185% hiccup mode, auto-recovery  
 Over voltage protection ..... 4.2V: 4.6~5.4V, 5V: 5.7~7.0V for HSN-200; 4.2V: 4.7~5.7V, 5V: 5.7~7.0V for HSN-300  
 Setup, rise, hold up time ..... 1500ms, 100ms, 20ms at 230VAC and full load (HSN-200) 2500ms, 100ms, 10ms at 230VAC and full load (HSN-300)  
 Withstand voltage ..... I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC  
 Working temperature ..... -25~+70°C (HSN-200); -20~+70°C (HSN-300)  
 Safety standards ..... UL60950-1 approved

### ◆ HSN-200 Series

Model No.	Output	Tol.	R&N	Effi.
HSN-200-4.2A	4.2V, 0~30A	$\pm 2\%$	150mV	86.5%
HSN-200-4.2B	4.2V, 0~40A	$\pm 2\%$	150mV	88%
HSN-200-5A	5V, 0~30A	$\pm 2\%$	150mV	86.5%
HSN-200-5B	5V, 0~40A	$\pm 2\%$	150mV	88%

### ◆ HSN-300 Series

Model No.	Output	Tol.	R&N	Effi.
HSN-300-4.2A	4.2V, 0~50A	$\pm 3\%$	150mV	85%
HSN-300-4.2B	4.2V, 0~60A	$\pm 3\%$	150mV	85%
HSN-300-5A	5V, 0~50A	$\pm 3\%$	150mV	86%
HSN-300-5B	5V, 0~60A	$\pm 3\%$	150mV	86%

## 200W Single Output

UL US



215x 115x 30 mm

- AC input 180~264VAC only
- Withstand 300VAC surge input for 5 sec
- **Conformal coating**
- High efficiency up to 87% (NEL-200)
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- 1U low profile: 30mm
- LED indicator for power on
- **Suitable for moving sign applications**
- 2 years warranty

AC input voltage range ..... 180~264VAC; 254~370VDC  
 AC inrush current ..... Cold start, 70A at 230VAC  
 DC adjustment range ..... 2.8V: 2.5~3V; 4.2V: 3.6~4.4V; 5V: 4.5~5.5V  
 Overload protection ..... 105%~140% hiccup mode, auto-recovery  
 Over voltage protection ..... 2.8V: 3.22~3.78V; 4.2V: 4.6~5.4V; 5V: 5.6~7V hiccup mode, auto-recovery  
 Setup, rise, hold up time ..... 2500ms, 50ms, 20ms at full load and 230VAC  
 Withstand voltage ..... I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC  
 Working temperature ..... -20~+60°C (refer to output derating curve)  
 Safety standards ..... UL60950-1 approved

Model No.	Output	Tol.	R&N	Effi.
NEL-200-2.8	2.8V, 0~40A	+3%, -4.5%	150mV	85%
NEL-200-4.2	4.2V, 0~40A	+3%, -4.5%	150mV	87%
NEL-200-5	5V, 0~40A	$\pm 3\%$	150mV	87%

## 300W & 400W Single Output

- AC input 180~264VAC only
- Withstand 300VAC surge input for 5 seconds
- **Conformal coating**
- High efficiency up to 86% (NEL-300) High efficiency up to 84% (NEL-400)
- 1U low profile: 30mm
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- LED indicator for power on
- **Suitable for moving sign applications**
- 2 years warranty

UL US



NEL-300  
215x 115x 30 mm

NEL-400  
215x 115x 30 mm

AC input voltage range ..... 180~264VAC; 254~370VDC  
 AC inrush current ..... Cold start, 70A at 230VAC  
 DC adjustment range ..... 2.8V: 2.5~3V; 4.2V: 3.6~4.4V; 5V: 4.5~5.5V  
 Overload protection ..... 105%~140% hiccup mode, auto-recovery  
 Over voltage protection ..... 2.8V: 3.22~3.78V; 4.2V: 4.6~5.4V; 5V: 5.6~7V hiccup mode, auto-recovery  
 Setup, rise, hold up time ..... 2500ms, 50ms, 20ms at full load and 230VAC  
 Withstand voltage ..... I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC  
 Working temperature ..... -20~+60°C (refer to output derating curve)  
 Safety standards ..... UL60950-1 approved

### ◆ NEL-300 Series

Model No.	Output	Tol.	R&N	Effi.
NEL-300-2.8	2.8V, 0~60A	+3%, -4.5%	150mV	81%
NEL-300-4.2	4.2V, 0~60A	+3%, -4.5%	150mV	85%
NEL-300-5	5V, 0~60A	$\pm 3\%$	150mV	86%

### ◆ NEL-400 Series

Model No.	Output	Tol.	R&N	Effi.
NEL-400-2.8	2.8V, 0~80A	+3%, -4.5%	150mV	79%
NEL-400-4.2	4.2V, 0~80A	+3%, -4.5%	150mV	83%
NEL-400-5	5V, 0~80A	$\pm 3\%$	150mV	84%

# LED Sign Panel

150~300W High Reliability Low Profile



## 150W & 200W Single Output with PFC Function

- Universal AC input / Full range
- Withstand 300VAC surge input for 5 seconds (HSP-150)
- Built-in active PFC function
- **Conformal coating**
- **High efficiency up to 90%**
- Protections:
  - Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection for 150W and 200W with 30CFM forced air(HSP-150); cooling by conduction(HSP-200)
- 1U low profile
- Built-in remote sense(HSP-150)
- LED indicator for power on
- **Suitable for moving sign applications**
- 3 years warranty



(HSP-200 only)



**HSP-150**  
220x 62x 32 mm

**HSP-200**  
210x 62x 31 mm

AC input voltage range ..... 90~264VAC; 127~370VDC  
 AC inrush current ..... Cold start, 70A at 230VAC  
 DC adjustment range ..... 2.5V: 2.35~2.75V, 3.8V: 3.4~4.2V, 5V: 4.5~5V (HSP-150);  
 4.2V: 3.6~4.4V, 5V: 4.5~5.5V (HSP-200)  
 Overload protection ..... 110%~180% hiccup mode, auto-recovery  
 Over voltage protection ..... 2.5V: 3.2~3.7V, 3.8V: 4.7~5.7V, 5V: 5.7~7V (HSP-150);  
 4.2V: 4.6~5.4V, 5V: 5.6~7V (HSP-200)  
 Setup, rise, hold up time ..... 2000ms, 100ms, 16ms at full load and 230VAC (HSP-150)  
 2000ms, 200ms, 16ms at full load and 230VAC (HSP-200)  
 Withstand voltage ..... I/P - O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC  
 Working temperature ..... -30~+70°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, TUV EN60950-1,  
 CCC GB4943(HSP-200 only) approved  
 EMC standards ..... EN55022, GB9254(HSP-200 only), class B,  
 EN61000-3-3, EN61000-4-2,3,4,5,6,8,11

### ◆ HSP-150 Series

Model No.	Output(Rated/Peak)	Tol.	R&N	Effi.
HSP-150-2.5	2.5V, 0~30A / 40A	±2%	80mV	86%
HSP-150-3.8	3.8V, 0~30A / 40A	±2%	100mV	88%
HSP-150-5	5V, 0~30A / 40A	±2%	100mV	90%

### ◆ HSP-200 Series

Model No.	Output	Tol.	R&N	Effi.
HSP-200-4.2	4.2V, 0~40A	±2%	150mV	88.0%
HSP-200-5	5V, 0~40A	±2%	150mV	88.5%

## 250W Single Output with PFC Function



199x 105x 41 mm

- Universal AC input / Full range
- Built-in active PFC function
- **Conformal coating**
- **High efficiency up to 87%**
- Protections:
  - Short circuit / Overload / Over voltage / Over temperature
  - Forced air cooling by built-in DC fan
- 1U low profile: 41mm
- Built-in remote sense function
- LED indicator for power on
- **Suitable for moving sign applications**
- 3 years warranty

AC input voltage range ..... 85~264VAC; 120~370VDC  
 DC adjustment range ..... 2.5V: 2.3~2.8V; 3.6V: 3.24~3.96V; 5V: 4.5~5.5V  
 AC inrush current ..... Cold start, 70A at 230VAC  
 Overload protection ..... 105%~135% hiccup mode, auto-recovery  
 Over voltage protection ..... 2.5V: 2.88~3.38V; 3.6V:4.14~4.86V; 5V: 5.75~6.75V  
 shut down O/P voltage, re-power on to recover  
 Setup, rise, hold up time ..... 3000ms, 50ms, 16ms at full load and 230VAC  
 Withstand voltage ..... I/P - O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC  
 Working temperature ..... -40~+70°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, TUV EN60950-1 approved  
 EMC standards ..... EN55022 class B, EN61000-3-2,3, EN55024,  
 EN61000-4-2,3,4,5,6,8,11, EN61000-6-2

Model No.	Output	Tol.	R&N	Effi.
HSP-250-2.5	2.5V, 0~50A	±2%	100mV	79%
HSP-250-3.6	3.6V, 0~50A	±2%	100mV	83%
HSP-250-5	5V, 0~50A	±2%	100mV	87%

## 300W Single Output with PFC Function



210x 81x 31 mm

- Universal AC input / Full range
- Withstand 300VAC surge input for 5 seconds
- Built-in active PFC function
- **Conformal coating**
- **High efficiency up to 87%**
- Protections:
  - Short circuit / Overload / Over voltage / Over temperature
- Cooling by conduction
- 1U low profile: 31mm
- LED indicator for power on
- **Suitable for moving sign applications**
- 3 years warranty

AC input voltage range ..... 180~264VAC; 254~370VDC or  
 90~135VAC; 127~190VDC  
 DC adjustment range ..... 2.8V: 2.5~3V; 4.2V: 3.6~4.4V; 5V: 4.5~5.5V  
 AC inrush current ..... Cold start, 60A at 230VAC  
 Overload protection ..... 105%~150% hiccup mode, auto-recovery  
 Over voltage protection ..... 2.8V: 3.22~3.78V; 4.2V: 4.6~5.4V; 5V: 5.7~7.0V  
 shut down O/P voltage, re-power on to recover  
 Setup, rise, hold up time ..... 2000ms, 100ms, 8ms at full load and 230VAC  
 Withstand voltage ..... I/P - O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC  
 Working temperature ..... -30~+70°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, TUV EN60950-1, CCC GB4943 approved  
 EMC standards ..... EN55022, GB9254, class B, EN61000-3-2,3,  
 EN61000-4-2,3,4,5,6,8,11

Model No.	Output	Tol.	R&N	Effi.
HSP-300-2.8	2.8V, 0~60A	±2%	110mV	80%
HSP-300-4.2	4.2V, 0~60A	±2%	150mV	85%
HSP-300-5	5V, 0~60A	±2%	150mV	87%

## 190W & 240W Dual Output with PFC Function



**HDP-190**  
215x 115x 36 mm

**HDP-240**  
215x 115x 36 mm

- Universal AC input / Full range
- Built-in active PFC function
- **Conformal coating**
- **High efficiency up to 86%**
- Protections:
  - Short circuit / Overload / Over voltage / Over temperature
- Fanless design (HDP-190);  
 Forced air cooling by built-in DC fan (HDP-240)
- 1U low profile: 36mm
- **Suitable for moving sign applications**
- 3 years warranty

AC input voltage range ..... 90~264VAC, 127~370VDC  
 DC adjustment range ..... V1: 3.6~4V; V2: 2.5~3V  
 AC inrush current ..... Cold start, 45A at 230VAC  
 Overload protection ..... V1+V2: 105%~150%, V2: 125%~170%  
 hiccup mode, auto-recovery  
 Over voltage protection ..... V1: 4.37~5.13V, V2: 3.22~3.78V  
 shut down O/P voltage, re-power on to recover  
 Setup, rise, hold up time ..... 1000ms, 50ms, 16ms at full load and 230VAC  
 Withstand voltage ..... I/P - O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC  
 Working temperature ..... -30~+70°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, TUV EN60950-1, CCC GB4943 approved  
 EMC standards ..... EN55022, GB9254, class B, EN61000-3-2,3,  
 EN61000-4-2,3,4,5,6,8,11, EN61000-6-2  
 Packing ..... 0.95kg ; 15pcs / 15.3kg / 0.7CUFT (HDP-190)  
 1kg ; 15pcs / 16kg / 0.7CUFT (HDP-240)

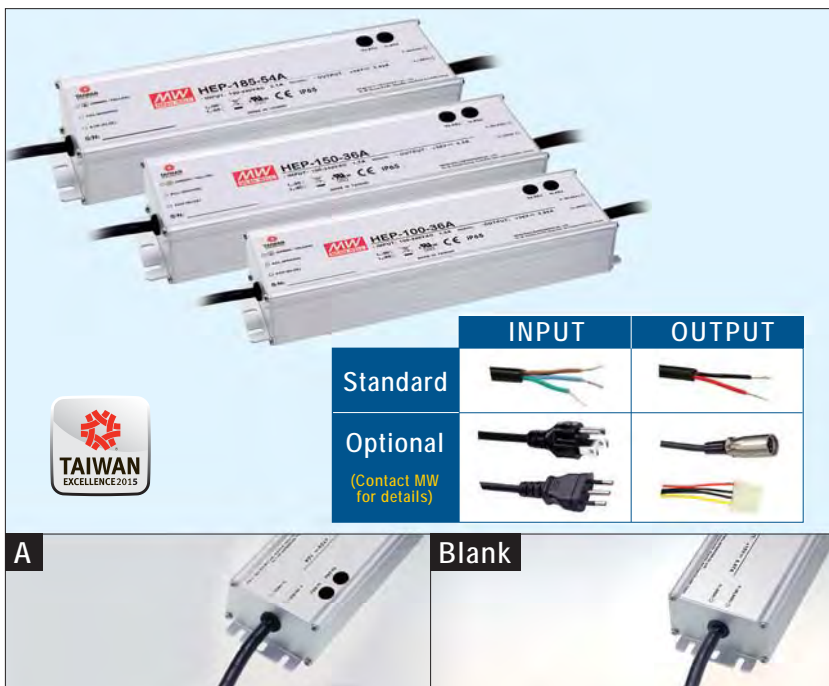
### ◆ HDP-190 Series

Model No.	Output	Tol.	R&N	Effi.	Max.
HDP-190	3.8V, 0~40A	±2%	100mV	86%	192W
	2.8V, 0~22A	±2%	100mV		

### ◆ HDP-240 Series

Model No.	Output	Tol.	R&N	Effi.	Max.
HDP-240	3.8V, 0~50A	±2%	100mV	84%	241W
	2.8V, 0~27.5A	±2%	100mV		





### Features

- Universal AC input 90~305VAC
- Built-in active PFC function
- High efficiency up to 94%
- Fanless design, cooling by free air convection
- -55~+70°C wide operating range
- Meet 6kV surge immunity level
- Withstand 10G vibration test
- Operating altitude up to 5000 meters
- Protections:
  - Short circuit / Overload / Over voltage / Over temperature
- Multiple models for choice:
  - A-Type: IP65 rated, Vo and Io can be adjusted through internal potentiometer
  - Blank-Type(option): IP68 rated, Vo and Io fixed
- Suitable for general industrial applications at high/low temperature, high dust, high moisture, high vibration, high salt or outdoor environment
- 6 years warranty



Model No.	HEP-100	HEP-150	HEP-185
AC input voltage range	90~305VAC, 127~431VDC		
AC inrush current (max.)	Cold start, 60A at 230VAC	Cold start, 65A at 230VAC	
DC adjustment range	Vo: -10%~+10% by potentiometer (A-Type only) Io: to 60%~100% of rated output current adjustment by potentiometer(A-Type only)		Vo: -10%~+10% by potentiometer (A-Type only) Io: to 50%~100% of rated output current by potentiometer(A-Type only)
Overload protection	105%~125% constant current limiting, auto-recovery		
Over voltage protection	108%~135% rated output voltage		
Setup, rise, hold up time	500ms, 50ms, 16ms at full load and 230VAC		
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 1.5kVAC		
Working temperature	-55~+70°C (refer to output derating curve)		
Safety standards	UL60950-1 approved ; Design refer to TUV EN60950-1		
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11		
Connection	Input	UL rated, SJTW 18AWGx3C(30cm)	
	Output	SJTW 14AWGx2C(30cm)	
Dimension (LxWxH)(mm)	220x 68x 38.8	228x 68x 38.8	

### 100W HEP-100

Model No.	Output	Tol.	R&N	Effi.
HEP-100-12 $\bar{A}$	12V, 0~8.34A	±1.0%	120mV	92%
HEP-100-15 $\bar{A}$	15V, 0~6.67A	±1.0%	150mV	92%
HEP-100-24 $\bar{A}$	24V, 0~4.00A	±1.0%	150mV	93%
HEP-100-36 $\bar{A}$	36V, 0~2.65A	±1.0%	200mV	93%
HEP-100-48 $\bar{A}$	48V, 0~2.00A	±1.0%	200mV	93%
HEP-100-54 $\bar{A}$	54V, 0~1.77A	±1.0%	200mV	93%

$\bar{A}$  = A or Blank, A: standard model(IP65), Blank: optional model(IP68)

### 185W HEP-185

Model No.	Output	Tol.	R&N	Effi.
HEP-185-12 $\bar{A}$	12V, 0~13.0A	±2.5%	150mV	91.5%
HEP-185-15 $\bar{A}$	15V, 0~11.5A	±2.0%	150mV	92.0%
HEP-185-24 $\bar{A}$	24V, 0~7.80A	±1.0%	150mV	93.5%
HEP-185-36 $\bar{A}$	36V, 0~5.20A	±1.0%	200mV	93.5%
HEP-185-48 $\bar{A}$	48V, 0~3.90A	±1.0%	200mV	94.0%
HEP-185-54 $\bar{A}$	54V, 0~3.45A	±1.0%	200mV	94.0%

$\bar{A}$  = A or Blank, A: standard model(IP65), Blank: optional model(IP68)

### 150W HEP-150

Model No.	Output	Tol.	R&N	Effi.
HEP-150-12 $\bar{A}$	12V, 0~12.5A	±2.5%	150mV	91.5%
HEP-150-15 $\bar{A}$	15V, 0~10.0A	±2.0%	150mV	92.0%
HEP-150-24 $\bar{A}$	24V, 0~6.30A	±1.0%	150mV	93.0%
HEP-150-36 $\bar{A}$	36V, 0~4.20A	±1.0%	200mV	93.5%
HEP-150-48 $\bar{A}$	48V, 0~3.20A	±1.0%	200mV	94.0%
HEP-150-54 $\bar{A}$	54V, 0~2.80A	±1.0%	200mV	94.0%

$\bar{A}$  = A or Blank, A: standard model(IP65), Blank: optional model(IP68)





### Features

- Universal AC input 90~305VAC
- Built-in active PFC function
- No load power consumption <0.5W at remote OFF(HEP-600)
- High efficiency up to 96%
- Fanless design, cooling by free air convection
- -55~+70°C wide operating range (HEP-240/320);  
-40~+70°C wide operating range (HEP-600)
- Meet 6kV surge immunity level (HEP-240/320)
- Withstand 10G vibration test
- Operating altitude up to 5000 meters
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Multiple models for choice (HEP-240/320):  
A-Type: **IP65 rated**, Vo and Io can be adjusted through internal potentiometer  
Blank-Type(option): **IP68 rated**, Vo and Io fixed
- Suitable for general industrial applications at high/low temperature, high dust, high moisture, high vibration, high salt or outdoor environment
- 6 years warranty

Model No.	HEP-240	HEP-320	HEP-600
AC input voltage range	90~305VAC; 127~431VDC		
AC inrush current (max.)	Cold start, 75A at 230VAC	Cold start, 70A at 230VAC	
DC adjustment range	Vo: -10%~+10% by potentiometer (A-Type only) Io: to 50%~100% of rated output current by potentiometer (A-Type only)		Vo: -15%~+5% by potentiometer Io: to 50%~100% of rated output current by potentiometer
Overload protection	105%~125% hiccup mode, auto-recovery		105%~125% constant current limiting, auto-recovery
Over voltage protection	108%~135% rated output voltage		
Setup, rise, hold up time	500ms, 80ms, 15ms at full load and 230VAC		
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 1.5kVAC		
Working temperature	-55~+70°C (refer to output derating curve)		-40~+70°C (refer to output derating curve)
Safety standards	UL60950-1 approved ; Design refer to TUV EN60950-1		UL60950-1, TUV EN60950-1 approved
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11		
Connection	Input	UL rated, SJTW 18AWGx3C (30cm)	
	Output	SJTW 14AWGx2C (30cm)	
Dimension (LxWxH)(mm)	244.2x 68x 38.8	252x 90x 43.8	280x 144x 48.5

### HEP-240 Series

Model No.	Output	Tol.	R&N	Effi.
HEP-240-12A	12V, 0~16.0A	±2.5%	150mV	90.0%
HEP-240-15A	15V, 0~15.0A	±2.0%	150mV	90.0%
HEP-240-24A	24V, 0~10.0A	±1.0%	150mV	92.5%
HEP-240-36A	36V, 0~6.70A	±1.0%	250mV	92.5%
HEP-240-48A	48V, 0~5.00A	±1.0%	250mV	93.0%
HEP-240-54A	54V, 0~4.45A	±1.0%	350mV	93.5%

= A or Blank, A: standard model(IP65), Blank: optional model(IP68)

### HEP-320 Series

Model No.	Output	Tol.	R&N	Effi.
HEP-320-12A	12V, 0~22.0A	±3.0%	150mV	91.0%
HEP-320-15A	15V, 0~19.0A	±2.0%	150mV	92.5%
HEP-320-24A	24V, 0~13.34A	±1.0%	150mV	94.0%
HEP-320-36A	36V, 0~8.90A	±1.0%	250mV	94.0%
HEP-320-48A	48V, 0~6.70A	±1.0%	250mV	94.5%
HEP-320-54A	54V, 0~5.95A	±1.0%	350mV	94.5%

= A or Blank, A: standard model(IP65), Blank: optional model(IP68)

### HEP-600 Series

Model No.	Output	Tol.	R&N	Effi.
HEP-600-12	12V, 0~40A	±3.0%	150mV	93.0%
HEP-600-15	15V, 0~36A	±2.0%	150mV	94.0%
HEP-600-20	20V, 0~28A	±1.5%	150mV	95.0%
HEP-600-24	24V, 0~25A	±1.0%	150mV	95.0%
HEP-600-30	30V, 0~20A	±1.0%	200mV	95.5%
HEP-600-36	36V, 0~16.7A	±1.0%	250mV	95.5%
HEP-600-42	42V, 0~14.3A	±1.0%	250mV	96.0%
HEP-600-48	48V, 0~12.5A	±1.0%	250mV	96.0%
HEP-600-54	54V, 0~11.2A	±1.0%	350mV	96.0%



DRC-40

DRC-60

DRC-100

### Features

- Single output with battery charger (UPS function)
- Universal AC input / Full range
- Can be installed on DIN rail TS-35/7.5 or 15
- Protections: Short circuit / Overload / Over voltage / Battery low protection / Battery reverse polarity protection by fuse
- Alarm signal for AC OK and battery low
- Cooling by free air convection
- Pass LPS (DRC-40/60)
- LED indicator for power on
- 100% full load burn-in test
- 3 years warranty

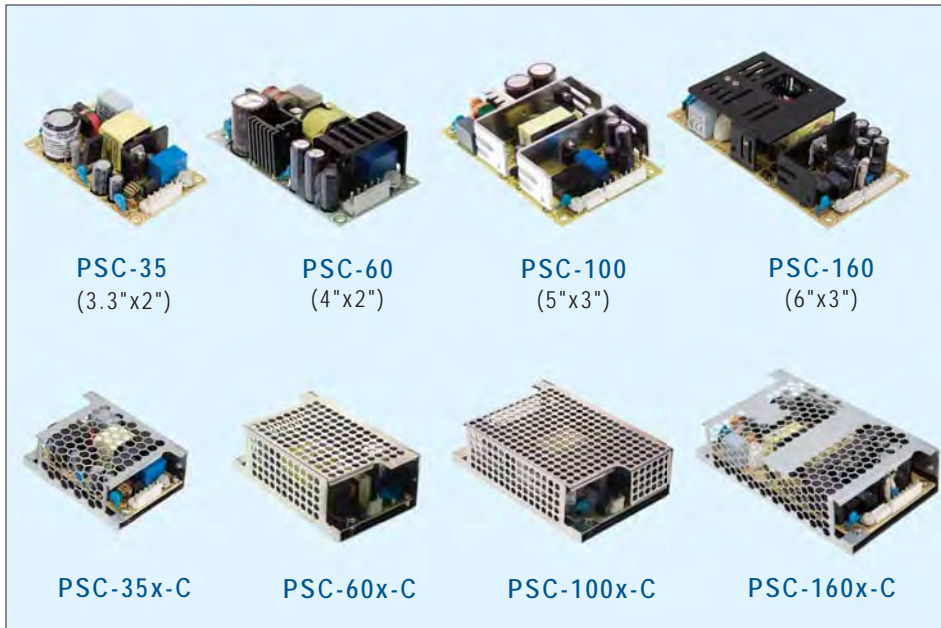


Model No.	DRC-40	DRC-60	DRC-100
AC input voltage range	90~264VAC; 127~370VDC		
AC inrush current (max.)	Cold start, 30A at 115VAC, 60A at 230VAC		
DC adjustment range	CH1, 13.8V: 12~15V; 27.6V: 24~30V		
Overload protection	105%~150% hiccup mode, auto-recovery		
Over voltage protection	105%~135% rated output voltage		
Setup, rise, hold up time	400ms, 50ms, 50ms at full load and 230VAC	2400ms, 50ms, 50ms at full load and 230VAC	
Withstand voltage	I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC		
Working temperature	-30~+70°C (refer to output derating curve)		
Safety standards	UL60950-1, TUV EN60950-1 approved		
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11		
Connection (screw DIN terminal)	I/P: 3 poles, O/P: 8 poles		I/P: 3 poles, O/P: 10 poles
Case No.	962A		973A
Dimension (LxWxH)(mm)	40x 90x 100		55x 90x 100

40W DRC-40					
Model No.	Output	Tol.	R&N	Effi.	Max.
DRC-40A	13.8V, 0~2.9A	±1%	120mV	86%	40W
	13.8V, 0~1.0A (Charger)				
DRC-40B	27.6V, 0~1.45A	±1%	200mV	87%	40W
	27.6V, 0~0.5A (Charger)				

100W DRC-100					
Model No.	Output	Tol.	R&N	Effi.	Max.
DRC-100A	13.8V, 0~7A	±1%	120mV	87%	97W
	13.8V, 0~2.5A (Charger)				
DRC-100B	27.6V, 0~3.5A	±1%	240mV	89%	97W
	27.6V, 0~1.25A (Charger)				

60W DRC-60					
Model No.	Output	Tol.	R&N	Effi.	Max.
DRC-60A	13.8V, 0~4.3A	±1%	120mV	86%	59W
	13.8V, 0~1.5A (Charger)				
DRC-60B	27.6V, 0~2.15A	±1%	200mV	88%	59W
	27.6V, 0~0.75A (Charger)				



### Features

- Single output with battery charger (UPS function)
- Universal AC input / Full range
- PCB and enclosed type with metal case available
- Compact size
- Built-in active PFC function (PSC-160)
- Protections:
  - Short circuit / Overload / Over voltage
- Battery low protection / Battery reverse polarity protection by fuse
- Alarm signal for AC OK and battery low
- Cooling by free air convection
- 100% full load, burn-in test
- 2 years warranty



Model No.	PSC-35 <input type="checkbox"/>	PSC-60 <input type="checkbox"/>	PSC-100 <input type="checkbox"/>	PSC-160 <input type="checkbox"/>	
AC input voltage range	90~264VAC; 127~370VDC				
AC inrush current (max.)	Cold start, 40A at 230VAC	60A at 230VAC	70A at 230VAC		
DC adjustment range	CH1, 13.8V: 12~15V; 27.6V: 24~29V				
Overload protection	105%~150% hiccup mode, auto-recovery				
Over voltage protection	CH1, 105%~135%, shut off, re-power on to recover	CH1, 105%~135%, hiccup mode, auto recovery	CH1, 105%~135%, shut off, re-power on to recover		
Withstand voltage	I/P-O/P:3kVAC, I/P-FG: 2kVAC, 1 minute	I/P-O/P:3kVAC, I/P-FG: 1.5kVAC, 1 minute	I/P-O/P:3kVAC, I/P-FG: 2kVAC, 1 minute		
Working temperature	-30~+70°C		-20~+70°C (refer to output derating curve)		
Safety standards	UL60950-1, TUV EN60950-1 approved				
EMC standards	EN55022 class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11				
Connection	3+6P/3.96mm pitch, JST: B3P/B6P-VH		3+8P/3.96mm pitch, 4P/2.5mm pitch, JST: B3P/B8P-VH, B4B-XH		
Dimension (LxWxH)(mm)	PCB Type	84.6x 50.8x 24	101.6x 50.8x 29	127x 76.2x 31	152.4x 76.2x 32
	Enclosed Type	86.4x 59.6x 30	103.4x 62x 37	130x 85x 37	155.4x 85x 37

### 35W PSC-35

Model No.	Output	Tol.	R&N	Effi.	Max.
PSC-35A <input type="checkbox"/>	13.8V, 0~2.6A	±1%	120mV	84%	36W
	13.8V, 0~0.9A (Charger)				
PSC-35B <input type="checkbox"/>	27.6V, 0~1.3A	±1%	240mV	86%	36W
	27.6V, 0~0.45A (Charger)				

= blank, -C ; Blank: PCB Type, -C: Enclosed Type

### 100W PSC-100

Model No.	Output	Tol.	R&N	Effi.	Max.
PSC-100A <input type="checkbox"/>	13.8V, 0~7.0A	±1%	100mV	86%	100W
	13.8V, 0~2.5A (Charger)				
PSC-100B <input type="checkbox"/>	27.6V, 0~3.50A	±1%	100mV	88%	101W
	27.6V, 0~1.25A (Charger)				

= blank, -C ; Blank: PCB Type, -C: Enclosed Type

### 60W PSC-60

Model No.	Output	Tol.	R&N	Effi.	Max.
PSC-60A <input type="checkbox"/>	13.8V, 0~4.3A	±1%	120mV	84%	59W
	13.8V, 0~1.50A (Charger)				
PSC-60B <input type="checkbox"/>	27.6V, 0~2.15A	±1%	240mV	84%	59W
	27.6V, 0~0.75A (Charger)				

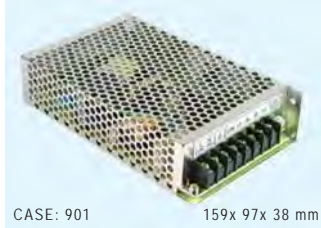
= blank, -C ; Blank: PCB Type, -C: Enclosed Type

### 160W PSC-160

Model No.	Output	Tol.	R&N	Effi.	Max.
PSC-160A <input type="checkbox"/>	13.8V, 0~11.6A	±1%	150mV	88%	160W
	13.8V, 0~4A (Charger)				
PSC-160B <input type="checkbox"/>	27.6V, 0~5.8A	±1%	240mV	90%	160W
	27.6V, 0~2A (Charger)				

= blank, -C ; Blank: PCB Type, -C: Enclosed Type

## 55W 1~2 Output with Battery Charger



CASE: 901 159x 97x 38 mm

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage
- Battery low protection (except for ADS series)
- DC alarm signal (optional)
- Cooling by free air convection
- Fixed switching frequency at 45kHz
- Approvals: UL / CUL / TUV / CB / CE
- 100% full load burn-in test
- 2 years warranty

AC input voltage range ..... 88~264VAC; 124~370VDC  
 AC inrush current ..... Cold start, 20A at 115VAC, 40A at 230VAC  
 DC adjustment range ..... 12V, 24V:  $\pm 10\%$   
 13.8V: 12~14.5V; 27.6V: 24~29V  
 Overload protection ..... 105%~150% hiccup mode, auto-recovery  
 Over voltage protection ..... CH1: 105%~135% rated output voltage  
 Setup, rise, hold up time ..... 800ms, 50ms, 80ms at full load and 230VAC  
 Withstand voltage ..... I/P-O/P:3kVAC, I/P-FG:1.5kVAC, 1minute  
 Working temperature ..... -10~+60°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, TUV EN60950-1 approved  
 EMC standards ..... EN55022 class B, EN61000-3-2,3,  
 EN61000-4-2,3,4,5,6,8,11  
 Connection ..... 8P/ 8.25mm pitch terminal block  
 Packing ..... 0.57kg ; 24pcs / 13.7kg / 0.75CUFT

### Single Output with 5V, 4A DC-DC Converter

Model No.	Output	Tol.	R&N	Effi.	Max.
ADS-5512	12V, 0~4.0A	$\pm 1\%$	100mV	76%	51W
	5V, 0~4.0A	$\pm 3\%$	100mV		
ADS-5524	24V, 0~2.5A	$\pm 1\%$	100mV	79%	58W
	5V, 0~4.0A	$\pm 3\%$	100mV		

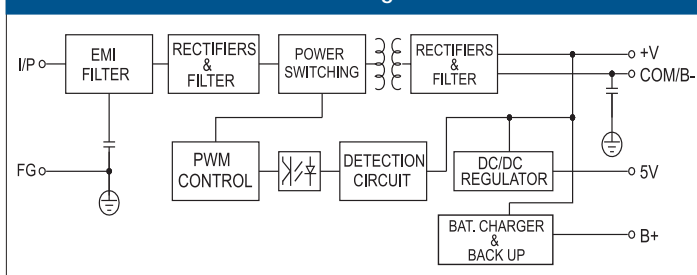
### Single Output with Battery Charger (UPS Function)

Model No.	Output	Tol.	R&N	Effi.	Max.
AD-55A	13.8V, 0~4.0A	$\pm 1\%$	100mV	71%	51W
	13.4V, 0~0.23A	(Charger)			
AD-55B	27.6V, 0~2.0A	$\pm 1\%$	100mV	74%	54W
	26.5V, 0~0.16A	(Charger)			

### Dual Output with Battery Charger (UPS Function)

Model No.	Output	Tol.	R&N	Effi.	Max.
ADD-55A	13.8V, 0~3.50A	$\pm 1\%$	100mV	71%	53W
	5V, 0~4.00A	$\pm 3\%$	100mV		
	13.4V, 0~0.23A	(Charger)			
ADD-55B	27.6V, 0~2.00A	$\pm 1\%$	150mV	74%	55W
	5V, 0~4.00A	$\pm 3\%$	150mV		
	26.5V, 0~0.16A	(Charger)			

## Block Diagram



## 155W 1~2 Output with Battery Charger and PFC Function



CASE: 906B 199x 110x 50 mm

- Universal AC input / Full range
- PF>0.92@230VAC and full load
- Protections: Short circuit / Overload / Over voltage
- Battery low protection (except for ADS series)
- Cooling by free air convection
- Fixed switching frequency at 134kHz
- Approvals: UL / CUL / TUV / CB / CE
- 100% full load burn-in test
- 2 years warranty

AC input voltage range ..... 88~264VAC; 124~370VDC  
 AC inrush current ..... Cold start, 20A at 115VAC, 40A at 230VAC  
 DC adjustment range ..... 12V, 24V, 48V:  $\pm 10\%$   
 13.8V: 12~14.5V; 27.6V: 24~29V; 54V: 48~58V  
 Overload protection ..... CH1,2: 105%~135%, charger: 0.51~0.9A;  
 constant current limiting, auto-recovery  
 Over voltage protection ..... CH1: 115%~135% rated output voltage  
 Setup, rise, hold up time ... 1000ms, 90ms, 24ms at full load and 230VAC  
 Withstand voltage ..... I/P-O/P:3kVAC, I/P-FG:1.5kVAC, 1minute  
 Working temperature ..... -10~+60°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, TUV EN60950-1 approved  
 EMC standards ..... EN55022 class B, EN61000-3-2,3,  
 EN61000-4-2,3,4,5,6,8,11  
 Connection ..... 8P/ 9.5mm pitch terminal block  
 Packing ..... 1.0kg ; 16pcs / 16.0kg / 0.95CUFT

### Single Output with 5V, 3A DC-DC Converter

Model No.	Output	Tol.	R&N	Effi.	Max.
ADS-15512	12V, 0~12.5A	$\pm 2\%$	150mV	77%	153W
	5V, 0~3.00A	$\pm 3\%$	100mV		
ADS-15524	24V, 0~6.50A	$\pm 1\%$	150mV	82%	154W
	5V, 0~3.00A	$\pm 3\%$	100mV		
ADS-15548	48V, 0~3.20A	$\pm 1\%$	240mV	82%	154W
	5V, 0~3.00A	$\pm 5\%$	100mV		

### Single Output with Battery Charger (UPS Function)

Model No.	Output	Tol.	R&N	Effi.	Max.
AD-155A	13.8V, 0~11.5A	$\pm 2\%$	150mV	80%	152W
	13.3V, 0~0.50A	(Charger)			
AD-155B	27.6V, 0~5.50A	$\pm 1\%$	150mV	84%	152W
	27.1V, 0~0.50A	(Charger)			
AD-155C	54.0V, 0~2.70A	$\pm 1\%$	240mV	84%	157W
	53.5V, 0~0.50A	(Charger)			

### Dual Output with Battery Charger (UPS Function)

Model No.	Output	Tol.	R&N	Effi.	Max.
ADD-155A	13.8V, 0~10.5A	$\pm 1\%$	150mV	78%	153W
	5V, 0~3.00A	$\pm 3\%$	100mV		
	13.3V, 0~0.50A	(Charger)			
ADD-155B	27.6V, 0~5.00A	$\pm 1\%$	200mV	81%	153W
	5V, 0~3.00A	$\pm 3\%$	100mV		
	27.1V, 0~0.50A	(Charger)			
ADD-155C	54.0V, 0~2.50A	$\pm 1\%$	240mV	81%	150W
	5V, 0~3.00A	$\pm 5\%$	100mV		
	53.5V, 0~0.20A	(Charger)			



# Security Series/ATX Power



## 35~75W Single Output

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage / Battery reverse polarity protection by fuse
- Cooling by free air convection
- No load power consumption <math><0.75W</math>
- Suitable for installation in metallic or non-metallic system enclosure
- Temperature compensation function
- LED indicator for power on
- 2 years warranty



AC input voltage range ..... 85~264VAC; 120~370VDC  
 DC adjustment range ..... 95%~115% rated output voltage  
 Overload protection ..... 120%~165%, hiccup mode, auto-recovery  
 Over voltage protection ..... 120%~140%, rated output voltage  
 Setup, rise, hold up time .... 500ms, 30ms, 50ms at full load and 230VAC  
 Withstand voltage ..... I/P-O/P: 3kVAC, I/P-FG:1.5kVAC, 1minute  
 Working temperature ..... -20~+60°C (refer to output derating curve)  
 Safety standards ..... UL60950-1 approved  
 EMC standards ..... EN55022 class B, EN61000-3-2,3,  
 EN61000-4-2,3,4,5,6,8,11  
 Connection ..... I/P: 3 poles, O/P: 2 poles screw terminal

### ✦ SCP-35 Series

Model No.	Output	Tol.	R&N	Effi.	Max.
SCP-35-12	13.8V, 0~2.6A	±2%	120mV	83%	36W
SCP-35-24	27.6V, 0~1.4A	±1%	200mV	86%	39W

### ✦ SCP-50 Series

Model No.	Output	Tol.	R&N	Effi.	Max.
SCP-50-12	13.8V, 0~3.6A	±2%	120mV	81%	50W
SCP-50-24	27.6V, 0~1.8A	±1%	200mV	85%	50W

### ✦ SCP-75 Series

Model No.	Output	Tol.	R&N	Effi.	Max.
SCP-75-12	13.8V, 0~5.4A	±2%	120mV	81%	75W
SCP-75-24	27.6V, 0~2.7A	±1%	200mV	85%	75W

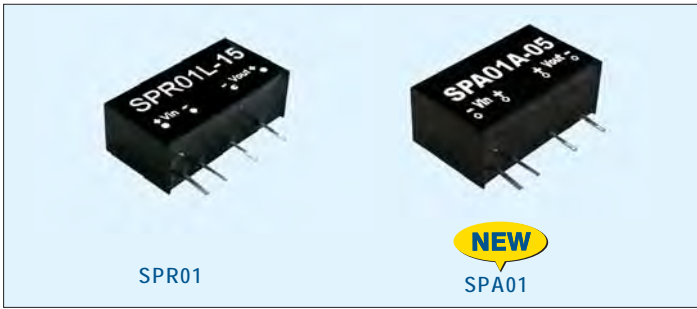
## 250~300W Industrial ATX PC Power Supply



- Universal AC input / Full range
- Low profile for 1U/2U rack system
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage
- With power good and fail signal output
- Forced air cooling by built-in DC fan
- PS-ON signal input
- 2 years warranty

AC input voltage range ..... 90~264VAC, 127~370VDC  
 Setup, rise, hold up time ... 800ms, 20ms, 16ms at 230VAC  
 Overload protection ..... 105%~150% shut off, re-power on to recover  
 Over voltage protection ..... 110%~140% rated output voltage for CH1~CH3  
 Withstand voltage ..... I/P-O/P: 1.5kVAC, I/P-FG:2kVAC, 1minute  
 Working temperature ..... -10~+60°C (refer to output derating curve)  
 Safety standards ..... UL60950-1, TUV EN60950-1 approved  
 EMC standards ..... EN55022 class B, EN61000-3-2,-3,  
 EN61000-4-2,3,4,5,6,8,11

Model No.	Output	Tol.	R&N	Effi.	Max.
IPC-250	3.3V, 0~20A	±5%	50mV	75%	250W
	5V, 1~25A	±5%	50mV		
	12V, 1~15A	±7%	120mV		
	-5V, 0~0.5A	±8%	100mV		
	-12V, 0.1~1.0A	±10%	120mV		
	5VSB, 0~2.0A	±5%	50mV		
IPC-300A	3.3V, 0~20A	±5%	50mV	75%	300W
	5V, 1~30A	±5%	50mV		
	12V, 1~18A	±7%	120mV		
	-5V, 0~0.5A	±8%	100mV		
	-12V, 0.1~1.0A	±10%	120mV		
	5VSB, 0~2.0A	±5%	50mV		
IPC-300B	24V, 0~3.0A	±5%	240mV	80%	300W
	5V, 1~30A	±5%	50mV		
	12V, 1~18A	±7%	120mV		
	-5V, 0~0.5A	±8%	100mV		
	-12V, 0.1~1.0A	±10%	120mV		
	5VSB, 0~2.0A	±5%	50mV		



### Features

- Single in line package (SIP)
- $\pm 10\%$  input (SPR01), 2:1 input (SPA01)
- I/O isolation: 1000VDC (SPR01), 1500VDC (SPA01)
- Protections: Short circuit / Overload
- Non-conductive plastic case (UL94V-0)
- Cooling by free air convection
- 2 years warranty

SPR01 Series		SPA01 Series																					
<p>Unit: mm(inch) FRONT VIEW BOTTOM VIEW</p>	<table border="1"> <thead> <tr> <th>Pin No.</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>+Vout</td> </tr> <tr> <td>2</td> <td>-Vin</td> </tr> <tr> <td>4</td> <td>-Vout</td> </tr> <tr> <td>6</td> <td>+Vout</td> </tr> </tbody> </table>	Pin No.	Output	1	+Vout	2	-Vin	4	-Vout	6	+Vout	<p>Unit: mm(inch) FRONT VIEW BOTTOM VIEW</p>	<table border="1"> <thead> <tr> <th>Pin No.</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-Vin</td> </tr> <tr> <td>2</td> <td>+Vin</td> </tr> <tr> <td>4</td> <td>+Vout</td> </tr> <tr> <td>6</td> <td>-Vout</td> </tr> </tbody> </table>	Pin No.	Output	1	-Vin	2	+Vin	4	+Vout	6	-Vout
Pin No.	Output																						
1	+Vout																						
2	-Vin																						
4	-Vout																						
6	+Vout																						
Pin No.	Output																						
1	-Vin																						
2	+Vin																						
4	+Vout																						
6	-Vout																						



Model No.	SPR01	SPA01
Vin range	L: 5V $\pm 10\%$ , M: 12V $\pm 10\%$ , N: 24V $\pm 10\%$ , O: 48V $\pm 10\%$	A: 9-18V, B: 18-36V, C: 36-75V
Vo accuracy (Typ.)	$\pm 2\%$	$\pm 2\%$
Line regulation (max.)	$\pm 1\%$	$\pm 0.5\%$
Load regulation (max.)	$\pm 1\%$ @10%~100% load	$\pm 0.5\%$
Overload protection	>110% hiccup mode, auto-recovery	130%~200%, auto-recovery
Short circuit protection	Continuous, hiccup mode, auto-recovery	
I/O isolation voltage (min.)	1000VDC	1500VDC
I/O isolation resistance (min.)	100M $\Omega$ @500VDC	
Working temperature	-25~+71°C (refer to output derating curve)	-40~+90°C (refer to output derating curve)
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8, FCC part15 class B	EN55022 class A, EN61000-4-2,3,4,5,6,8, FCC part15
Dimension (LxWxH)	0.77"x 0.28" x 0.4" (19.6x 7.1x 10.14mm)	0.69"x 0.30"x 0.44" (17.4x 7.75x 11.1mm)

### 1W-SIP6 / Regulated SPR01

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SPR01L-05	5 $\pm 10\%$	5	200	100	57
SPR01L-09	5 $\pm 10\%$	9	100	100	57
SPR01L-12	5 $\pm 10\%$	12	84	100	58
SPR01L-15	5 $\pm 10\%$	15	67	100	60
SPR01M-05	12 $\pm 10\%$	5	200	100	65
SPR01M-09	12 $\pm 10\%$	9	100	100	60
SPR01M-12	12 $\pm 10\%$	12	84	100	60
SPR01M-15	12 $\pm 10\%$	15	67	100	62
SPR01N-05	24 $\pm 10\%$	5	200	100	62
SPR01N-09	24 $\pm 10\%$	9	100	100	60
SPR01N-12	24 $\pm 10\%$	12	84	100	60
SPR01N-15	24 $\pm 10\%$	15	67	100	60
SPR01O-05	48 $\pm 10\%$	5	200	100	62
SPR01O-09	48 $\pm 10\%$	9	100	100	56
SPR01O-12	48 $\pm 10\%$	12	84	100	58
SPR01O-15	48 $\pm 10\%$	15	67	100	58

### 1W-SIP6 / Regulated SPA01

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SPA01A-05	9-18	5	200	60	77
SPA01A-12	9-18	12	83	80	78
SPA01A-15	9-18	15	67	80	79
SPA01B-05	18-36	5	200	60	77
SPA01B-12	18-36	12	83	80	78
SPA01B-15	18-36	15	67	80	79
SPA01C-05	36-75	5	200	60	77
SPA01C-12	36-75	12	83	80	78
SPA01C-15	36-75	15	67	80	79

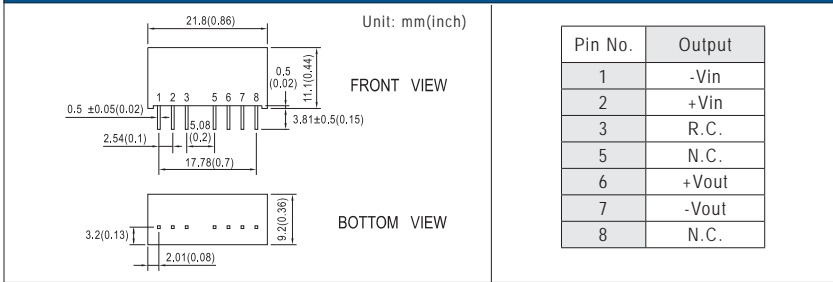


SPA02

SPB03

SPB05

### SPA02 / SPB03 / SPB05 Series



### Features

- Single in line package (SIP)
- 2:1 wide input range (4:1 option for 2W)
- I/O isolation: 1000VDC (2W/3W), 1500VDC (5W)
- Protections: Short circuit / Overload
- Built-in remote ON/OFF control
- Non-conductive plastic case (UL94V-0)
- Cooling by free air convection
- Modified models available: output 3.3V / 9V (except for 5W)
- 2 years warranty



Model No.	SPA02	SPB03	SPB05
Vin range	E: 4.5~9V, A: 9~18V, B: 18~36V, C: 36~72V		
Vo accuracy (Typ.)	±2%		
Line regulation (max.)	±0.5%		
Load regulation (max.)	±0.5%@10%~100% load		
Overload protection	150%~250%, auto-recovery		
Short circuit protection	Continuous, hiccup mode, auto-recovery		
I/O isolation voltage (min.)	1000VDC (standard), 3000VDC (option for SPA02)		1500VDC
I/O isolation resistance (min.)	100MΩ@500VDC		
Working temperature	-40~+85°C (refer to output derating curve)		-40~+80°C
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8, FCC part15 class B <b>without external components</b>		
Dimension (LxWxH)	0.86"x 0.36"x 0.44" (21.8x 9.2x 11.1mm)		

### 2W-SIP8 / Regulated SPA02

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SPA02E-05	4.5~9	5	400	60	71
SPA02E-12	4.5~9	12	150	60	74
SPA02E-15	4.5~9	15	120	60	76
SPA02A-05	9~18	5	400	60	76
SPA02A-12	9~18	12	167	60	80
SPA02A-15	9~18	15	133	60	80
SPA02B-05	18~36	5	400	60	76
SPA02B-12	18~36	12	167	60	80
SPA02B-15	18~36	15	133	60	80
SPA02C-05	36~72	5	400	60	74
SPA02C-12	36~72	12	167	60	82
SPA02C-15	36~72	15	133	60	78

### 3W-SIP8 / Regulated SPB03

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SPB03E-05	4.5~9	5	600	50	74
SPB03E-12	4.5~9	12	250	60	76
SPB03E-15	4.5~9	15	200	60	75
SPB03A-05	9~18	5	600	50	73

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SPB03A-12	9~18	12	250	60	80
SPB03A-15	9~18	15	200	60	80
SPB03B-05	18~36	5	600	50	77
SPB03B-12	18~36	12	250	60	80
SPB03B-15	18~36	15	200	60	80
SPB03C-05	36~72	5	600	50	78
SPB03C-12	36~72	12	250	60	79
SPB03C-15	36~72	15	200	60	82

### 5W-SIP8 / Regulated SPB05

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SPB05A-05	9~18	5	1000	80	81
SPB05A-12	9~18	12	417	90	85
SPB05A-15	9~18	15	333	90	84
SPB05B-05	18~36	5	1000	80	83
SPB05B-12	18~36	12	417	90	85
SPB05B-15	18~36	15	333	90	85
SPB05C-05	36~72	5	1000	80	83
SPB05C-12	36~72	12	417	90	85
SPB05C-15	36~72	15	333	90	85



### Features

- Single in line package (SIP)
- $\pm 10\%$  input range
- I/O isolation: 1500VDC (SMU01/02), 3000VDC (SPU02/03)
- Protection: Short circuit
- Industry standard pinout
- Non-conductive plastic case (UL94V-0)
- Cooling by free air convection
- 2 years warranty

SMU01 / SMU02 Series		SPU02 / SPU03 Series																					
<p>Unit: mm(inch)</p> <p>FRONT VIEW: 11.6 (0.46) x 10.14 (0.40) x 3.81 (0.15) mm. Pin 1: 6.1 (0.24) for SMU01, 7.5 (0.30) for SMU02. Pin 4: 1.2 (0.05) mm. BOTTOM VIEW: 2.54 (0.10) mm.</p> <table border="1"> <tr><th>Pin No.</th><th>Output</th></tr> <tr><td>1</td><td>-Vin</td></tr> <tr><td>2</td><td>+Vin</td></tr> <tr><td>3</td><td>-Vout</td></tr> <tr><td>4</td><td>+Vout</td></tr> </table>	Pin No.	Output	1	-Vin	2	+Vin	3	-Vout	4	+Vout		<p>Unit: mm(inch)</p> <p>FRONT VIEW: 19.6 (0.77) x 10.14 (0.40) x 3.81 (0.15) mm. Pin 1: 7.1 (0.28) for SPU02, 7.5 (0.30) for SPU03. Pin 7: 1.2 (0.05) mm. BOTTOM VIEW: 5.08 (0.20) mm.</p> <table border="1"> <tr><th>Pin No.</th><th>Output</th></tr> <tr><td>1</td><td>+Vin</td></tr> <tr><td>2</td><td>-Vin</td></tr> <tr><td>5</td><td>-Vout</td></tr> <tr><td>7</td><td>+Vout</td></tr> </table>	Pin No.	Output	1	+Vin	2	-Vin	5	-Vout	7	+Vout	
Pin No.	Output																						
1	-Vin																						
2	+Vin																						
3	-Vout																						
4	+Vout																						
Pin No.	Output																						
1	+Vin																						
2	-Vin																						
5	-Vout																						
7	+Vout																						



Model No.	SMU01	SMU02	SPU02	SPU03
Vin range	L: 5V $\pm 10\%$ , M: 12V $\pm 10\%$ , N: 24V $\pm 10\%$			
Vo accuracy (Typ.)	$\pm 2\%$			
Line regulation (max.)	$\pm 1.2\%$ for 1% input variation			
Load regulation (max.)	$\pm 8\%$ @20%~100% load			
Short circuit protection	Momentary, broken			
I/O isolation voltage (min.)	1500VDC (standard), 3000VDC (option)		3000VDC	
I/O isolation resistance (min.)	100M $\Omega$ @ 500VDC			
Working temperature	-40~+90°C	-40~+71°C (refer to output derating curve)		-40~+90°C
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8, FCC part15 class B <b>without external components</b>			
Dimension (LxWxH)	0.46"x 0.24"x 0.4" (11.6x 6.1x 10.14mm)	0.46"x 0.3"x 0.4" (11.6x 7.5x 10.14mm)	0.77"x 0.28"x 0.4" (19.6x 7.1x 10.14mm)	0.77"x 0.30"x 0.4" (19.6x 7.5x 10.14mm)

### 1W-SIP4 / Unregulated SMU01

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SMU01L-05	5 $\pm 10\%$	5	200	100	77
SMU01L-09	5 $\pm 10\%$	9	110	100	77
SMU01L-12	5 $\pm 10\%$	12	84	100	78
SMU01L-15	5 $\pm 10\%$	15	67	100	78
SMU01M-05	12 $\pm 10\%$	5	200	100	79
SMU01M-09	12 $\pm 10\%$	9	110	100	79
SMU01M-12	12 $\pm 10\%$	12	84	100	80
SMU01M-15	12 $\pm 10\%$	15	67	100	80
SMU01N-05	24 $\pm 10\%$	5	200	100	78
SMU01N-09	24 $\pm 10\%$	9	110	100	76
SMU01N-12	24 $\pm 10\%$	12	84	100	77
SMU01N-15	24 $\pm 10\%$	15	67	100	77

### 2W-SIP7 / Unregulated SPU02

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SPU02L-05	5 $\pm 10\%$	5	400	100	77
SPU02L-12	5 $\pm 10\%$	12	167	100	80
SPU02L-15	5 $\pm 10\%$	15	133	100	81
SPU02M-05	12 $\pm 10\%$	5	400	100	79
SPU02M-12	12 $\pm 10\%$	12	167	100	81
SPU02M-15	12 $\pm 10\%$	15	133	100	83
SPU02N-05	24 $\pm 10\%$	5	400	100	77
SPU02N-12	24 $\pm 10\%$	12	167	100	80
SPU02N-15	24 $\pm 10\%$	15	133	100	82

### 2W-SIP4 / Unregulated NEW SMU02

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SMU02L-05	5 $\pm 10\%$	5	400	50	79
SMU02L-12	5 $\pm 10\%$	12	167	60	83
SMU02L-15	5 $\pm 10\%$	15	133	80	84
SMU02M-05	12 $\pm 10\%$	5	400	50	82
SMU02M-12	12 $\pm 10\%$	12	167	60	85
SMU02M-15	12 $\pm 10\%$	15	133	80	85
SMU02N-05	24 $\pm 10\%$	5	400	50	80
SMU02N-12	24 $\pm 10\%$	12	167	60	84
SMU02N-15	24 $\pm 10\%$	15	133	80	84

### 3W-SIP7 / Unregulated SPU03

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SPU03L-05	5 $\pm 10\%$	5	600	50	82
SPU03L-12	5 $\pm 10\%$	12	250	50	85
SPU03L-15	5 $\pm 10\%$	15	200	50	86
SPU03M-05	12 $\pm 10\%$	5	600	50	83
SPU03M-12	12 $\pm 10\%$	12	250	50	86
SPU03M-15	12 $\pm 10\%$	15	200	50	86
SPU03N-05	24 $\pm 10\%$	5	600	50	83
SPU03N-12	24 $\pm 10\%$	12	250	50	86
SPU03N-15	24 $\pm 10\%$	15	200	50	88





### Features

- Dual in line package (DIP)
- $\pm 10\%$  input range
- I/O isolation: 1000VDC (SRS/SUS01), 1500VDC (SMA01)
- Protection: Short circuit
- Industry standard pinout
- Cooling by free air convection
- Non-conductive plastic case (UL94V-0)
- Cooling by free air convection
- 2 years warranty

SRS / SUS01 Series		SMA01 Series																	
<p>Unit: mm(inch)</p> <p>Pin No. Output</p> <table border="1"> <tr><td>1 &amp; 16</td><td>+Vin</td></tr> <tr><td>6 &amp; 11</td><td>-Vout</td></tr> <tr><td>7 &amp; 10</td><td>+Vout</td></tr> <tr><td>8 &amp; 9</td><td>-Vin</td></tr> </table>		1 & 16	+Vin	6 & 11	-Vout	7 & 10	+Vout	8 & 9	-Vin	<p>Unit: mm(inch)</p> <p>Pin No. Output</p> <table border="1"> <tr><td>1</td><td>-Vin</td></tr> <tr><td>4</td><td>+Vin</td></tr> <tr><td>5</td><td>+Vout</td></tr> <tr><td>7</td><td>-Vout</td></tr> </table>		1	-Vin	4	+Vin	5	+Vout	7	-Vout
1 & 16	+Vin																		
6 & 11	-Vout																		
7 & 10	+Vout																		
8 & 9	-Vin																		
1	-Vin																		
4	+Vin																		
5	+Vout																		
7	-Vout																		



Model No.	SRS	SUS01	SMA01
Vin range	$\pm 10\%$	L: $5V \pm 10\%$ , M: $12V \pm 10\%$ ; N: $24V \pm 10\%$ ; O: $48V \pm 10\%$ (SUS01 only)	
Vo accuracy (Typ.)	$\pm 2\%$		
Line regulation (max.)	$\pm 1\%$	$\pm 1.2\%$	
Load regulation (max.)	$\pm 1\% @ 10\% \sim 100\%$ load	$\pm 8\% @ 20\% \sim 100\%$ load	
Short circuit protection	Continuous, hiccup mode, auto-recovery	Momentary, broken	
I/O isolation voltage (min.)	1000VDC	1500VDC (standard), 3000VDC (option)	
I/O isolation resistance (min.)	100M $\Omega @ 500VDC$		
Working temperature	$-25 \sim +71^\circ C$ (refer to output derating curve)	$-40 \sim +90^\circ C$	
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8, FCC part15 class B <b>without external components</b>		
Dimension (LxWxH)	0.89"x 0.39"x 0.33" (22.6x 9.9x 8.4mm)		0.5"x 0.4"x 0.28" (12.7x 10.16x 7.1mm)

### 0.5W-DIP16 / Regulated SRS

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SRS-0505	5 $\pm 10\%$	5	100	100	60
SRS-0509	5 $\pm 10\%$	9	56	100	60
SRS-0512	5 $\pm 10\%$	12	42	100	60
SRS-0515	5 $\pm 10\%$	15	34	100	60
SRS-1205	12 $\pm 10\%$	5	100	100	60
SRS-1209	12 $\pm 10\%$	9	56	100	60
SRS-1212	12 $\pm 10\%$	12	42	100	60
SRS-1215	12 $\pm 10\%$	15	34	100	60
SRS-2405	24 $\pm 10\%$	5	100	100	60
SRS-2409	24 $\pm 10\%$	9	56	100	60
SRS-2412	24 $\pm 10\%$	12	42	100	60
SRS-2415	24 $\pm 10\%$	15	34	100	60
SRS-4805	48 $\pm 10\%$	5	100	100	60
SRS-4809	48 $\pm 10\%$	9	56	100	60
SRS-4812	48 $\pm 10\%$	12	42	100	60
SRS-4815	48 $\pm 10\%$	15	34	100	60

### 0.5W-DIP16 / Unregulated SUS01

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SUS01L-05	5 $\pm 10\%$	5	200	100	73
SUS01L-09	5 $\pm 10\%$	9	111	100	75
SUS01L-12	5 $\pm 10\%$	12	84	100	78
SUS01L-15	5 $\pm 10\%$	15	67	100	79

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SUS01M-05	12 $\pm 10\%$	5	200	100	74
SUS01M-09	12 $\pm 10\%$	9	111	100	79
SUS01M-12	12 $\pm 10\%$	12	84	100	82
SUS01M-15	12 $\pm 10\%$	15	67	100	82
SUS01N-05	24 $\pm 10\%$	5	200	100	72
SUS01N-09	24 $\pm 10\%$	9	111	100	80
SUS01N-12	24 $\pm 10\%$	12	84	100	83
SUS01N-15	24 $\pm 10\%$	15	67	100	83
SUS01O-05	48 $\pm 10\%$	5	200	100	74
SUS01O-09	48 $\pm 10\%$	9	111	100	77
SUS01O-12	48 $\pm 10\%$	12	84	100	83
SUS01O-15	48 $\pm 10\%$	15	67	100	83

### 1W-DIP7 / Unregulated SMA01

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SMA01L-05	5 $\pm 10\%$	5	200	100	77
SMA01L-09	5 $\pm 10\%$	9	110	100	77
SMA01L-12	5 $\pm 10\%$	12	84	100	78
SMA01L-15	5 $\pm 10\%$	15	67	100	79
SMA01M-05	12 $\pm 10\%$	5	200	100	79
SMA01M-09	12 $\pm 10\%$	9	110	100	78
SMA01M-12	12 $\pm 10\%$	12	84	100	80
SMA01M-15	12 $\pm 10\%$	15	67	100	79
SMA01N-05	24 $\pm 10\%$	5	200	100	77
SMA01N-09	24 $\pm 10\%$	9	110	100	75
SMA01N-12	24 $\pm 10\%$	12	84	100	78
SMA01N-15	24 $\pm 10\%$	15	67	100	77



### Features

- SMD package style
- $\pm 10\%$  input range
- I/O isolation: 1000VDC (SBT01), 3000VDC (SFT/DET01)
- Protection: Short circuit
- Non-conductive plastic case (UL94V-0)
- Cooling by free air convection
- 1 year warranty

SBT01 Series		SFT01 / DET01 Series																																																						
	<table border="1"> <thead> <tr> <th>Pin No.</th> <th>Output</th> </tr> </thead> <tbody> <tr><td>1</td><td>-Vin</td></tr> <tr><td>2</td><td>+Vin</td></tr> <tr><td>3</td><td>NC</td></tr> <tr><td>4</td><td>-Vout</td></tr> <tr><td>5</td><td>+Vout</td></tr> <tr><td>6</td><td>NC</td></tr> <tr><td>7</td><td>NC</td></tr> <tr><td>8</td><td>NC</td></tr> </tbody> </table>	Pin No.	Output	1	-Vin	2	+Vin	3	NC	4	-Vout	5	+Vout	6	NC	7	NC	8	NC		<table border="1"> <thead> <tr> <th rowspan="2">Pin No.</th> <th colspan="2">Output</th> </tr> <tr> <th>Single</th> <th>Dual</th> </tr> </thead> <tbody> <tr><td>1</td><td>-Vin</td><td>-Vin</td></tr> <tr><td>2</td><td>+Vin</td><td>+Vin</td></tr> <tr><td>3</td><td>NC</td><td>NC</td></tr> <tr><td>5</td><td>-Vout</td><td>COM</td></tr> <tr><td>6</td><td>NC</td><td>-Vout</td></tr> <tr><td>7</td><td>NC</td><td>NC</td></tr> <tr><td>8</td><td>+Vout</td><td>+Vout</td></tr> <tr><td>10</td><td>NC</td><td>NC</td></tr> <tr><td>11</td><td>NC</td><td>NC</td></tr> <tr><td>12</td><td>NC</td><td>NC</td></tr> </tbody> </table>	Pin No.	Output		Single	Dual	1	-Vin	-Vin	2	+Vin	+Vin	3	NC	NC	5	-Vout	COM	6	NC	-Vout	7	NC	NC	8	+Vout	+Vout	10	NC	NC	11	NC	NC	12	NC	NC
Pin No.	Output																																																							
1	-Vin																																																							
2	+Vin																																																							
3	NC																																																							
4	-Vout																																																							
5	+Vout																																																							
6	NC																																																							
7	NC																																																							
8	NC																																																							
Pin No.	Output																																																							
	Single	Dual																																																						
1	-Vin	-Vin																																																						
2	+Vin	+Vin																																																						
3	NC	NC																																																						
5	-Vout	COM																																																						
6	NC	-Vout																																																						
7	NC	NC																																																						
8	+Vout	+Vout																																																						
10	NC	NC																																																						
11	NC	NC																																																						
12	NC	NC																																																						



Model No.	SBT01	SFT01	DET01
Vin range	L: 5V $\pm 10\%$ , M: 12V $\pm 10\%$		
Vo accuracy (Typ.)	$\pm 8\%$		
Line regulation (max.)	$\pm 1.2\%$ for 1% input variation		
Load regulation (max.)	$\pm 8\%$ @20%~100% load		
Short circuit protection	Momentary, broken		
I/O isolation voltage (min.)	1000VDC	3000VDC	
I/O isolation resistance (min.)	100M $\Omega$ @500VDC		
Working temperature	-40~+85°C (refer to output derating curve)		
Safety standards	UL60950-1 approved		
Dimension (LxWxH)	0.55"x 0.30"x 0.24" (12.7x 7.5x 6.0mm)		0.60"x 0.295"x 0.255" (15.24x 7.5x 6.5mm)

### 1W-SMD / Unregulated / Single Vout SBT01

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SBT01L-05	5 $\pm 10\%$	5	200	100	70
SBT01L-09	5 $\pm 10\%$	9	111	100	74
SBT01L-12	5 $\pm 10\%$	12	84	100	74
SBT01L-15	5 $\pm 10\%$	15	67	100	75
SBT01M-05	12 $\pm 10\%$	5	200	100	72
SBT01M-09	12 $\pm 10\%$	9	111	100	75
SBT01M-12	12 $\pm 10\%$	12	84	100	75
SBT01M-15	12 $\pm 10\%$	15	67	100	75

### 1W-SMD / Unregulated / Single Vout SFT01

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SFT01L-05	5 $\pm 10\%$	5	200	100	70
SFT01L-09	5 $\pm 10\%$	9	111	100	75
SFT01L-12	5 $\pm 10\%$	12	84	100	78
SFT01L-15	5 $\pm 10\%$	15	67	100	79
SFT01M-05	12 $\pm 10\%$	5	200	100	70
SFT01M-12	12 $\pm 10\%$	12	84	100	73
SFT01M-15	12 $\pm 10\%$	15	67	100	74

### 1W-SMD / Unregulated / Dual Vout DET01

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
DET01L-05	5 $\pm 10\%$	$\pm 5$	$\pm 100$	100	72
DET01L-09	5 $\pm 10\%$	$\pm 9$	$\pm 56$	100	75
DET01L-12	5 $\pm 10\%$	$\pm 12$	$\pm 42$	100	78
DET01L-15	5 $\pm 10\%$	$\pm 15$	$\pm 33$	100	79
DET01M-15	12 $\pm 10\%$	$\pm 15$	$\pm 33$	100	75



SCW03 / DCW03  
(1.25"x 0.8")

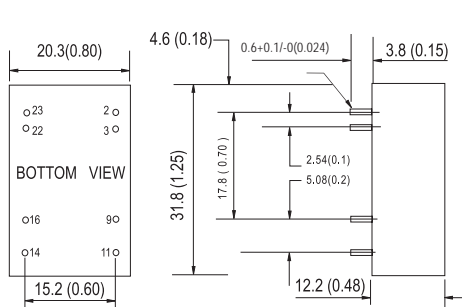


SCW05 / DCW05  
(1.25"x 0.8")

### Features

- Dual in line package (DIP24)
- 2:1 wide input range (4:1 option)
- I/O isolation: 1000VDC, 3000VDC (option)
- Protection: Short circuit / Overload
- Five-sided shield metal case
- Cooling by free air convection
- 2 years warranty

### SCW03 / DCW03 & SCW05 / DCW05 Series



Unit: mm (inch)

Pin No.	Output	
	Single	Dual
2&3	-Vin	-Vin
9	NC	COM
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	COM
22&23	+Vin	+Vin



Model No.	SCW03	DCW03	SCW05	DCW05
Vin range	A: 9~18V, B: 18~36V, C: 36~72V			
Vo accuracy (Typ.)	±2%			
Line regulation (max.)	±0.5%			
Load regulation (max.)	±0.5%@10%~100% load		±0.5%@20%~100% load	
Short circuit protection	Continuous, hiccup mode, auto-recovery			
Overload protection	160%~250%, auto-recovery		150%~250%, auto-recovery	
I/O isolation voltage (min.)	1000VDC (standard), 3000VDC (option)			
I/O isolation resistance (min.)	100MΩ@500VDC			
Working temperature	-40~+71°C (refer to output derating curve)			
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8, FCC part15 class B <b>without external components</b>			
Dimension (LxWxH)	1.25"x 0.8"x 0.48" (31.8x 20.3x 12.2mm)			

### 3W-DIP24 / Regulated / Single Vout SCW03

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SCW03A-05	9~18	5	600	50	74
SCW03A-12	9~18	12	250	60	80
SCW03A-15	9~18	15	200	60	80
SCW03B-05	18~36	5	600	50	75
SCW03B-12	18~36	12	250	60	80
SCW03B-15	18~36	15	200	60	80
SCW03C-05	36~72	5	600	50	76
SCW03C-12	36~72	12	250	60	82
SCW03C-15	36~72	15	200	60	82

### 5W-DIP24 / Regulated / Single Vout SCW05

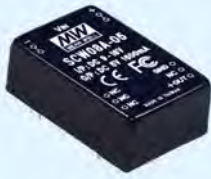
Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SCW05A-05	9~18	5	1000	50	75
SCW05A-09	9~18	9	556	60	80
SCW05A-12	9~18	12	470	60	80
SCW05A-15	9~18	15	400	60	81
SCW05B-05	18~36	5	1000	50	77
SCW05B-09	18~36	9	556	60	81
SCW05B-12	18~36	12	470	60	82
SCW05B-15	18~36	15	400	60	83
SCW05C-05	36~72	5	1000	50	77
SCW05C-09	36~72	9	556	60	83
SCW05C-12	36~72	12	470	60	83
SCW05C-15	36~72	15	400	60	81

### 3W-DIP24 / Regulated / Dual Vout DCW03

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
DCW03A-05	9~18	±5	±300	50	74
DCW03A-12	9~18	±12	±125	60	80
DCW03A-15	9~18	±15	±100	60	80
DCW03B-05	18~36	±5	±300	50	75
DCW03B-12	18~36	±12	±125	60	80
DCW03B-15	18~36	±15	±100	60	80
DCW03C-05	36~72	±5	±300	50	76
DCW03C-12	36~72	±12	±125	60	82
DCW03C-15	36~72	±15	±100	60	78

### 5W-DIP24 / Regulated / Dual Vout DCW05

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
DCW05A-05	9~18	±5	±500	50	75
DCW05A-12	9~18	±12	±230	60	80
DCW05A-15	9~18	±15	±190	60	81
DCW05B-05	18~36	±5	±500	50	77
DCW05B-12	18~36	±12	±230	60	82
DCW05B-15	18~36	±15	±190	60	83
DCW05C-05	36~72	±5	±500	50	77
DCW05C-12	36~72	±12	±230	60	83
DCW05C-15	36~72	±15	±190	60	85



SCW08 / DCW08  
(1.25"x 0.8")



SCW12 / DCW12  
(1.25"x 0.8")

### Features

- Dual in line package (DIP24)
- 2:1 wide input range
- I/O isolation: 1000VDC (8W), 1500VDC (12W)
- Protections: Short circuit / Overload
- Five-sided shield metal case
- Cooling by free air convection
- Built-in remote ON/OFF control (SCW/DCW12)
- Modified models available: output 2.5V/3.3V (SCW/DCW12)
- 2 years warranty

SCW08 / DCW08 Series			SCW12 / DCW12 Series																																																			
<table border="1"> <thead> <tr> <th rowspan="2">Pin No.</th> <th colspan="2">Output</th> </tr> <tr> <th>Single</th> <th>Dual</th> </tr> </thead> <tbody> <tr> <td>2&amp;3</td> <td>-Vin</td> <td>-Vin</td> </tr> <tr> <td>9</td> <td>NC</td> <td>COM</td> </tr> <tr> <td>11</td> <td>NC</td> <td>-Vout</td> </tr> <tr> <td>14</td> <td>+Vout</td> <td>+Vout</td> </tr> <tr> <td>16</td> <td>-Vout</td> <td>COM</td> </tr> <tr> <td>22&amp;23</td> <td>+Vin</td> <td>+Vin</td> </tr> </tbody> </table>			Pin No.	Output		Single	Dual	2&3	-Vin	-Vin	9	NC	COM	11	NC	-Vout	14	+Vout	+Vout	16	-Vout	COM	22&23	+Vin	+Vin	<table border="1"> <thead> <tr> <th rowspan="2">Pin No.</th> <th colspan="2">Output</th> </tr> <tr> <th>Single</th> <th>Dual</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>R.C</td> <td>R.C</td> </tr> <tr> <td>2&amp;3</td> <td>-Vin</td> <td>-Vin</td> </tr> <tr> <td>9</td> <td>NC</td> <td>COM</td> </tr> <tr> <td>11</td> <td>NC</td> <td>-Vout</td> </tr> <tr> <td>14</td> <td>+Vout</td> <td>+Vout</td> </tr> <tr> <td>16</td> <td>-Vout</td> <td>COM</td> </tr> <tr> <td>22&amp;23</td> <td>+Vin</td> <td>+Vin</td> </tr> </tbody> </table>			Pin No.	Output		Single	Dual	1	R.C	R.C	2&3	-Vin	-Vin	9	NC	COM	11	NC	-Vout	14	+Vout	+Vout	16	-Vout	COM	22&23	+Vin	+Vin
Pin No.	Output																																																					
	Single	Dual																																																				
2&3	-Vin	-Vin																																																				
9	NC	COM																																																				
11	NC	-Vout																																																				
14	+Vout	+Vout																																																				
16	-Vout	COM																																																				
22&23	+Vin	+Vin																																																				
Pin No.	Output																																																					
	Single	Dual																																																				
1	R.C	R.C																																																				
2&3	-Vin	-Vin																																																				
9	NC	COM																																																				
11	NC	-Vout																																																				
14	+Vout	+Vout																																																				
16	-Vout	COM																																																				
22&23	+Vin	+Vin																																																				



Model No.	SCW08	DCW08	SCW12	DCW12
Vin range	A: 9~18V, B: 18~36V, C: 36~72V			
Vo accuracy (Typ.)	±2%			
Line regulation (max.)	±0.5%			
Load regulation (max.)	±0.5% @ 20%~100% load			
Short circuit protection	Continuous, hiccup mode, auto-recovery			
Overload protection	110%~250%, auto-recovery		110%~180%, auto-recovery	
I/O isolation voltage (min.)	1000VDC		1500VDC	
I/O isolation resistance (min.)	100MΩ @ 500VDC			
Working temperature	-40~+71°C (refer to output derating curve)			
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8, FCC part15 class B <b>without external components</b>		EN55022 class A, EN61000-4-2,3,4,5,6,8, FCC part15 class A <b>without external components</b>	
Dimension (LxWxH)	1.25"x 0.8"x 0.48" (31.8x 20.3x 12.2mm)			

### 8W-DIP24 / Regulated / Single Vout SCW08

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SCW08A-05	9~18	5	1600	50	75
SCW08A-12	9~18	12	670	60	80
SCW08A-15	9~18	15	533	60	79
SCW08B-05	18~36	5	1600	50	78
SCW08B-12	18~36	12	670	60	82
SCW08B-15	18~36	15	533	60	81
SCW08C-05	36~72	5	1600	50	78
SCW08C-12	36~72	12	670	60	81
SCW08C-15	36~72	15	533	60	81

### 12W-DIP24 / Regulated / Single Vout SCW12

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SCW12A-05	9~18	5	2400	50	82
SCW12A-12	9~18	12	1000	60	82
SCW12A-15	9~18	15	800	60	82
SCW12B-05	18~36	5	2400	50	83
SCW12B-12	18~36	12	1000	60	83
SCW12B-15	18~36	15	800	60	85
SCW12C-05	36~72	5	2400	50	84
SCW12C-12	36~72	12	1000	60	83
SCW12C-15	36~72	15	800	60	83

### 8W-DIP24 / Regulated / Dual Vout DCW08

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
DCW08A-05	9~18	±5	±800	50	75
DCW08A-12	9~18	±12	±335	60	80
DCW08A-15	9~18	±15	±267	60	80
DCW08B-05	18~36	±5	±800	50	78
DCW08B-12	18~36	±12	±335	60	80
DCW08B-15	18~36	±15	±267	60	80
DCW08C-05	36~72	±5	±800	50	78
DCW08C-12	36~72	±12	±335	60	80
DCW08C-15	36~72	±15	±267	60	80

### 12W-DIP24 / Regulated / Dual Vout DCW12

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
DCW12A-05	9~18	±5	±1200	50	80
DCW12A-12	9~18	±12	±500	60	84
DCW12A-15	9~18	±15	±400	60	83
DCW12B-05	18~36	±5	±1200	50	80
DCW12B-12	18~36	±12	±500	60	84
DCW12B-15	18~36	±15	±400	60	84
DCW12C-05	36~72	±5	±1200	50	81
DCW12C-12	36~72	±12	±500	60	84
DCW12C-15	36~72	±15	±400	60	83

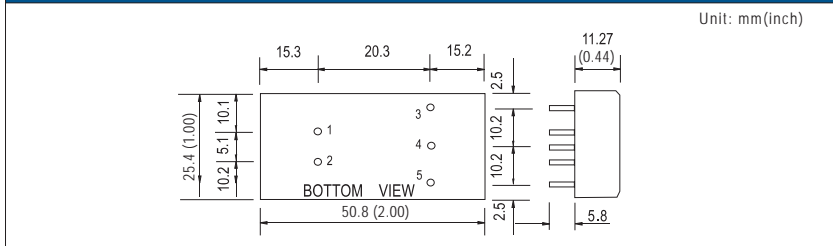




### Features

- 2"x 1" case
- Dual in line package (DIP)
- 2:1 wide input range (4:1 option)
- I/O isolation: 1000VDC, 3000VDC (option)
- Protections: Short circuit / Overload
- Six-sided shield metal case
- Cooling by free air convection
- 2 years warranty

### SLW05 / DLW05 & SKE10 / DKE10 Series



Pin No.	Output	
	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	No Pin	COM
5	-Vout	-Vout



Model No.	SLW05	DLW05	SKE10	DKE10
Vin range	A: 9~18V, B: 18~36V, C: 36~72V			
Vo accuracy (Typ.)	±2%			
Line regulation (max.)	±0.2%		±0.3%	
Load regulation (max.)	±0.5% @10~100% load			
Short circuit protection	Continuous, hiccup mode, auto-recovery			
Overload protection	160%~250%, auto-recovery			
I/O isolation voltage (min.)	1000VDC (standard), 3000VDC (option)			
I/O isolation resistance (min.)	100MΩ@500VDC			
Working temperature	-25~+71°C (refer to output derating curve)			
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8, FCC part15 class B <b>without external components</b>			
Dimension (LxWxH)	2"x 1"x 0.44" (50.8x 25.4x 11.27mm)			

### 5W-DIP 2"x1" / Regulated / Single Vout SLW05

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SLW05A-05	9~18	5	1000	50	75
SLW05A-09	9~18	9	556	60	80
SLW05A-12	9~18	12	417	60	80
SLW05A-15	9~18	15	333	60	81
SLW05B-05	18~36	5	1000	50	77
SLW05B-09	18~36	9	556	60	80
SLW05B-12	18~36	12	417	60	80
SLW05B-15	18~36	15	333	60	81
SLW05C-05	36~72	5	1000	50	77
SLW05C-09	36~72	9	556	60	83
SLW05C-12	36~72	12	417	60	83
SLW05C-15	36~72	15	333	60	85

### 10W-DIP 2"x1" / Regulated / Single Vout SKE10

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SKE10A-05	9~18	5	2000	50	78
SKE10A-12	9~18	12	840	60	79
SKE10A-15	9~18	15	666	60	80
SKE10A-24	9~18	24	420	80	81
SKE10B-05	18~36	5	2000	50	79
SKE10B-12	18~36	12	840	60	81
SKE10B-15	18~36	15	666	60	82
SKE10B-24	18~36	24	420	80	82
SKE10C-05	36~72	5	2000	50	80
SKE10C-12	36~72	12	840	60	81
SKE10C-15	36~72	15	666	60	82
SKE10C-24	36~72	24	420	80	83

### 5W-DIP 2"x1" / Regulated / Dual Vout DLW05

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
DLW05A-05	9~18	±5	±500	50	75
DLW05A-12	9~18	±12	±208	60	80
DLW05A-15	9~18	±15	±167	60	81
DLW05B-05	18~36	±5	±500	50	77
DLW05B-12	18~36	±12	±208	60	82
DLW05B-15	18~36	±15	±167	60	83
DLW05C-05	36~72	±5	±500	50	77
DLW05C-12	36~72	±12	±208	60	83
DLW05C-15	36~72	±15	±167	60	85

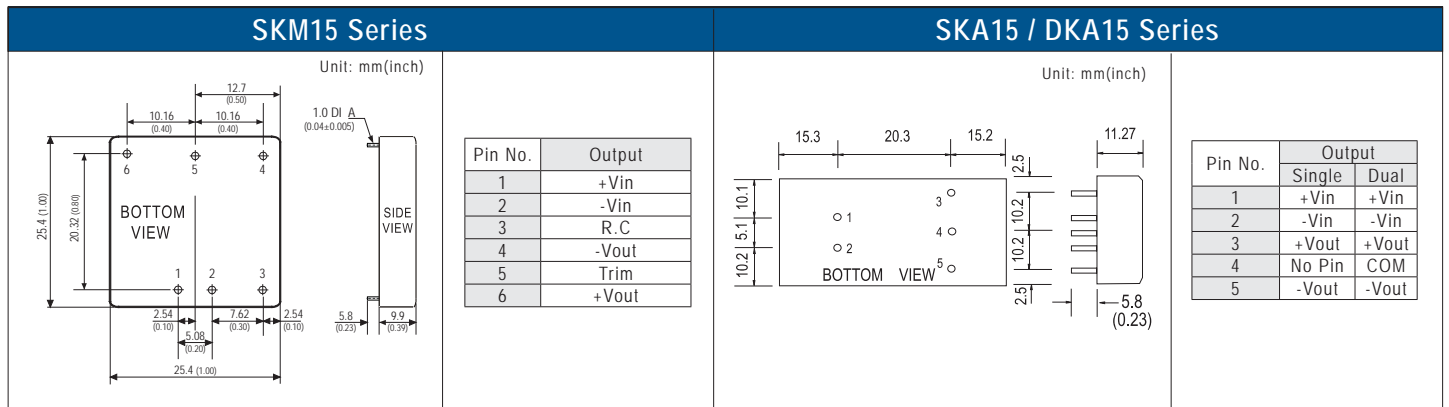
### 10W-DIP 2"x1" / Regulated / Dual Vout DKE10

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
DKE10A-05	9~18	±5	±1000	50	78
DKE10A-12	9~18	±12	±420	60	80
DKE10A-15	9~18	±15	±333	60	80
DKE10A-24	9~18	±24	±210	80	82
DKE10B-05	18~36	±5	±1000	50	81
DKE10B-12	18~36	±12	±420	60	80
DKE10B-15	18~36	±15	±333	60	80
DKE10B-24	18~36	±24	±210	80	81
DKE10C-05	36~72	±5	±1000	50	82
DKE10C-12	36~72	±12	±420	60	83
DKE10C-15	36~72	±15	±333	60	82
DKE10C-24	36~72	±24	±210	80	85



### Features

- Compact size: 1"x1" (SKM15), 2"x 1" (SKA/DKA15)
- Dual in line package (DIP)
- 2:1 wide input range (4:1 option for SKA/DKA15)
- I/O isolation: 1500VDC (SKM15), 1000VDC (SKA/DKA15); 3000VDC option (SKA/DKA15)
- Protections: Short circuit / Overload / Over voltage (SKM15)
- Six-sided shield metal case
- Cooling by free air convection
- High efficiency up to 88%
- Built-in remote ON/OFF control (SKM15)
- $\pm 10\%$  trimming output (SKM15)
- 2 years warranty



Model No.	SKM15	SKA15	DKA15
Vin range	A: 9~18V, B: 18~36V, C: 36~72V (36~75V for SKM15)		
Vo accuracy (Typ.)	$\pm 2\%$		
Line regulation (max.)	$\pm 0.5\%$	$\pm 0.2\%$	
Load regulation (max.)	$\pm 0.5\%$ @10~100% load		
Short circuit protection	Continuous, hiccup mode, auto-recovery		
Overload protection	110%~180%, auto-recovery	110%~250%, auto-recovery	
I/O isolation voltage (min.)	1500VDC	1000VDC, 3000VDC (option)	
I/O isolation resistance (min.)	100M $\Omega$ @500VDC		
Working temperature	-40~+80°C (refer to output derating curve)	-40~+71°C (refer to output derating curve)	
EMC standards	EN55022 class A, EN61000-4-2,3,4,5,6,8, FCC part15 class A <b>without external components</b>		EN55022 class B, EN61000-4-2,3,4,5,6,8, FCC part15 class B <b>without external components</b>
Dimension (LxWxH)	1"x 1"x 0.39" (25.4x 25.4x 9.9mm)		2"x 1"x 0.44" (50.8x 25.4x 11.27mm)

### 15W-DIP 1"x1" / Regulated / Single Vout SKM15

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SKM15A-05	9~18	5	3000	50	86
SKM15A-12	9~18	12	1250	60	87
SKM15A-15	9~18	15	1000	60	88
SKM15B-05	18~36	5	3000	50	87
SKM15B-12	18~36	12	1250	60	87
SKM15B-15	18~36	15	1000	60	88
SKM15C-05	36~75	5	3000	50	86
SKM15C-12	36~75	12	1250	60	86
SKM15C-15	36~75	15	1000	60	87

### 15W-DIP 2"x1" / Regulated / Single Vout SKA15

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SKA15A-033	9~18	3.3	3000	50	76
SKA15A-05	9~18	5	3000	50	78
SKA15A-12	9~18	12	1250	60	82
SKA15A-15	9~18	15	1000	60	82
SKA15B-033	18~36	3.3	3000	50	76
SKA15B-05	18~36	5	3000	50	78

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SKA15B-12	18~36	12	1250	60	80
SKA15B-15	18~36	15	1000	60	80
SKA15C-033	36~72	3.3	3000	50	76
SKA15C-05	36~72	5	3000	50	80
SKA15C-12	36~72	12	1250	60	82
SKA15C-15	36~72	15	1000	60	82

### 15W-DIP 2"x1" / Regulated / Dual Vout DKA15

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
DKA15A-05	9~18	$\pm 5$	$\pm 1500$	50	80
DKA15A-12	9~18	$\pm 12$	$\pm 625$	60	83
DKA15A-15	9~18	$\pm 15$	$\pm 500$	60	83
DKA15B-05	18~36	$\pm 5$	$\pm 1500$	50	80
DKA15B-12	18~36	$\pm 12$	$\pm 625$	60	80
DKA15B-15	18~36	$\pm 15$	$\pm 500$	60	80
DKA15C-05	36~72	$\pm 5$	$\pm 1500$	50	82
DKA15C-12	36~72	$\pm 12$	$\pm 625$	60	82
DKA15C-15	36~72	$\pm 15$	$\pm 500$	60	82

# DC/DC Converter

20~50W DIP Module Type



**SKA20**  
(2"x 1")

**SKM30**  
(2"x 1")

**SKM50**  
(2"x 1")

## Features

- 2"x1" compact size
- Dual in line package (DIP)
- 2:1 wide input range
- High efficiency up to 92%
- I/O isolation: 1500VDC
- Protections: Short circuit / Overload / Over voltage
- Six-sided shield metal case
- Cooling by free air convection
- Built-in remote ON/OFF control
- ±10% trimming output (SKM30/50)
- 2 years warranty

SKA20 & SKM30 Series			SKM50 Series																																						
<p>Unit: mm(inch)</p> <p><b>SKA20</b></p>	<p>Unit: mm(inch)</p> <p><b>SKM30</b></p>	<table border="1"> <thead> <tr> <th rowspan="2">Pin No.</th> <th colspan="2">Output</th> </tr> <tr> <th>SKA20</th> <th>SKM30</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>+Vin</td> <td>+Vin</td> </tr> <tr> <td>2</td> <td>-Vin</td> <td>-Vin</td> </tr> <tr> <td>3</td> <td>+Vout</td> <td>R.C.</td> </tr> <tr> <td>4</td> <td>Trim</td> <td>+Vout</td> </tr> <tr> <td>5</td> <td>-Vout</td> <td>-Vout</td> </tr> <tr> <td>6</td> <td>R.C.</td> <td>Trim</td> </tr> </tbody> </table>	Pin No.	Output		SKA20	SKM30	1	+Vin	+Vin	2	-Vin	-Vin	3	+Vout	R.C.	4	Trim	+Vout	5	-Vout	-Vout	6	R.C.	Trim	<p>Unit: mm(inch)</p> <p><b>SKM50</b></p>	<table border="1"> <thead> <tr> <th>Pin No.</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>+Vin</td> </tr> <tr> <td>2</td> <td>-Vin</td> </tr> <tr> <td>3</td> <td>R.C.</td> </tr> <tr> <td>4</td> <td>+Vout</td> </tr> <tr> <td>5</td> <td>-Vout</td> </tr> <tr> <td>6</td> <td>Trim</td> </tr> </tbody> </table>	Pin No.	Output	1	+Vin	2	-Vin	3	R.C.	4	+Vout	5	-Vout	6	Trim
Pin No.	Output																																								
	SKA20	SKM30																																							
1	+Vin	+Vin																																							
2	-Vin	-Vin																																							
3	+Vout	R.C.																																							
4	Trim	+Vout																																							
5	-Vout	-Vout																																							
6	R.C.	Trim																																							
Pin No.	Output																																								
1	+Vin																																								
2	-Vin																																								
3	R.C.																																								
4	+Vout																																								
5	-Vout																																								
6	Trim																																								



Model No.	SKA20	SKM30	SKM50
Vin range	A: 9~18V, B: 18~36V, C: 36~75V		
Vo accuracy (Typ.)	±2%		
Line regulation (max.)	±0.2%	±0.2%	
Load regulation (max.)	±0.5% @10~100% load		
Short circuit protection	Continuous, hiccup mode, auto-recovery		
Overload protection	110%~180%, auto-recovery		
I/O isolation voltage (min.)	1500VDC		
I/O isolation resistance (min.)	100MΩ@500VDC		
Working temperature	-40~+85°C (refer to output derating curve)	-40~+75°C (refer to output derating curve)	
EMC standards	EN55022 class A, EN61000-4-2,3,4,5,6,8, FCC part15 class A <b>without external components</b>		
Dimension (LxWxH)	2"x 1"x 0.44" (50.8x 25.4x 11.2mm)	2"x 1"x 0.54" (50.8x 25.4x 13.7mm)	

## 20W-DIP 2"x1" / Regulated / Single Vout SKA20

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SKA20A-05	9~18	5	4	50	87.5
SKA20A-12	9~18	12	1.66	60	88
SKA20A-15	9~18	15	1.33	60	89
SKA20B-05	18~36	5	4	50	88
SKA20B-12	18~36	12	1.66	60	88.5
SKA20B-15	18~36	15	1.33	60	89.5
SKA20C-05	36~75	5	4	50	88.5
SKA20C-12	36~75	12	1.66	60	87.5
SKA20C-15	36~75	15	1.33	60	88

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SKM30B-05	18~36	5	6	90	88.5
SKM30B-12	18~36	12	2.5	120	89
SKM30B-15	18~36	15	2	120	90
SKM30C-05	36~75	5	6	90	88
SKM30C-12	36~75	12	2.5	120	89
SKM30C-15	36~75	15	2	120	90

## 30W-DIP 2"x1" / Regulated / Single Vout SKM30

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SKM30A-05	9~18	5	6	90	88
SKM30A-12	9~18	12	2.5	120	89.5
SKM30A-15	9~18	15	2	120	89.5

## 50W-DIP 2"x1" / Regulated / Single Vout SKM50

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SKM50B-05	18~36	5	10	60	91
SKM50B-12	18~36	12	4.17	80	92
SKM50B-15	18~36	15	3.33	100	90
SKM50C-05	36~75	5	10	60	91
SKM50C-12	36~75	12	4.17	80	91
SKM50C-15	36~75	15	3.33	100	91



### Features

- 2"x2" case
- Dual in line package (DIP)
- 2:1 wide input range (4:1 option)
- I/O isolation: 1000VDC; 3000VDC option (SKE/DKE15)
- Protections: Short circuit / Overload
- Six-sided shield metal case
- Cooling by free air convection
- Built-in remote ON/OFF control (DKA/TKA30)
- $\pm 10\%$  trimming output (DKA30)
- 2 years warranty

SKE15 / DKE15 Series		DKA30 / TKA30 Series																																																		
<table border="1"> <thead> <tr> <th rowspan="2">Pin No.</th> <th colspan="2">Output</th> </tr> <tr> <th>Single</th> <th>Dual</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>+Vin</td> <td>+Vin</td> </tr> <tr> <td>2</td> <td>-Vin</td> <td>-Vin</td> </tr> <tr> <td>3</td> <td>+Vout</td> <td>+Vout</td> </tr> <tr> <td>4</td> <td>No Pin</td> <td>COM</td> </tr> <tr> <td>5</td> <td>-Vout</td> <td>-Vout</td> </tr> </tbody> </table>		Pin No.	Output		Single	Dual	1	+Vin	+Vin	2	-Vin	-Vin	3	+Vout	+Vout	4	No Pin	COM	5	-Vout	-Vout	<table border="1"> <thead> <tr> <th rowspan="2">Pin No.</th> <th colspan="2">Output</th> </tr> <tr> <th>Dual</th> <th>Triple</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>R.C.</td> <td>R.C.</td> </tr> <tr> <td>2</td> <td>No Pin</td> <td>No Pin</td> </tr> <tr> <td>3</td> <td>-Vin</td> <td>-Vin</td> </tr> <tr> <td>4</td> <td>+Vin</td> <td>+Vin</td> </tr> <tr> <td>5</td> <td>+Vout</td> <td>+Vout</td> </tr> <tr> <td>6</td> <td>COM</td> <td>+5V</td> </tr> <tr> <td>7</td> <td>-Vout</td> <td>COM</td> </tr> <tr> <td>8</td> <td>Trim</td> <td>-Vout</td> </tr> </tbody> </table>		Pin No.	Output		Dual	Triple	1	R.C.	R.C.	2	No Pin	No Pin	3	-Vin	-Vin	4	+Vin	+Vin	5	+Vout	+Vout	6	COM	+5V	7	-Vout	COM	8	Trim	-Vout
Pin No.	Output																																																			
	Single	Dual																																																		
1	+Vin	+Vin																																																		
2	-Vin	-Vin																																																		
3	+Vout	+Vout																																																		
4	No Pin	COM																																																		
5	-Vout	-Vout																																																		
Pin No.	Output																																																			
	Dual	Triple																																																		
1	R.C.	R.C.																																																		
2	No Pin	No Pin																																																		
3	-Vin	-Vin																																																		
4	+Vin	+Vin																																																		
5	+Vout	+Vout																																																		
6	COM	+5V																																																		
7	-Vout	COM																																																		
8	Trim	-Vout																																																		



Model No.	SKE15	DKE15	DKA30	TKA30
Vin range	A: 9~18V, B: 18~36V, C: 36~72V			
Vo accuracy (Typ.)	$\pm 2\%$			
Line regulation (max.)	$\pm 0.3\%$		$\pm 0.5\%$	$\pm 1\%$
Load regulation (max.)	$\pm 0.5\%$ @10%~100% load		$\pm 0.5\%$ @10%~100% load	+5V1: $\pm 2\%$ ; $\pm V_2 / V_3$ : $\pm 5\%$ @20%~100% load
Short circuit protection	Continuous, hiccup mode, auto-recovery			
Overload protection	160%~250%, auto-recovery		110%~250%, auto-recovery	
I/O isolation voltage (min.)	1000VDC			
I/O isolation resistance (min.)	100M $\Omega$ @500VDC			
Working temperature	-25~+71°C (refer to output derating curve)		-40~+85°C (refer to output derating curve)	
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8, FCC part15 class B <b>without external components</b>			
Dimension (LxWxH)	2"x 2"x 0.43" (50.8x 50.8x 11mm)		2"x 2"x 0.82" (50.8x 50.8x 21mm)	

### 15W-DIP 2"x2" / Regulated / Single Vout SKE15

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
SKE15A-05	9~18	5	3000	50	79
SKE15A-12	9~18	12	1250	60	80
SKE15A-15	9~18	15	1000	60	80
SKE15A-24	9~18	24	625	80	82
SKE15B-05	18~36	5	3000	50	79
SKE15B-12	18~36	12	1250	60	82
SKE15B-15	18~36	15	1000	60	83
SKE15B-24	18~36	24	625	80	83
SKE15C-05	36~72	5	3000	50	80
SKE15C-12	36~72	12	1250	60	82
SKE15C-15	36~72	15	1000	60	83
SKE15C-24	36~72	24	625	80	84

### 30W-DIP 2"x2" / Regulated / Dual Vout DKA30

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
DKA30A-05	9~18	$\pm 5$	$\pm 2500$	100	80
DKA30A-12	9~18	$\pm 12$	$\pm 1250$	100	80
DKA30A-15	9~18	$\pm 15$	$\pm 1000$	100	80
DKA30B-05	18~36	$\pm 5$	$\pm 2500$	100	80
DKA30B-12	18~36	$\pm 12$	$\pm 1250$	100	83
DKA30B-15	18~36	$\pm 15$	$\pm 1000$	100	83
DKA30C-05	36~72	$\pm 5$	$\pm 2500$	100	80
DKA30C-12	36~72	$\pm 12$	$\pm 1250$	100	81
DKA30C-15	36~72	$\pm 15$	$\pm 1000$	100	81

### 15W-DIP 2"x2" / Regulated / Dual Vout DKE15

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
DKE15A-05	9~18	$\pm 5$	$\pm 1500$	50	81
DKE15A-12	9~18	$\pm 12$	$\pm 625$	60	82
DKE15A-15	9~18	$\pm 15$	$\pm 500$	60	82
DKE15A-24	9~18	$\pm 24$	$\pm 313$	80	82
DKE15B-05	18~36	$\pm 5$	$\pm 1500$	50	83
DKE15B-12	18~36	$\pm 12$	$\pm 625$	60	83
DKE15B-15	18~36	$\pm 15$	$\pm 500$	60	83
DKE15B-24	18~36	$\pm 24$	$\pm 313$	80	84
DKE15C-05	36~72	$\pm 5$	$\pm 1500$	50	79
DKE15C-12	36~72	$\pm 12$	$\pm 625$	60	82
DKE15C-15	36~72	$\pm 15$	$\pm 500$	60	82
DKE15C-24	36~72	$\pm 24$	$\pm 313$	80	85

### 30W-DIP 2"x2" / Regulated / Triple Vout TKA30

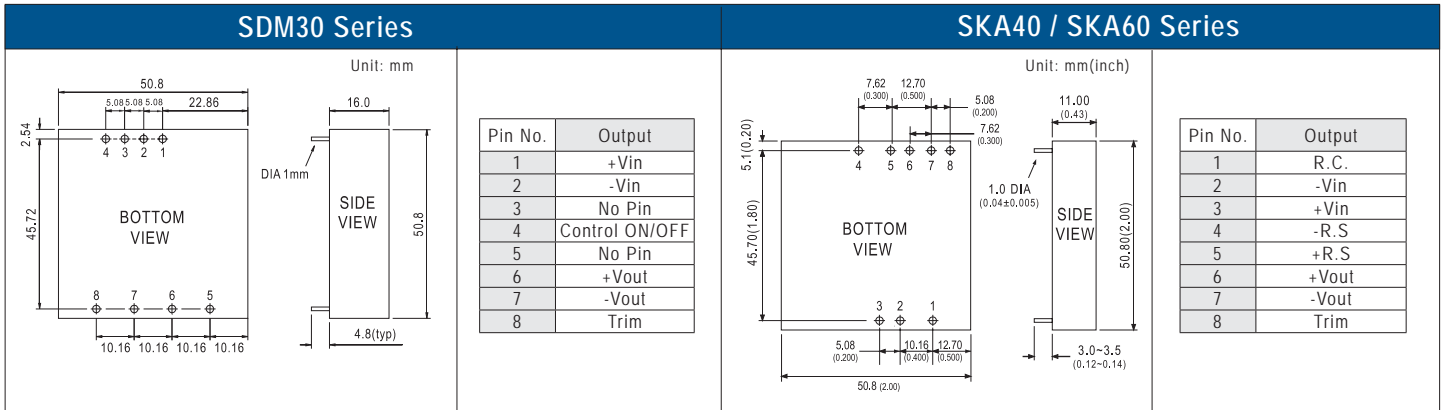
Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
TKA30A-B	9~18	+5 / $\pm 12$	3500 / $\pm 310$	100	80
TKA30A-C	9~18	+5 / $\pm 15$	3500 / $\pm 250$	100	80
TKA30B-B	18~36	+5 / $\pm 12$	3500 / $\pm 310$	100	82
TKA30B-C	18~36	+5 / $\pm 15$	3500 / $\pm 250$	100	82
TKA30C-B	36~72	+5 / $\pm 12$	3500 / $\pm 310$	100	82
TKA30C-C	36~72	+5 / $\pm 15$	3500 / $\pm 250$	100	82





### Features

- 2"x2" compact size
- Dual in line package (DIP)
- 2:1 wide input range
- I/O isolation: 1000VDC (SDM30); 1500VDC (SKA40/60)
- Protections: Short circuit / Overload / Over voltage
- Six-sided shield metal case
- Cooling by free air convection
- High efficiency up to 93%
- Built-in remote ON/OFF control (SKA40/60)
- Built-in remote sense
- ±10% trimming output
- Output 3.3V/9V models available (SKA40), Output 3.3V available (SKA60)
- 2 years warranty



(except for SDM30)

Model No.	SDM30	SKA40	SKA60
Vin range	A: 9.2~18V, B: 18~36V, C: 36~72V	A: 9~18V, B: 18~36V, C: 36~75V	
Vo accuracy (Typ.)	±2% (±3% for 3.3VDC models)	±2%	
Line regulation (max.)	±1%	±0.5%	
Load regulation (max.)	±1% @10%~100% load	±0.5% @10%~100% load	
Overload protection	Over 105% power limiting, auto-recovery	110%~180%, auto-recovery	
Short circuit protection	Continuous, constant current limiting, auto-recovery	Continuous, hiccup mode, auto-recovery	
I/O isolation voltage (min.)	1000VDC	1500VDC	
I/O isolation resistance (min.)	100MΩ@500VDC		
Working temperature	-25~+85°C	-40~+80°C	-40~+70°C
EMC standards	EN55022 class B, EN61000-4-2,3,4,6,8	EN55022 class A, EN61000-4-2,3,4,5,6,8, FCC part15 classA without external components	
Dimension (LxWxH)	2"x 2"x 0.63" (50.8x 50.8x 16mm)	2"x 2"x 0.43" (50.8x 50.8x 11mm)	

### 30W-DIP 2"x2" / Regulated / Single Vout SDM30

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SDM30-12S3	9.2~18	3.3	5.0	75	77
SDM30-12S5	9.2~18	5	5.0	75	77
SDM30-12S12	9.2~18	12	2.1	100	80
SDM30-12S15	9.2~18	15	1.7	100	80
SDM30-24S3	18~36	3.3	5.0	75	79
SDM30-24S5	18~36	5	5.0	75	79
SDM30-24S12	18~36	12	2.5	100	82
SDM30-24S15	18~36	15	2.0	100	83
SDM30-48S3	36~72	3.3	5.0	75	80
SDM30-48S5	36~72	5	5.0	75	80
SDM30-48S12	36~72	12	2.5	100	84
SDM30-48S15	36~72	15	2.0	100	85

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SKA40B-05	18~36	5	7.00	60	92
SKA40B-12	18~36	12	3.33	80	90
SKA40B-15	18~36	15	2.67	100	90.5
SKA40C-05	36~75	5	7.00	60	91
SKA40C-12	36~75	12	3.33	80	88.5
SKA40C-15	36~75	15	2.67	100	90

### 40W-DIP 2"x2" / Regulated / Single Vout SKA40

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SKA40A-05	9~18	5	7.00	60	91
SKA40A-12	9~18	12	3.33	80	90
SKA40A-15	9~18	15	2.67	100	90

### 60W-DIP 2"x2" / Regulated / Single Vout SKA60

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SKA60A-05	9~18	5	12	60	91
SKA60A-12	9~18	12	5	80	92
SKA60A-15	9~18	15	4	100	92
SKA60B-05	18~36	5	12	60	90.5
SKA60B-12	18~36	12	5	80	92.5
SKA60B-15	18~36	15	4	100	93
SKA60C-05	36~75	5	12	60	92
SKA60C-12	36~75	12	5	80	92
SKA60C-15	36~75	15	4	100	92.5



**MHB-75**  
(2.28"x2.4")

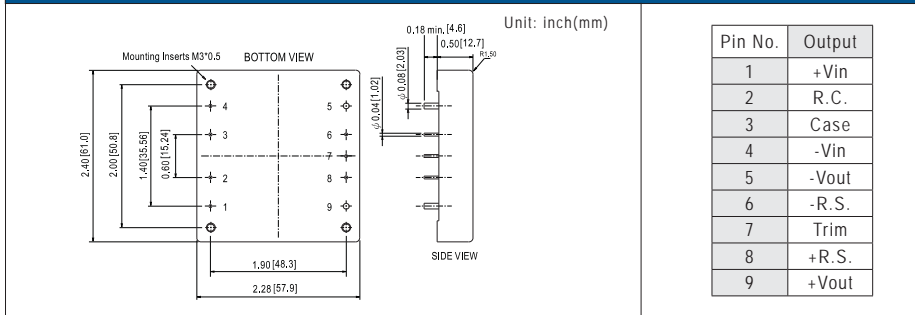
**MHB-100**  
(2.28"x2.4")

**MHB-150**  
(2.28"x2.4")

### Features

- Half-brick size (2.28"x 2.4"x 0.5") with industry standard pin out
- Dual in line package
- 2:1 wide input range
- 1500VDC I/O isolation
- Protections:
  - Short circuit / Over current / Over voltage / Over temperature
- Five-sided shield metal case
- Cooling by free air connection
- High efficiency up to 89%
- Built-in remote ON/OFF control & remote sense
- Trimming output ( $\pm 10\%$ )
- Output 2.5V / 3.3V / 15V available
- Optional heatsink available
- 3 years warranty

### MHB75 / MHB100 / MHB150 Series



Model No.	MHB75	MHB100	MHB150
Vo accuracy (Typ.)	$\pm 1\%$		
Line regulation (max.)	$\pm 0.2\%$		
Load regulation (max.)	$\pm 0.2\%$		
Short circuit protection	Continuous, auto-recovery		
Over current protection	110%~150%, auto-recovery	110%~140%, auto-recovery	
I/O isolation voltage (min.)	1500VDC		
I/O isolation resistance (min.)	100M $\Omega$ @500VDC		
Working temperature	-40~+100°C of case temp.(refer to output derating curve)		
Safety standards	UL60950-1 approved		
EMC standards	EN55022 class A with external components(refer to "EMC suggestion circuit"), EN61000-4-2,3,4,5,6,8		
Dimension (LxWxH)	2.28"x 2.4"x 0.5" (57.9x 61x 12.7mm)		

### 75W / Regulated MHB75

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
MHB75-12S05	9~18	5	15	75	83
MHB75-12S12	9~18	12	6.25	100	87
MHB75-12S24	9~18	24	3.13	240	87
MHB75-24S05	18~36	5	15	75	84
MHB75-24S12	18~36	12	6.25	100	88
MHB75-24S24	18~36	24	3.13	240	88
MHB75-48S05	36~75	5	15	75	84
MHB75-48S12	36~75	12	6.25	100	89
MHB75-48S24	36~75	24	3.13	240	89

### 100W / Regulated MHB100

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
MHB100-24S05	18~36	5	20	100	84
MHB100-24S12	18~36	12	8.3	150	87
MHB100-24S24	18~36	24	4.17	240	87
MHB100-48S05	36~75	5	20	100	86
MHB100-48S12	36~75	12	8.3	150	89
MHB100-48S24	36~75	24	4.17	240	88

### 150W / Regulated MHB150

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
MHB150-48S05	36~75	5	30	100	86
MHB150-48S12	36~75	12	12.5	150	89
MHB150-48S24	36~75	24	6.25	240	89

### Heat Sink for MHB Series

Order No.	M-C308 (Vertical Fins)	M-C091 (Horizontal Fins)	M-C092 (Horizontal Fins)
Mechanical			

Note: Power module and heat sink should be ordered separately. The heat sinks can be used with MHB75/100/150 series.

# DC/DC Converter 5~10W 1~2 Output On Board Type



NSD05  
(1.6"x1")



NSD10  
(2"x1")

## Features

- 4:1 wide input range
- 1000VDC I/O isolation
- Protections: Short circuit / Overload / Over voltage
- Built-in remote ON/OFF control
- Cooling by free air convection
- 2 years warranty

NSD05 Series		NSD10 Series																																			
<p>Unit: mm(inch)</p>		<p>Unit: mm(inch)</p>																																			
<table border="1"> <thead> <tr> <th>Pin No.</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>+Input</td> </tr> <tr> <td>2</td> <td>-Input(GND)</td> </tr> <tr> <td>3</td> <td>+Vout</td> </tr> <tr> <td>4</td> <td>-Vout</td> </tr> <tr> <td>5</td> <td>Control</td> </tr> </tbody> </table>	Pin No.	Output	1	+Input	2	-Input(GND)	3	+Vout	4	-Vout	5	Control		<table border="1"> <thead> <tr> <th rowspan="2">Pin No.</th> <th colspan="2">Output</th> </tr> <tr> <th>Single</th> <th>Dual</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>+Input</td> <td>+Input</td> </tr> <tr> <td>2</td> <td>-Input (GND)</td> <td>-Input (GND)</td> </tr> <tr> <td>3</td> <td>+Out</td> <td>+Out</td> </tr> <tr> <td>4</td> <td>NC</td> <td>Common</td> </tr> <tr> <td>5</td> <td>-Out</td> <td>-Out</td> </tr> <tr> <td>6</td> <td>Control</td> <td>Control</td> </tr> </tbody> </table>	Pin No.	Output		Single	Dual	1	+Input	+Input	2	-Input (GND)	-Input (GND)	3	+Out	+Out	4	NC	Common	5	-Out	-Out	6	Control	Control
Pin No.	Output																																				
1	+Input																																				
2	-Input(GND)																																				
3	+Vout																																				
4	-Vout																																				
5	Control																																				
Pin No.	Output																																				
	Single	Dual																																			
1	+Input	+Input																																			
2	-Input (GND)	-Input (GND)																																			
3	+Out	+Out																																			
4	NC	Common																																			
5	-Out	-Out																																			
6	Control	Control																																			



Model No.	NSD05	NSD10
Vo accuracy (max.)	±2%	
Line regulation (max.)	±1% @10%~100% load	
Load regulation (max.)	±1~±2% @10%~100% load	±1~±3% @10%~100% load
Overload protection	Over 105% power limiting, auto-recovery	
Short circuit protection	Continuous, auto-recovery	
Over voltage protection	Clamp@110%~140%	Clamp@115%~150%
Shutdown idle current	5mA	20mA
I/O isolation voltage (min.)	1000VDC	
I/O isolation resistance (min.)	100MΩ@500VDC	
Working temperature	-25~+70°C (refer to output derating curve)	
Safety standards	IEC60950-1 CB approved by TUV	UL60950-1 approved
EMC standards	EN55022 class B, EN61000-4-2,3,4,5,6,8	
Dimension (LxWxH)	1.6"x 1"x 0.327" (40.6x 25.4x 8.3mm)	2"x 1"x 0.394" (50.8x 25.4x 10mm)

## 5W / Regulated / Single Vout NSD05-S

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
NSD05-12S3	9.2~36	3.3	1200	75	72
NSD05-12S5	9.2~36	5	1000	75	76
NSD05-12S12	9.2~36	12	420	75	82
NSD05-12S15	9.2~36	15	330	75	83
NSD05-48S3	18~72	3.3	1200	75	75
NSD05-48S5	18~72	5	1000	75	78
NSD05-48S12	18~72	12	420	75	83
NSD05-48S15	18~72	15	330	75	85

## 10W / Regulated / Single Vout NSD10-S

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
NSD10-12S3	9.8~36	3.3	2500	75	72
NSD10-12S5	9.8~36	5	2000	75	75
NSD10-12S9	9.8~36	9	1100	75	78
NSD10-12S12	9.8~36	12	830	75	79
NSD10-12S15	9.8~36	15	670	75	80

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
NSD10-48S3	22~72	3.3	2500	75	74
NSD10-48S5	22~72	5	2000	75	77
NSD10-48S9	22~72	9	1100	75	78
NSD10-48S12	22~72	12	830	75	79
NSD10-48S15	22~72	15	670	75	80

## 10W / Regulated / Dual Vout NSD10-D

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
NSD10-12D5	9.8~36	±5	±50~1000	75	76
NSD10-12D12	9.8~36	±12	±20~420	75	77
NSD10-12D15	9.8~36	±15	±16~330	75	77
NSD10-48D5	22~72	±5	±50~1000	75	78
NSD10-48D12	22~72	±12	±20~420	75	77
NSD10-48D15	22~72	±15	±16~330	75	77

# DC/DC Converter 15~60W 1~2 Output On Board Type



## Features

- 4:1 wide input range (NSD15), 3:1 wide input range (NID30/60 5-15V)
- 1500VDC I/O isolation (NSD15)
- Protections: Short circuit / Overload / Over voltage
- Dual in line package (NSD15), single in line package (NID30/60)
- Built-in remote ON/OFF control
- Output voltage trimming function (NSD15)
- Cooling by free air convection
- Non-isolated (NID30/60)
- High efficiency up to 96% (NID30/60)
- Economical open frame design (NID30/60)
- 2 years warranty

NSD15 Series		NID30 / NID60 Series																																										
<p>Unit: mm(inch)</p>	<table border="1"> <thead> <tr> <th rowspan="2">Pin No.</th> <th colspan="2">Output</th> </tr> <tr> <th>Single</th> <th>Dual</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>+Vin</td> <td>+Vin</td> </tr> <tr> <td>2</td> <td>-Vin</td> <td>-Vin</td> </tr> <tr> <td>3</td> <td>No Pin</td> <td>No Pin</td> </tr> <tr> <td>4</td> <td>Control</td> <td>Control</td> </tr> <tr> <td>5</td> <td>No Pin</td> <td>+Vout</td> </tr> <tr> <td>6</td> <td>+Vout</td> <td>Common</td> </tr> <tr> <td>7</td> <td>-Vout</td> <td>-Vout</td> </tr> <tr> <td>8</td> <td>Trim</td> <td>Trim</td> </tr> </tbody> </table>	Pin No.	Output		Single	Dual	1	+Vin	+Vin	2	-Vin	-Vin	3	No Pin	No Pin	4	Control	Control	5	No Pin	+Vout	6	+Vout	Common	7	-Vout	-Vout	8	Trim	Trim	<p>Unit: mm(inch)</p>	<table border="1"> <thead> <tr> <th rowspan="2">Pin No.</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>1,2,3,4</td> <td>+Vout</td> </tr> <tr> <td>5,6</td> <td>COM</td> </tr> <tr> <td>7,8</td> <td>+Vin</td> </tr> <tr> <td>9,10</td> <td>N.C.</td> </tr> <tr> <td>11</td> <td>R.C.</td> </tr> </tbody> </table>	Pin No.	Output	1,2,3,4	+Vout	5,6	COM	7,8	+Vin	9,10	N.C.	11	R.C.
Pin No.	Output																																											
	Single	Dual																																										
1	+Vin	+Vin																																										
2	-Vin	-Vin																																										
3	No Pin	No Pin																																										
4	Control	Control																																										
5	No Pin	+Vout																																										
6	+Vout	Common																																										
7	-Vout	-Vout																																										
8	Trim	Trim																																										
Pin No.	Output																																											
	1,2,3,4	+Vout																																										
5,6	COM																																											
7,8	+Vin																																											
9,10	N.C.																																											
11	R.C.																																											
<p>Unit: mm(inch)</p>		<p>Unit: mm(inch)</p>																																										



Model No.	NSD15	NID30	NID60
Vo accuracy (Typ.)	±2%		
Line regulation (max.)	±1% @10%~100% load	±0.5%	
Load regulation (max.)	±1%~±3% @10%~100% load	±0.5% @ 10%~100% load	
Overload protection	Over 105% power limiting, auto-recovery	120%~300%, auto-recovery	
Short circuit protection	Continuous, hiccup mode, auto-recovery		
Over voltage protection	Clamp @115%~150%	Clamp by TVS Diode	
Shutdown idle current	20mA	NA	
I/O isolation voltage (min.)	1500VDC	NA	
I/O isolation resistance (min.)	100MΩ@500VDC	NA	
Working temperature	-25~+70°C	-25~+65°C (refer to derating curve)	
Safety standards	UL60950-1 approved	NA	
EMC standards	EN55022 class B, EN61000-4-2,3,4,6,8	NA	
Dimension (LxWxH)	2"x 1.5"x 0.387" (50.8x 38.1x 9.82mm)	2"x 0.512"x 0.421" (50.8x 13x 10.7mm)	2"x 1.024"x 0.421" (50.8x 26x 10.7mm)

### 15W / Isolated / Single Vout NSD15-S

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
NSD15-12S3	9.4~36	3.3	3.75	100	73
NSD15-12S5	9.4~36	5	3	75	77
NSD15-12S12	9.4~36	12	1.25	75	81
NSD15-12S15	9.4~36	15	1	75	81
NSD15-48S3	18~72	3.3	3.75	100	77
NSD15-48S5	18~72	5	3	75	81
NSD15-48S12	18~72	12	1.25	75	84
NSD15-48S15	18~72	15	1	75	85

### 15W / Isolated / Dual Vout NSD15-D

Model No.	Vin (VDC)	Vout (VDC)	Iout (mA)	R&N (mVp-p)	Effi. (%)
NSD15-12D5	9.4~36	±5	±70~1500	100	76
NSD15-12D12	9.4~36	±12	±30~620	100	80
NSD15-12D15	9.4~36	±15	±20~500	100	80
NSD15-48D5	18~72	±5	±70~1500	100	80
NSD15-48D12	18~72	±12	±30~620	100	84
NSD15-48D15	18~72	±15	±20~500	100	84

### 30W / Non-isolated / Single Vout NID30

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
NID30S24-05	20~53	5	2.5	100	91
NID30S24-12	20~53	12	2.5	120	95
NID30S24-15	20~53	15	2	150	96
NID30S48-24	30~53	24	1.25	200	93

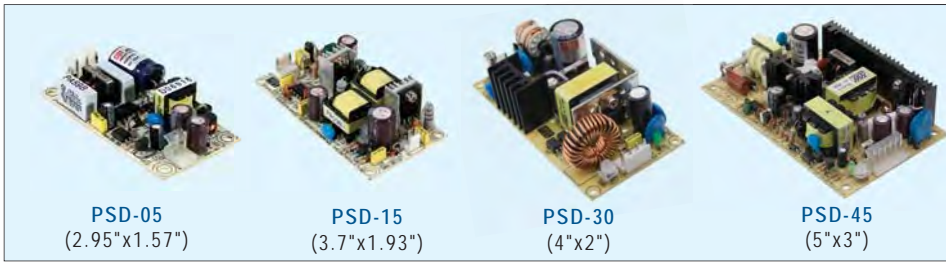
### 60W / Non-isolated / Single Vout NID60

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
NID60S24-05	20~53	5	4	100	90
NID60S24-12	20~53	12	4	120	95
NID60S24-15	20~53	15	4	150	96
NID60S48-24	30~53	24	2.5	200	95



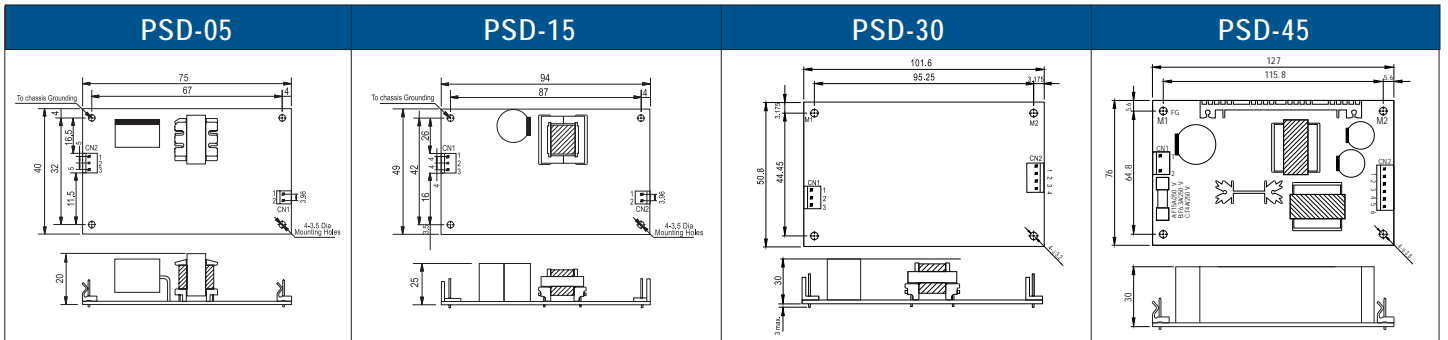
# DC/DC Converter

5~45W Single Output PCB Type



## Features

- 2:1 wide input range
- I/O isolation:  
2000VAC (5W/15W), 1500VAC (30W/45W)
- Protections: Short circuit / Overload /  
Over voltage / Over temp.(5W) /  
Reverse polarity (15~45W)
- Cooling by free air convection
- 2 years warranty



Model No.	PSD-05	PSD-15	PSD-30	PSD-45
DC input range	36~72V	A: 9.2~18V, B: 18~36V, C: 36~72V	A: 9~18V, B: 18~36V, C: 36~72V	A: 9.2~18V, B: 18~36V, C: 37~72V
Line and load regulation (max.)	±1%			
DC adjustment range	NA		5V: 4.5~5.5V, 12V: 11~13.5V, 24V: 22~26V	5V: 4.5~5.5V, 12V: 10.8~13.2V, 24V: 21.6~26.4V
Overload protection	>105% fold back current limiting, auto-recovery	105%~150% hiccup mode, auto-recovery		105%~160% shut down, re-power on to recover
Over voltage protection	115%~135% rated output voltage			
Withstand voltage	I/P-O/P: 1.5kVAC		I/P-O/P: 1.5kVAC, I/P-FG: 1.5kVAC, O/P-FG: 0.5kVAC	
Isolation resistance (min.)	100MΩ @500VDC			
Working temperature	-10~+60°C (refer to output derating curve)		-20~+60°C	
EMC standards	EN55022 class B, EN61000-4-2,3,4,6,8			
Connection	3P, 2P / 3.96mm pitch, Molex 5285-03, 5273-02	3P, 2P / 3.96mm pitch, JST B3P/B2P-VH	3P, 4P / 3.96mm pitch, JST B3P/B4P-VH-B	2P, 6P / 3.96mm pitch, Molex 5277-02, 5273-06
Dimension (LxWxH) (mm)	75x 40x 20	94x 49x 25	101.6x 50.8x 30	127x 76x 30

### 5W PSD-05

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
PSD-05-5	36~72	5	1	50	75
PSD-05-12	36~72	12	0.45	100	78
PSD-05-24	36~72	24	0.22	150	78

### 15W PSD-15

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
PSD-15A-5	9.2~18	5	3	50	74
PSD-15A-12	9.2~18	12	1.25	100	67
PSD-15A-24	9.2~18	24	0.6	100	72
PSD-15B-5	18~36	5	3	50	78
PSD-15B-12	18~36	12	1.25	100	78
PSD-15B-24	18~36	24	0.6	100	78
PSD-15C-5	36~72	5	3	50	78
PSD-15C-12	36~72	12	1.25	100	78
PSD-15C-24	36~72	24	0.6	100	79

### 30W PSD-30

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
PSD-30A-05	9~18	5	5	100	77
PSD-30A-12	9~18	12	2.5	120	77
PSD-30A-24	9~18	24	1.25	150	78
PSD-30B-05	18~36	5	5	100	79
PSD-30B-12	18~36	12	2.5	120	80
PSD-30B-24	18~36	24	1.25	150	83
PSD-30C-05	36~72	5	5	100	80
PSD-30C-12	36~72	12	2.5	120	82
PSD-30C-24	36~72	24	1.25	150	83

### 45W PSD-45

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
PSD-45A-05	9.2~18	5	6	100	74
PSD-45A-12	9.2~18	12	2.5	120	78
PSD-45A-24	9.2~18	24	1.25	150	79
PSD-45B-05	18~36	5	9	100	77
PSD-45B-12	18~36	12	3.75	120	82
PSD-45B-24	18~36	24	1.875	150	85
PSD-45C-05	37~72	5	9	100	80
PSD-45C-12	37~72	12	3.75	120	83
PSD-45C-24	37~72	24	1.875	150	86

# DC/DC Converter 15~100W Single Output Enclosed Type



## Features

- 2:1 wide input range
- I/O isolation:  
1500VAC (2000VAC for 15W)
- Protections: Short circuit / Overload /  
Over voltage
- Cooling by free air convection
- 2 years warranty

Model No.	SD-15	SD-25	SD-50	SD-100
DC input range	A: 9.2~18V, B: 19~36V(18~36V for SD-15), C: 36~72V; D: 72~144V (SD-100 only)			
DC adjustment range	5V: 4.5~5.5V, 12V: 11~16V, 24V: 23~30V (5V: 4.75~5.5V, 12V: 10.8~13.2V, 24V: 21.6~26.4V for SD-15)			
Line and load regulation (max.)	±0.5%			
Overload protection	105%~160% hiccup mode, auto-recovery	105%~150% hiccup mode, auto-recovery		105%~135% hiccup mode, auto-recovery
Over voltage protection	115%~135% rated output voltage		115%~165% rated output voltage	
Withstand voltage	I/P-O/P: 2kVAC, I/P-FG: 1.5kVAC, 1 minute		I/P-O/P: 1.5kVAC, I/P-FG: 1.5kVAC, 1 minute	
Working temperature	-10~+60°C (refer to output derating curve)			
Safety standards	Meet LVD; EN60950-1 CB approved by TUV ( SD-100 D type only )			
EMC standards	EN55022 class B, EN61000-4-2,3,4,6,8			
Case No.	931A	905	901	902
Dimension (LxWxH) (mm)	78x 51x 28	99x 97x 36	159x 97x 38	199x 98x 38

## SD-15



Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SD-15A-5	9.2~18	5	3	100	68
SD-15A-12	9.2~18	12	1.25	120	72
SD-15A-24	9.2~18	24	0.625	150	70
SD-15B-5	18~36	5	3	100	76
SD-15B-12	18~36	12	1.25	120	76
SD-15B-24	18~36	24	0.625	150	77
SD-15C-5	36~72	5	3	100	75
SD-15C-12	36~72	12	1.25	120	79
SD-15C-24	36~72	24	0.625	150	78

## SD-50



Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SD-50A-5	9.2~18	5	5	100	70
SD-50A-12	9.2~18	12	12	120	72
SD-50A-24	9.2~18	24	24	150	74
SD-50B-5	19~36	5	5	100	73
SD-50B-12	19~36	12	12	120	75
SD-50B-24	19~36	24	24	150	80
SD-50C-5	36~72	5	5	100	76
SD-50C-12	36~72	12	12	120	78
SD-50C-24	36~72	24	24	150	83

## SD-25



Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SD-25A-5	9.2~18	5	5	100	71
SD-25A-12	9.2~18	12	12	120	72
SD-25A-24	9.2~18	24	24	150	75
SD-25B-5	19~36	5	5	100	72
SD-25B-12	19~36	12	12	120	75
SD-25B-24	19~36	24	24	150	78
SD-25C-5	36~72	5	5	100	74
SD-25C-12	36~72	12	12	120	78
SD-25C-24	36~72	24	24	150	81

## SD-100



Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SD-100B-5	19~36	5	20	100	74
SD-100B-12	19~36	12	8.5	120	75
SD-100B-24	19~36	24	4.2	150	78
SD-100C-5	36~72	5	20	100	75
SD-100C-12	36~72	12	8.5	120	77
SD-100C-24	36~72	24	4.2	150	81
SD-100D-5	72~144	5	20	100	76
SD-100D-12	72~144	12	8.5	120	80
SD-100D-24	72~144	24	4.2	150	83

# DC/DC Converter 150~1000W Single Output Enclosed Type



## Features

- 2:1 wide input range (4:1 input for SD-500/1000)
- I/O Isolation: 1500VAC, 2000VAC (SD-500/1000)
- Protections: Short circuit / Overload / Over voltage / Over temperature (except for SD-150) / Input polarity (SD-500 only)
- Fanless design, cooling by free air convection (SD-150/200), forced air cooling by built-in DC fan (SD-350/500/1000)
- DC input active surge current limiting (SD-500)
- Output OK signal (SD-500/1000)
- 1U low profile 41mm (SD-1000)
- 12V / 0.25A auxiliary output (SD-500/1000)
- Built-in remote ON/OFF control and remote sense (SD-500/1000)
- 2 years warranty, 3 years warranty (SD-500/1000)

Model No.	SD-150	SD-200	SD-350	SD-500	SD-1000
DC input range	B: 19~36V, C: 36~72V, D: 72~144V			L: 19~72V, H: 72~144V	
Vout adjustment range	12V: 11~16V, 24V: 23~30V	5V: 4.5~5.5V, 12V: 11~16V, 24V: 23~30V, 48V: 43~53V		12V: 11~15V, 24V: 23~30V, 48V: 46~60V	
Line and load regulation (max.)	±0.5%		±0.2%~±0.5%	±0.5%	
Overload protection	105%~135% hiccup mode, auto-recovery	105%~135% shut off, re-power on to recover		105%~125% constant current limiting, shut off after 5 sec., re-power on to recover	
Over voltage protection	130%~165%	110%~167% rated output voltage		130%~160% rated output voltage	
Withstand voltage	I/P-O/P: 1.5kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC			I/P-O/P: 2kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC	
Working temperature	-10~+60°C		-20~+60°C		
Safety standards	Meet LVD, EN60950-1 CB approved by TUV (D type only)			IEC60950-1 CB approved by TUV	
EMC standards	EN55022 class B, EN61000-4-2,3,4,6,8				
Case No.	906	912H	912B	912A	952B
Dimension (LxWxH) (mm)	199x 110x 50	215x 115x 50		295x 127x 41	

## SD-150

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SD-150B-12	19~36	12	12.5	120	75
SD-150B-24	19~36	24	6.3	150	77
SD-150C-12	36~72	12	12.5	120	77
SD-150C-24	36~72	24	6.3	150	80
SD-150D-12	72~144	12	12.5	120	79
SD-150D-24	72~144	24	6.3	150	82

## SD-200

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SD-200B-5	19~36	5	34	100	79
SD-200B-12	19~36	12	16.7	120	82
SD-200B-24	19~36	24	8.4	150	85
SD-200B-48	19~36	48	4.2	200	86
SD-200C-5	36~72	5	40	100	81
SD-200C-12	36~72	12	16.7	120	84
SD-200C-24	36~72	24	8.4	150	86
SD-200C-48	36~72	48	4.2	200	86
SD-200D-5	72~144	5	40	100	82
SD-200D-12	72~144	12	16.7	120	82
SD-200D-24	72~144	24	8.4	150	84
SD-200D-48	72~144	48	4.2	200	90

## SD-350

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SD-350B-5	19~36	5	57	100	74
SD-350B-12	19~36	12	27.5	120	80
SD-350B-24	19~36	24	14.6	150	80
SD-350B-48	19~36	48	7.3	200	84
SD-350C-5	36~72	5	60	100	76
SD-350C-12	36~72	12	27.5	120	81
SD-350C-24	36~72	24	14.6	150	81
SD-350C-48	36~72	48	7.3	200	82
SD-350D-5	72~144	5	60	100	78
SD-350D-12	72~144	12	29.2	120	83
SD-350D-24	72~144	24	14.6	150	87
SD-350D-48	72~144	48	7.3	200	89

## SD-500

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SD-500L-12	19~72	12	40	150	86
SD-500L-24	19~72	24	21	150	88
SD-500L-48	19~72	48	10.5	150	89
SD-500H-12	72~144	12	40	150	87
SD-500H-24	72~144	24	21	150	89
SD-500H-48	72~144	48	10.5	150	90

## SD-1000

Model No.	Vin (VDC)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
SD-1000L-12	19~72	12	60	150	84
SD-1000L-24	19~72	24	40	150	88
SD-1000L-48	19~72	48	21	150	90
SD-1000H-12	72~144	12	60	150	85
SD-1000H-24	72~144	24	40	150	89
SD-1000H-48	72~144	48	21	150	92

# DC/DC Converter 100~300W Railway Enclosed Type



## Features

- Compliance to EN50155 and EN45545-2 railway standard
- 2:1 wide input range
- 4000VDC I/O isolation
- Protections:
  - Short circuit / Overload / Over voltage /
  - Input reverse polarity / Over temp.(RSD-150/200/300)
- Cooling by free air convection
- Built-in constant current limiting circuit
- 1U low profile
- All using 105°C long life electrolytic capacitors
- Half encapsulated
- 100% full load burn-in test
- 3 years warranty



Model No.	RSD-100	RSD-150	RSD-200	RSD-300
DC input range	B: 14.4~33.6V, C: 28.8~67.2V, D: 57.6~154V, E: 21.6~50.4V, F: 43.2~100.8V			
Line regulation (1 sec.)	±0.5%			
Load regulation (max.)	±1%			
Overload protection	105%~135% constant current limiting, recovers automatically after fault condition is removed			
Over voltage protection	115%~135% Shut down O/P voltage, re-power on to recover			115%~140%
Withstand voltage	I/P-O/P: 4kVDC, I/P-FG: 2.5kVDC, O/P-FG: 2.5kVDC, 1 minute			
Isolation resistance	100MΩ@500VDC			
Working temperature(min.)	-40~+70°C (refer to output derating curve)			
Safety standards	Meet IEC60950-1(LVD)			
EMC standards	EN55022 class B, EN50121-3-2, EN61000-4-2,3,4,5,6,8			
Railway standard	EN50155 / IEC60571; EN45545-2			
Dimension (LxWxH)(mm)	161x68x36	189x77x36	191x86x40	216x97x40

## 100W RSD-100

Model No.	Vin (VDC) (1 sec / continuous)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
RSD-100B-5	14.4~33.6 / 16.8~31.2	5	20	100	88
RSD-100B-12	14.4~33.6 / 16.8~31.2	12	8.4	120	89
RSD-100B-24	14.4~33.6 / 16.8~31.2	24	4.2	150	89
RSD-100C-5	28.8~67.2 / 33.6~62.4	5	20	100	89
RSD-100C-12	28.8~67.2 / 33.6~62.4	12	8.4	120	91
RSD-100C-24	28.8~67.2 / 33.6~62.4	24	4.2	150	91
RSD-100D-5	57.6~154 / 67.2~143	5	20	100	89.5
RSD-100D-12	57.6~154 / 67.2~143	12	8.4	120	91
RSD-100D-24	57.6~154 / 67.2~143	24	4.2	150	90

## 150W RSD-150

Model No.	Vin (VDC) (1 sec / continuous)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
RSD-150B-5	14.4~33.6 / 16.8~31.2	5	30	100	89
RSD-150B-12	14.4~33.6 / 16.8~31.2	12	12.5	120	90
RSD-150B-24	14.4~33.6 / 16.8~31.2	24	6.3	150	90
RSD-150C-5	28.8~67.2 / 33.6~62.4	5	30	100	90
RSD-150C-12	28.8~67.2 / 33.6~62.4	12	12.5	120	92
RSD-150C-24	28.8~67.2 / 33.6~62.4	24	6.3	150	91
RSD-150D-5	57.6~154 / 67.2~143	5	30	100	90
RSD-150D-12	57.6~154 / 67.2~143	12	12.5	120	92
RSD-150D-24	57.6~154 / 67.2~143	24	6.3	150	91

## 200W RSD-200

Model No.	Vin (VDC) (1 sec / continuous)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
RSD-200B-12	14.4~33.6 / 16.8~31.2	12	16.7	120	89
RSD-200B-24	14.4~33.6 / 16.8~31.2	24	8.4	150	89
RSD-200B-48	14.4~33.6 / 16.8~31.2	48	4.2	180	89
RSD-200C-12	28.8~67.2 / 33.6~62.4	12	16.7	120	91
RSD-200C-24	28.8~67.2 / 33.6~62.4	24	8.4	150	91

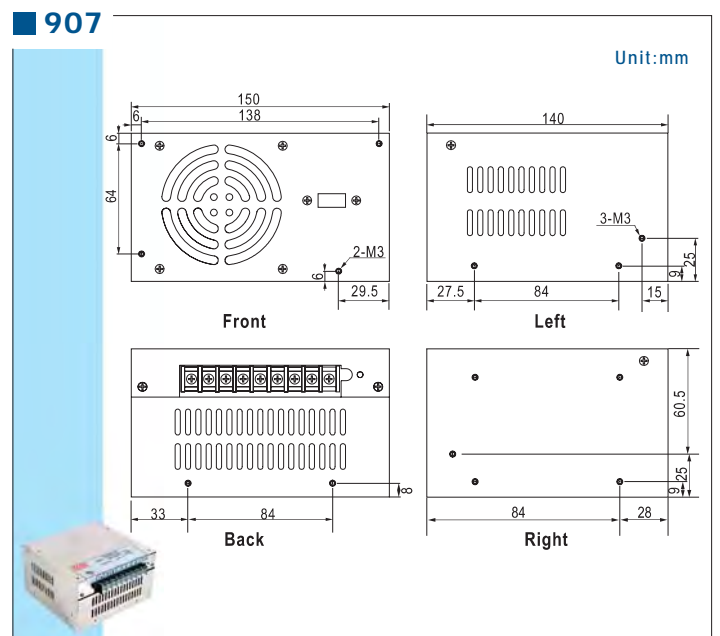
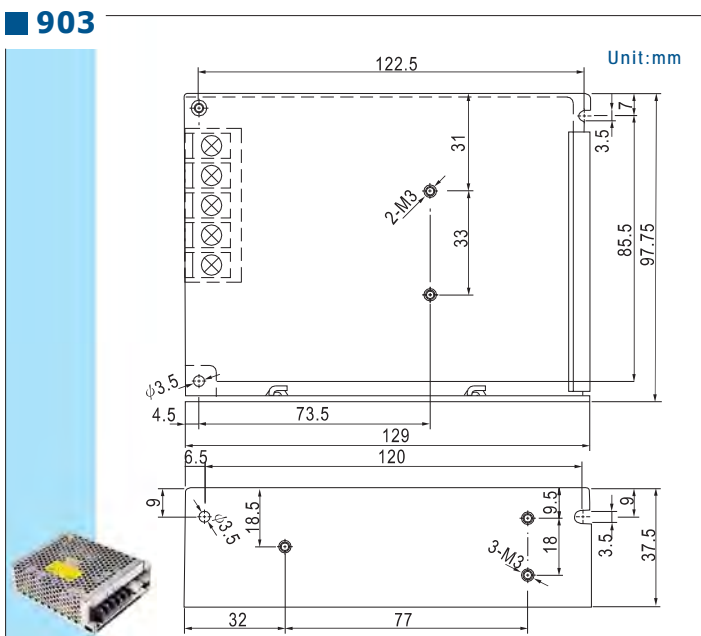
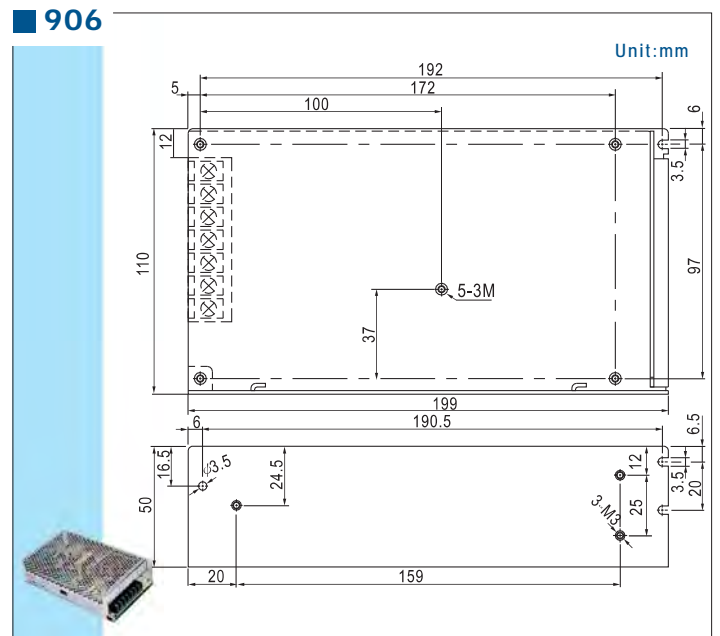
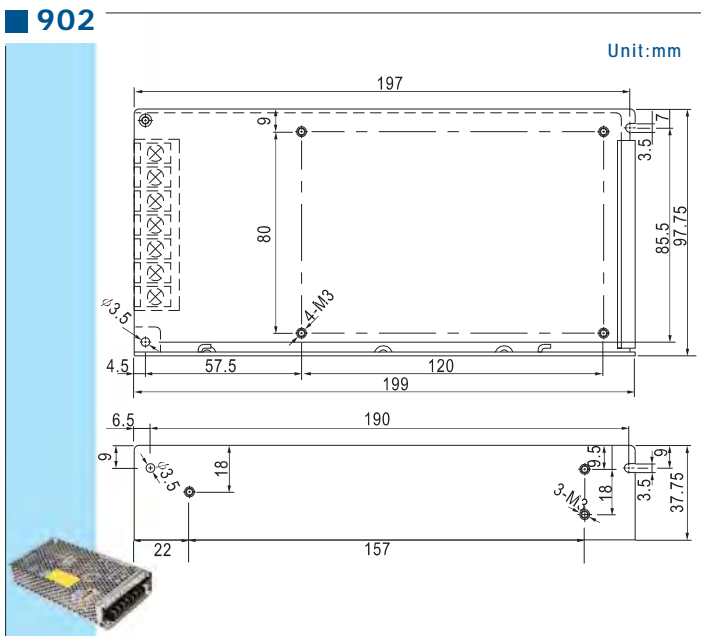
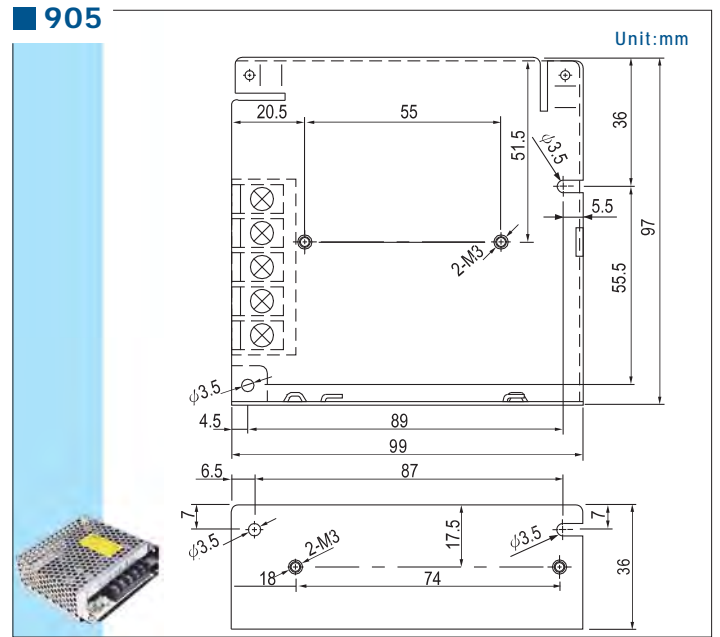
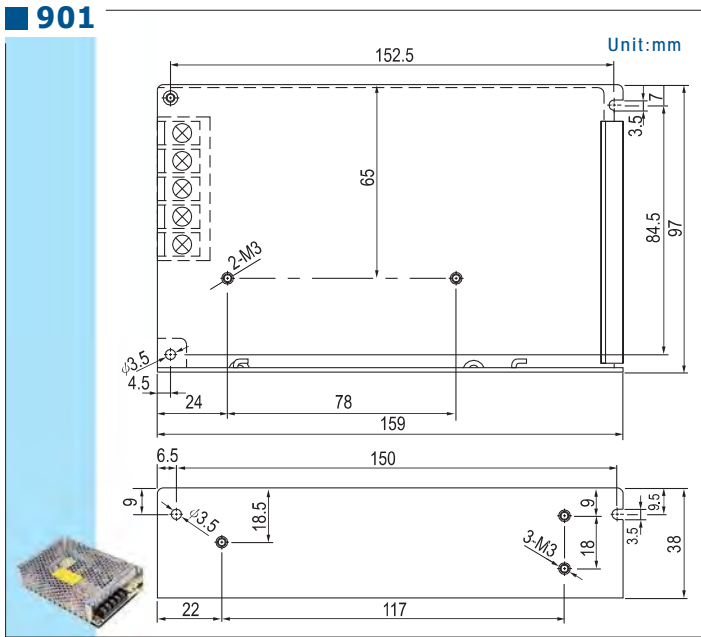
Model No.	Vin (VDC) (1 sec / continuous)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
RSD-200C-48	28.8~67.2 / 33.6~62.4	48	4.2	180	91
RSD-200D-12	57.6~154 / 67.2~143	12	16.7	120	91
RSD-200D-24	57.6~154 / 67.2~143	24	8.4	150	91
RSD-200D-48	57.6~154 / 67.2~143	48	4.2	180	91

## 300W RSD-300

Model No.	Vin (VDC) (1 sec / continuous)	Vout (VDC)	Iout (A)	R&N (mVp-p)	Effi. (%)
RSD-300B-5	14.4~33.6 / 16.8~31.2	5	42	100	89
RSD-300B-12	14.4~33.6 / 16.8~31.2	12	22.5	120	89.5
RSD-300B-24	14.4~33.6 / 16.8~31.2	24	11.3	150	90
RSD-300B-48	14.4~33.6 / 16.8~31.2	48	5.7	180	91.5
RSD-300C-5	28.8~67.2 / 33.6~62.4	5	42	100	90.5
RSD-300C-12	28.8~67.2 / 33.6~62.4	12	25	120	91
RSD-300C-24	28.8~67.2 / 33.6~62.4	24	12.5	150	91.5
RSD-300C-48	28.8~67.2 / 33.6~62.4	48	6.3	180	92
RSD-300D-5	57.6~154 / 67.2~143	5	42	100	90
RSD-300D-12	57.6~154 / 67.2~143	12	25	120	91.5
RSD-300D-24	57.6~154 / 67.2~143	24	12.5	150	91.5
RSD-300D-48	57.6~154 / 67.2~143	48	6.3	180	91.5
RSD-300E-5	21.6~50.4 / 25.2~46.8	5	42	100	88
RSD-300E-12	21.6~50.4 / 25.2~46.8	12	25	120	90
RSD-300E-24	21.6~50.4 / 25.2~46.8	24	12.5	150	91
RSD-300E-48	21.6~50.4 / 25.2~46.8	48	6.3	180	91
RSD-300F-5	43.2~100.8 / 50.4~93.6	5	42	100	89
RSD-300F-12	43.2~100.8 / 50.4~93.6	12	25	120	91
RSD-300F-24	43.2~100.8 / 50.4~93.6	24	12.5	150	91
RSD-300F-48	43.2~100.8 / 50.4~93.6	48	6.3	180	91.5

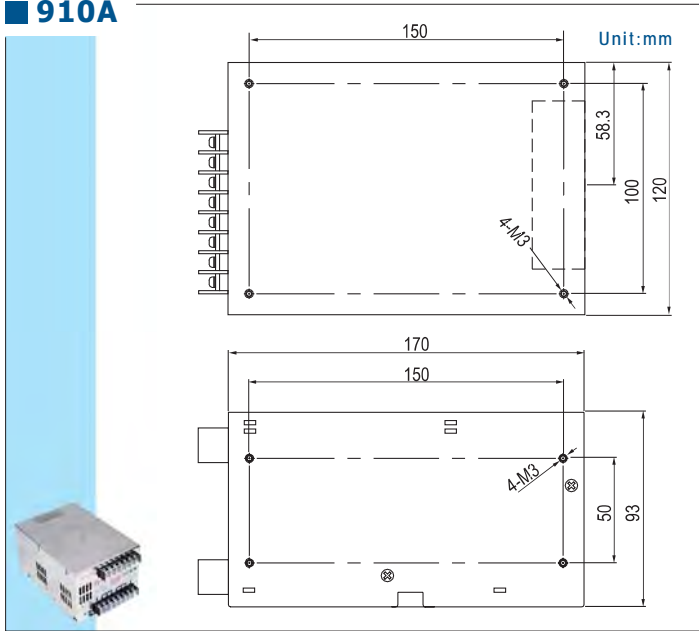


# Case Drawing

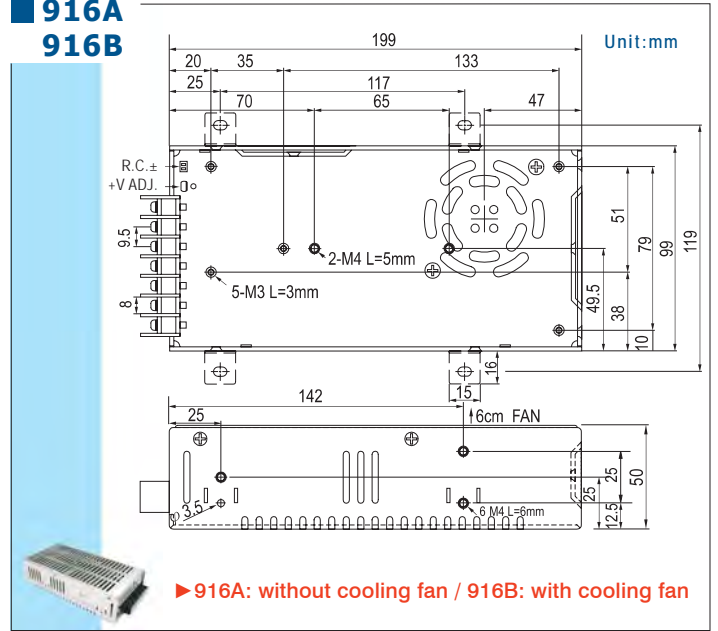


# Case Drawing

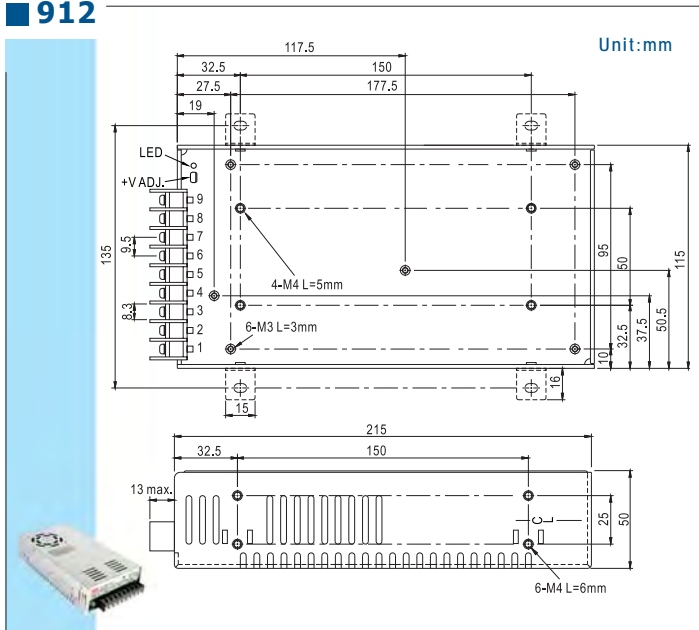
## 910A



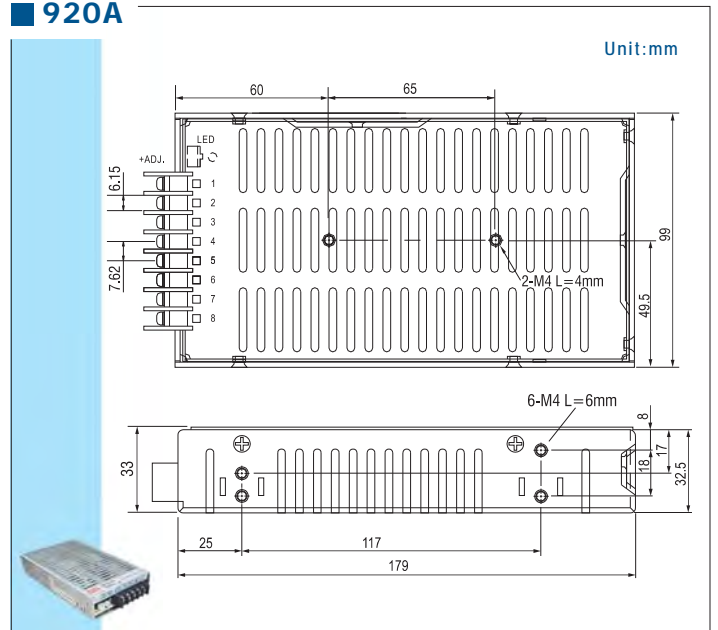
## 916A 916B



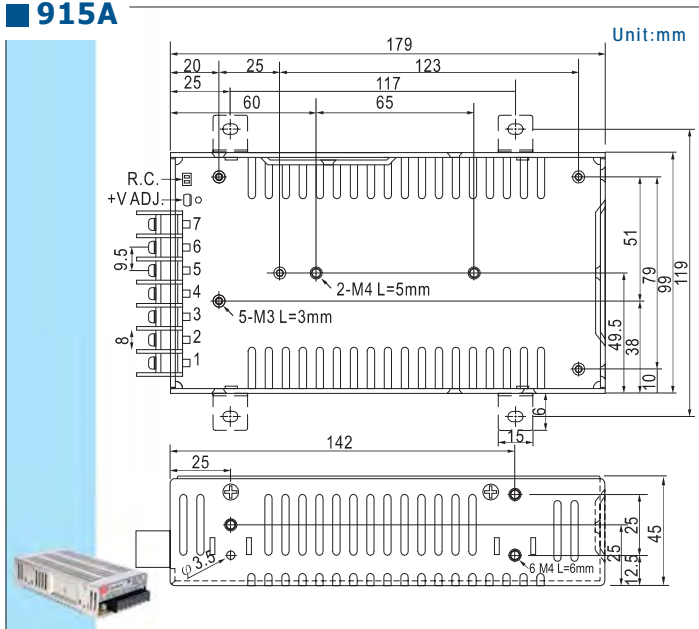
## 912



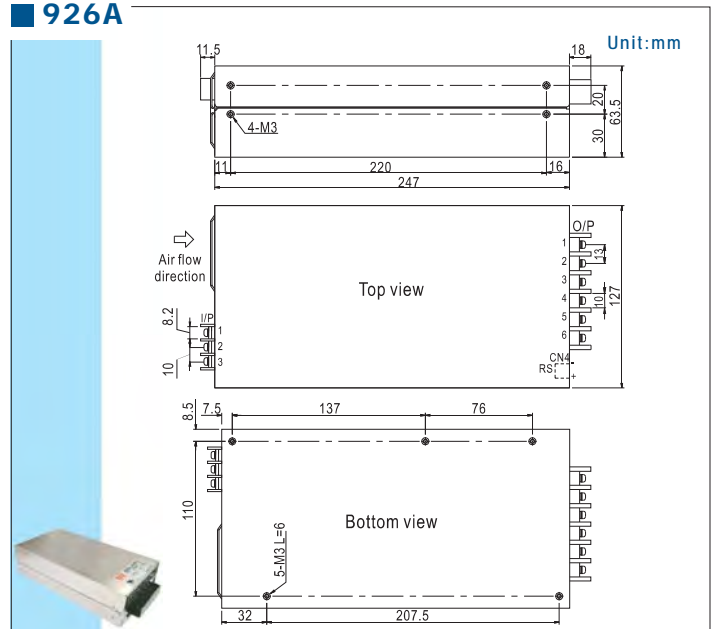
## 920A



## 915A



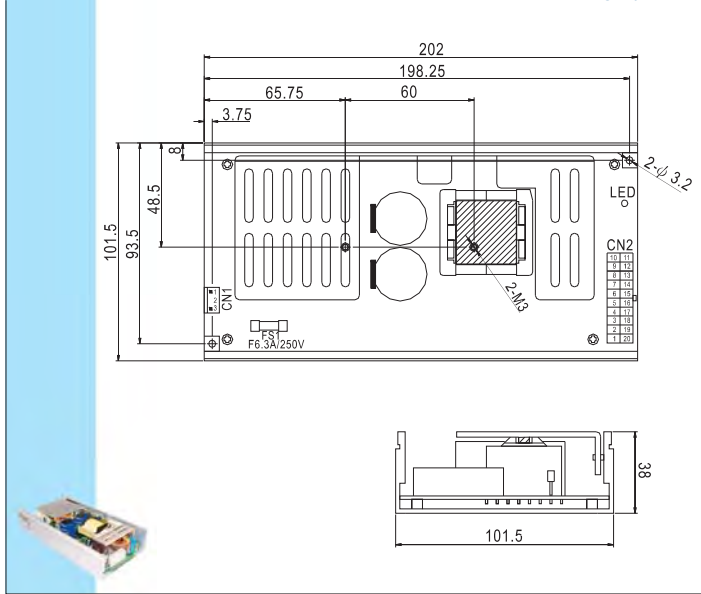
## 926A



# Case Drawing

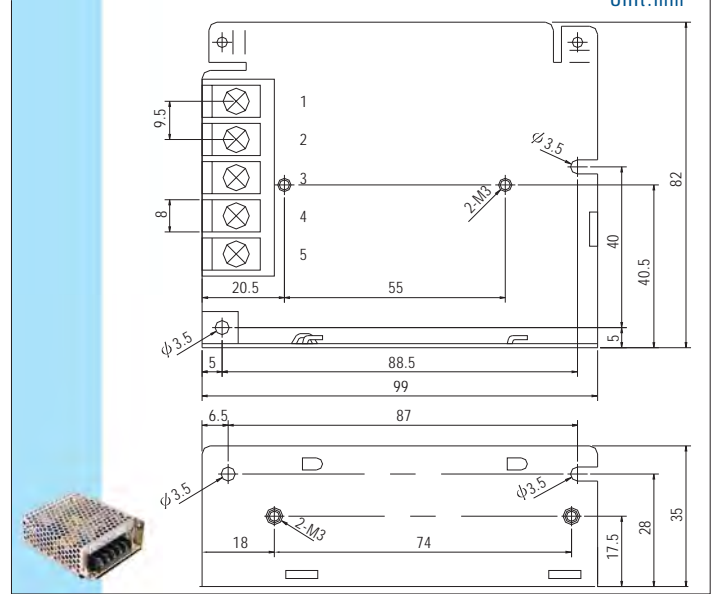
## 928A

Unit:mm



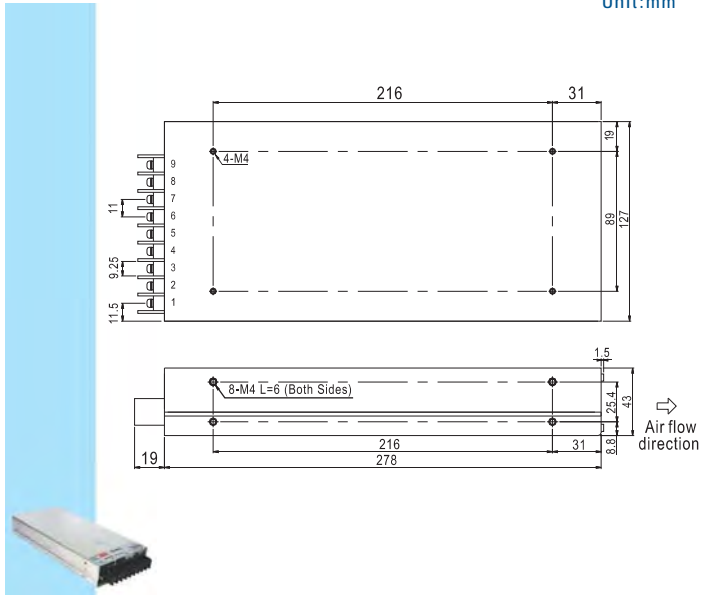
## 932A

Unit:mm



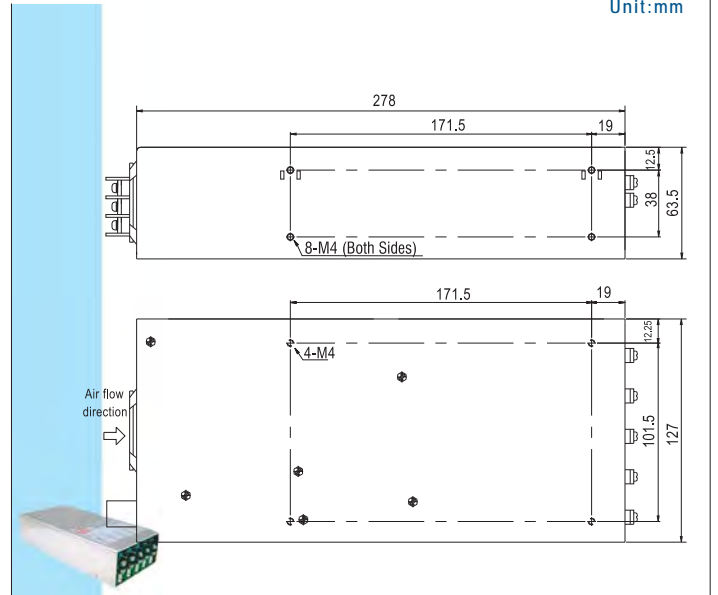
## 929A

Unit:mm



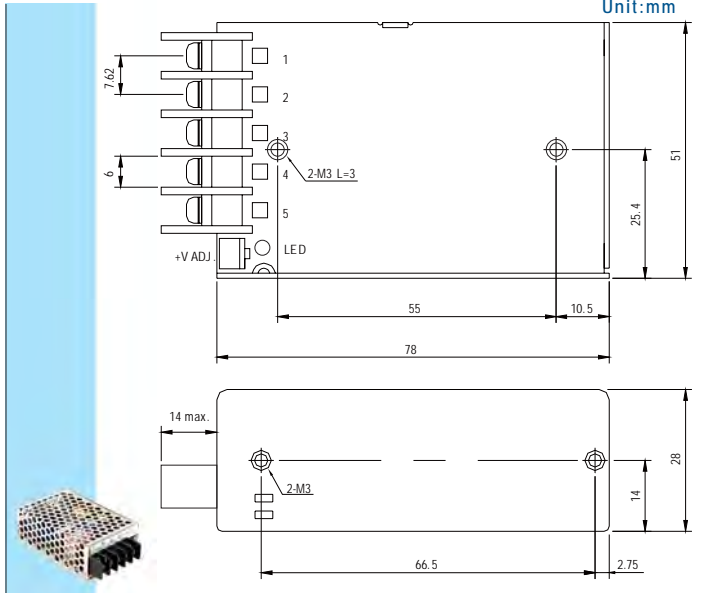
## 935A

Unit:mm



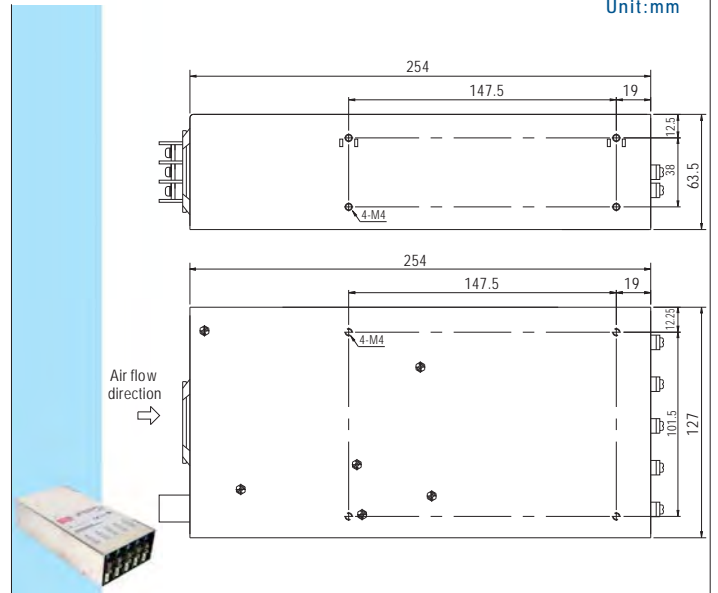
## 931A

Unit:mm



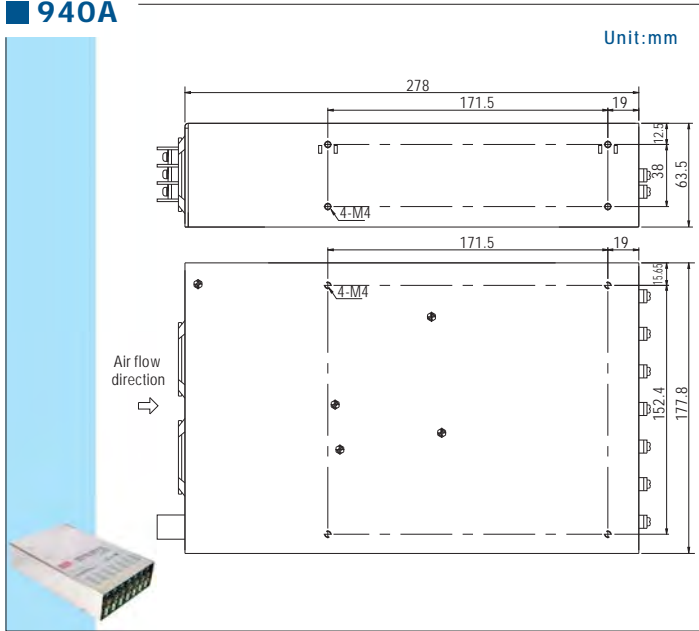
## 939A

Unit:mm

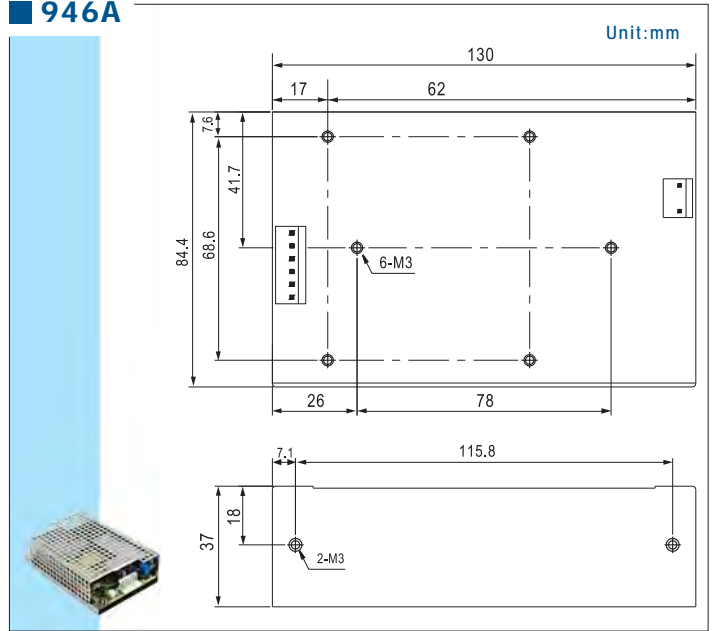


# Case Drawing

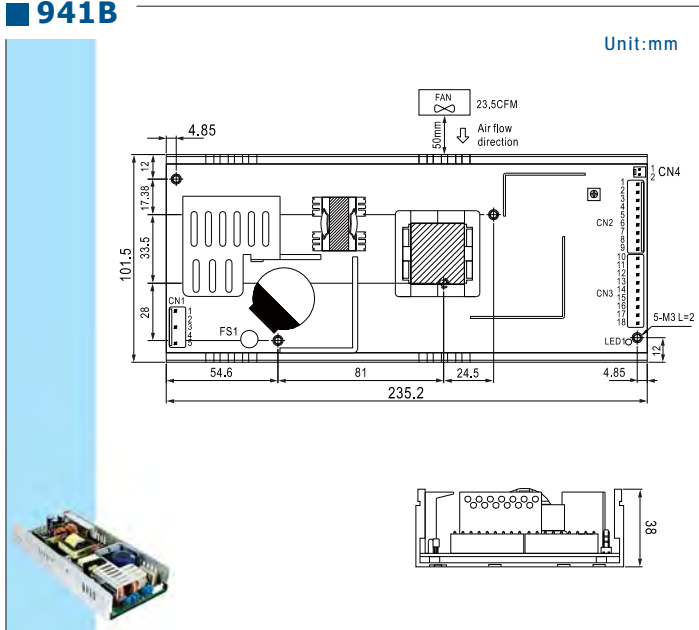
## 940A



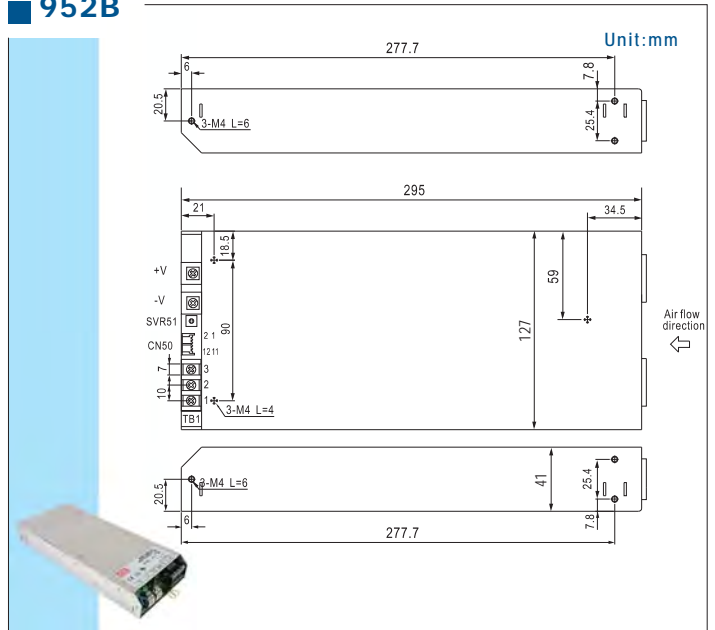
## 946A



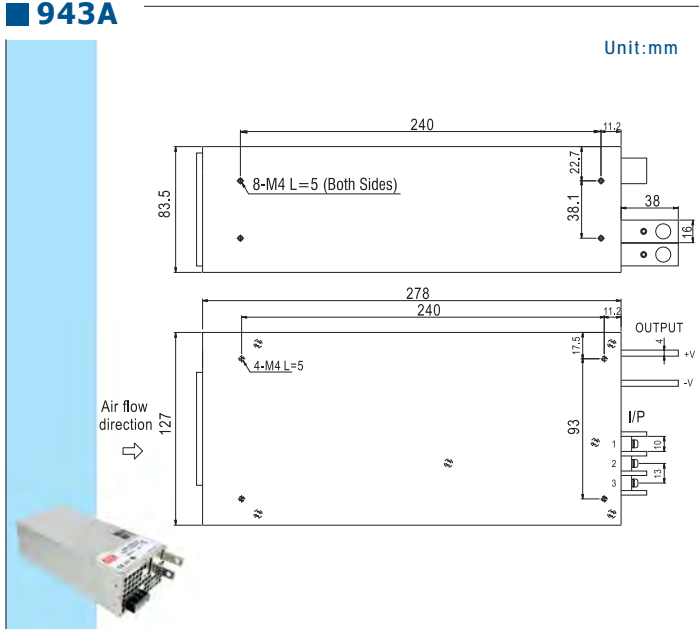
## 941B



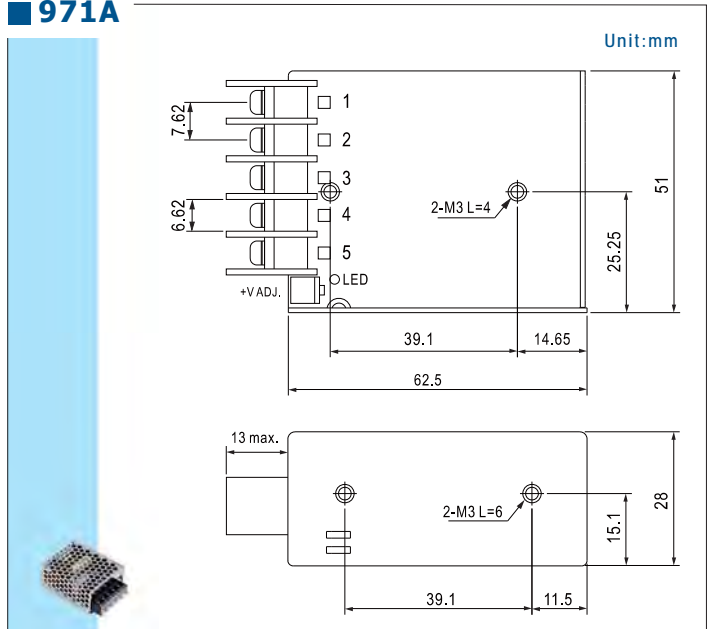
## 952B



## 943A

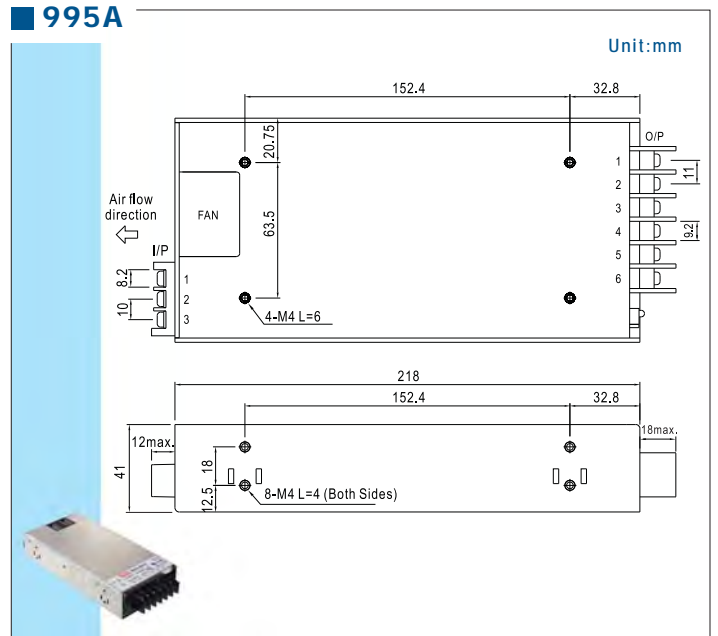
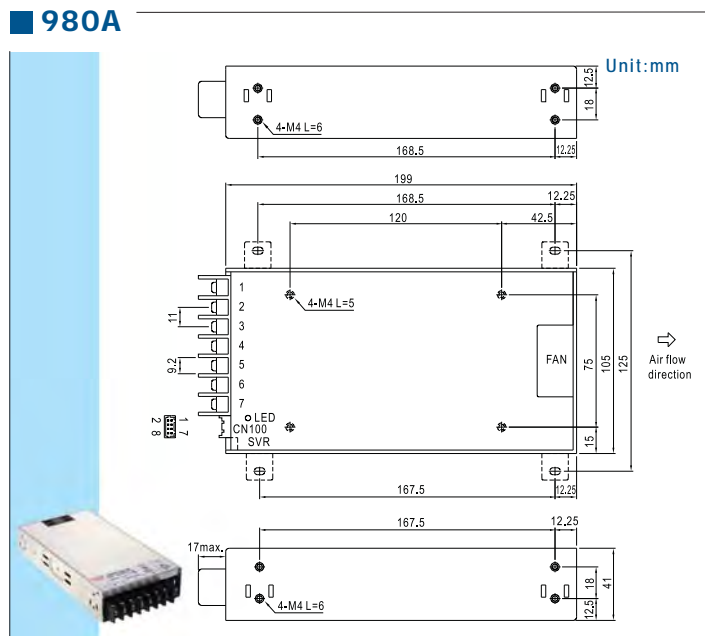
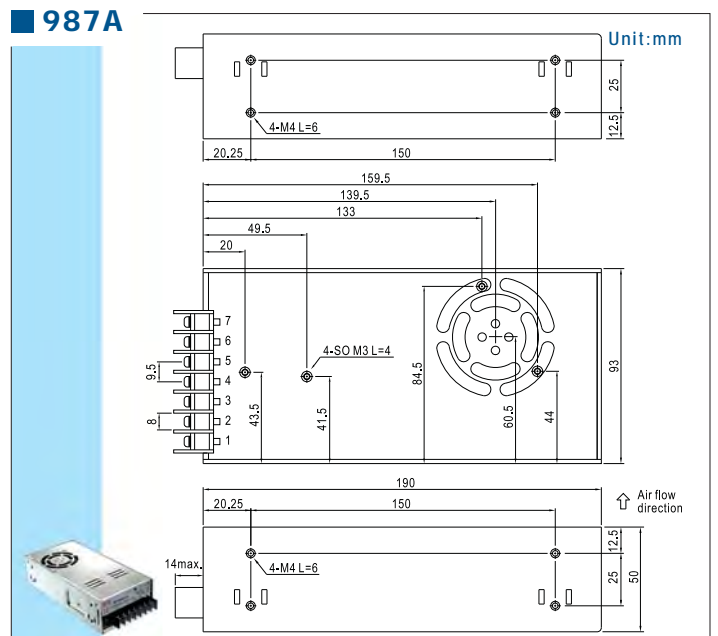
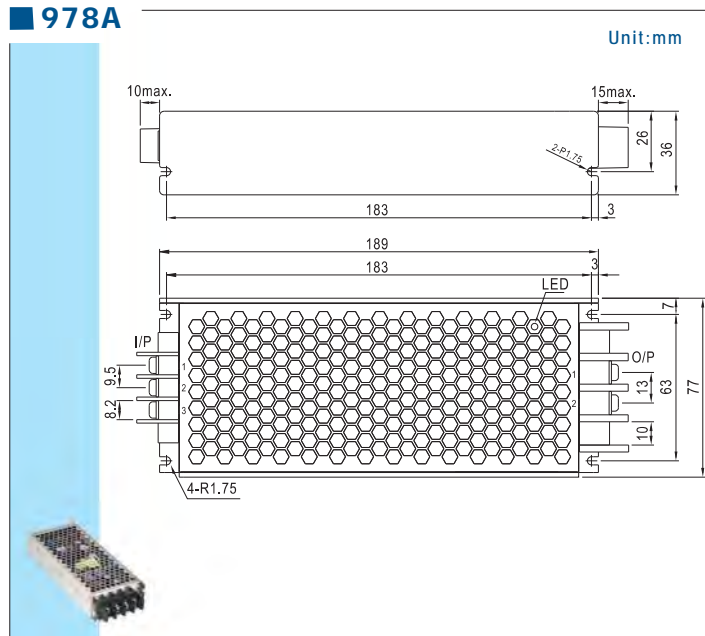
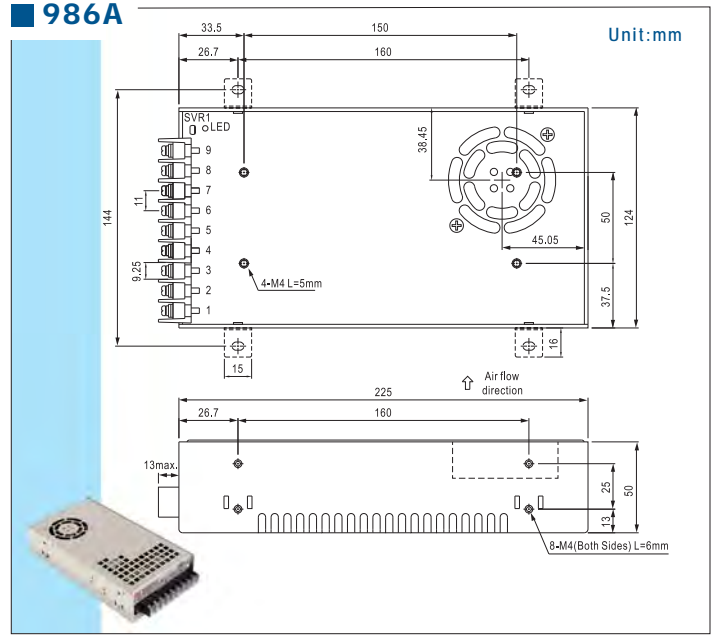
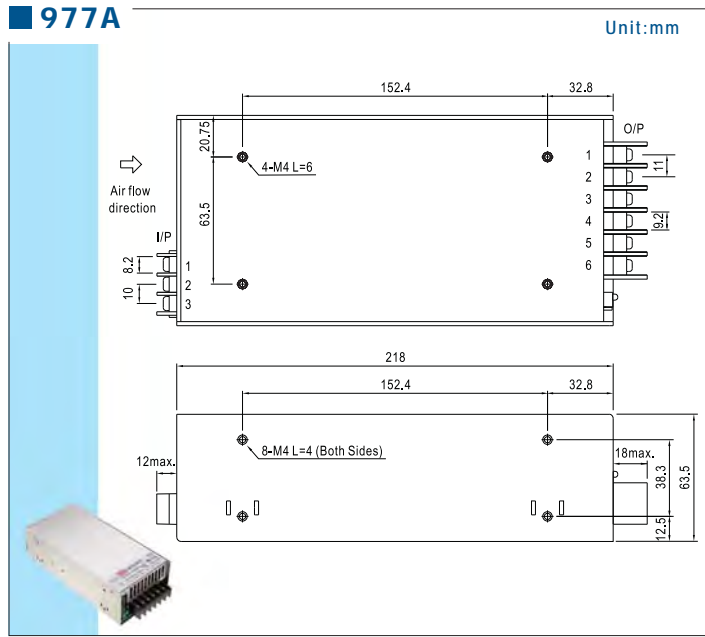


## 971A



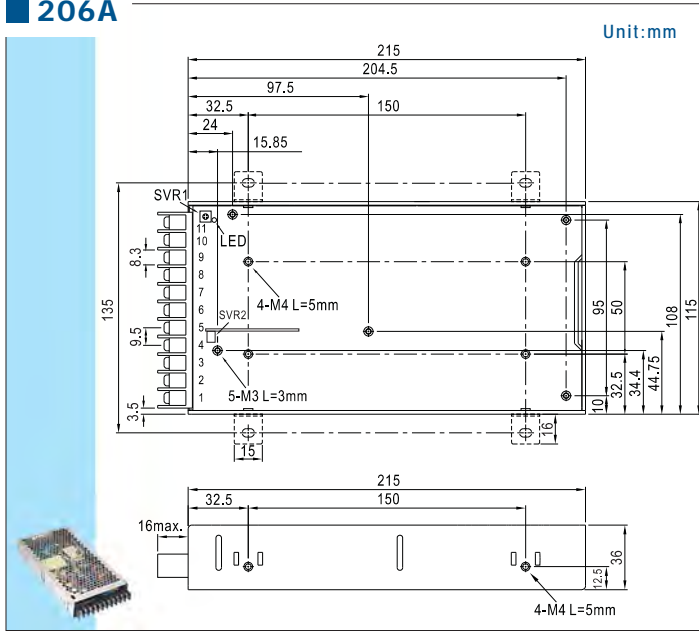


# Case Drawing

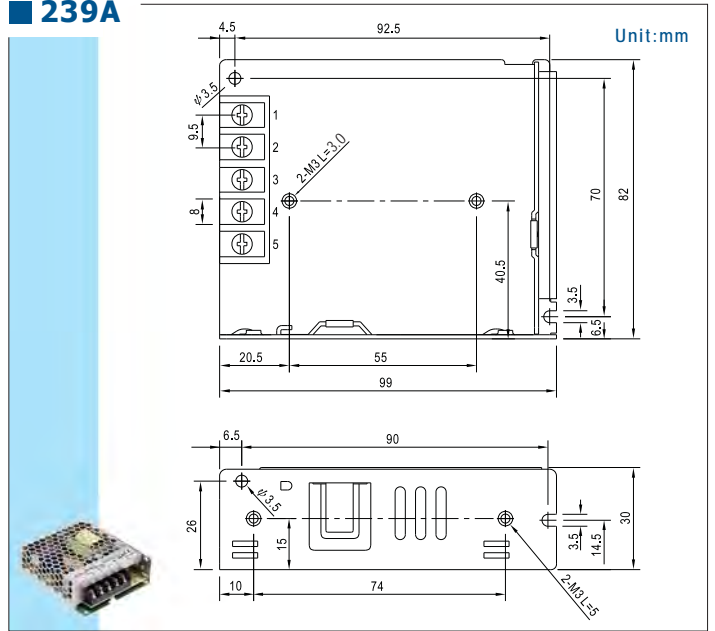


# Case Drawing

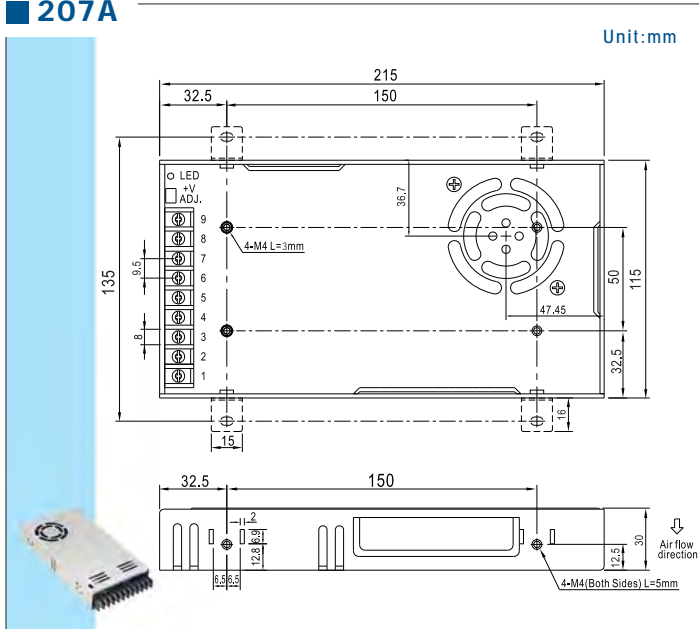
## 206A



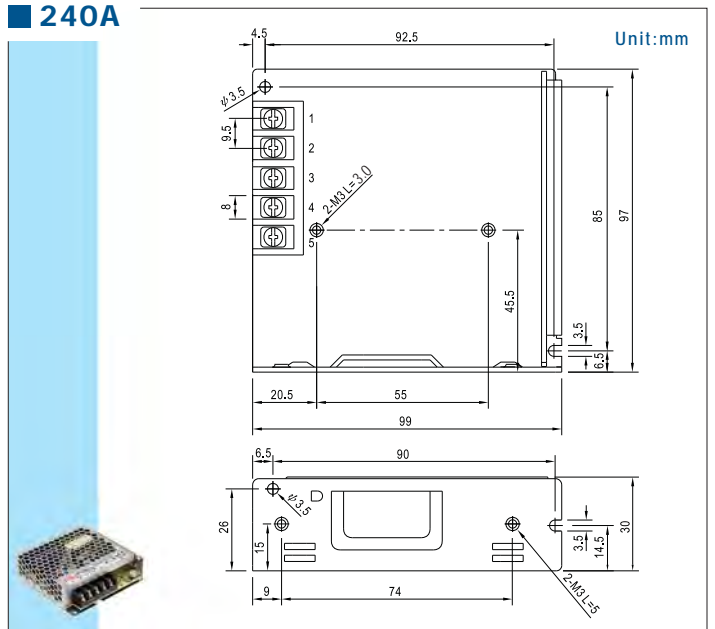
## 239A



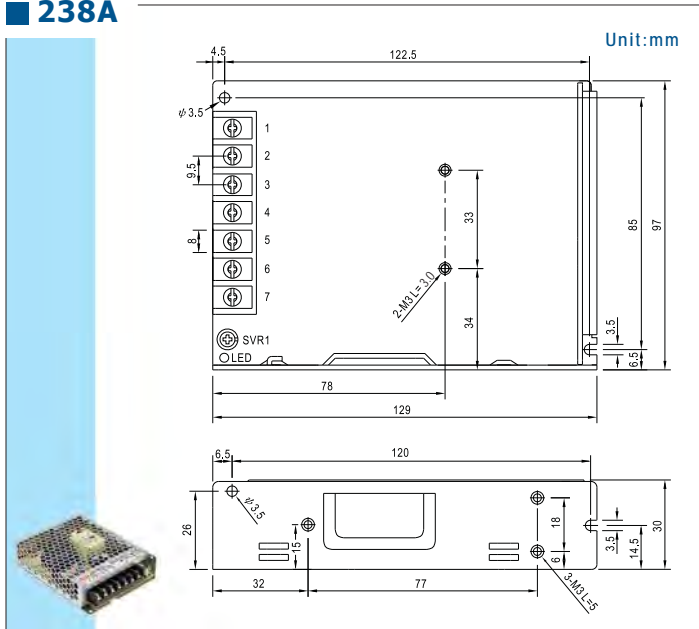
## 207A



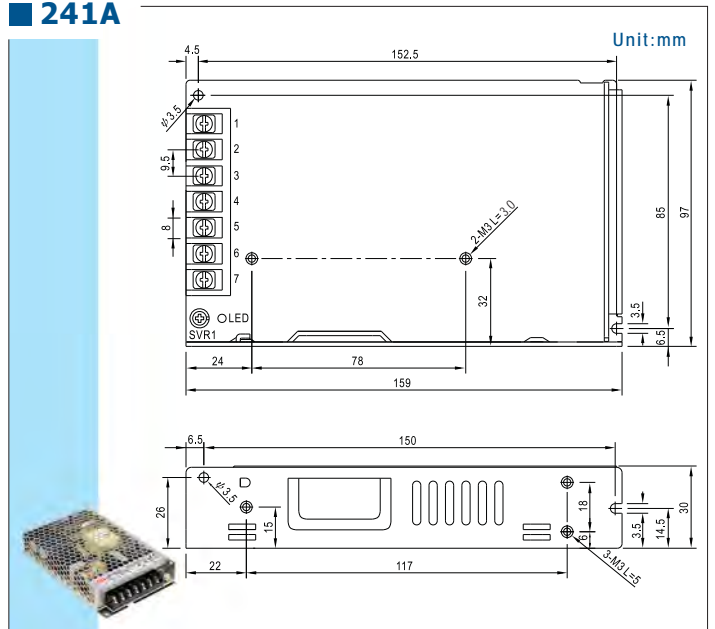
## 240A



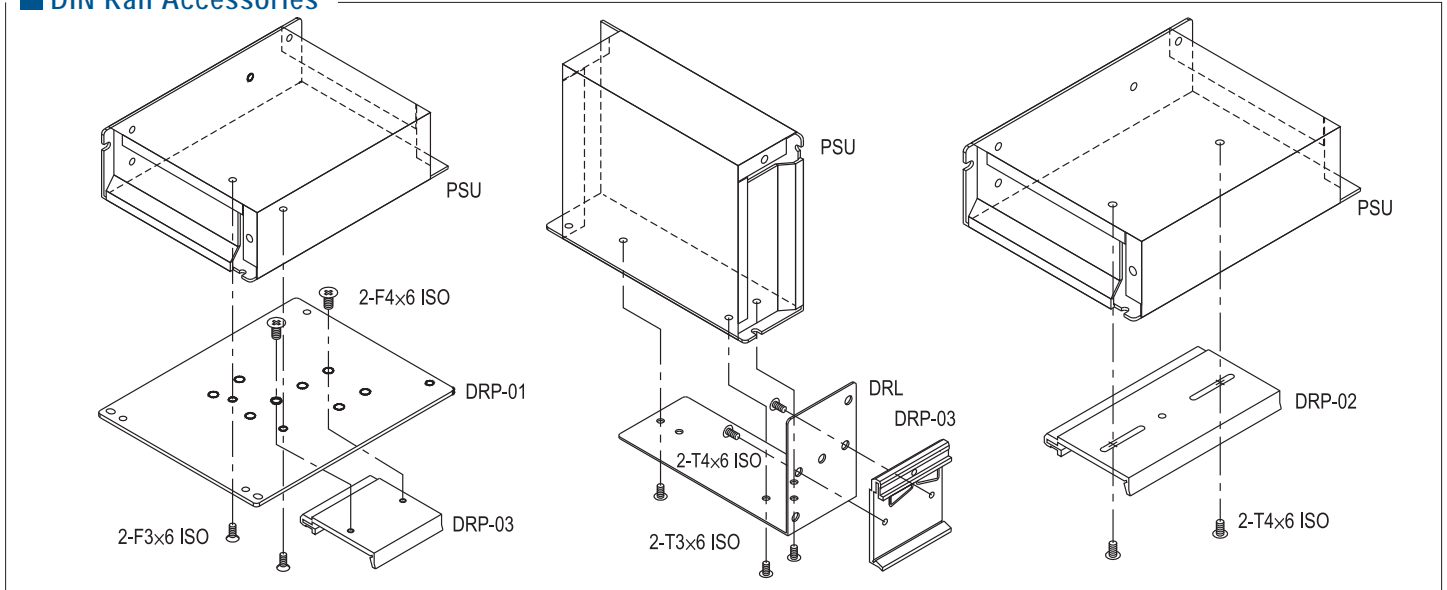
## 238A



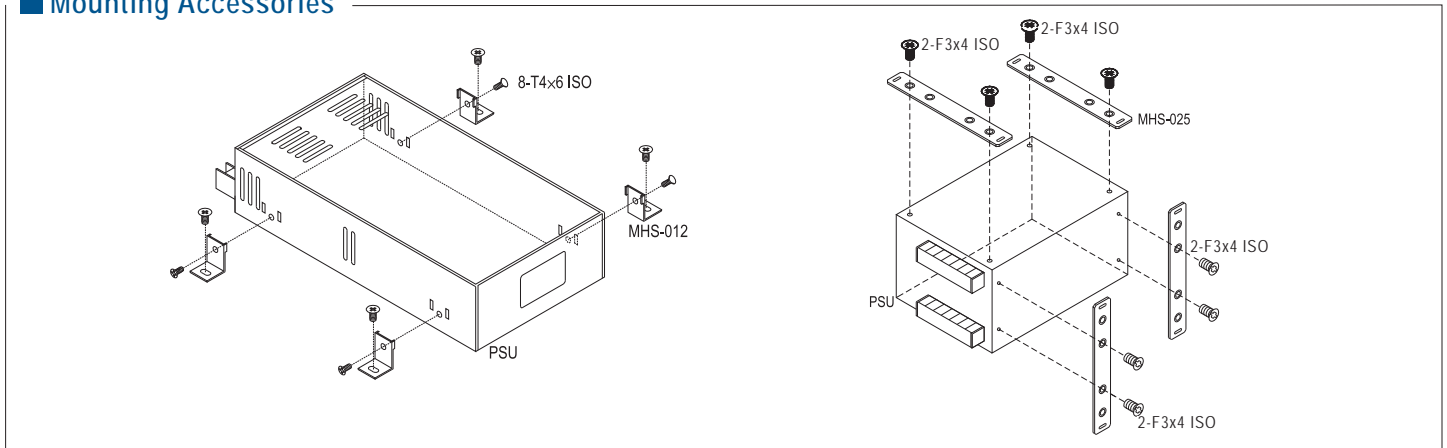
## 241A



## DIN Rail Accessories



## Mounting Accessories



ITEM	Order No.	Case	Model
	DRL-01	238, 239, 240, 903, 905, 931, 932, 971	LRS-35/50/75/100, S-40, D-30, T-30, ..., S-15, S-25, ..., RS-25, NES-15, RS-35, NES-25, RS-15
	DRL-02	241, 901, 902, 906, 915, 916, 920	LRS-150/150F, S-50, S-60, D-60, ..., S-100, S-100F, SD-100, ..., S-150, SD-150, D-120, ..., SP-100, ..., SP-150, SP-200, ..., SP-75, ...
	DRL-03A	980, 987	SP-240, HRP(G)-300
	DRP-01	238, 239, 241, 901, 902, 903, 906, 931, 932, 946	LRS-35/50/100/150/150F, All models
	DRP-01A	203, 205, 978, 999	RSD-100 / 150 / 200 / 300
	DRP-02	240, 905 / 915, 916 / 920, 928	LRS-75, S-15, S-25, ... / SP-100, ... SP-150, SP-200, ... / SP-75, ... USP-225, ...
	DRP-03	DRP-01, DRL-01-03	All models
	DRP-04	203, 205, 978, 999	RSD-100 / 150 / 200 / 300

ITEM	Order No.	Case	Model
	MHS012	206, 207, 215A, 912, 915, 916, 935, 939, 940, 977, 980, 982, 986, 987, 995	HDP-190, RSP-200/320, LRS-200/350, RSP-150, S-201, S-320, S-350, SP-100, SP-150, SP-200, SP-320, SE-450/1000, MP450/650/1000, SP-240, HRP-300/450/600, RSP-2400/3000
	MHS013	919, 926	PSP-500, SP-750, SE-600
	MHS014	212, 952	RSP-750, RSP-1000, SD-1000
	MHS025	910	SP-500, PSP-600, ...
	MHS026	943	RSP-1500
	MHS027	971, 931	RS-15, RS-25
	TBC-05	901, 903, 905, 932, 220, 239A, 240A	SD-50, S-60, S-40, NES-50, RS-75, S-25, SD-25, NES-35, RS-50, NES-25, RS-35, RSP-75, LRS-35/50, LRS-75
	TBC-07	901, 902, 903, 905, 906, 215A, 227A, 238A, 241A	D/ID-60, NED/T-75, RD-85, NES-100, RS-100, T-60, S-100F, RD-125, NES-150, RS-150, SD-100, NED/T-50, RD/RID-65, T-40, NED/T-35, RD-50, S-150, SC-150, SD-150, RSP-150, RSP-100, LRS-100, LRS-150, LRS-150F
	TBC-08	901, 906	AD-155, ADD/ADS-155, D/T/Q-120
	TBC-09	207	RSP-200/320, LRS-200/350

TBC is the cover for terminal block

Блоки питания, MW, MEAN WELL Минск тел.+375447584780

www.fotorele.net www.tiristor.by радиодетали, электронные компоненты  
email minsk17@tut.by tel.+375 29 758 47 80 МТС

Мы не работаем с частными (физическими) лицами.

Мы работаем только с юридическими лицами(организациями) и ИП и только по безналичному расчёту.

источник тока, напряжения, каталог, описание, технические, характеристики, datasheet,  
параметры, маркировка, габариты, фото, даташит QR код



**БЛОКИ ПИТАНИЯ,  
MEAN WELL ( MW )  
ИСТОЧНИК, ТОКА, НАПРЯЖЕНИЯ,  
АДАПТЕР,  
АС/DC —  
блоки питания  
LED —  
драйверы  
DC/DC —  
преобразователи  
DC/AC —  
инверторы  
Аксессуары**

**В кожухе  
На DIN рейку  
3-х фазный вход  
Компактные на открытой плате  
С функцией UPS  
Внешние подключаемые  
источники питания  
Специальные  
19" Rack Power  
Open Frame  
Модульная серия**