

# AC/DC 200W Enclosed Switching Power Supply

**EFO-PS200UP19-4.5**

## FEATURES AND BENEFITS

- AC input: 90VAC ~ 264VAC
- Output protections: OLP/SCP/OVP/OTP
- Wide operating ambient temperature (-40°C~65°C)
- No fan suitable for quiet environment
- 100% full load burn-in test
- High Efficiency, and High Reliability
- 3 years warranty

## INPUT SPECIFICATIONS

ITEM	OPERATING CONDITIONS		MIN	TYPE	MAX	UNIT
INPUT VOLTAGE RANGE	AC input		90	---	264	VAC
INPUT VOLTAGE FREQUENCY			47	---	63	Hz
INPUT CURRENT			---	---	2.5	A
INRUSH CURRENT	220VAC	Cold start	---	80	---	
POWER FACTOR	220VAC	Full load	0.95	---	---	---
STANDBY POWER	115VAC	Load 40A	---	91	---	%
EFFICIENCY	230VAC	Load 40A	---	88	---	

## PRODUCT SPECIFICATIONS

Part No	EFO-PS200UP19-4.5
Output Power (W)	200
Output Voltage Adjustable Range (V)	-
Nominal Output Voltage And Current (Vo/Io)	4.5V/40A
Efficiency At 230VAC (%) Typ.	91
Dimensions	150.00 x 55.00 x 19.00 mm
Weight	225g
Case Material	Metal (AL5052, SGCC)
Cooling Method	Free air convection (with fixed to aluminum heat-sink of 300mm*300mm*3mm)
Certification	UL/CE



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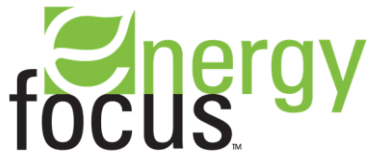
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## OUTPUT SPECIFICATIONS

ITEM	OPERATING CONDITIONS		MIN	TYPE	MAX	UNIT
DC OUTPUT			---	4.5	---	V
OUTPUT PRE SET VOLTAGE			4.365	---	4.635	
RATED CURRENT	with fixed to aluminum heat-sink of 300mm*300mm*3mm		---	40	---	A
CURRENT RANGE NOTE 1			0	---	40	
OUTPUT VOLTAGE ACCURACY			---	±3.0	---	%
LINE REGULATION			---	±0.5	---	%
LOAD REGULATION			---	±2	---	%
OVERSHOOT AND UNDERSHOOT			---	---	5	mV
RIPPLE & NOISE NOTE 2	0~65°C		---	---	300	mV
TEMPERATURE COEFFICIENT			---	±0.03	---	%/°C
SET-UP TIME	220VAC	Full Load	0	---	---	S
HOLD-UP TIME	220VAC	80% Load	5	---	---	ms
CAP. LOAD			---	---	5000	ms
OVER POWER	110VAC ~ 264VAC	184.8W~273W, Hiccup mode, auto recovery				
OVER-CURRENT	110VAC ~ 264VAC	44A~60A, Hiccup mode, auto recovery				
OVER-VOLTAGE	4.5V~6.5V, Hiccup mode, auto recovery					
SHORTED CIRCUIT	Long-term mode, auto recovery					
OVER TEMPERATURE	105°C±5°C (detect on PFC inductance); shut down, auto recovery after the temperature goes down					

Note: 1.All parameters NOT specially mentioned are measured at rated input, rated load and 25°C of ambient temperature.

2.Measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.



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## GENERAL SPECIFICATIONS

ITEM		OPERATING CONDITIONS		MIN	TYPE	MAX	UNIT
WITHSTAND VOLTAGE	PRIMARY-SECONDARY	10mA		---	3.0K	---	VAC
	PRIMARY-PG			----	1.5K	---	VAC
	SECONDARY-PG			---	0.5K	---	VDC
LEAKAGE CURRENT	INPUT-PG	264VAC Input		---	---	3.5	mA
	INPUT - OUTPUT			---	---	0.25	mA
ISOLATION RESISTANCE		10MΩ					
OPERATING TEMPERATURE		No condensing (refer to the derating curve)		-40	---	+85	°C
STORAGE TEMPERATURE		No condensing (refer to the derating curve)		-40	---	+85	°C
OPERATING HUMIDITY		Non-condensing		20	---	90	%RH
STORAGE HUMIDITY		Non-condensing		10	---	95	%RH
SAFETY STANDARD		GB9493; EN60950					
MTBF		MIL-HDBK-217F	25°C, Full load	100,000 Hrs			

## ELECTROMAGNETIC COMPATIBILITY (EMC)

EMISSIONS	EMI Conduction & Radiation	EN55022 CLASS A	
	Harmonic current	EN61000-3-2 CLASS D	
IMMUNITY	ESD	EN61000-4-2	
	RS	EN61000-4-3	
	EFT	EN61000-4-4	
	Surge	EN61000-4-5	
	CS	EN61000-4-6	
	PFMF	EN61000-4-8	
	Voltage dip, short interruption and voltage variation	EN61000-4-11	
		EN55024, light industry level ,criteria B	
		criteria C	

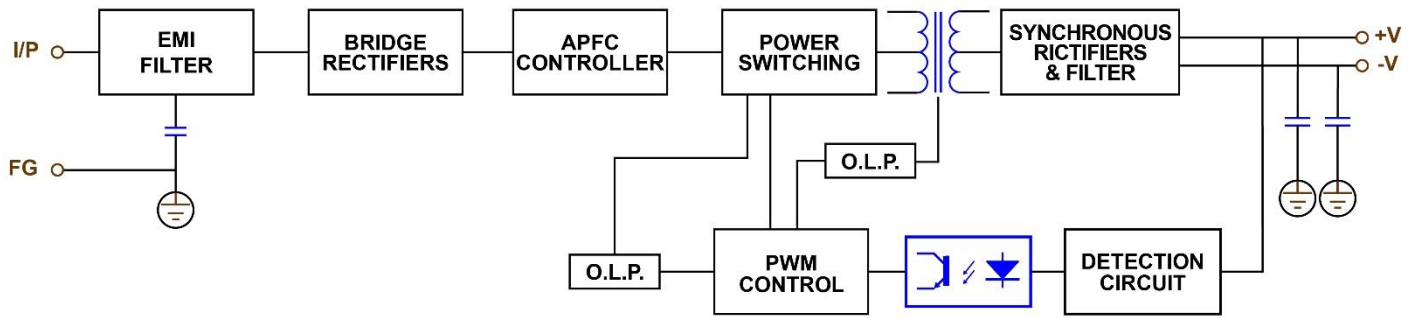
Note: \*The SPS is considered a component which will be installed into final equipment. We cannot guarantee that the final equipment will meet EMC directives. Final product manufactures must be re-confirm that their product meets EMC directives. If the EMC performance needs to be improved, please add EMC filter.



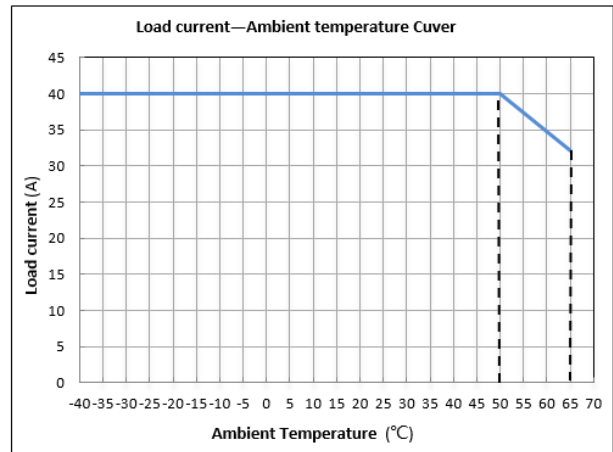
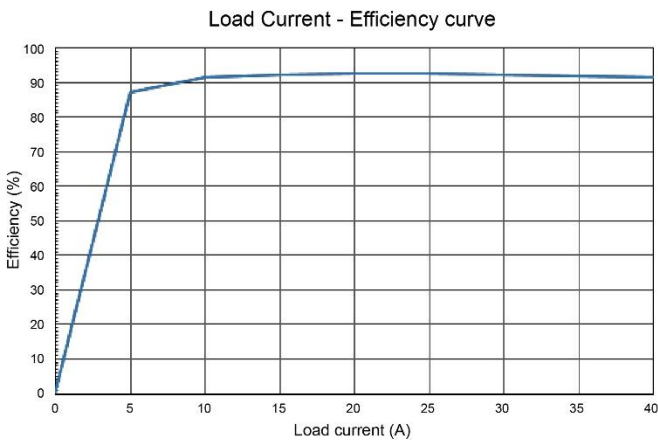
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## BLOCK DIAGRAM



## PRODUCT CHARACTERISTIC CURVE

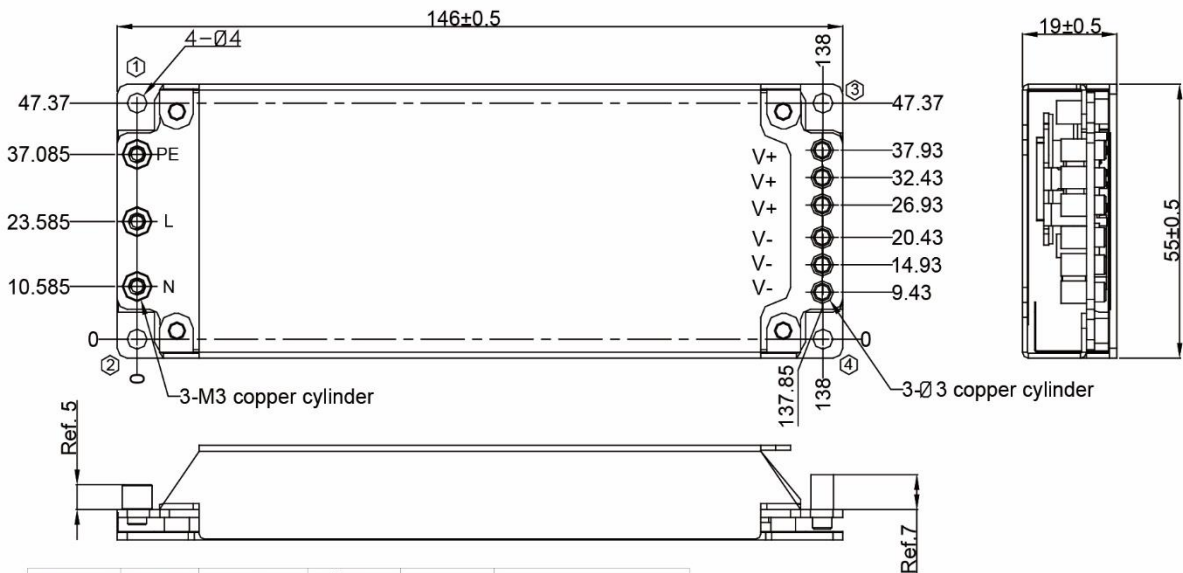




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## MECHANICAL SPECIFICATION



Mounting Position	Mounting Type	Mounting Position Number	Screw Type	Lmax	Mounting Torque(max)
TOP Mounting	Fixing by screws	①—④	M3	/	6.5Kgf.cm (max)

For safety purpose, the screw length inside the PSU housing should follow above table. (Refer the drawing on right side.)

### 1, Input Connector's Definition

Part number	Function	Max. torque	Cable type
Input	PE	6.5Kgf.cm (max)	12-22AWG
	L		
	N		

### 2, Instructions for DC output connectors

Part number	Function	Type
Output	V+	Ø3.9x10.9, Ø3.0
	V+	
	V+	
	V-	
	V-	
	V-	

### Notice:

- 1, Dimensional Unit: mm
- 2, Unmarked Tolerance is GB/T 1804-m
- 3, Choose the best installation method.

