



## AC/DC 400W Enclosed Switching Power Supply

### EFO-PS400UP46L-4.5

#### FEATURES AND BENEFITS

- AC input: 90~264Vac
- Built in Active PFC, PF>0.93
- Output protections: OLP/SCP/OTP/OPP
- Wide operating ambient temperature 40 °C ~80 °C
- No fan suitable for quiet environment 100% full load burn in test
- Long life and high reliability
- High efficiency up to 90%
- Conformal coating
- Low profile, 30mm
- 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			---	---	5	A
INRUSH CURRENT	220VAC	Cold start	---	80	---	
POWER FACTOR	220VAC	Full load	0.93	---	---	---
	110VAC	Full load	0.95	---	---	---

#### PRODUCT SPECIFICATIONS

Part No	EFO-PS400UP46L-4.5
Output Power (W)	400
Output Voltage Adjustable Range (V)	-
Nominal Output Voltage And Current (Vo/Io)	45 V /80A
Efficiency At 230VAC (%) Typ.	92
Dimensions	226 .00 x 46 .00 x 26 .00 mm
Weight	415g(Typ.)
Case Material	Metal (AL5052, SGCC)
Cooling Method	Free air convection (Fixed to aluminum heatshink of customer's)
Certification	UL/CE



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### OUTPUT SPECIFICATIONS

ITEM	OPERATING CONDITIONS		MIN	TYPE	MAX	UNIT
DC OUTPUT			---	4.5	---	V
OUTPUT PRE SET VOLTAGE	220VAC	Load 0A	4.4	---	4.6	
VOLTAGE ADJ. RANGE			---	---	---	
PEAK LOAD	220VAC	Last 100 mS	---	85	---	A
RATED CURRENT	(with fixed to aluminum heat sink of 400mm*400mm*3mm)		---	80	---	A
CURRENT RANGE NOTE 1			0	---	80	
OUTPUT VOLTAGE ACCURACY	-40 65 °C		---	±2.0	---	%
LINE REGULATION	-40 65 °C		---	±0.5	---	%
LOAD REGULATION	-40 65 °C		---	±2	---	%
OVERSHOOT AND UNDERSHOOT	-40 65 °C		---	---	5	mV
RIPPLE & NOISE NOTE 2	0~25 °C		---	---	200	mV
TEMPERATURE COEFFICIENT	-40 65 °C		---	±0.05	---	%/°C
SET-UP TIME	220VAC	Full Load	---	---	2	S
HOLD-UP TIME	220VAC	80% Load	10	---	---	ms
CAP. LOAD			---	---	5000	ms
OVER POWER	378W~ 4 50W, Hiccup mode, auto recovery					
OVER-CURRENT	80A~110A, Hiccup mode, auto recovery					
OVER-VOLTAGE	4.6~5.5V (Constant Voltage)					
SHORTED CIRCUIT	Long term mode, auto recovery					
OVER TEMPERATURE	110 °C 10 °C (detect on C2 ); shut down					

Note: 1. All parameters NOT specially mentioned are measured at rated input, rated load and 50 °C of ambient

2. Measured at 20MHz of bandwidth by using a 12" twisted pair wire terminated with a 0.1uF & 10uF 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, 63Hz	---	---	3.5	mA
	INPUT - OUTPUT		---	---	0.25	mA
ISOLATION RESISTANCE	10MΩ					
OPERATING TEMPERATURE	No condensing (refer to the derating curve)		-40	---	+65	°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	UL/CE EN 623681					
MTBF	MIL217 Method 2 Components Stress Method	25°C				>100,000 Hrs

### ELECTROMAGNETIC COMPATIBILITY (EMC)

EMISSIONS	EMI Conduction & Radiation	EN55022, EN55024, FCC Part 15, Class B
	Harmonic current	EN610003 2 CLASS D
IMMUNITY	ESD	EN610004-2 LEVEL4, Criteria B
	RS	EN610004-3 LEVEL4, Criteria B
	EFT	EN610004-4 LEVEL4, Criteria B
	Surge	EN610004-5 LEVEL4, Criteria B
	CS	EN610004-6 LEVEL4, Criteria B
	PFFM	EN610004-8 LEVEL4, Criteria B
	Voltage dip, short interruption and voltage variation	EN610004 11 Criteria C

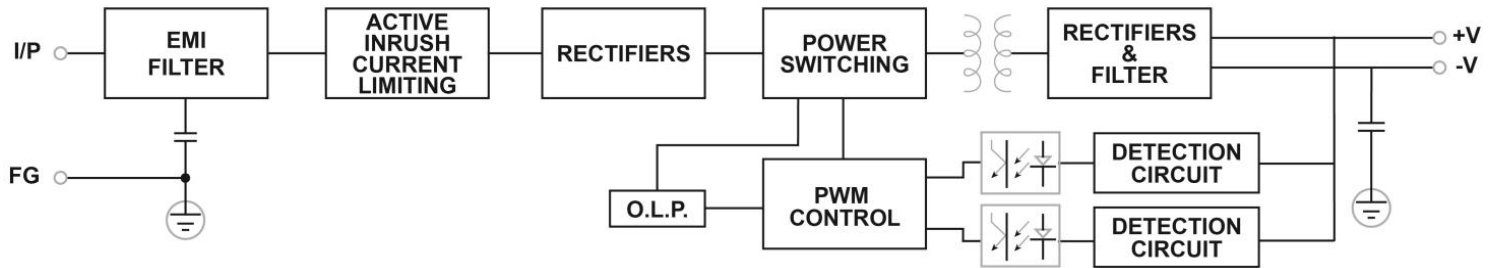
Note: \*The SPS is considered a component which will be installed into final equipment. We cannot guarantee that the final equipment will meet EMC directives. Final product manufactures must be re-confirm that their product meets EMC directives. If the EMC performance needs to be improved, please add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



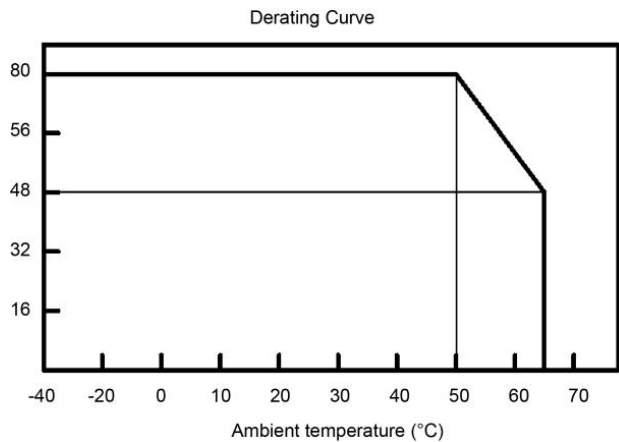
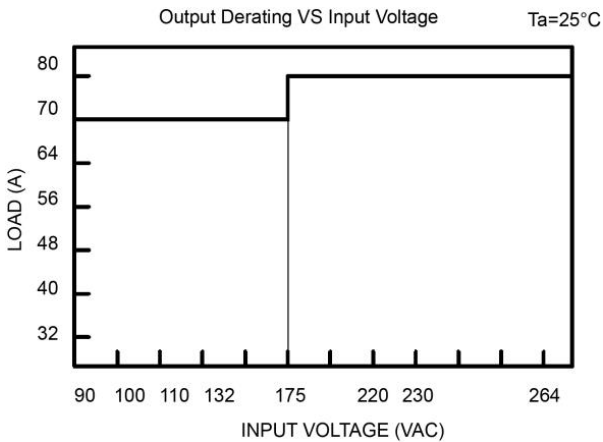
# AC/DC 400W Enclosed Switching Power Supply

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## BLOCK DIAGRAM



## PRODUCT CHARACTERISTIC CURVE



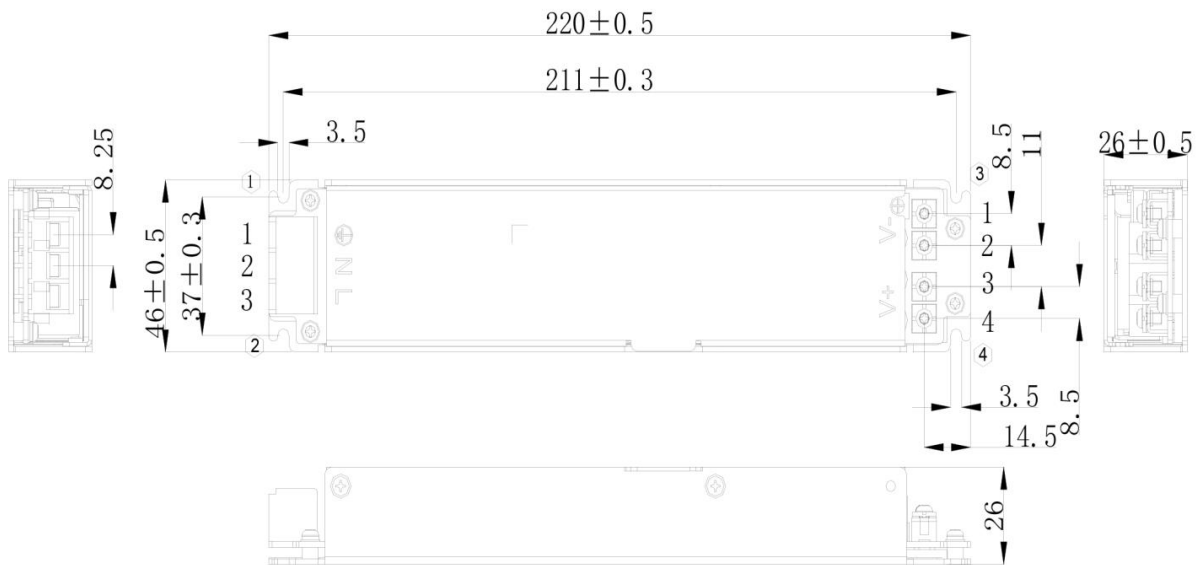
Note: PSU fixed to aluminum plate of customer's system, plate>400\*400\* 3 mm



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## MECHANICAL SPECIFICATION



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

Instructions:

Remark: For safety purpose, the screw inside the PSU housing should not exceed 4mm. (Refer the drawing on right side).

- 1.Dimension unit: mm.
2. Unmarked Tolerance is GB1804-M

### 1.Instructions for the AC input connectors

Part number	Function	Connector's Type	Max. torque
1	⊖	8.25 Terminal Row	6.5Kgf.cm (max)
2	N		
3	L		

### 2.Instructions for DC output connectors

Part number	Function	Connector's Type	Max. torque
1/2	V+	Connectors terminal/7.01bf.in/ 14-26AWG	6.5Kgf.cm (max)
3/4	V-		

