400W Single Output Switching Power Supply

ERPF-400 series

IS 13252(Part 1)/ IEC 60950-1
R-41070483
(for 12,24 only)

■ Features

- Universal AC input / Full range
  (Withstand 300VAC surge input for 5 seconds)
- Built-in active PFC function
- High efficiency up to 91%
- Design against rain splash
- Protections: Short circuit / Overload / Over voltage/ Over temperature
- Cooling by free air convection
- LED indicator for power on
- Low cost,high reliability
- 100% full load burn-in test
- 3 years warranty

■ Applications

- LED strip lighting
- LED channel letters
- LED moving sign

■ Description

ERPF-400 series is a 400W single output enclosed type AC/DC power supply with the active PFC design. It adopts an aluminum case and the interior is semi-potted, protecting the internal electronic components from rain splash and dust. With the complete protection functions, ERPF-400 is suitable for the applications such as outdoor LED channel letters, billboard, commercial signs, etc.

■ Model Encoding

ERPF - 400 - 24

- 24 → Output voltage(12V/24V/48V)
- 400 → Output wattage
- ERPF → Series name

MEAN WELL

400W Single Output Switching Power Supply

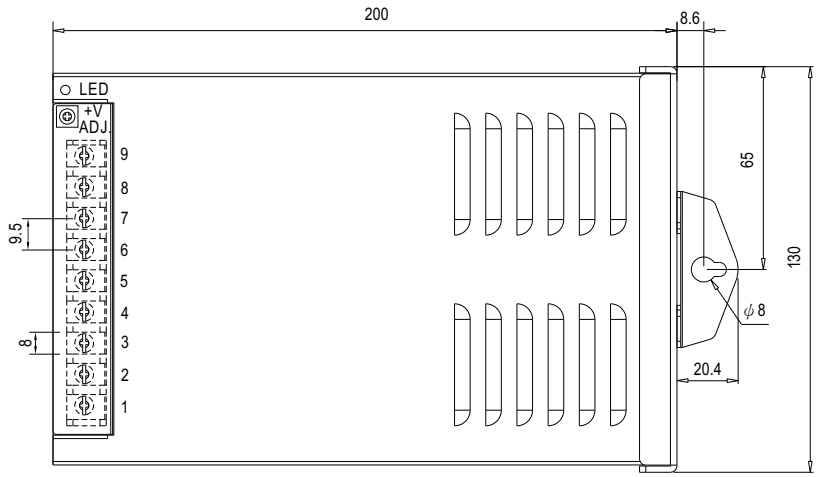
ERPF-400 series

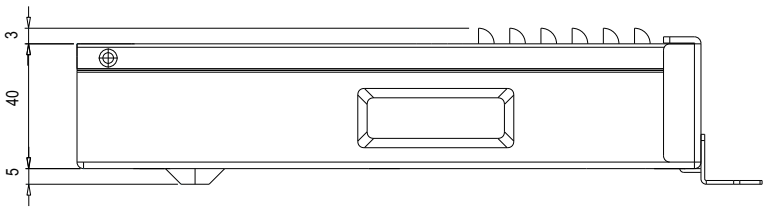
SPECIFICATION

MODEL		ERPF-400-12	ERPF-400-24	ERPF-400-48
OUTPUT	DC VOLTAGE	12V	24V	48V
	RATED CURRENT	30A	16.7A	8.3A
	CURRENT RANGE Note.5	0 ~ 30A	0 ~ 16.7A	0 ~ 8.3A
	RATED POWER	360W	400.8W	398.4W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	240mVp-p
	VOLTAGE ADJ. RANGE	10.8 ~ 13.2V	21.6 ~ 26.4V	43.2 ~ 52.8V
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME	2000ms, 100ms/230VAC; 3000ms, 100ms/115VAC at full load		
	HOLD UP TIME (Typ.)	10ms/230VAC; 10ms/115VAC at full load		
INPUT	VOLTAGE RANGE Note.4	90 ~ 264VAC 127 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR (Typ.)	PF≧0.95/230VAC, PF≧0.98/115VAC		
	EFFICIENCY (Typ.)	89%	90%	91%
	AC CURRENT (Typ.)	2.5A/230VAC 3A/115VAC		
	INRUSH CURRENT (Typ.)	cold start 45A/115VAC, 90A/230VAC		
	LEAKAGE CURRENT	<1mA / 240VAC		
PROTECTION	OVER LOAD	105 ~ 135% rated output power		
		Protection type : Constant current limiting, recovers automatically after fault condition is removed		
	SHORT CIRCUIT	Protection type : Constant current limiting, recovers automatically after fault condition is removed		
	OVER VOLTAGE	13.8 ~ 16.2V	27.6 ~ 32.4V	55.2 ~ 64.8V
		Protection type :Shut down O/P voltage, re-power on to recover		
	OVER TEMPERATURE	Shut down O/P voltage, recovers automatically after temperature goes down		
ENVIRONMENT	WORKING TEMP.	-30 ~ +60℃ (Refer to output load derating curve)		
	WORKING HUMIDITY	20 ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-30 ~ +85℃, 10 ~ 95% RH		
	TEMP. COEFFICIENT	±0.1%/℃ (0 ~ 35℃)		
	VIBRATION	10 ~ 500Hz, 3G 10min./1cycle, 60min. each along X, Y, Z axes		
SAFETY & EMC (Note.6)	SAFETY STANDARDS	IEC/EN/UL 60950-1,CCC GB4943.1-2011, EAC TP TC 004, IS13252(Part1)(for 12,24 only) approved		
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC		
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC / 25℃/ 70% RH		
	EMC EMISSION	Compliance to EN55032 (CISPR32) class A, GB9254 classA, GB17625.1; EN61000-3-2;EN61000-3-3, EAC TP TC 020		
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11;light industry level,criteria A, EAC TP TC 020		
OTHERS	MTBF	233.422Khrs min. MIL-HDBK-217F (25℃)		
	DIMENSION	220.4*130*48mm (L*W*H)		
	PACKING	1.1Kg; 9pcs / 11Kg / 0.63CUFT		
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. Derating may be needed under low input voltages. Please check the static characteristics for more details. 5. Please refer to "Static Characteristics". 6. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 450mm*450mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com).		

■ Mechanical Specification

Case No.230 Unit:mm



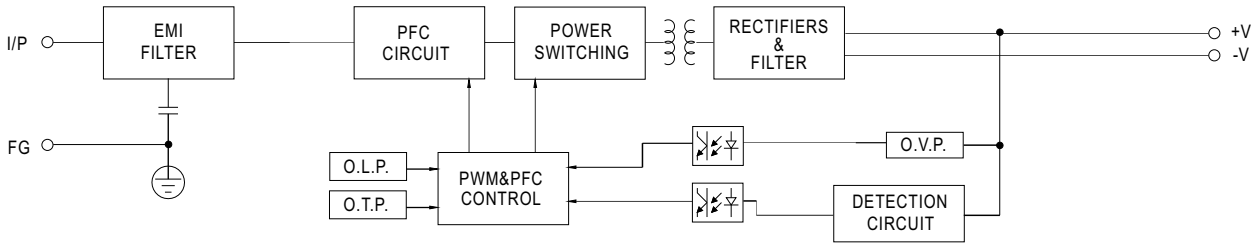


Terminal Pin No. assignment :

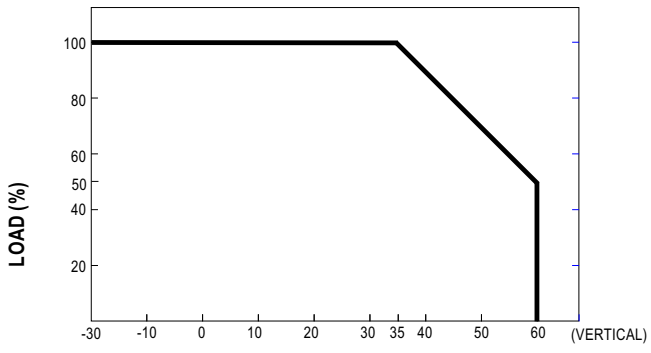
Pin No.	Assignment	Pin No.	Assignment	Max mounting torque
1	AC/L	4~6	DC OUTPUT +V	8Kgf-cm
2	AC/N	7~9	DC OUTPUT -V	
3	FG ⏚			

■ Block Diagram

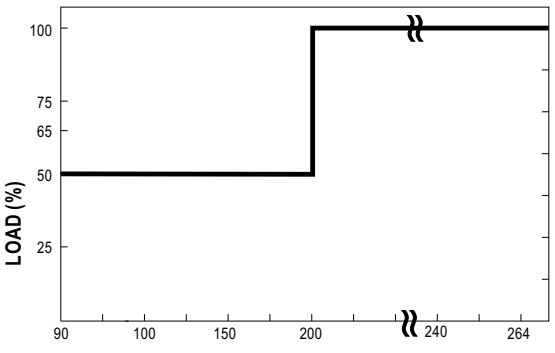
fosc : 80KHz



■ Derating Curve

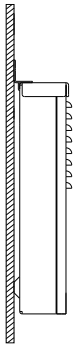


■ Static Characteristics



■ Installation

1.ERPF-400 should be installed in an upright position,leaning forward,backward or lay flat are not allowed



Correct installation method

2.For heat dissipation, distance of 10cm from 4 sides(up/down/right/left) and 5cm from the ventilation hole side should be kept, shown as below: