

User's Manual



IS 13252(Part 1)
IEC 60950-1
8
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 display

■ GTIN CODE

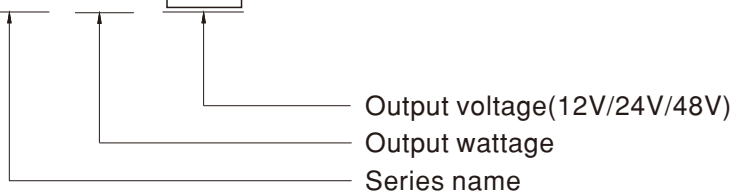
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

■ 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 display, etc.

■ Model Encoding

ERPF - 400 - 24



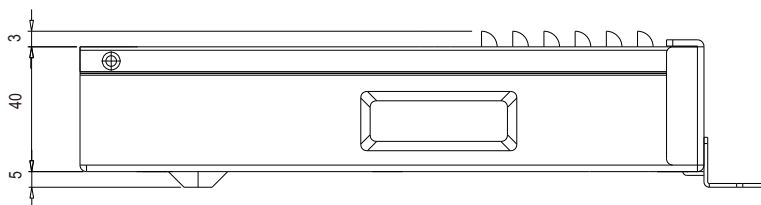
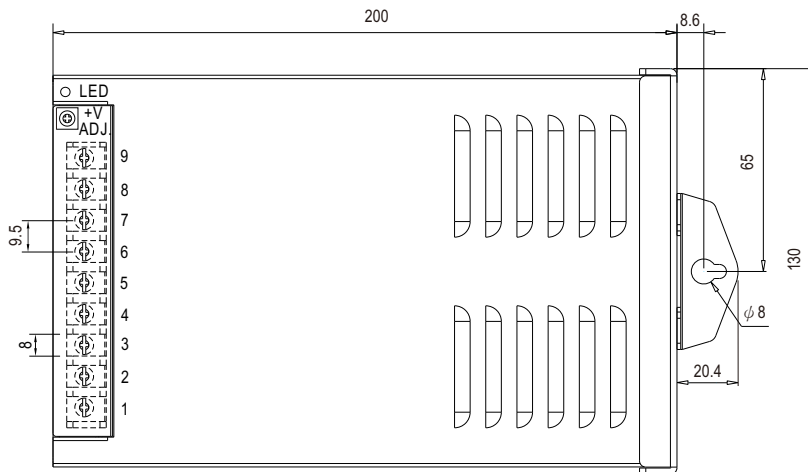


SPECIFICATION

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 <small>Note.5</small>	0 ~ 30A	0 ~ 16.7A	0 ~ 8.3A
	RATED POWER	360W	400.8W	398.4W
	RIPPLE & NOISE (max.) <small>Note.2</small>	150mVp-p	150mVp-p	240mVp-p
	VOLTAGE ADJ. RANGE	10.8 ~ 13.2V	21.6 ~ 26.4V	43.2 ~ 52.8V
	VOLTAGE TOLERANCE <small>Note.3</small>	±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 <small>Note.4</small>	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
	OVER TEMPERATURE	Shut down O/P voltage, recovers automatically after temperature goes down		
ENVIRONMENT	WORKING TEMP.	-30 ~ +60°C (Refer to output load derating curve)		
	WORKING HUMIDITY	20 ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-30 ~ +85°C, 10 ~ 95% RH		
	TEMP. COEFFICIENT	±0.1%/°C (0 ~ 35°C)		
	VIBRATION	10 ~ 500Hz, 3G 10min./1cycle, 60min. each along X, Y, Z axes		
SAFETY & EMC <small>(Note.6)</small>	SAFETY STANDARDS	UL60950-1, IEC/BS EN/EN62368-1, GB 4943.1, 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°C / 70% RH		
	EMC EMISSION	Compliance to BS EN/EN55032 (CISPR32) class A, GB17625.1, GB/T 9254.1; BS EN/EN61000-3-2; BS EN/EN61000-3-3, EAC TP TC 020		
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55035; light industry level, EAC TP TC 020		
OTHERS	MTBF	1981.2K hrs min. Telcordia SR-332 (Bellcore)	233.4Khrs min. MIL-HDBK-217F (25°C)	
	DIMENSION	220.4*130*48mm (L*W*H)		
	PACKING	1.1Kg; 9pcs / 11Kg / 0.63CUFT		
NOTE	<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Derating may be needed under low input voltages. Please check the static characteristics for more details.</p> <p>5. Please refer to "Static Characteristics".</p> <p>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 https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf)</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</p>			

Mechanical Specification

Case No.230 Unit:mm Tolerance:±1

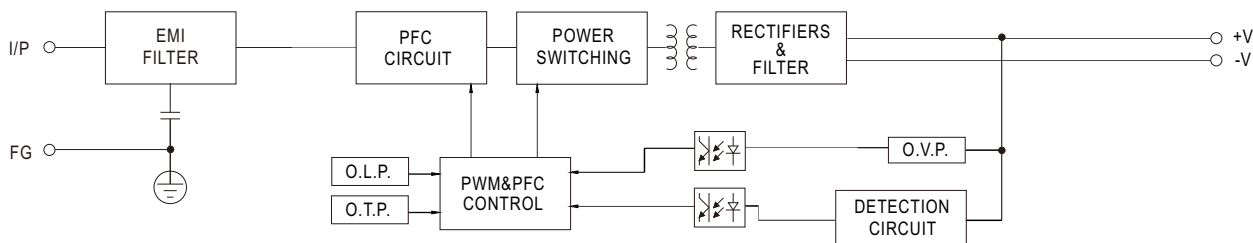


Terminal Pin No. assignment :

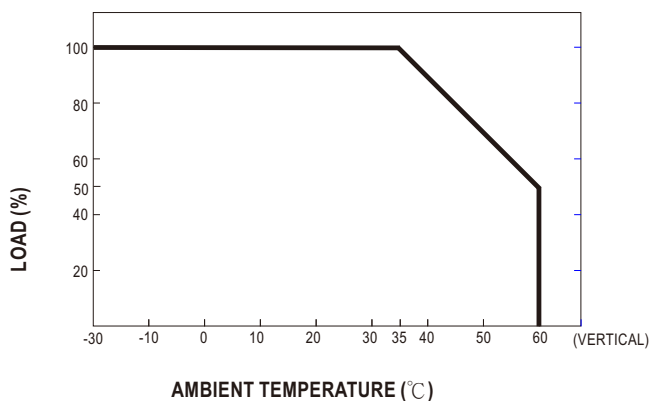
Pin No.	Assignment	Pin No.	Assignment	Max mounting torque
1	AC/L	4~6	DC OUTPUT +V	8Kgf-cm
2	AC/N	7~9	DC OUTPUT -V	
3	FG ≐			

Block Diagram

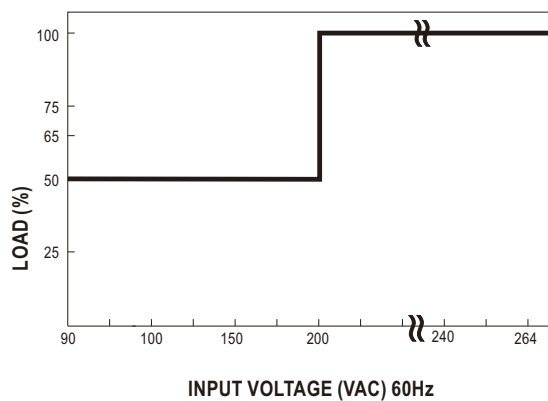
fosc : 80KHz



Derating Curve

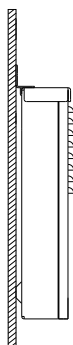


Static Characteristics



■ 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:

