



45W Single Output Switching Power Supply

EPS-45S series

User's Manual



Features

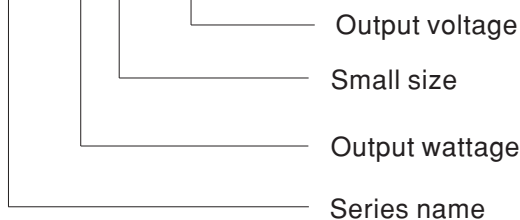
- 3"×2" miniature size
- Universal AC input / Full range
- Class II (without FG) installations
- No load power consumption<0.1W
- High efficiency up to 91%
- For 1U applications
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- -30~70°C wide range of operating temperature
- Operating altitude up to 5000 meters
- LED indicator for power on
- 3 years warranty

Description

EPS-45S is a 45W highly reliable green PCB type industrial power supply with a high power density on the 3" by 2" footprint. It accepts 80~264VAC input and offers various output voltages between 3.3V and 48V. The working efficiency is up to 91% and the extremely low no load power consumption is down below 0.1W. EPS-45S is able to be used for Class II (no FG) system design.

Model Encoding

EPS - 45 S - 3.3



Applications

- Industrial electrical equipment
- Mechanical equipment
- Factory automation equipment
- Handheld electronic device

SPECIFICATION

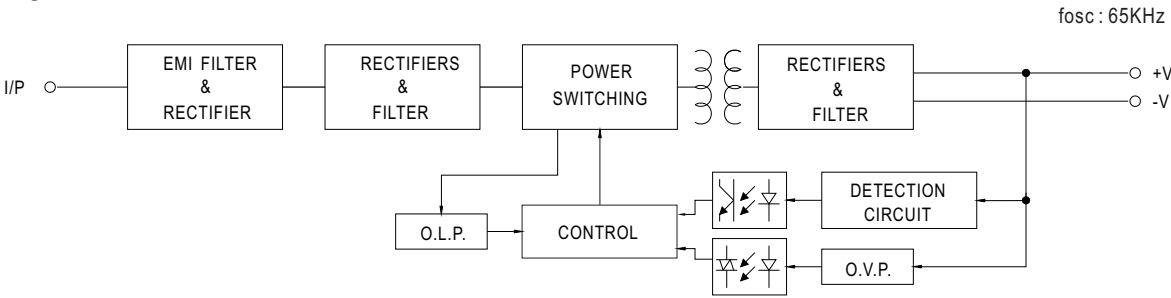
ORDER NO.		EPS-45S-3.3	EPS-45S-5	EPS-45S-7.5	EPS-45S-12	EPS-45S-15	EPS-45S-24	EPS-45S-48
OUTPUT	DC VOLTAGE	3.3V	5V	7.5V	12V	15V	24V	48V
	RATED CURRENT	8A	8A	5.4A	3.8A	3A	1.9A	0.94A
	CURRENT RANGE	0 ~ 8.8A	0 ~ 8.8A	0 ~ 5.95A	0 ~ 4.18A	0 ~ 3.3A	0 ~ 2.1A	0 ~ 1.03A
	RATED POWER	26.4W	40W	40.5W	45.6W	45W	45.6W	45.1W
	PEAK LOAD(10sec.) <small>Note.2</small>	29W	44W	44.6W	50.2W	49.5W	50.2W	49.4W
	RIPPLE & NOISE (max.) <small>Note.3</small>	80mVp-p	80mVp-p	80mVp-p	120mVp-p	150mVp-p	240mVp-p	300mVp-p
	VOLTAGE ADJ. RANGE	3.1~3.6V	4.7~5.5V	7.12~8.3V	11.4~13.2V	13.5~16.5V	22.8~27.6V	45.6~52.8V
	VOLTAGE TOLERANCE <small>Note.4</small>	±2.0%	±2.0%	±2.0%	±2.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±2.0%	±2.0%	±2.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	500ms, 30ms / 230VAC 500ms, 30ms / 115VAC at full load						
HOLD UP TIME (Typ.)	30ms / 230VAC 12ms / 115VAC at full load							
INPUT	VOLTAGE RANGE <small>Note.5</small>	80 ~ 264VAC						
	FREQUENCY RANGE	47 ~ 63Hz						
	EFFICIENCY (Typ.)	80%	83%	85%	88%	89%	90%	91%
	AC CURRENT (Typ.)	1.2A / 115VAC 1A / 230VAC						
	INRUSH CURRENT (Typ.)	COLD STAR 30A/115VAC 60A/230VAC						
	LEAKAGE CURRENT(max.)	0.25mA/264VAC						
PROTECTION	OVERLOAD	115 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed						
	OVER VOLTAGE	3.8~5V	5.7~6.8V	8.62~11.3V	13.8~16.2V	17.25~20.3V	28.4~32.4V	55.2~64.8V
		Protection type : Shut down o/p voltage, re-power on to recover						
ENVIRONMENT	WORKING TEMP.	-30 ~ +70℃ (Refer to "Derating Curve")						
	WORKING HUMIDITY	20% ~ 90% RH non-condensing						
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH						
	TEMP. COEFFICIENT	±0.03% / °C (0 ~ 50℃)						
	OPERATING ALTITUDE <small>Note.7</small>	5000 meters						
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes						
	SAFETY & EMC (Note. 8)	SAFETY STANDARDS	UL62368-1, TUV BS EN/EN62368-1, BS EN/EN60335-1, EAC TP TC 004 approved					
ISOLATION LEVEL		Primary-Secondary: 2xMOPP						
WITHSTAND VOLTAGE		I/P-O/P: 3KVAC						
ISOLATION RESISTANCE		I/P-O/P:100M Ohms / 500VDC / 25℃ / 70% RH						
EMC EMISSION		Compliance to BS EN/EN55032(CISPR32) Class B, BS EN/EN61000-3-2,3, EAC TP TC 020						
EMC IMMUNITY		Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55024, Heavy industry Level criteria A, EAC TP TC 020						
OTHERS	MTBF	726.2Khrs min. MIL-HDBK-217(25℃)						
	DIMENSION	76.2*50.8*24mm or 3" * 2" *0.945" inch (L*W*H)						
	PACKING	0.11Kg; 120pcs/14.2Kg/0.94CUFT						
NOTE	<div>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.</div> <div>2. 33% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power.</div> <div>3. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.</div> <div>4. Tolerance : includes set up tolerance, line regulation and load regulation.</div> <div>5. Derating may be needed under low input voltages. Please check the derating curve for more details.</div> <div>6. Touch current was measured from primary input to DC output.</div> <div>7. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).</div> <div>8. 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 360mm*360mm 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)</div> <div>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</div>							



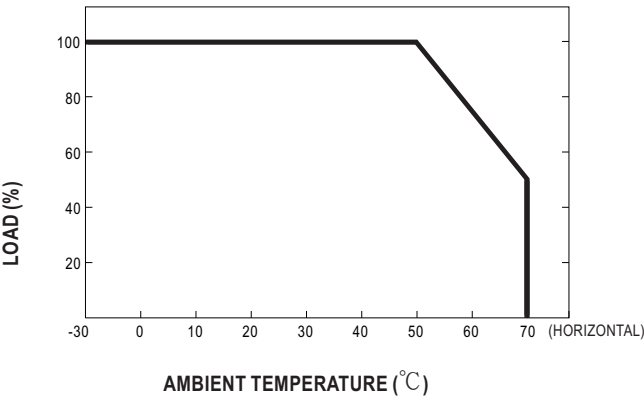
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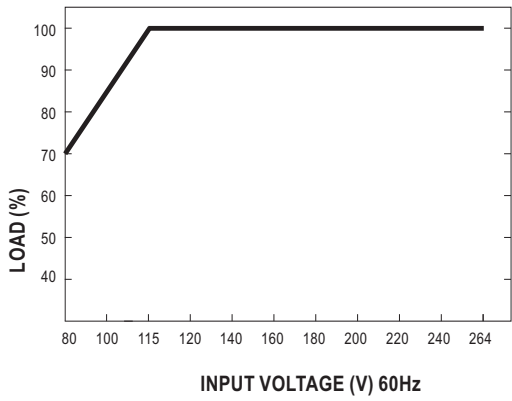
■ Block Diagram



■ Derating Curve

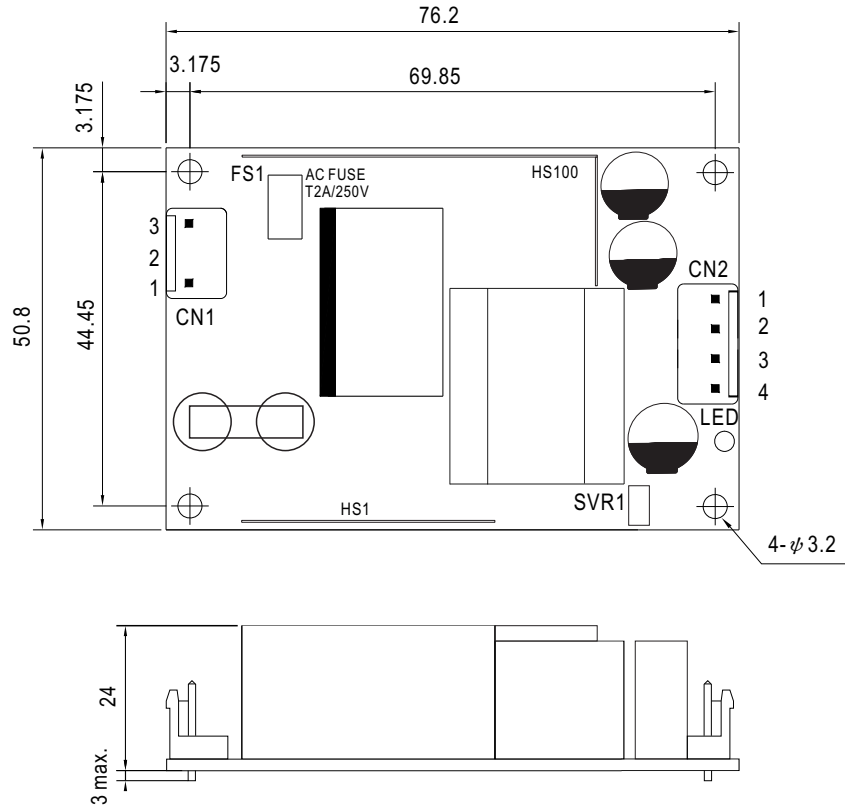


■ Static Characteristics



Mechanical Specification

Case No. Unit:mm



AC Input Connector (CN1) : JST B3P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	AC/N	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	No Pin		
3	AC/L		

DC Output Connector (CN2) : JST B2P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	+V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	+V		
3	-V		
4	-V		

Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>