



## 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

### ■ Applications

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

### ■ GTIN CODE

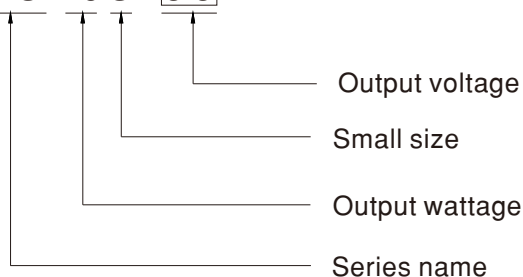
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

### ■ 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

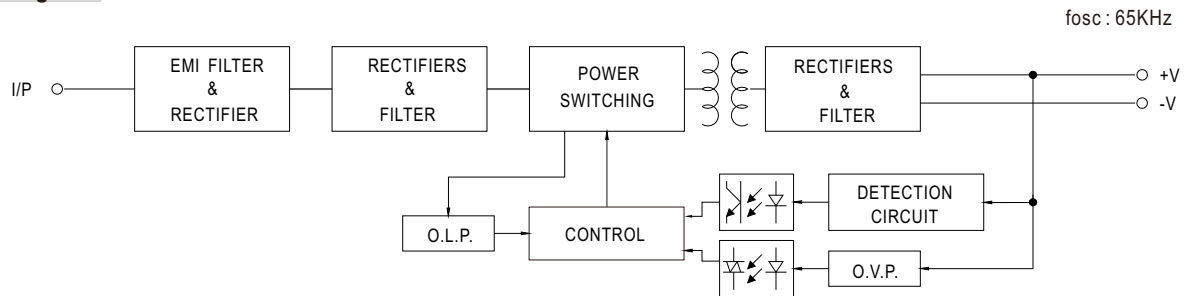
EPS - 45 S - 3.3



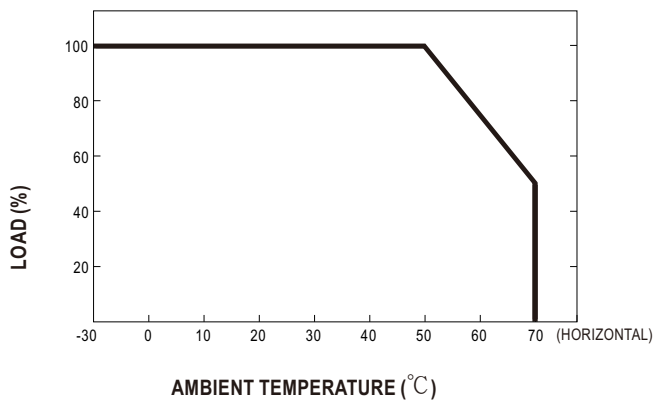
## SPECIFICATION

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.)	Note.2 29W	44W	44.6W	50.2W	49.5W	50.2W	49.4W
	RIPPLE & NOISE (max.)	Note.3 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	Note.4 ±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	Note.5 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	Note.7 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						
	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/EN55035, Heavy industry Level , EAC TP TC 020						
OTHERS	MTBF	3334.3K hrs min.    Telcordia SR-332 (Bellcore) ; 706.6K hrs min.      MIL-HDBK-217F (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	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. 33% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power. 3. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 4. Tolerance : includes set up tolerance, line regulation and load regulation. 5. Derating may be needed under low input voltages. Please check the derating curve for more details. 6. Touch current was measured from primary input to DC output. 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). 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 <a href="http://www.meanwell.com">http://www.meanwell.com</a> ) ※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a>							

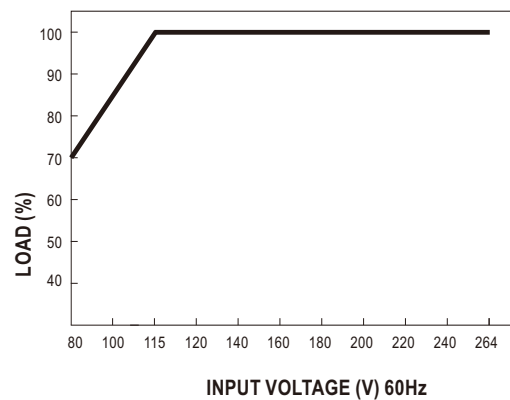
## ■ Block Diagram



## ■ Derating Curve

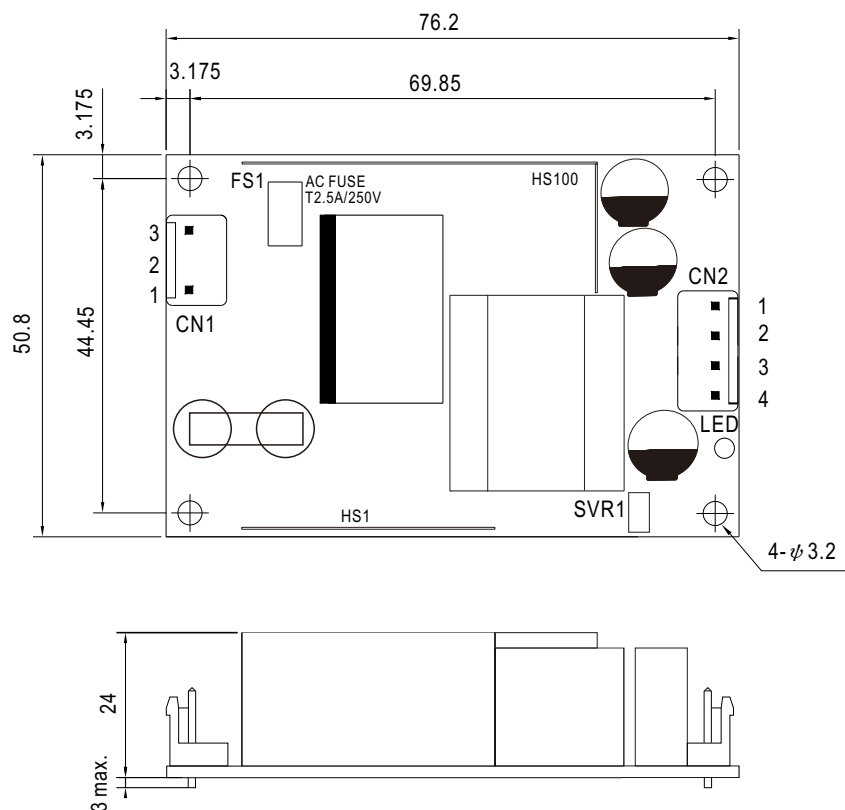


## ■ Static Characteristics



## 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 B4P-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>