

## ■ 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

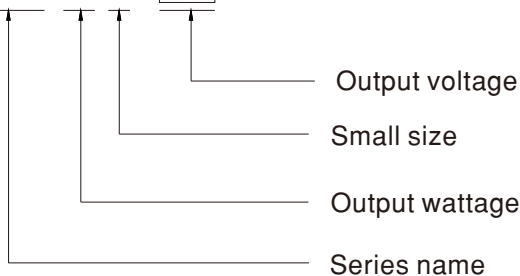
- Industrial electrical equipment
- Mechanical equipment
- Factory automation equipment
- Handheld electronic device

## ■ 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

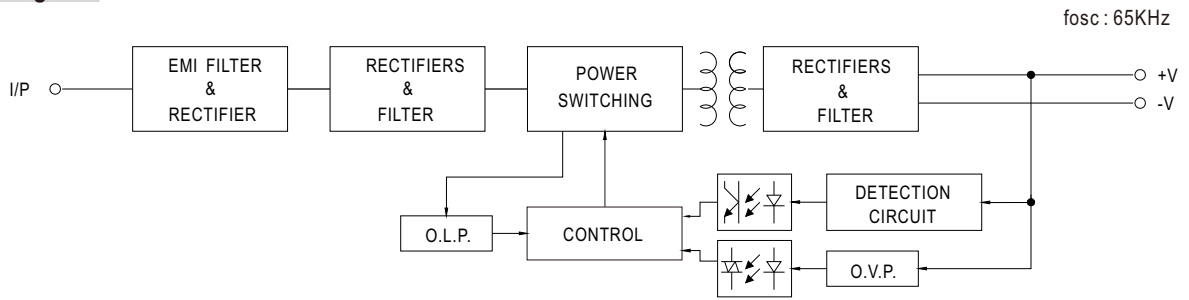




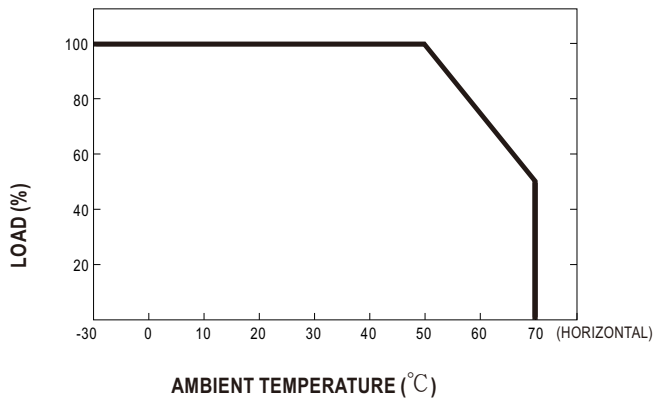
## SPECIFICATION

| 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.) <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<br>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 |  |
| ENVIRONMENT            | WORKING TEMP.  | -30 ~ +70°C (Refer to "Derating Curve")   |           |             |            |             |            |            |  |
|                        | WORKING HUMIDITY   | 20% ~ 90% RH non-condensing   |           |             |            |             |            |            |  |
|                        | STORAGE TEMP., HUMIDITY  | -40 ~ +85°C, 10 ~ 95% RH  |           |             |            |             |            |            |  |
|                        | TEMP. COEFFICIENT  | ±0.03% / °C (0 ~ 50°C)  |           |             |            |             |            |            |  |
|                        | 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°C / 70% RH  |           |             |            |             |            |            |  |
|                        | EMC EMISSION   | Compliance to BS EN/EN55032(CISPR32) Class B, BS EN/EN61000-3-2,3, EAC TP TC 020  |           |             |            |             |            |            |  |
| OTHERS                 | 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             |           |             |            |             |            |            |  |
|                        | MTBF   | 726.2Khrs min. MIL-HDBK-217(25°C)   |           |             |            |             |            |            |  |
|                        | DIMENSION  | 76.2*50.8*24mm or 3" * 2" * 0.945" inch (L*W*H)   |           |             |            |             |            |            |  |
|                        | PACKING  | 0.11Kg; 120pcs/14.2Kg/0.94CUFT  |           |             |            |             |            |            |  |
| NOTE                   | <p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. 33% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power.</p> <p>3. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</p> <p>4. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>5. Derating may be needed under low input voltages. Please check the derating curve for more details.</p> <p>6. Touch current was measured from primary input to DC output.</p> <p>7. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</p> <p>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."<br/>(as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></p> |   |           |             |            |             |            |            |  |

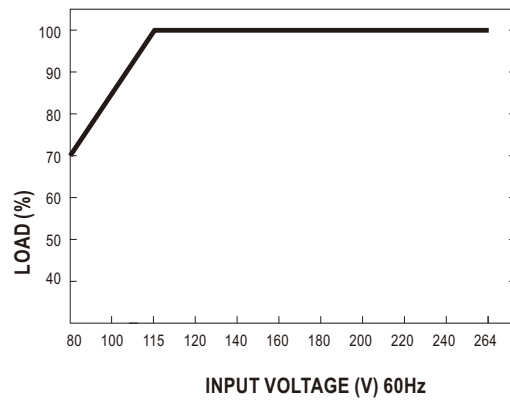
### ■ Block Diagram



### ■ Derating Curve

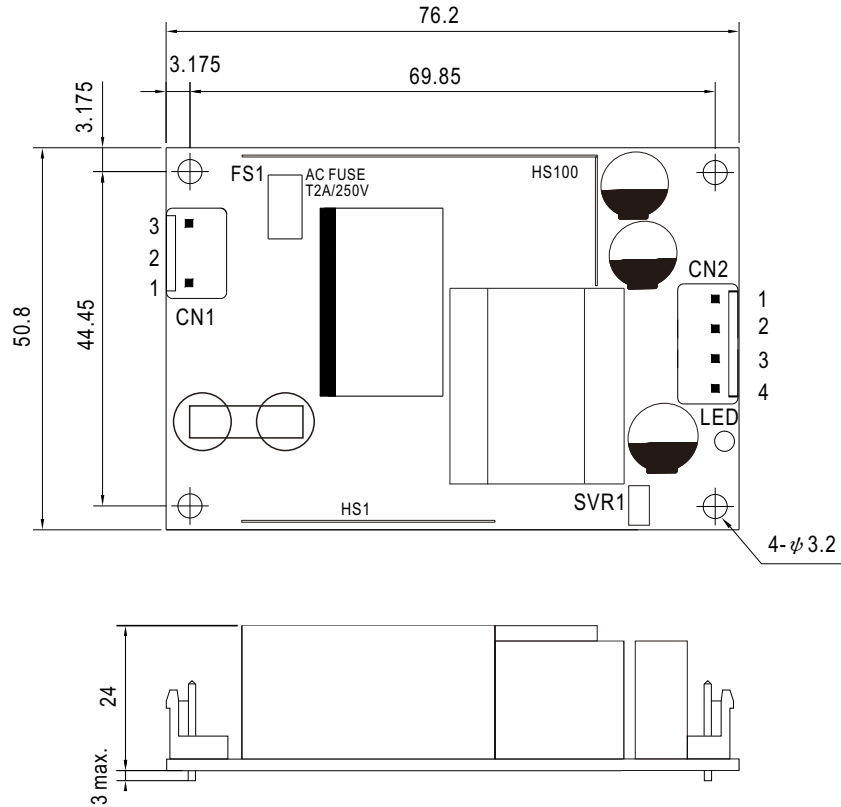


### ■ Static Characteristics



## ■ 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>