



## ■ Features

- Universal AC input / Full range(up to 305VAC)
- Built-in active PFC function
- High efficiency up to 95%
- Fanless design, cooling by free air convection
- -55~+70°C wide operating range
- Aluminum case and filling with heat-conducted silicone
- IP65 design, optional IP68 rated model available
- Meet 6KV surge immunity level
- Withstand 10G vibration test
- Operating altitude up to 5000 meters (Note.8)
- Protections: Short circuit / Overload / Over voltage / Over temperature
- 6 years warranty

## ■ Applications

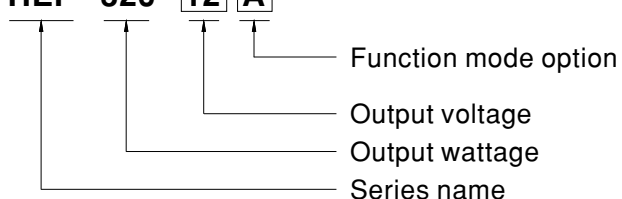
- Outdoor telecommunication equipment
- Outdoor electronic signage and billboard
- Petroleum plant or mine shaft facility

## ■ Description

HEP-320 is a 320W industrial AC/DC power supply featuring the outstanding capability to operate under a harsh environment with high dust density, humidity, vibration and altitude. The entire series is housed with a robust aluminum case and fully potted with heat-conducted silicone. Thanks to state-of-the-art design, the working efficiency is up to 95%, enabling HEP-320, with a fanless design, perfectly work between -55°C and +70°C under free air convection.

## ■ Model Encoding

HEP - 320 - 12 A



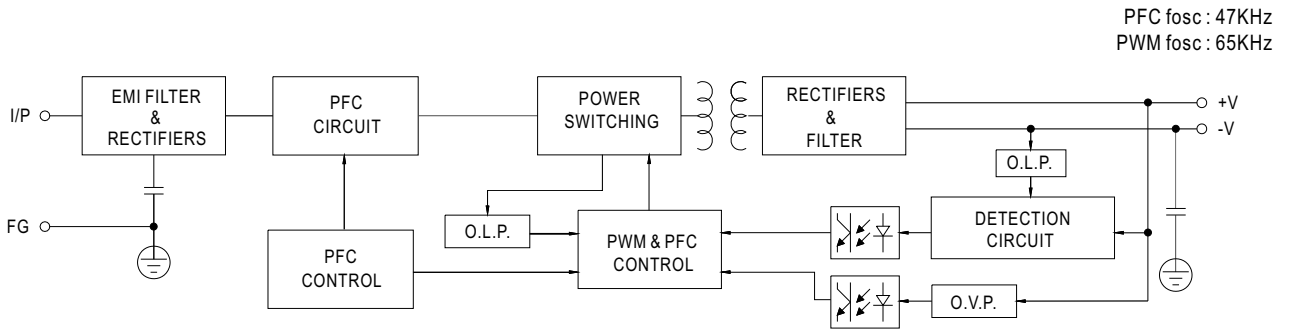
- A : Standard model, IP65, Vo and Io level can be adjusted through internal potentiometer.
- Blank : Optional model, IP68, with fixed Vo and Io level.



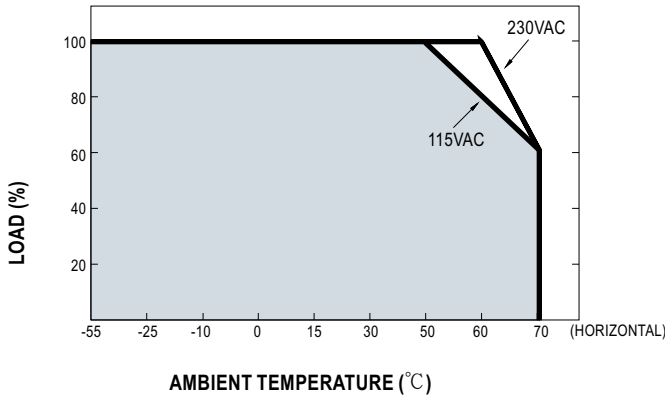
**SPECIFICATION**

| MODEL        |   | HEP-320-12□  | HEP-320-15□    | HEP-320-24□    | HEP-320-36□ | HEP-320-48□ | HEP-320-54□  |
|--------------|---|--|----------------|----------------|-------------|-------------|--------------|
| OUTPUT       | DC VOLTAGE  | 12V  | 15V            | 24V            | 36V         | 48V         | 54V          |
|              | RATED CURRENT   | 22A  | 19A            | 13.34A         | 8.9A        | 6.7A        | 5.95A        |
|              | RATED POWER   | 264W   | 285W           | 320.16W        | 320.4W      | 321.6W      | 321.3W       |
|              | RIPPLE & NOISE (max.) Note.2  | 150mVp-p   | 150mVp-p       | 150mVp-p       | 250mVp-p    | 250mVp-p    | 350mVp-p     |
|              | VOLTAGE ADJ. RANGE Note.5   | 10.8 ~ 13.5V   | 13.5 ~ 17V     | 21 ~ 26V       | 32 ~ 39V    | 43 ~ 52V    | 49 ~ 58V     |
|              | CURRENT ADJ. RANGE Note.5   | 11 ~ 22A   | 9.5 ~ 19A      | 6.67 ~ 13.34A  | 4.45 ~ 8.9A | 3.35 ~ 6.7A | 2.97 ~ 5.95A |
|              | VOLTAGE TOLERANCE Note.3  | ±3.0%  | ±2.0%          | ±1.0%          | ±1.0%       | ±1.0%       | ±1.0%        |
|              | LINE REGULATION   | ±0.5%  | ±0.5%          | ±0.5%          | ±0.5%       | ±0.5%       | ±0.5%        |
|              | LOAD REGULATION   | ±2.0%  | ±1.5%          | ±0.5%          | ±0.5%       | ±0.5%       | ±0.5%        |
|              | SETUP, RISE TIME Note.6   | 2500ms,80ms/115VAC 500ms,80ms/230VAC at full load  |                |                |             |             |              |
|              | HOLD UP TIME (Typ.)   | 15ms at full load 230VAC /115VAC   |                |                |             |             |              |
| INPUT        | VOLTAGE RANGE Note.4  | 90 ~ 305VAC 127 ~ 431VDC   |                |                |             |             |              |
|              | FREQUENCY RANGE   | 47 ~ 63Hz  |                |                |             |             |              |
|              | POWER FACTOR (Typ.)   | PF>0.98/115VAC, PF>0.95/230VAC, PF>0.94/277VAC at full load  |                |                |             |             |              |
|              | EFFICIENCY (Typ.)   | 91%  | 92.5%          | 94%            | 94%         | 94.5%       | 95%          |
|              | AC CURRENT (Typ.)   | 3.5A / 115VAC  | 1.65A / 230VAC | 1.45A / 277VAC |             |             |              |
|              | INRUSH CURRENT(Typ.)  | COLD START 70A at 230VAC   |                |                |             |             |              |
|              | LEAKAGE CURRENT   | <0.75mA / 277VAC   |                |                |             |             |              |
| PROTECTION   | OVER CURRENT  | 105 ~ 125%<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed         |                |                |             |             |              |
|              | SHORT CIRCUIT   | Hiccup mode, recovers automatically after fault condition is removed   |                |                |             |             |              |
|              | OVER VOLTAGE  | 14 ~ 17V   | 17.5 ~ 21V     | 27 ~ 33V       | 40 ~ 46V    | 53.5 ~ 60V  | 59 ~ 65V     |
|              |   | Protection type : Shut down and latch off o/p voltage, re-power on to recover                                |                |                |             |             |              |
|              | OVER TEMPERATURE  | Shut down and latch off o/p voltage, re-power on to recover  |                |                |             |             |              |
| ENVIRONMENT  | WORKING TEMP.   | -55 ~ +70°C (Refer to "Derating Curve")  |                |                |             |             |              |
|              | WORKING HUMIDITY  | 20 ~ 95% RH non-condensing   |                |                |             |             |              |
|              | STORAGE TEMP., HUMIDITY   | -60 ~ +80°C, 10 ~ 95% RH non-condensing  |                |                |             |             |              |
|              | TEMP. COEFFICIENT   | ±0.03%/°C (0 ~ 60°C)   |                |                |             |             |              |
|              | VIBRATION   | 20 ~ 500Hz, 10G 12min./1cycle, period for 72min. each along X, Y, Z axes                                     |                |                |             |             |              |
| SAFETY & EMC | SAFETY STANDARDS Note.8   | UL60950-1, IP65 (or IP68 for HEP-320 Blank-Type), EAC TP TC 004 approved ; design refer to TUV EN60950-1     |                |                |             |             |              |
|              | WITHSTAND VOLTAGE   | I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC   |                |                |             |             |              |
|              | ISOLATION RESISTANCE  | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH   |                |                |             |             |              |
|              | EMC EMISSION  | Compliance to EN55032 (CISPR32) Class B, EN61000-3-2,-3, EAC TP TC 020                                       |                |                |             |             |              |
|              | EMC IMMUNITY  | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, light industry level (surge 6KV), criteria A, EAC TP TC 020 |                |                |             |             |              |
| OTHERS       | MTBF  | 154.2K hrs min. MIL-HDBK-217F (25°C)   |                |                |             |             |              |
|              | DIMENSION   | 252*90*43.8mm (L*W*H)  |                |                |             |             |              |
|              | PACKING   | 1.88Kg; 8pcs/16Kg/0.92CUFT   |                |                |             |             |              |
| NOTE         | <ol style="list-style-type: none"> <li>All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>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.</li> <li>Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>Derating may be needed under low input voltages. Please check the static characteristics for more details.</li> <li>A-type only.</li> <li>Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.</li> <li>The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.</li> <li>The water protection level test for the IP68 rating is performed 1000mm below the surface of the water for 1 month.</li> <li>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).</li> </ol> |  |                |                |             |             |              |

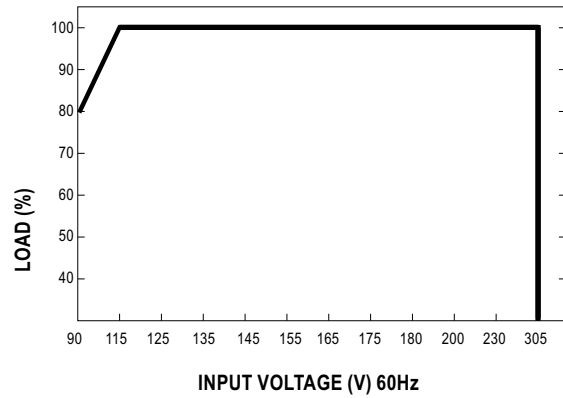
■ Block Diagram



■ Derating Curve



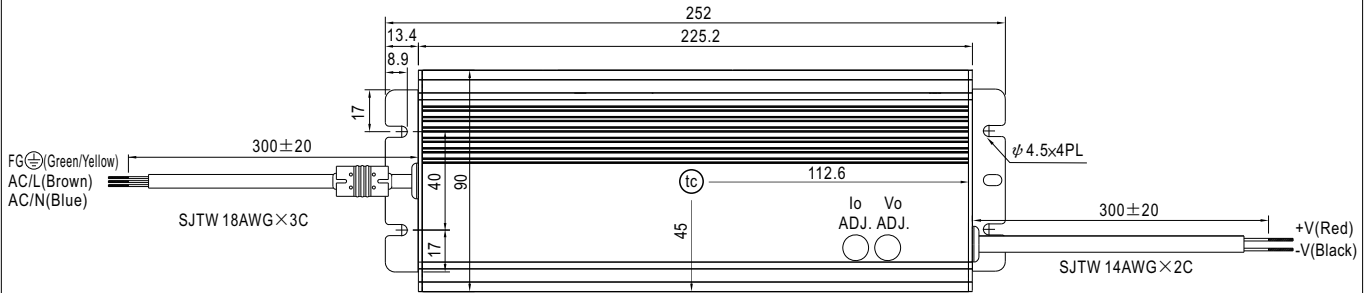
■ Static Characteristics



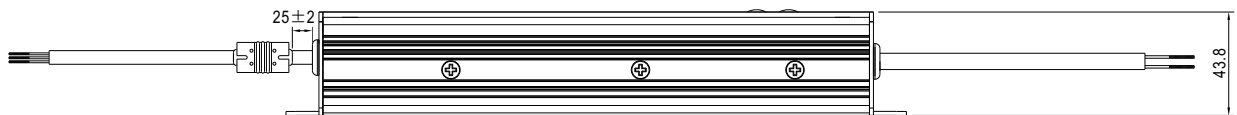
## Mechanical Specification

Case No.202A Unit:mm

### A-Type: HEP-320- \_A(standard model)

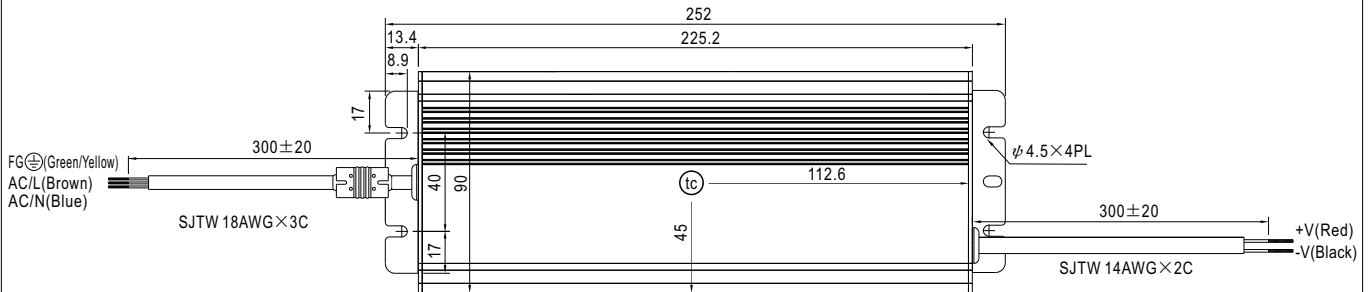


• (tc) : Max. Case Temperature

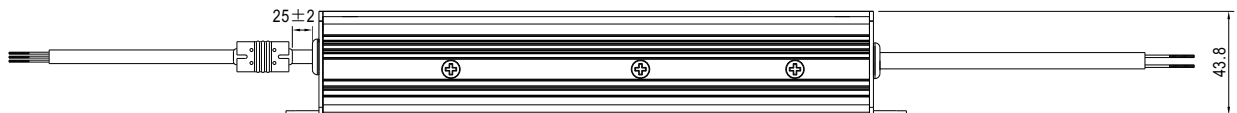


※ IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.  
(Can access by removing the rubber stopper on the case.)

### Blank-Type: HEP-320(optional model)



• (tc) : Max. Case Temperature



※IP68 rated. Cable for I/O connection.

## Installation Manual

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