



IP65 IP68 (optional)    

## Features

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- High efficiency up to 93%
- 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
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Operating altitude up to 5000 meters (Note.9)
- 6 years warranty

## Applications

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

## Description

HEP-100 is a 100W industrial AC/DC power supply featuring the outstanding capability to operate under highly humid, dusty, oily, and high-vibration harsh environment. The entire series is housed with the aluminum case and fully potted with heat-conducted silicone. Thanks to state-of-the-art design, the working efficiency is up to 93%, enabling HEP-100 perfectly work between -55°C and +70°C under free air convection.

## Model Encoding

HEP - 100 - 12 A

Function mode option

Output voltage

Output wattage

Series name

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



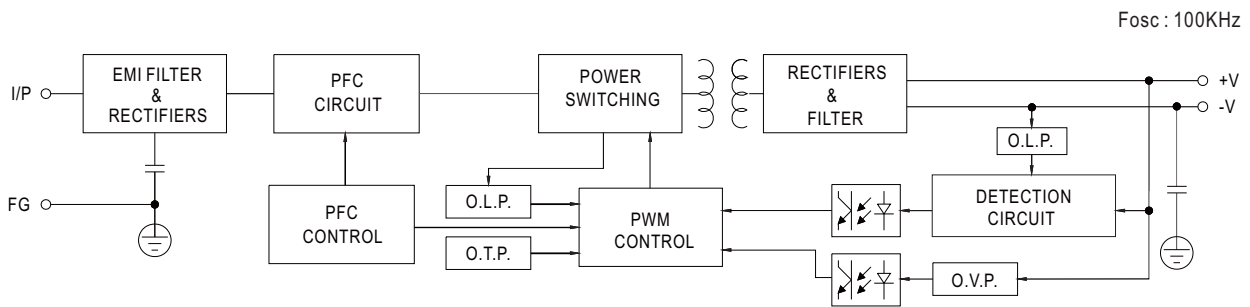
## 100W Single Output Switching Power Supply

## HEP-100 series

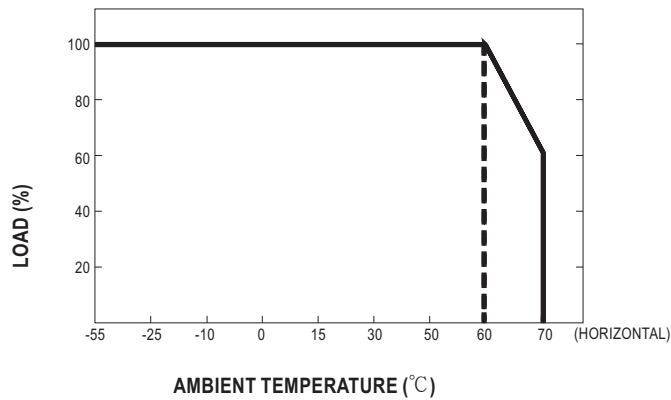
## SPECIFICATION

| MODEL               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | HEP-100-12□                                                                                          | HEP-100-15□ | HEP-100-24□ | HEP-100-36□  | HEP-100-48□ | HEP-100-54□ |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------|-------------|--------------|-------------|-------------|
| OUTPUT              | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 12V                                                                                                  | 15V         | 24V         | 36V          | 48V         | 54V         |
|                     | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 8.34A                                                                                                | 6.67A       | 4A          | 2.65A        | 2A          | 1.77A       |
|                     | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 100.08W                                                                                              | 100.05W     | 96W         | 95.4W        | 96W         | 95.58W      |
|                     | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 120mVp-p                                                                                             | 150mVp-p    | 150mVp-p    | 200mVp-p     | 200mVp-p    | 200mVp-p    |
|                     | VOLTAGE ADJ. RANGE Note.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10.8 ~ 13.5V                                                                                         | 13.5 ~ 17V  | 22 ~ 27V    | 33 ~ 40V     | 43 ~ 53V    | 49 ~ 58V    |
|                     | CURRENT ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Can be adjusted by internal potentiometer for A type only                                            |             |             |              |             |             |
|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 5 ~ 8.34A                                                                                            | 4 ~ 6.67A   | 2.5 ~ 4A    | 1.65 ~ 2.65A | 1.25 ~ 2A   | 1.1 ~ 1.77A |
|                     | VOLTAGE TOLERANCE Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ±1.0%                                                                                                | ±1.0%       | ±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.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1200ms,50ms/115VAC    500ms,50ms/230VAC at full load                                                 |             |             |              |             |             |
| HOLD UP TIME (Typ.) | 16ms 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>0.93/277VAC at full load                                          |             |             |              |             |             |
|                     | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 92%                                                                                                  | 92%         | 93%         | 93%          | 93%         | 93%         |
|                     | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.2A / 115VAC    0.55A / 230VAC    0.5A / 277VAC                                                     |             |             |              |             |             |
|                     | INRUSH CURRENT(Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | COLD START 60A at 230VAC                                                                             |             |             |              |             |             |
|                     | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <0.75mA / 277VAC                                                                                     |             |             |              |             |             |
| PROTECTION          | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 105 ~ 125%                                                                                           |             |             |              |             |             |
|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Protection type : Constant current limiting, recovers automatically after fault condition is removed |             |             |              |             |             |
|                     | SHORT CIRCUIT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Constant current limiting, recovers automatically after fault condition is removed                   |             |             |              |             |             |
|                     | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 14 ~ 17V                                                                                             | 18 ~ 21V    | 28 ~ 34V    | 41 ~ 46V     | 54 ~ 63V    | 59 ~ 65V    |
|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Protection type : Shut down o/p voltage with auto-recovery or re-power on to recovery                |             |             |              |             |             |
| OVER TEMPERATURE    | Shut down o/p voltage, recovers automatically after temperature goes down                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                      |             |             |              |             |             |
| ENVIRONMENT         | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | -55 ~ +70°C (Refer to "Derating Curve")                                                              |             |             |              |             |             |
|                     | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 20 ~ 95% RH non-condensing                                                                           |             |             |              |             |             |
|                     | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -60 ~ +85°C, 10 ~ 95% RH                                                                             |             |             |              |             |             |
|                     | 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.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | UL60950-1, IP65 (or IP68 for HEP-100 Blank type) 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 EN55022 (CISPR22) Class B, EN61000-3-2,-3                                              |             |             |              |             |             |
|                     | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, light industry level (surge 6KV), criteria A        |             |             |              |             |             |
| OTHERS              | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 164.7K hrs min.    MIL-HDBK-217F (25°C)                                                              |             |             |              |             |             |
|                     | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 220*68*38.8mm (L*W*H)                                                                                |             |             |              |             |             |
|                     | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.12Kg; 12pcs/14.4Kg/0.8CUFT                                                                         |             |             |              |             |             |
| NOTE                | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. Derating may be needed under low input voltages. Please check the static characteristics for more details.<br>5. A type only.<br>6. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18.<br>7. 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.<br>8. The power supply is considered as a component that<br>will be operated in combination with final equipment. Since EMC performance will be affected by the<br>complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.<br>9. The ambient temperature derating of 3.5°C/1000m is needed for operating altitude greater than 2000m(6500ft). |                                                                                                      |             |             |              |             |             |

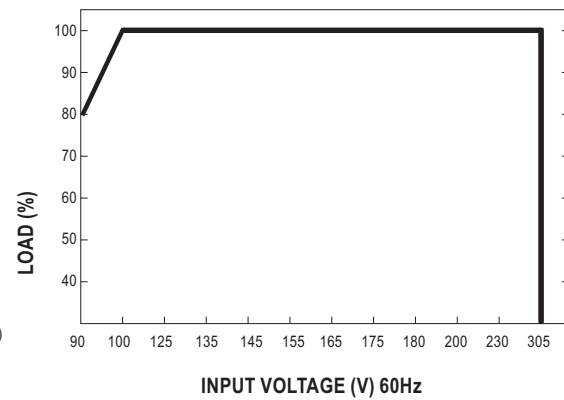
## Block Diagram



## Derating Curve



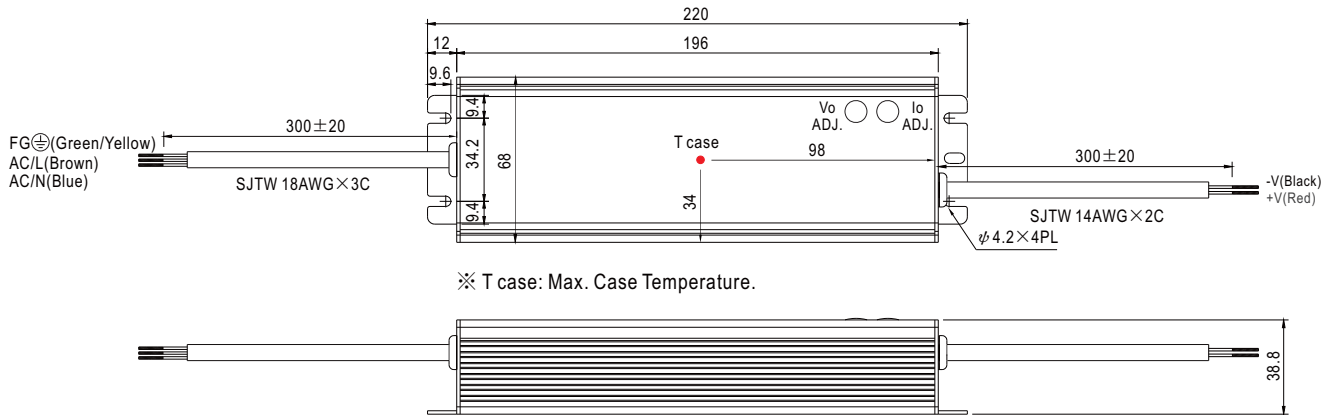
## Static Characteristics



## Mechanical Specification

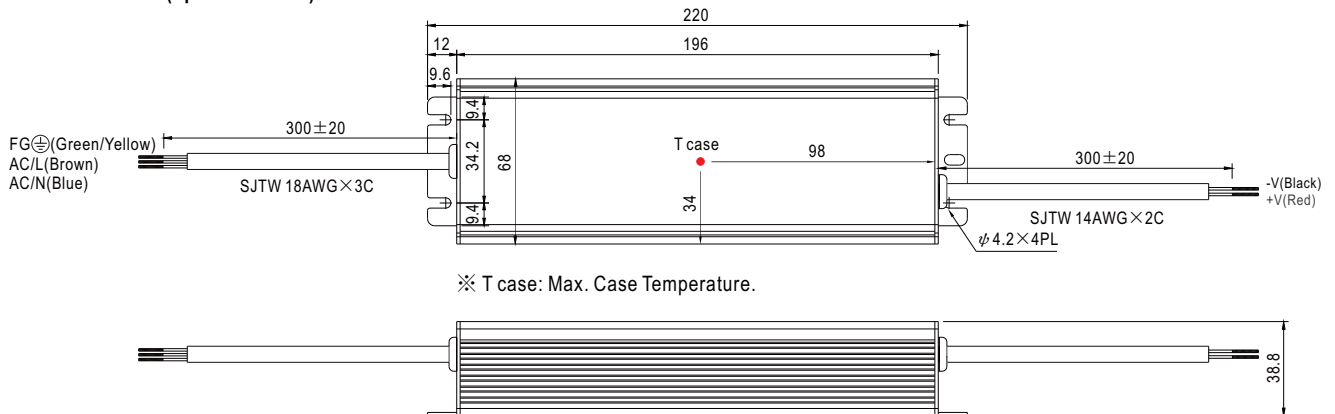
Case No.994A Unit:mm

### A Type: HEP-100-\_A(standard model)



※ 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: HEP-100(optional model)



※ IP68 rated. Cable for I/O connection.

## Installation Manual

Please refer to : <http://www.meanwell.com/webnet/search/InstallationSearch.html>