



## ■ Features

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- High efficiency up to 94%
- 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

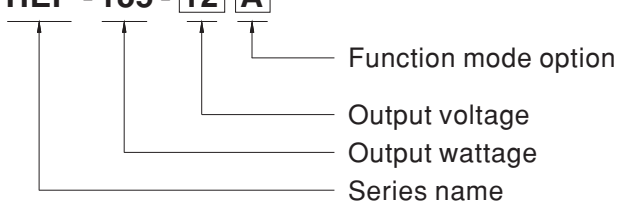
- Outdoor telecommunication equipment
- Outdoor electronic signage and billboard
- Petroleum plant or mine shaft facility

## ■ Description

HEP-185 is a 185W 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 94%, enabling HEP-185 perfectly work between -55°C and +70°C under free air convection.

## ■ Model Encoding

HEP - 185 - 12 A



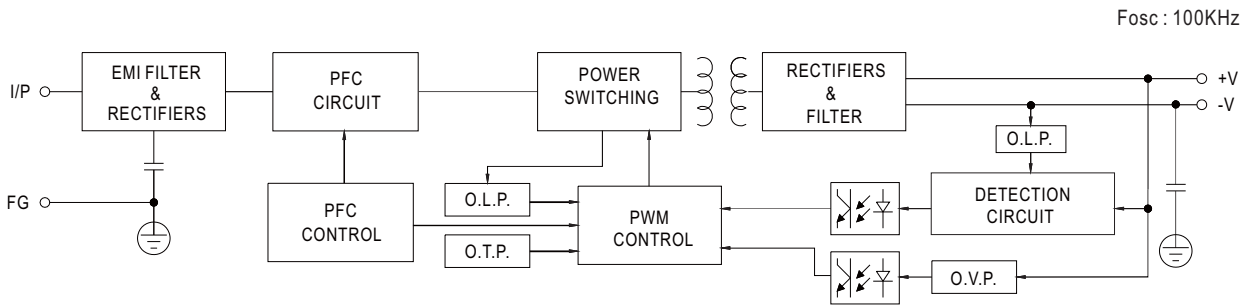
{ A : Standard model, IP65, Vo and Io level can be adjusted through internal potentiometer.  
 Blank : Optional model, IP68, with fixed Vo and Io level.



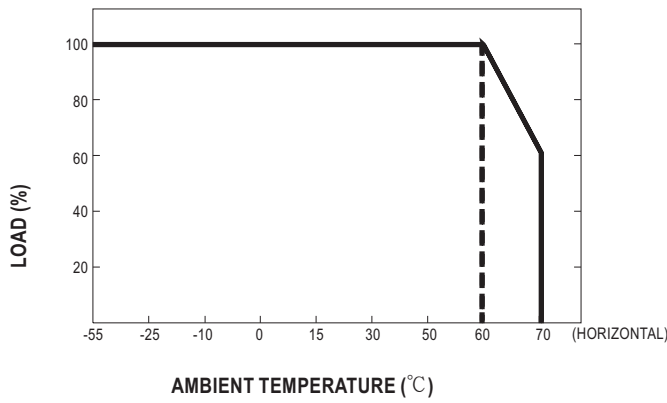
**SPECIFICATION**

MODEL		HEP-185-12□	HEP-185-15□	HEP-185-24□	HEP-185-36□	HEP-185-48□	HEP-185-54□
OUTPUT	DC VOLTAGE	12V	15V	24V	36V	48V	54V
	RATED CURRENT	13A	11.5A	7.8A	5.2A	3.9A	3.45A
	RATED POWER	156W	172W	187.2W	187.2W	187.2W	186.3W
	RIPPLE & NOISE (max.) Note.2	150mVp-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					
		6.5 ~ 13A	5.75 ~ 11.5A	3.9 ~ 7.8A	2.6 ~ 5.2A	1.95 ~ 3.9A	1.72 ~ 3.45A
	VOLTAGE TOLERANCE Note.3	±2.5%	±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.7	1000ms,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>0.92/277VAC at full load					
	EFFICIENCY (Typ.)	91.5%	92%	93.5%	93.5%	94%	94%
	AC CURRENT (Typ.)	12V	1.8A / 115VAC	0.8A / 230VAC	0.7A / 277VAC		
		15V ~ 54V	2.1A / 115VAC	1A / 230VAC	0.8A / 277VAC		
	INRUSH CURRENT(Typ.)	COLD START 65A at 230VAC					
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 ~ +80°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-185 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	164.1K hrs min. MIL-HDBK-217F (25°C)					
	DIMENSION	228*68*38.8mm (L*W*H)					
	PACKING	1.15Kg; 12pcs/14.8Kg/0.8CUFT					
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>Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18.</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 ambient temperature derating of 3.5°C/1000m is needed for operating altitude greater than 2000m(6500ft).</li> <li>The water protection level test for the IP68 rating is performed 1000mm below the surface of the water for 1 month.</li> </ol>						

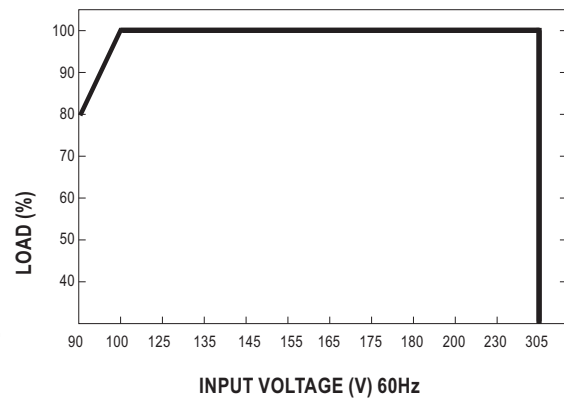
■ Block Diagram



■ Derating Curve



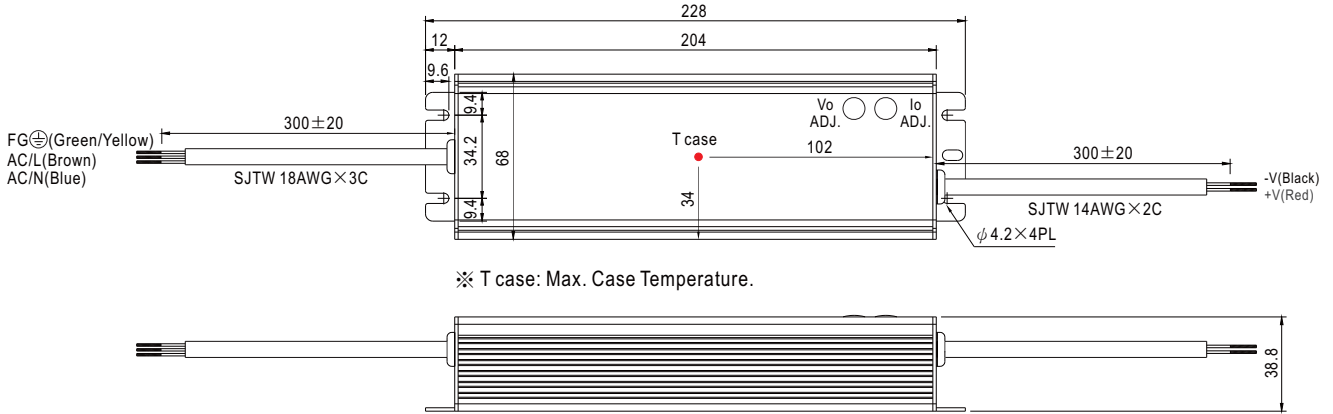
■ Static Characteristics



**Mechanical Specification**

Case No.994D Unit:mm

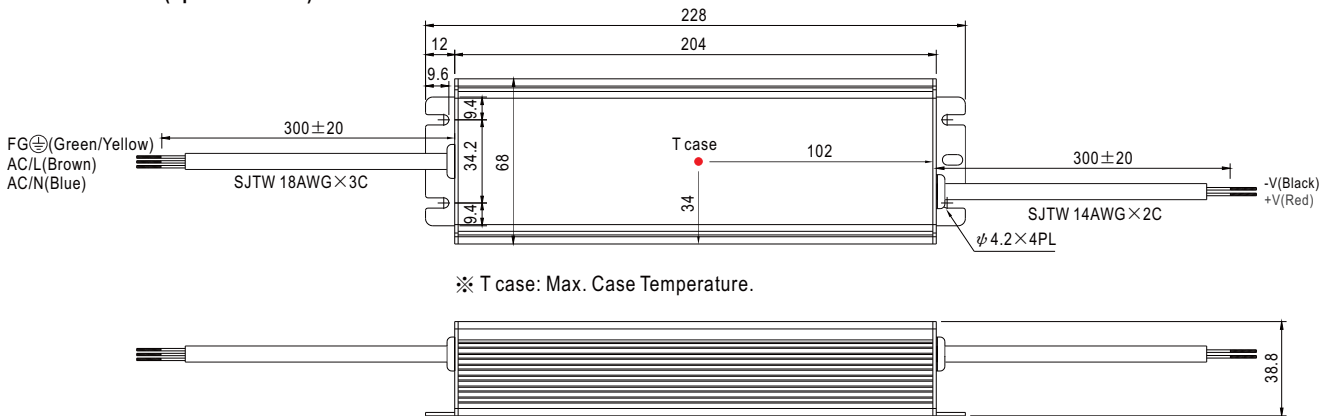
**A Type: HEP-185- A(standard model)**



※ T case: 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: HEP-185(optional model)**



※ T case: Max. Case Temperature.

※IP68 rated. Cable for I/O connection.

**Installation Manual**

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