240W Switching Power Supply for Harsh Environment HEP-240 series

User's Manual



TAIWAN EXCELLENCE 2015

IP65 IP68 (optional)

UL62368-1 TPTC004 IEC62368-1

Household Automate Industrial Security Network Telecom

Features

- Universal AC input / Full range(up to 305VAC)
- Built-in active PFC function
- High efficiency up to 93.5%
- Fanless design, cooling by free air convection
- -55~+70℃ 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 (Note.10)

Applications

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

GTIN CODE

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

Description

HEP-240 is a 240W 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 93.5%, enabling HEP-240, with a fanless design, perfectly work between -55℃ and +70℃ under free air convection.

Model Encoding

HEP - 240 - 15 A

- Function mode option
  - A : Standard model, IP65, Vo and Io level can be adjusted through internal potentiometer.
  - Blank : Optional model, IP68, with fixed Vo and Io level.
- Output voltage
- Output wattage
- Series name

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SPECIFICATION

MODEL			HEP-240-12□	HEP-240-15□	HEP-240-24□	HEP-240-36□	HEP-240-48□	HEP-240-54□
OUTPUT	DC VOLTAGE		12V	15V	24V	36V	48V	54V
	RATED CURRENT		16A	15A	10A	6.7A	5A	4.45A
	RATED POWER		192W	225W	240W	241.2W	240W	240.3W
	RIPPLE & NOISE (max.) Note.2		150mVp-p	150mVp-p	150mVp-p	250mVp-p	250mVp-p	350mVp-p
	VOLTAGE ADJ. RANGE Note.5		11.2 ~ 12.8V	14 ~ 16V	22.4 ~ 25.6V	33.5 ~ 38.5V	44.8 ~ 51.2V	50 ~ 57V
	CURRENT ADJ. RANGE		Can be adjusted by internal potentiometer for A type only					
			8 ~ 16A	7.5 ~ 15A	5 ~ 10A	3.3 ~ 6.7A	2.5 ~ 5A	2.23 ~ 4.45A
	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.6		1000ms,80ms/115VAC 500ms,80ms/230VAC at full load					
	HOLD UP TIME (Typ.)		15ms at full load 230VAC /115VAC					
INPUT	VOLTAGE RANGE Note.4		85~264VAC (277VAC operational) 120~370VDC(390VDC operational)					
	FREQUENCY RANGE		47 ~ 63Hz					
	POWER FACTOR (Typ.)		PF>0.98/115VAC, PF>0.95/230VAC, PF>0.92/277VAC at full load					
	EFFICIENCY (Typ.)		90%	90%	92.5%	92.5%	93%	93.5%
	AC CURRENT (Typ.)	12V	2A / 115VAC 1.05A / 230VAC 0.9A/277VAC					
		15~54V	2.5A / 115VAC 1.3A / 230VAC 1.1A/277VAC					
	INRUSH CURRENT(Typ.)		COLD START 75A at 230VAC					
	LEAKAGE CURRENT		<0.75mA / 277VAC					
PROTECTION	OVER CURRENT		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		13.5 ~ 18V	17.5 ~ 21.5V	27 ~ 34V	43 ~ 49V	55 ~ 63V	60 ~ 67V
			Protection type : Shut down and latch off o/p voltage, re-power on to recover					
	OVER TEMPERATURE		Shut down o/p voltage, recovers automatically after temperature goes down					
ENVIRONMENT	WORKING TEMP.		-55 ~ +70℃ (Refer to "Derating Curve")					
	WORKING HUMIDITY		20 ~ 95% RH non-condensing					
	STORAGE TEMP., HUMIDITY		-60 ~ +80℃, 10 ~ 95% RH non-condensing					
	TEMP. COEFFICIENT		±0.03%/℃ (0 ~ 60℃)					
	VIBRATION		20 ~ 500Hz, 10G 12min./1cycle, period for 72min. each along X, Y, Z axes					
SAFETY & EMC	SAFETY STANDARDS Note.8		UL62368-1, IEC62368-1, IP65 (or IP68 for HEP-240 Blank-Type), EAC TP TC 004 approved; Design refer to BS EN/EN62368-1					
	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℃/ 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, light industry level (surge 6KV), EAC TP TC 020					
OTHERS	MTBF		2008.7K hrs min. Telcordia SR-332 (Bellcore) ; 171.3Khrs min. MIL-HDBK-217F (25℃)					
	DIMENSION		244.2*68*38.8mm (L*W*H)					
	PACKING		1.3Kg; 12pcs/16.6Kg/0.84CUFT					

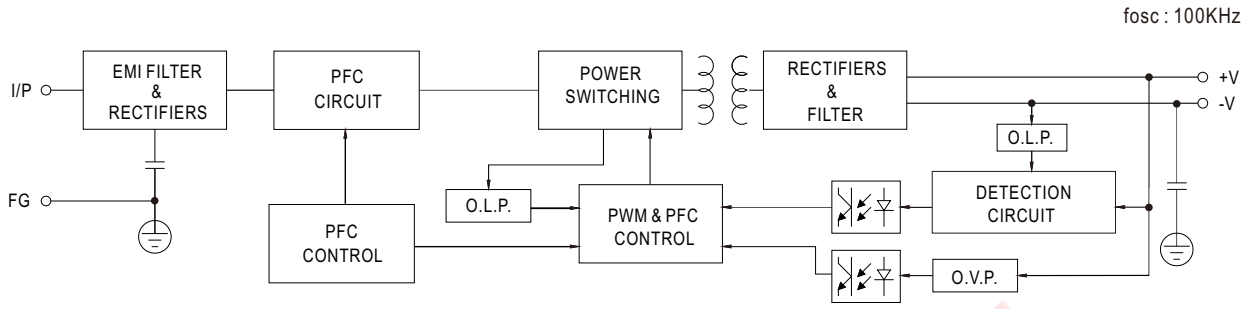
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Derating may be needed under low input voltages. Please check the static characteristics for more details.
5. A-Type only.
6. 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.
7. 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.
8. The water protection level test for the IP68 rating is performed 1000mm below the surface of the water for 1 month.
9. Refer to warranty statement.
10. 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).

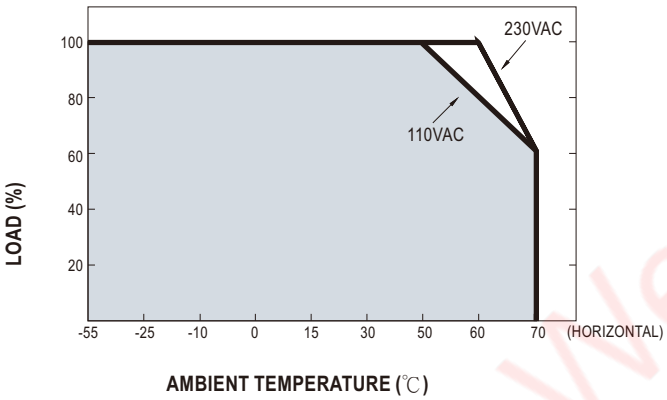
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

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■ Block Diagram

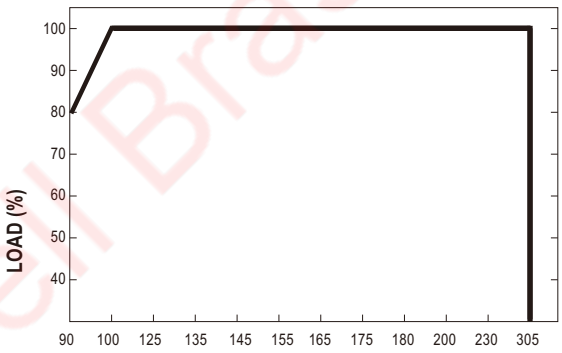


■ Derating Curve



AMBIENT TEMPERATURE (℃)

■ Static Characteristics



INPUT VOLTAGE (V) 60Hz

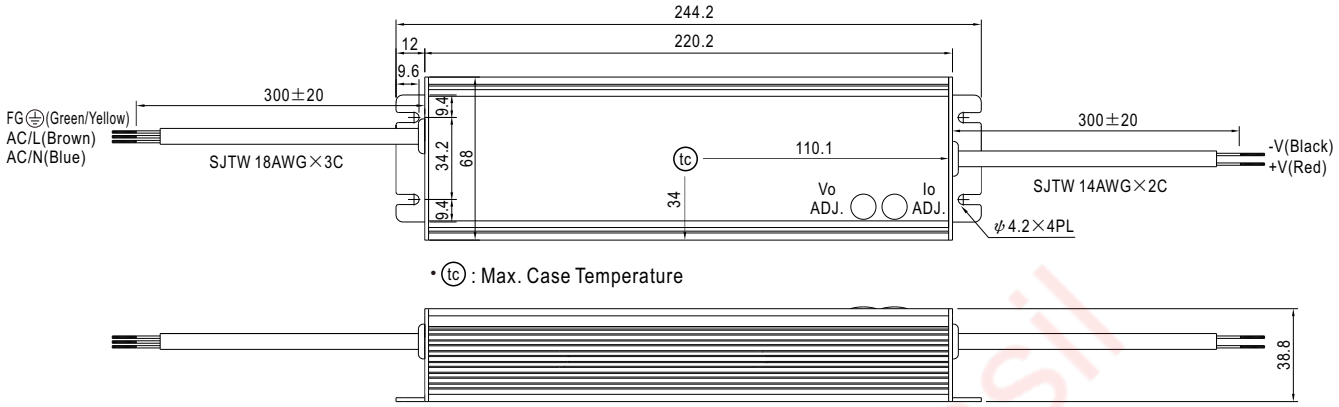
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■ Mechanical Specification

Case No.994H Unit:mm

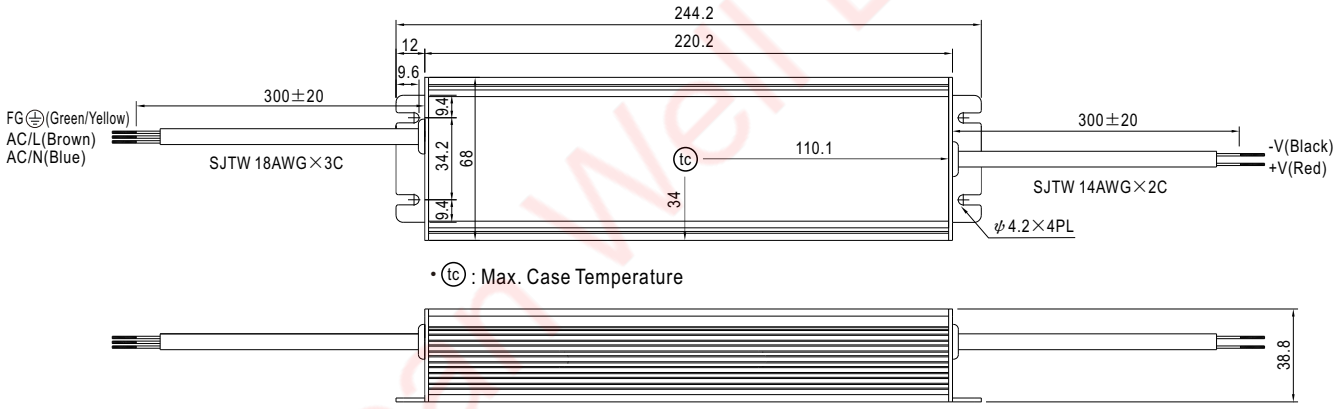
A-Type: HEP-240-_A(standard model)



• 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-240(optional model)



• tc : Max. Case Temperature

※IP68 rated. Cable for I/O connection.

■ Installation Manual

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

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