



600W Battery Charger for Harsh Environment

HEP-600C series



UL62368-1



IEC62368-1



## ■ Features

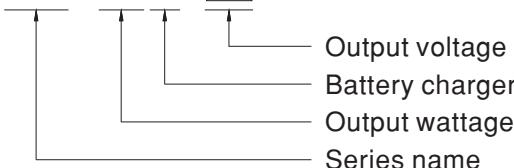
- Charger for lead-acid batteries (flooded, Gel and AGM) and Li-ion batteries (lithium iron and lithium manganese) (Note.1)
- 3 stage charging
- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- No load power consumption <0.5W at remote OFF
- High efficiency up to 95.5%
- Fanless design, cooling by free air convection
- Aluminum case and filling with heat-conducted glue
- Withstand 10G vibration test
- -40 ~ +70°C wide operating range
- Output voltage and output current can be adjusted through internal potentiometer
- Protection: Short circuit / Over voltage / Over temperature
- 3 color LED loading indicator
- Operating altitude up to 5000 meters (Note.5)
- 6 years warranty

## ■ Description

HEP-600C series is an AC-to-DC battery charger providing up to 600W, designed with aluminum case and fully potted by silicone. It features the high efficiency (up to 95.5%), waterproof and low no-load power consumption (<0.5W) at remote OFF. Incorporating state of the art design, the fan-less HEP-600C is capable of working under high-vibration (10G), dusty, humid, and oily environment. Other features include adjustable voltage/current and wide working temperature range (-40~+70°C).

## ■ Model Encoding

HEP - 600C - 12



## ■ Applications

- Suitable for battery charger at harsh environment
- Robotic lawn mower
- Electronic transportation vehicle
- Recreational craft, personal yacht or workboat
- Security network and system
- Telecommunication base station
- Equipments or instruments with back-up battery

## SPECIFICATION

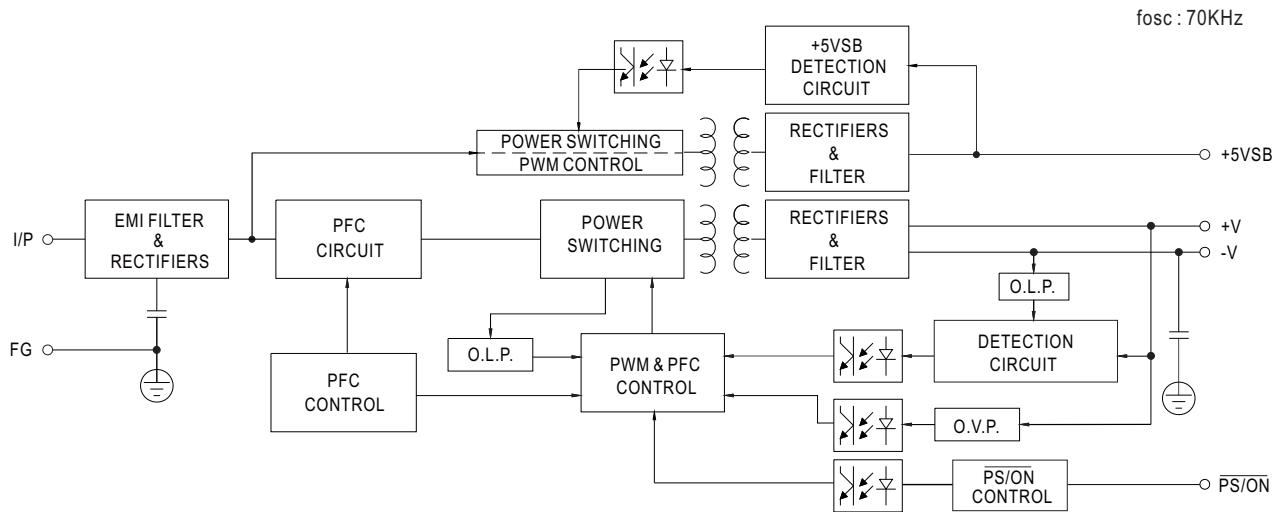
MODEL	HEP-600C-12	HEP-600C-24	HEP-600C-48
OUTPUT	BOOST CHARGE VOLTAGE $V_{boost}$	14.4V	28.8V
	FLOAT CHARGE VOLTAGE $V_{float}$	13.6V	27.2V
	VOLTAGE ADJ. RANGE	11.5 ~ 15.1V	23 ~ 30.2V
	CURRENT ADJ. RANGE	17.5 ~ 35A	10.5 ~ 21A
	RECOMMENDED BATTERY CAPACITY(AMP HOURS)(Note 3)	135 ~ 400AH	70 ~ 210AH
	BATTERY TYPE	Open & Sealed Lead Acid	
INPUT	OUTPUT CURRENT	35A	21A
	VOLTAGE RANGE	85~264VAC(277VAC operational)	120~370VDC(390VDC operational)
	FREQUENCY RANGE	47 ~ 63Hz	
	POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.95/230VAC, PF>0.93/277VAC at full load	
	EFFICIENCY (Typ.)	93.5%	94.5%
	AC CURRENT (Typ.)	7A / 115VAC 3.3A / 230VAC 2.9A / 277VAC	
PROTECTION	INRUSH CURRENT (Typ.)	COLD START 70A (width=1010 $\mu$ s measured at 50% $I_{peak}$ ) at 230VAC	
	LEAKAGE CURRENT	<0.75mA / 277VAC	
FUNCTION	OVER VOLTAGE	16.5 ~ 20.5V	32.5 ~ 36.5V
	OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover	
ENVIRONMENT	REMOTE ON/OFF CONTROL	Power on : "Hi" >2 ~ 5V or Open circuit	Power off : "Low" <0 ~ 0.5V or Short circuit
	5V STANDBY	5V <sub>SB</sub> : 5V@0.5A ; tolerance $\pm$ 5%, ripple : 100mV <sub>p-p</sub> (max.)	
ENVIRONMENT	WORKING TEMP.	-40 ~ +70°C (Refer to "Derating Curve")	
	WORKING HUMIDITY	20 ~ 95% RH non-condensing	
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing	
	TEMP. COEFFICIENT	$\pm$ 0.05%/°C (0 ~ 60°C)	
SAFETY & EMC (Note.4)	VIBRATION	20 ~ 500Hz, 10G 10min./1cycle, 72min. each along X, Y, Z axes	
	SAFETY STANDARDS	UL62368-1, TUV BS EN/EN62368-1, EAC TP TC 004 approved	
	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 BS EN/EN55032 (CISPR32), radiation class A, conduction 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, light industry level, EAC TP TC 020	
	MTBF	73.1K hrs min. MIL-HDBK-217F (25°C)	
	DIMENSION	280*144*48.5mm (L*W*H)	
NOTE	PACKING	3.9Kg; 4pcs/16Kg/0.9CUFT	
	1. Modification for charger specification may be required for different battery specification. Please contact battery vendor and MEAN WELL for details. 2. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 3. This is Mean Well's suggested range. Please consult your battery manufacturer for their suggestions about maximum charging current limitation. 4. 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." (as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a> ) 5. 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). ※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a>		



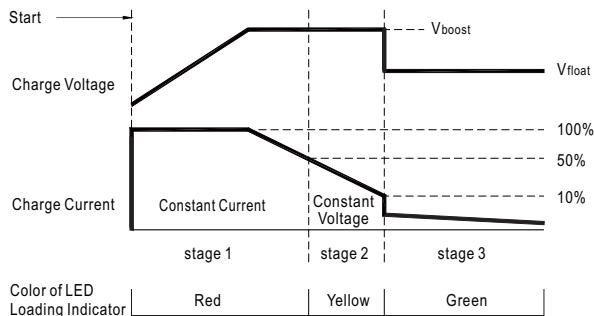
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**HEP-600C series**

■ Block Diagram



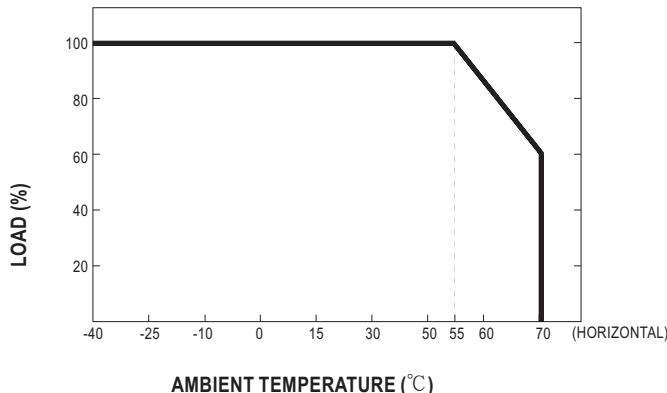
■ Charging Curve



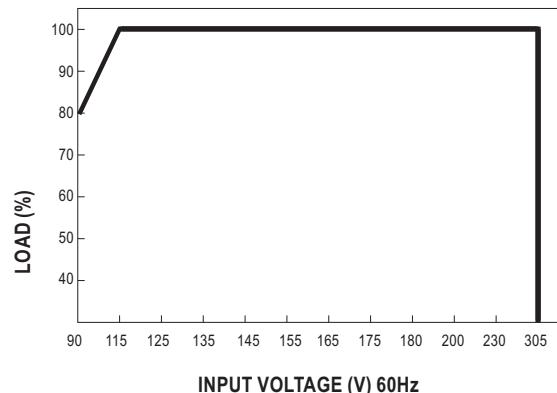
Factory default value:

State	HEP-600C-12	HEP-600C-24	HEP-600C-48
Constant Current	35A	21A	10.5A
Vboost	14.4V	28.8V	57.6V
Vfloat	13.6V	27.2V	54.4V

■ Derating Curve

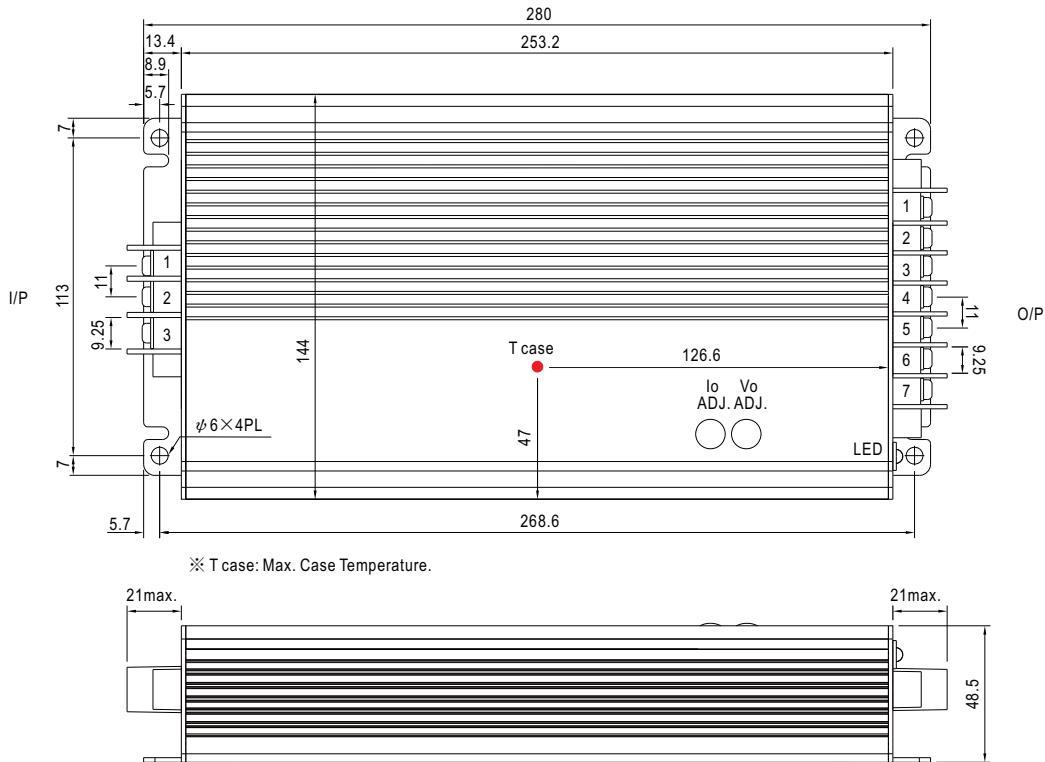


■ Static Characteristics



## ■ Mechanical Specification

Case No.228A Unit:mm



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

AC Input Terminal Pin No. Assignment

Pin No.	Assignment
1	FG 
2	AC/L
3	AC/N

DC Output Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1	RC+	4,5	-V
2	RC- & GND	6,7	+V
3	+5VSB		