



600W Battery Charger for Harsh Environment

HEP-600C series



■ Features

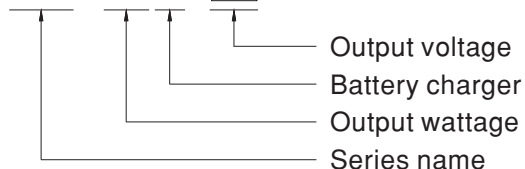
- Charger for lead-acid batteries (flooded, Gel and AGM) and Li-ion batteries (lithium iron and lithium manganese) (Note.1)
- 3 stage charging
- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- No load power consumption <0.5W at remote OFF
- High efficiency up to 95.5%
- 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

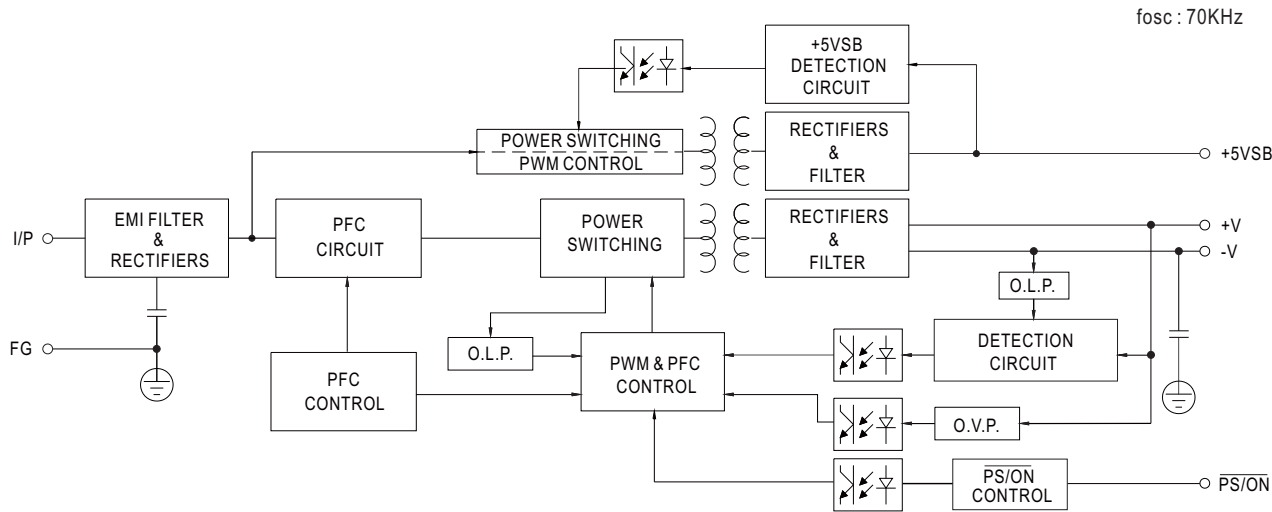
MODEL		HEP-600C-12		HEP-600C-24		HEP-600C-48	
OUTPUT	BOOST CHARGE VOLTAGE V_{boost}	14.4V		28.8V		57.6V	
	FLOAT CHARGE VOLTAGE V_{float}	13.6V		27.2V		54.4V	
	VOLTAGE ADJ. RANGE	11.5 ~ 15.1V		23 ~ 30.2V		46.1 ~ 60.5V	
	CURRENT ADJ. RANGE	17.5 ~ 35A		10.5 ~ 21A		5.2 ~ 10.5A	
	RECOMMENDED BATTERY CAPACITY(AMP HOURS)(Note 3)	135 ~ 400AH		70 ~ 210AH		35 ~ 105AH	
	BATTERY TYPE	Open & Sealed Lead Acid					
	OUTPUT CURRENT	35A		21A		10.5A	
INPUT	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%		95.5%	
	AC CURRENT (Typ.)	7A / 115VAC		3.3A / 230VAC		2.9A / 277VAC	
	INRUSH CURRENT (Typ.)	COLD START 70A($t_{width}=1010\mu s$ measured at 50% I_{peak}) at 230VAC					
	LEAKAGE CURRENT	<0.75mA / 277VAC					
PROTECTION	OVER VOLTAGE	16.5 ~ 20.5V		32.5 ~ 36.5V		68 ~ 73V	
	OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover Shut down o/p voltage, re-power on to recover					
FUNCTION	REMOTE ON/OFF CONTROL	Power on : "Hi" >2 ~ 5V or Open circuit Power off : "Low" <0 ~ 0.5V or Short circuit					
	5V STANDBY	5V _{SB} : 5V@0.5A; tolerance $\pm 5\%$, ripple : 100mVp-p(max.)					
ENVIRONMENT	WORKING TEMP.	-40 ~ +70℃ (Refer to "Derating Curve")					
	WORKING HUMIDITY	20 ~ 95% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing					
	TEMP. COEFFICIENT	$\pm 0.05\%/^{\circ}C$ (0 ~ 60℃)					
	VIBRATION	20 ~ 500Hz, 10G 10min./1cycle, 72min. each along X, Y, Z axes					
SAFETY & EMC (Note.4)	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℃ / 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					
	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					
OTHERS	MTBF	73.1K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	280*144*48.5mm (L*W*H)					
	PACKING	3.9Kg; 4pcs/16Kg/0.9CUFT					
NOTE	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℃ 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 http://www.meanwell.com) 5. 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						



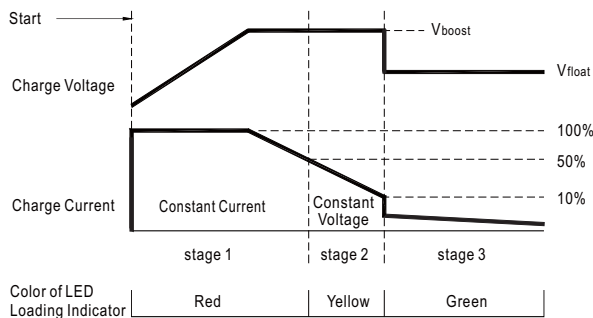
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■ Block Diagram



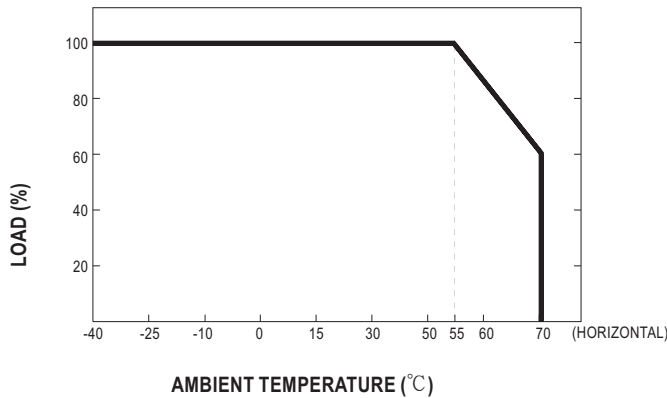
■ Charging Curve



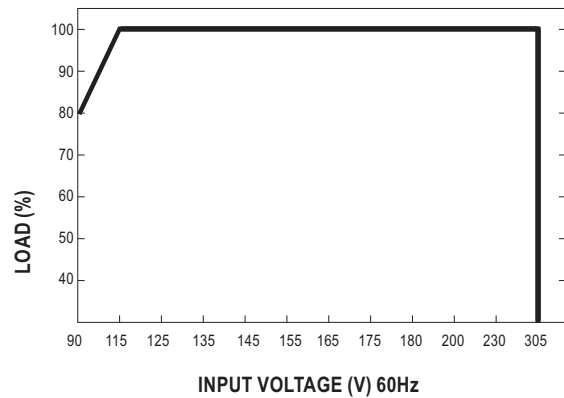
Factory default value:

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



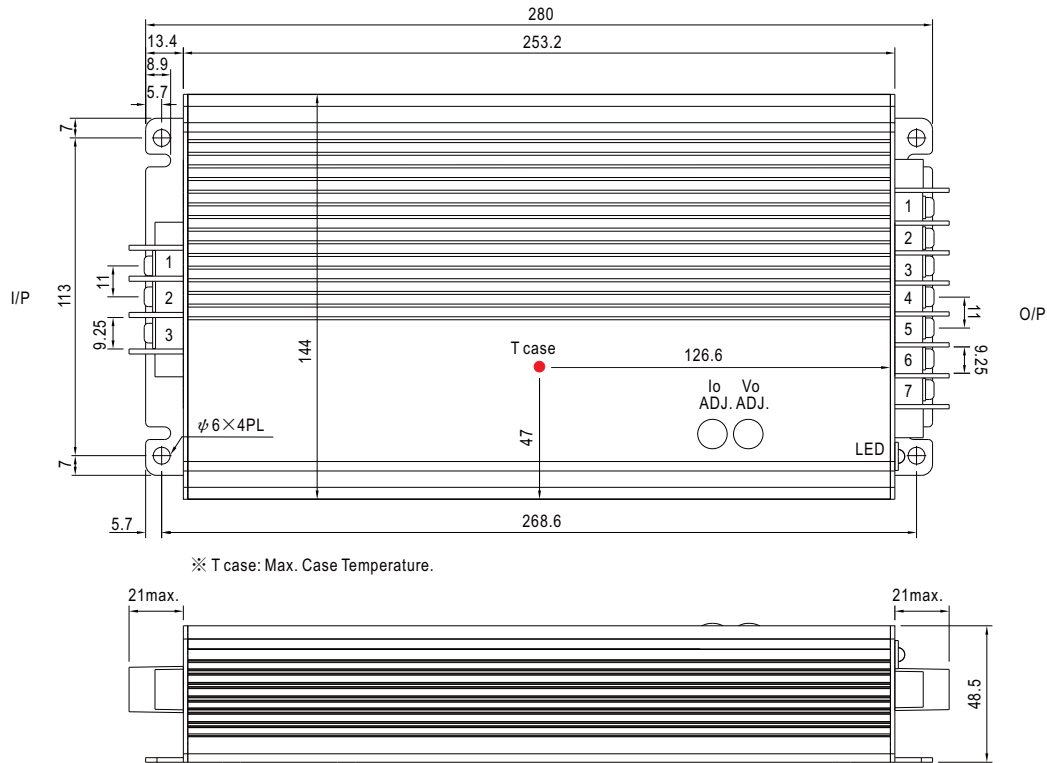
■ Static Characteristics



Mechanical Specification

Case No.228A

Unit:mm



※ T case: Max. Case Temperature.

※ 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	+5V _{SB}		