



### ■ Features

- Charger for Lithium-Ion batteries (Li-ion, LiFePO4) and Lead-Acid (AGM, GEL, VRLA) batteries
- Built-in 4 stage charging curve (For Lithium batteries) and 3 stage charging curve (For Lead-Acid batteries)
- Universal AC input, world-wide range AC90-264V 50/60Hz
- With active PFC function, CE & FCC certifications
- Optional CAN or 485 communication (Defined when order)
- Protection: Short circuit / Over voltage / Over temperature / Reverse polarity protection
- Waterproof and dustproof, IP67 class level

### ■ Applications

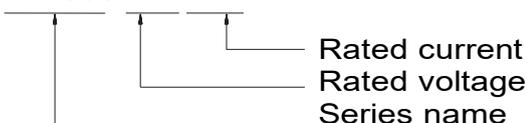
- Golf carts/ Buggy/Utility EV
- Electric forklift
- AGV/ Drone/ Robot
- Electric motorcycle/ tricycle
- Energy storage system
- Marina / Ship / Boat

### ■ Description

The WP800 series is an aluminum alloy housing waterproof IP67 charger with a rated output power 800W at 220-240VAC input and 600W at 100-120VAC input, with programmable 3 and 4 stages charging curves for 12V 24V 36V 48V 60V Lead-acid batteries (Gel, AGM, VRLA) and Lithium batteries (Li-ion, LiFePO4). They are widely used for golf club cart, utility EV, AGV and so on.

The part-number named rule as following:

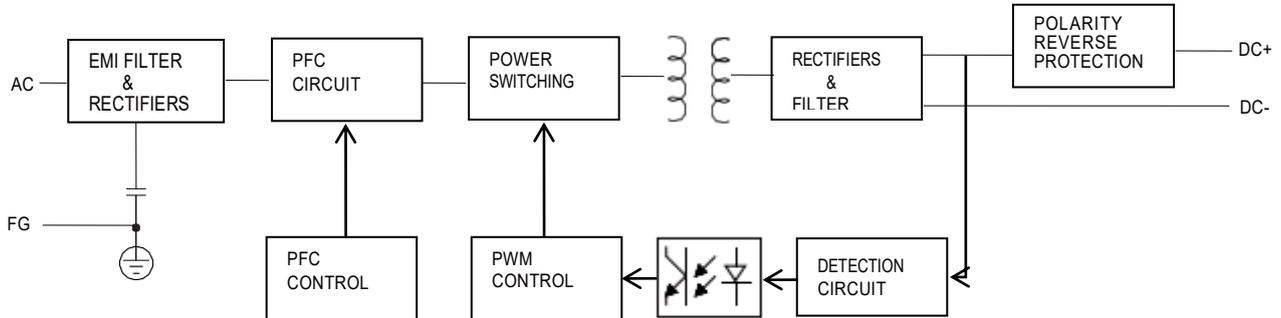
**WP800-XXXYYY**



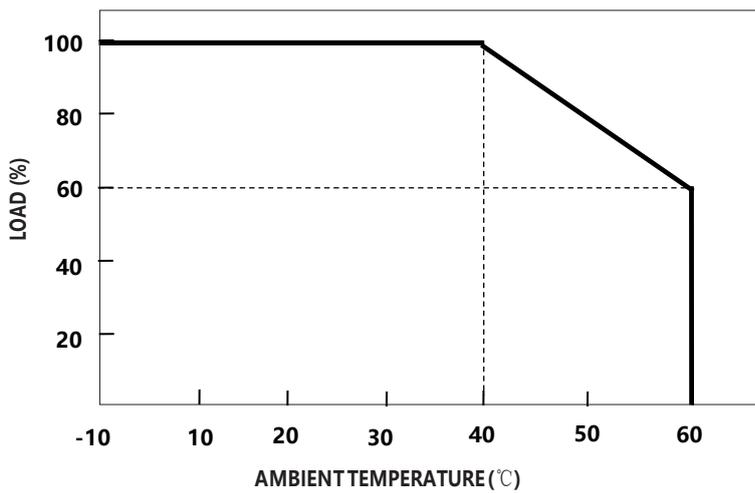
## SPECIFICATION(Li-ion battery charger)

MODEL		WP800-168350	WP800-294280	WP800-420200	WP800-588140	WP800-714115	WP800-840100	
OUTPUT	Charge voltage	16.8V±1%	29.4V±1%	42.0V±1%	58.8V±1%	71.4V±1%	84.0V±1%	
	Charge voltage range	10-16.8V	17.5-29.4V	25-42.0V	35-58.8V	42.5-71.4V	50-84V	
	Charge current	200-240VAC	35A±10%	28A±10%	20A±10%	14A±10%	11.5A±10%	10A±10%
		100-120VAC	30A±10%	20A±10%	14A±10%	10A±10%	8A±10%	7A±10%
	Pre-charge current	20% of CC (constant current)						
	Charge-end current	200-240VAC	≤3.5A ±20%	≤2.8A ±20%	≤2.0A ±20%	≤1.4A ±20%	≤1.1A ±20%	≤1.0A ±20%
		100-120VAC	≤3.0A ±20%	≤2.0A ±20%	≤1.4A ±20%	≤1.0A ±20%	≤0.8A ±20%	≤0.7A ±20%
	Rated power	200-240VAC	588W	823.2W	840W	823.2W	821.1W	840W
100-120VAC		504W	588W	588W	588W	571.2W	588W	
Recommended battery capacity Note.3		60 - 200Ah	40 - 150Ah	30 - 100Ah	20 - 80Ah	15 - 60Ah	15 - 60Ah	
Leakage current from battery (Typ.)		≤1mA						
CHARGE INDICATOR	LED	Red: battery capacity is less than 80%. Yellow: battery capacity is greater than 80%. Green: standby or battery is full						
INPUT	Rated input voltage	100 - 240VAC 50 / 60Hz						
	Input voltage range Note.4	90 - 264VAC						
	Power factor (Typ.)	PF>0.96 @Full load						
	Input current (Typ.)	6.8A@100VAC						
	Inrush current (Typ.)	Cold start 75A @230VAC						
	Standby input power	< 2.5W						
	Efficiency (Typ.)	90%	92%	93%	93%	93%	93%	
PROTECTION	Short circuit Note.5	Protection type : Shut down output						
	Over voltage	>4.35V*N						
	Reverse polarity	By internal relay						
	Over temperature	Shut down output, recovers automatically after temperature goes down						
ENVIRONMENT	Working temperature	-10 - +40°C (Refer to " Derating Curve")						
	Working humidity	0 - 90% RH						
	Storage temperature, humidity	-40 - +70°C, 0 - 95% RH						
	Cooling	Fan convection						
	Vibration resistance	10 - 50Hz, 2G 10min. 1cycle, 60min. each along X, Y, Z axes						
SAFETY & EMC (Note.6)	Max. temperature rise	< 30°C on casing						
	Hi-Pot Insulation	i/p to o/p: 3000V (1 min)						
	Safety standards	IEC62368						
	EMC Emission	Parameter	Standard				Test Level I Note	
		Conducted	EN55032 FCCPART15				Class B	
		Radiated	EN55032 FCCPART15				Class B	
		Harmonic Current	EN61000-3-2				.....	
Voltage Flicker	EN61000-3-3				.....			
EMC IMMUNITY	EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11							
OTHERS	MTBF	30000H						
	Dimension	288*129.5*81.7mm (L*W*H)						
	Weight	3750g						
NOTE	<p>1. Modification for charger specification may be required for different battery specification. Please contact battery vendor and Green digital power for details.</p> <p>2. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>3. This is Green suggested range. Please consult your battery manufacturer for their suggestions about maximum charging current limitation.</p> <p>4. Derating may be needed under low input voltages. Please check the derating curve for more details.</p> <p>5. This protection mechanism is specified for the case the short circuit occurs after the charger is turned on.</p> <p>6. The battery charger is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EM I testing of component power supplies."</p>							

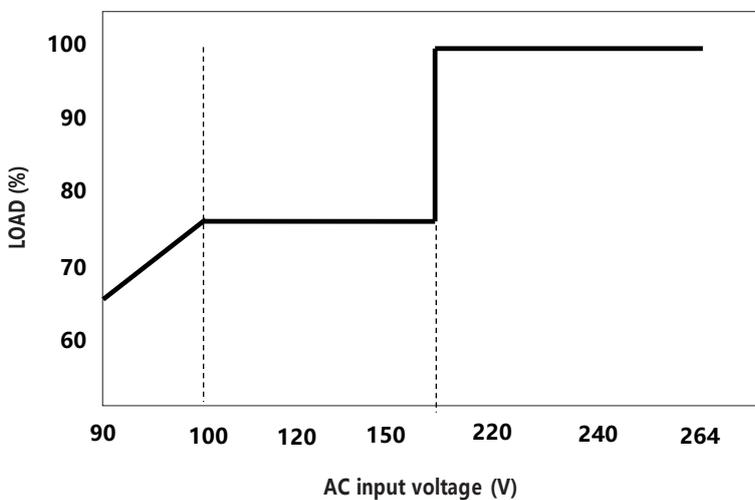
■ Block Diagram



■ Derating Curve

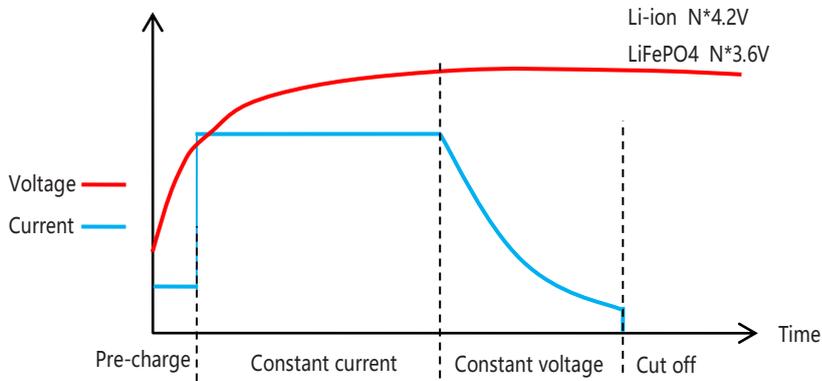


■ Static Characteristics

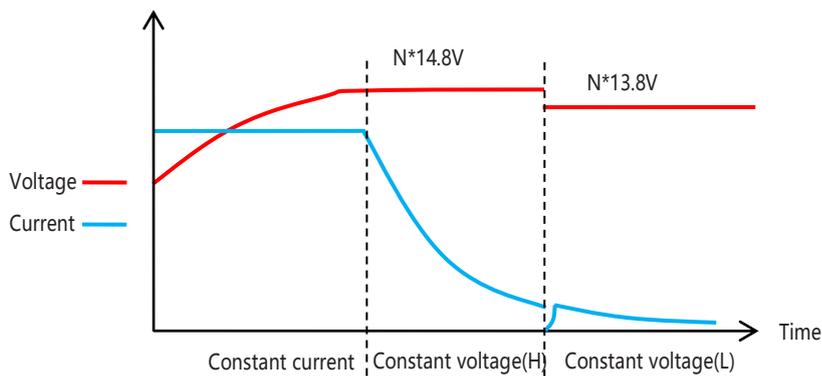


### 1.Charging Curve

© 4 stage charging curve(Li-ion & LiFePO4 battery charger)



© 3 stage charging curve(Lead-Acid battery charger)



### 2.LED indication

Green ON: Full charged, or idle

Yellow ON: Charging, capacity >= 80%

Red ON: Charging, capacity < 80%  
Red flashing: Error, Shorted or Reversed

■ Mechanical specification

