



■ 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 communication
- Protection: Short circuit / Over voltage / Over temperature / Reverse polarity protection
- Waterproof and dustproof, IP67 class level

■ Applications

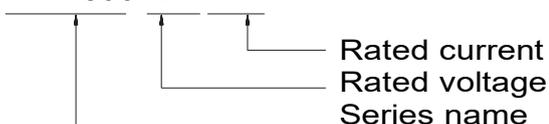
- Golf carts/ Buggy/Utility EV
- Electric forklift
- AGV/ Drone/ Robot
- Electric motorcycle/ tricycle
- Energy storage system
- Marina / Ship / Boat

■ Description

The WP1800 series is an aluminum alloy housing waterproof IP67 charger with a rated output power 1800W at 220-240VAC input and 1200W at 100-120VAC input, with programmable 3 and 4 stages charging curves for 48V 60V 72V 84V 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:

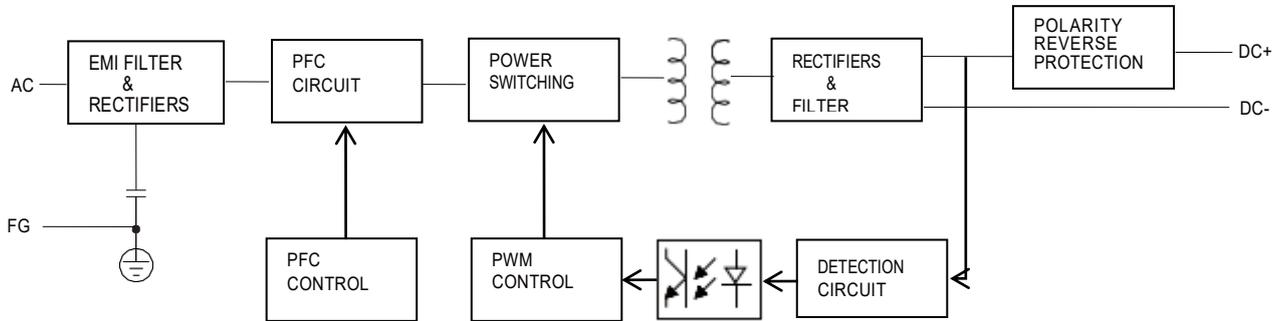
WP1800-XXXYYY



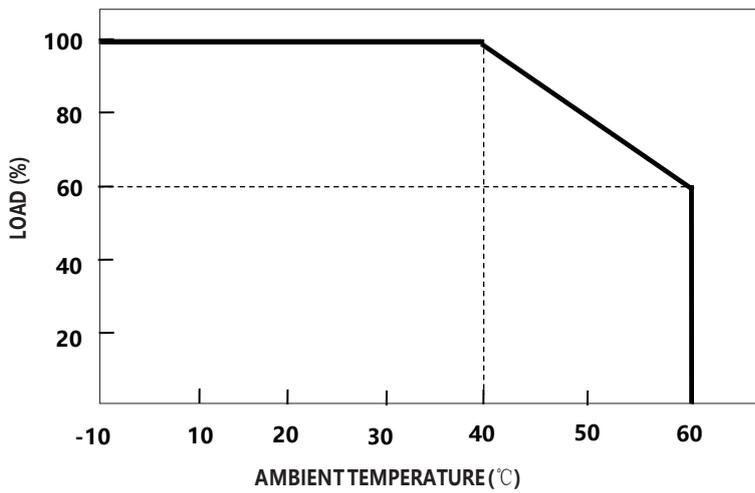
SPECIFICATION(Li-ion battery charger)

MODEL		WP1800-294500	WP1800-420400	WP1800-546300	WP1800-672250	WP1800-840200	
OUTPUT	Charge voltage	29.4V±1%	42.0V±1%	54.6V±1%	67.2V±1%	84.0V±1%	
	Charge voltage range	17.5-29.4V	25.0-42.0V	32.5-54.6V	40-67.2V	50.0-84.0V	
	Charge current	200-240VAC	50.0A±10%	40.0A±10%	30.0A±10%	25.0A±10%	20.0A±10%
		100-120VAC	36.0A±10%	28.0A±10%	20.0A±10%	17.5A±10%	14.0A±10%
	Pre-charge current	20 % of CC (constant current)					
	Charge-end current	200-240VAC	≤5.0A ±10%	≤4.0A ±10%	≤3.0A ±10%	≤2.5A ±10%	≤2.0A ±20%
		100-120VAC	≤3.6A ±10%	≤2.8A ±10%	≤2.0A ±10%	≤1.8A ±10%	≤1.4A ±20%
	Rated power	200-240VAC	1470W	1680W	1638W	1680W	1680W
100-120VAC		1058.4W	1176W	1092W	1776W	1176W	
Recommended battery capacity Note.3	80 - 200Ah		60 - 150Ah	40 - 100Ah	40 - 100Ah	30 - 80Ah	
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.)	14A@100VAC					
	Inrush current (Typ.)	Cold start 75A @230VAC					
	Standby input power	< 6W					
	Efficiency (Typ.)	92%	92%	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 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*168*89mm (L*W*H)					
	Weight	4800g					
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>						

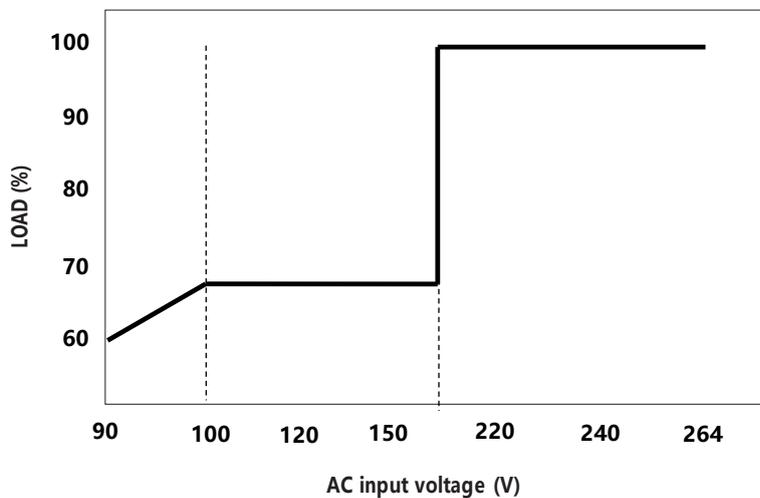
■ **Block Diagram**



■ **Derating Curve**

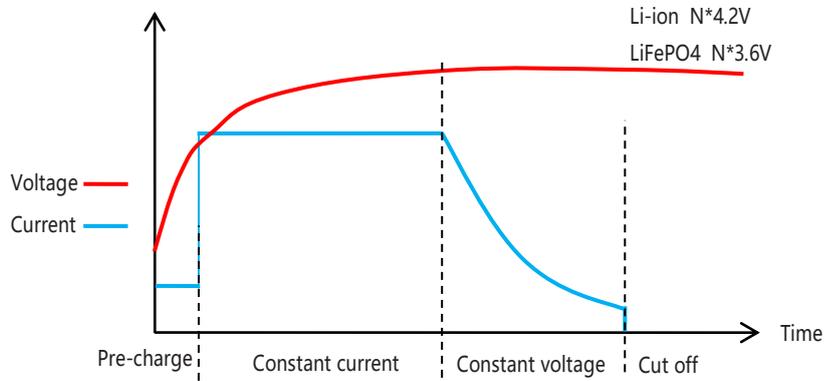


■ **Static Characteristics**

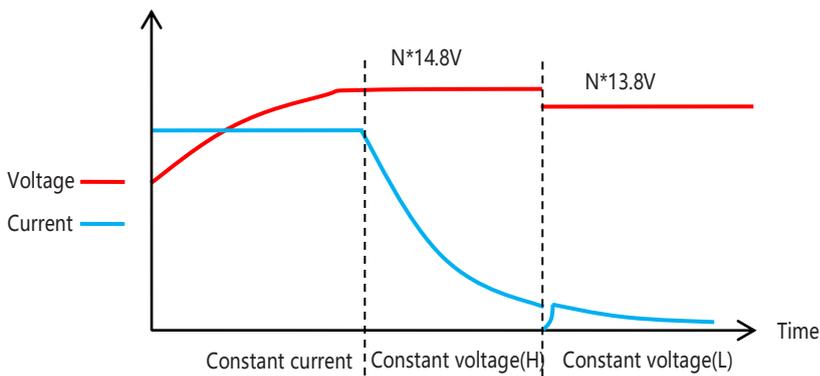


1.Charging Curve

◎ 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 $\geq 80\%$

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

■ Mechanical specification

