**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

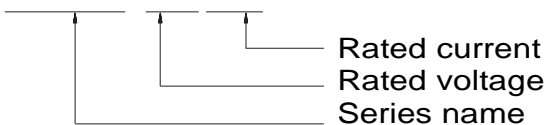
Applications

- 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.A±10%	25A±10%	20A±10%
		100-120VAC	36.0A±10%	28.0A±10%	20.0A±10%	17.5A±10%	14.0A±10%
	Pre-charge current	7.2A±10%	5.6A±10%	4.0A±10%	3.5A±10%	2.8A±10%	
	Charge-end current	≤3.6A ±10%	≤2.8A ±10%	≤2.0A ±10%	≤1.8A ±10%	≤1.4A ±20%	
	Rated power	200-240VAC	1617W	1764W	1796.3W	1794.2W	1797.6W
		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	The red light battery capacity is less than 80%, the yellow light battery capacity is greater than 80%, and the green light battery is full or standby					
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 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*168*89mm (L*W*H)					
	Weight	4300g					
NOTE	1.Modification for charger specification may be required for different battery specification. Please contact battery vendor and Green digital power for details. 2.All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 3.This is Green suggested range. Please consult your battery manufacturer for their suggestions about maximum charging current limitation. 4.Derating may be needed under low input voltages. Please check the derating curve for more details. 5.This protection mechanism is specified for the case the short circuit occurs after the charger is turned on. 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."						

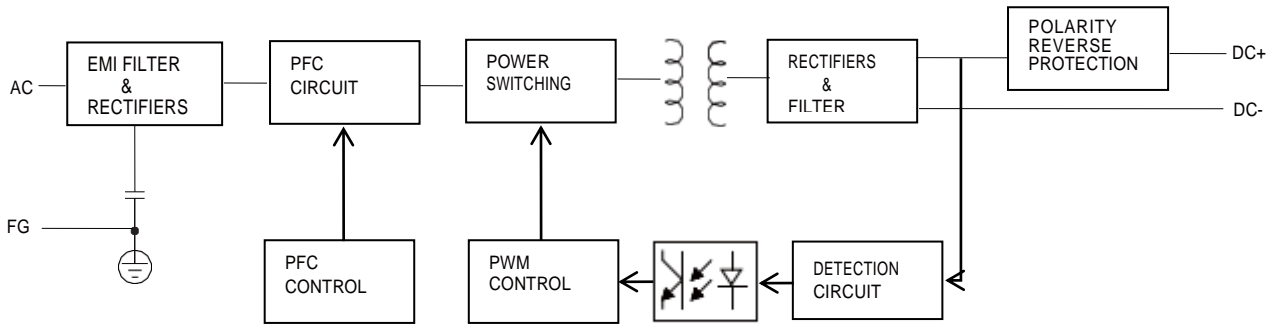
SPECIFICATION(Li-Fe battery charger)

MODEL		WP1800-288550	WP1800-360500	WP1800-432400	WP1800-576300	WP1800-720250	
OUTPUT	Charge voltage	28.8V±1%	36.0V±1%	43.2V±1%	57.6V±1%	72.0V±1%	
	Charge voltage range	20.0-28.8V	25.0-36.0V	30.0-43.2V	40.0-57.6V	50.0-72.0V	
	Charge current	200-240VAC	50.0A±10%	50.0A±10%	40A±10%	30A±10%	25.0A±10%
		100-120VAC	36.0A±10%	30.0A±10%	27.7A±10%	20.0A±10%	16.6A±10%
	Pre-charge current	7.2A±10%	6.0A±10%	5.54A±10%	4.0A±10%	3.32A±10%	
	Charge-end current	≤3.6A ±10%	≤3.0A ±10%	≤2.77A ±10%	≤2.0A ±10%	≤1.66A ±10%	
	Rated power	200-240VAC	1584W	1800W	1797.1W	1797.1W	1800W
		100-120VAC	1036.8W	1080W	1196.64W	1152W	1195.2W
Recommended battery capacity Note.3	60 - 200Ah	40 - 150Ah	30 - 100Ah	20 - 80Ah	15 - 60Ah		
Leakage current from battery (Typ.)	≤1mA						
CHARGE INDICATOR	LED	The red light battery capacity is less than 80%, the yellow light battery capacity is greater than 80%, and the green light battery is full or standby					
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	>3.7V*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*168*89mm (L*W*H)					
	Weight	4300g					
NOTE	1.Modification for charger specification may be required for different battery specification. Please contact battery vendor and Green digital power for details. 2.All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 3.This is Green suggested range. Please consult your battery manufacturer for their suggestions about maximum charging current limitation. 4.Derating may be needed under low input voltages. Please check the derating curve for more details. 5.This protection mechanism is specified for the case the short circuit occurs after the charger is turned on. 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."						

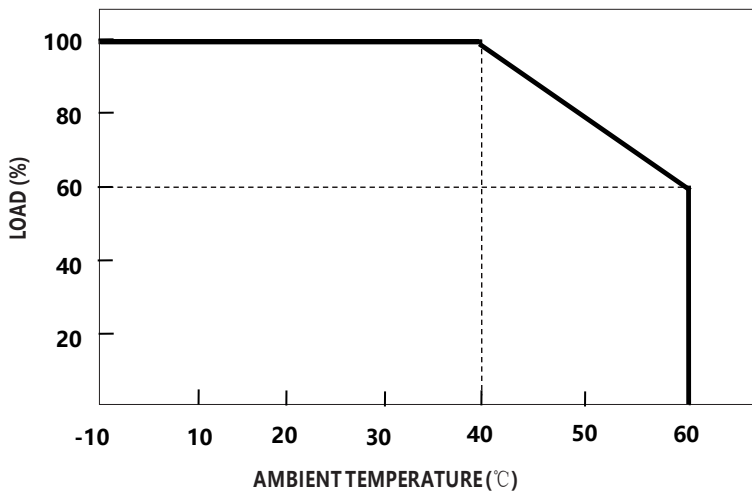
SPECIFICATION (Lead-Acid battery charger)

MODEL		WP1800-296500	WP1800-444400	WP 1800-592300	WP1800-740250	WP1800-888200	
OUTPUT	Charge voltage (High voltage)	29.6V±1%	44.4V±1%	59.2V±1%	74.0V±1%	88.8V±1%	
	Charge voltage range	20.0-29.6V	30.0-44.4V	40.0-59.2V	50.0-74.0V	60.0-88.8V	
	Float charge (Low voltage)	27.6V±1%	41.4V±1%	55.2V±1%	69.0V±1%	82.8V±1%	
	Charge current	200-240VAC	50.0A±10%	40A±10%	30A±10%	25A±10%	20A±10%
		100-120VAC	36.0A±10%	27.0A±10%	20.0A±10%	16.0A±10%	13.0A±10%
	Charge-end current	≤7.2A ±20%	≤5.4A ±20%	≤4.0A ±20%	≤3.2A ±20%	≤2.6A ±20%	
	Rated power	200-240VAC	1628W	1198.8W	1799.6W	1798.2W	1793.7W
		100-120VAC	1065.6W	1198.8W	1184W	1184W	1154.4W
Recommended battery capacity Note.3	60 - 200Ah	40 - 150Ah	30 - 100Ah	20 - 80Ah	15 - 60Ah		
Leakage current from battery (Typ.)		≤1mA					
CHARGE INDICATOR	LED	The red light battery capacity is less than 80%, the yellow light battery capacity is greater than 80%, and the green light battery is full or standby					
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	>15.5V*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	4300g					
NOTE	1.Modification for charger specification may be required for different battery specification. Please contact battery vendor and Green digital power for details. 2.All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 3.This is Green suggested range. Please consult your battery manufacturer for their suggestions about maximum charging current limitation. 4.Derating may be needed under low input voltages. Please check the derating curve for more details. 5.This protection mechanism is specified for the case the short circuit occurs after the charger is turned on. 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."						

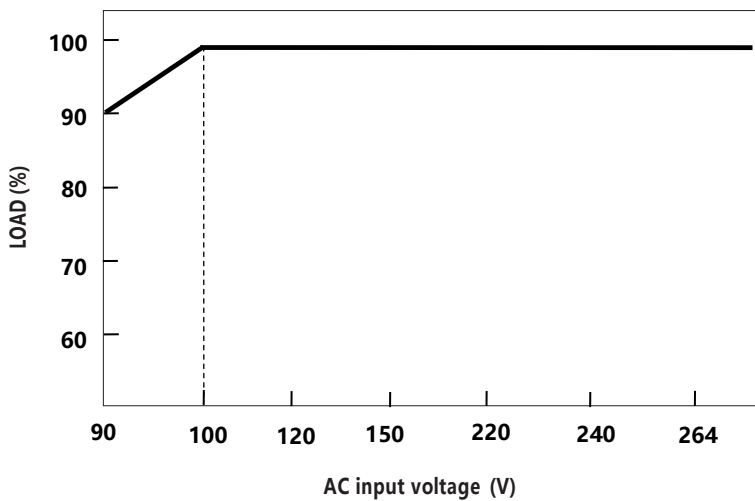
■ **Block Diagram**



■ **Derating Curve**

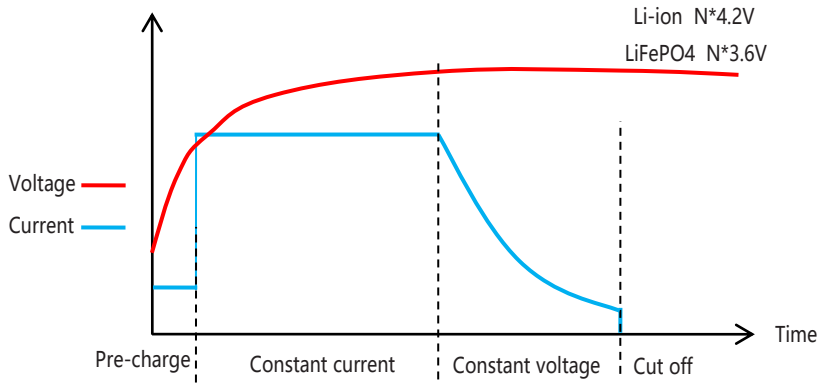


■ **static Characteristics**

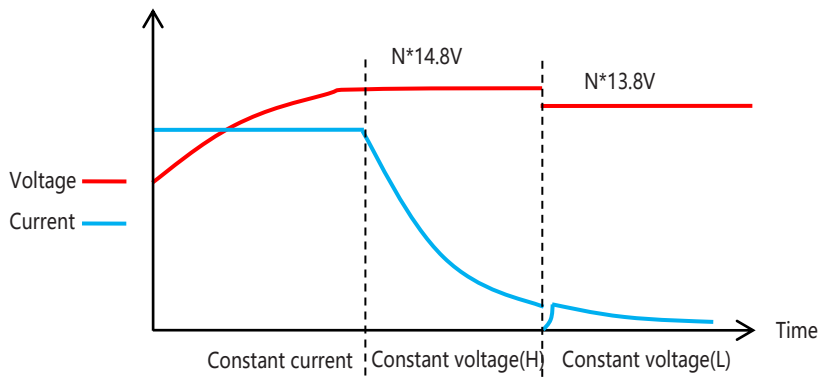


■ **Charging Curve**

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



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



■ Mechanical specification

