

#### ■ Characteristic

- Rechargeable lithium batteries (lithium-ion batteries, lithium iron phosphate batteries, and manganese lithium batteries) and Lead-acid battery
- Built in 4-stage charging (lithium battery) and 3-stage charging (lead-acid)
- Worldwide 90-264Vac input
- Built in active power factor correction function
- Multiple protection functions: output short circuit protection/output overvoltage protection/internal overheating protection/battery reverse polarity protection
- Waterproof: IP68

#### ■ Application

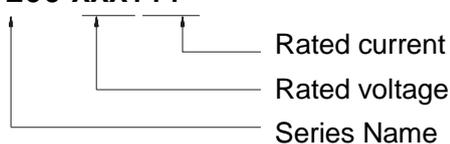
- Radio system backup
- Electric scooter
- Monitoring system
- Electric motorcycles
- Electric cleaning vehicle
- Electric golf cart

#### ■ Brief Introduction

The WP1200 series is a desktop waterproof charger with a single output of 1200W AC to DC. It has a built-in programmable charging mode and features 4-stage and 3-stage charging modes, corresponding to lithium batteries (lithium-ion, lithium iron phosphate, manganese lithium) and lead-acid batteries (colloidal batteries, liquid batteries, AGM batteries)。

#### Model code

**WP1200-XXXYYY**



**Specification (Lithium charger)**

Item		WP1200-294360	WP1200-420280	WP1200-546200	WP1200-672175	WP1200-840140	
<b>Output</b>	Charge Voltage	29.4V±1%	42.0V ± 1%	54.6V ± 1%	67.2V ± 1%	84.0V±1%	
	Charger Voltage range	17.5-29.4V	25.0-42.0V	32.5-54.6V	40-67.2V	50.0-84.0V	
	Charge current	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%	
	End Charge	≤3.6A ± 10%	≤2.8A ± 10%	≤2.0A ± 10%	≤1.8A ± 10%	≤1.4A ± 20%	
	Rated Output power	1058.4W	1176W	1092W	1776W	1176W	
	Fit battery capacity (Note 3)	80 - 200Ah	60 - 150Ah	40 - 100Ah	40 - 100Ah	30 - 80Ah	
	Battery leakage current (typical)	≤1mA					
<b>Indication</b>	LED	Red light charging, green light fully charged or standby					
<b>Input</b>	Rated input voltage	100 - 240VAC 50 / 60Hz					
	Input voltage range (Note 4)	90 - 264VAC					
	Power Factor	PF>0.96 @Full Load					
	Input Current	14A@100VAC					
	Impulse current	cold start 75A @230VAC					
	standby power	< 6W					
	efficiency	92%	92%	93%	93%	93%	
<b>Protection function</b>	Short circuit protection (Note 5)	Internal relay closed					
	Output overvoltage protection	>4.35V*N					
	reverse polarity protection	Internal relay closed					
	Over Temperature Protection	Turn off the output and automatically recover after the temperature is normal					
<b>Environment</b>	operation temperature	-10 - +40℃ (Reference Derating Curve)					
	Working humidity	0 - 90% RH					
	Storage temperature and humidity	-40 - +70℃, 0 - 95% RH					
	Cooling method	fan cooled					
	Anti vibration	10 - 50Hz, 2G 10min. 1cycle, 60min. each along X, Y, Z axes					
<b>Safety&amp;Electromagnetic Compatibility (Note 6)</b>	Maximum temperature rise	< 30℃ (Surface)					
	Isolation withstand voltage	i/p to o/p: 3000V (1 min)					
	safety standards	IEC62368					
	EMC interference	Item	Standard			Degree	
		conduct	EN55032 FCC PART15			Class B	
		radiation	EN55032 FCC PART15			Class B	
		harmonic current	EN61000-3-2			.....	
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						
<b>Others</b>	mean time between failures	30000H					
	Size	288*168*89mm (L*W*H)					
	Weight	4300g					
<b>Note</b>	<ol style="list-style-type: none"> <li>To modify different battery specifications and parameters, please contact the battery supplier for details.</li> <li>Parameters not specifically mentioned are measured at 230VAC input, rated load, and ambient temperature of 25℃.</li> <li>This is the range recommended by Gu Run. For maximum charging current, please consult the battery supplier.</li> <li>Derating may be required under low input voltage, please refer to the derating curve for details.</li> <li>This protection mechanism is specified for situations where a short circuit occurs after the charger is connected.</li> <li>The battery charger is considered as an independent device, but the final device still needs to reconfirm that the entire system complies with EMC directives.</li> </ol>						

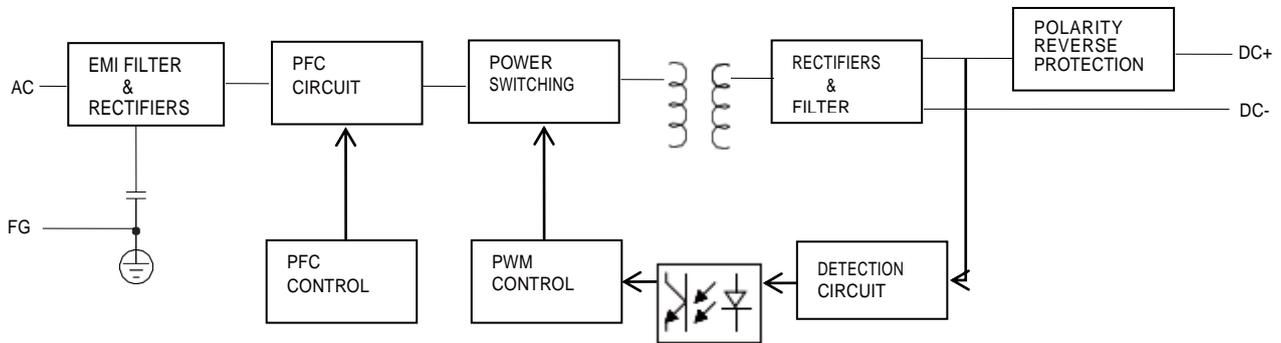
**Spec (LiFePo4 Charger)**

Item		WP1200-288360	WP1200-360300	WP1200-432277	WP1200-576200	WP1200-720166	
<b>Output</b>	Charge Voltage	28.8V±1%	36.0V±1%	43.2V±1%	57.6V±1%	72.0V±1%	
	Charger Voltage range	20.0-28.8V	25.0-36.0V	30.0-43.2V	40.0-57.6V	50.0-72.0V	
	Charge current	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%	
	End Charge	≤3.6A ±10%	≤3.0A ±10%	≤2.77A ±10%	≤2.0A ±10%	≤1.66A ±10%	
	Rated Output power	1036.8W	1080W	1196.64W	1152W	1195.2W	
	Fit battery capacity (Note 3)	80 - 200Ah	80 - 200Ah	60 - 150Ah	40 - 100Ah	30 - 80Ah	
Battery leakage current (typical)	≤1mA						
<b>Indication</b>	LED	Red light charging, green light fully charged or standby					
<b>Input</b>	Rated input voltage	100 - 240VAC 50 / 60Hz					
	Input voltage range (Note 4)	90 - 264VAC					
	Power Factor	PF>0.96 @Full load					
	Input Current	14A@100VAC					
	Impulse current	cold start 75A @230VAC					
	standby power	< 6W					
	efficiency	92%	92%	93%	93%	93%	
<b>Protection function</b>	Short circuit protection (Note 5)	Internal relay closed					
	Output overvoltage protection	Internal relay closed					
	reverse polarity protection	Internal relay closed					
	Over Temperature Protection	Turn off the output and automatically recover after the temperature is normal					
<b>Environment</b>	operation temperature	-10 - +40°C (Reference Derating Curve)					
	Working humidity	0 - 90% RH					
	Storage temperature and humidity	-40 - +70°C, 0 - 95% RH					
	Cooling method	fan cooled					
	Anti vibration	10 - 50Hz, 2G 10min. 1cycle, 60min. each along X, Y, Z axes					
<b>Safety&amp;Electromagnetic Compatibility (Note 6)</b>	Maximum temperature rise	< 30°C (Surface)					
	Isolation withstand voltage	i/p to o/p: 3000V (1 min)					
	safety standards	IEC62368					
	EMC interference	Item	Standard			Degree	
		conduct	EN55032 FCC PART15			Class B	
		radiation	EN55032 FCC PART15			Class B	
		harmonic current	EN61000-3-2			.....	
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						
<b>Other</b>	mean time between failures	30000H					
	Size	288*168*89mm (L*W*H)					
	Weight	4300g					
<b>Note</b>	<p>1. To modify different battery specifications and parameters, please contact the battery supplier for details.</p> <p>2. Parameters not specifically mentioned are measured at 230VAC input, rated load, and ambient temperature of 25 °C.</p> <p>3. This is the range recommended by Gu Run. For maximum charging current, please consult the battery supplier.</p> <p>4. Derating may be required under low input voltage, please refer to the derating curve for details.</p> <p>5. This protection mechanism is specified for situations where a short circuit occurs after the charger is connected.</p> <p>6. The battery charger is considered as an independent device, but the final device still needs to reconfirm that the entire system complies with EMC directives.</p>						

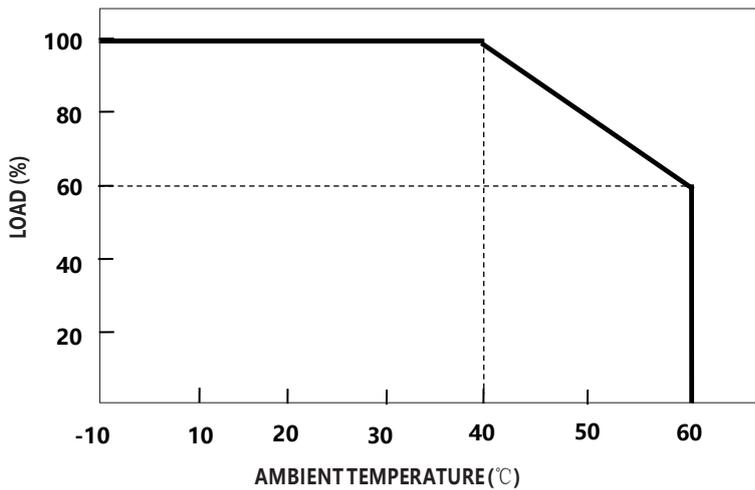
**Spec (Lead Acid charger)**

Item		WP1200-296360	WP1200-444270	WP 1200-592200	WP1200-740160	WP1200-888130	
<b>Output</b>	Charge Voltage	29.6V±1%	44.4V±1%	59.2V±1%	74.0V±1%	88.8V±1%	
	Charger Voltage range	20.0-29.6V	30.0-44.4V	40.0-59.2V	50.0-74.0V	60.0-88.8V	
	Charge current	27.6V±1%	41.4V±1%	55.2V±1%	69.0V±1%	82.8V±1%	
	Pre-charge current	36.0A±10%	27.0A±10%	20.0A±10%	16.0A±10%	13.0A±10%	
	End Charge	≤7.2A ±20%	≤5.4A ±20%	≤4.0A ±20%	≤3.2A ±20%	≤2.6A ±20%	
	Rated Output power	1065.6W	1198.8W	1184W	1184W	1154.4W	
	Fit battery capacity (Note 3)	> 200Ah	>150Ah	100 - 200Ah	80 - 150Ah	60 - 130Ah	
	Battery leakage current (typical)	≤1mA					
<b>Indication</b>	LED	Red light charging, green light fully charged or standby					
<b>Input</b>	Rated input voltage	100 - 240VAC 50 / 60Hz					
	Input voltage range (Note 4)	90 - 264VAC					
	Power Factor	PF>0.96 @ Full load					
	Input Current	14A@100VAC					
	Impulse current	cold start 75A @230VAC					
	standby power	<6W					
	efficiency	92%	92%	93%	93%	93%	
<b>Protection</b>	Short circuit protection (Note 5)	Internal relay closed					
	Output overvoltage protection	>15.5V*N					
	reverse polarity protection	Internal relay closed					
	Over Temperature Protection	Turn off the output and automatically recover after the temperature is normal					
<b>Environment</b>	operation temperature	-10 - +40°C (Reference Derating Curve)					
	Working humidity	0 - 90% RH					
	Storage temperature and humidity	-40 - +70°C, 0 - 95% RH					
	Cooling method	Fan cool					
	Anti vibration	10 - 50Hz, 2G 10min. 1cycle, 60min. each along X, Y, Z axes					
<b>Safety&amp;Electromagnetic Compatibility (Note 6)</b>	Maximum temperature rise	< 30°C (Surface)					
	Isolation withstand voltage	i/p to o/p: 3000V (1 min)					
	safety standards	IEC62368					
	EMC interference	Item	Standard			Degree	
		conduct	EN55032 FCC PART15			Class B	
		radiation	EN55032 FCC PART15			Class B	
		harmonic current	EN61000-3-2			.....	
	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						
<b>Other</b>	mean time between failures	30000H					
	Size	288*168*89mm (L*W*H)					
	Weight	4300g					
<b>Note</b>	<p>1. To modify different battery specifications and parameters, please contact the battery supplier for details.</p> <p>2. Parameters not specifically mentioned are measured at 230VAC input, rated load, and ambient temperature of 25 °C.</p> <p>3. This is the range recommended by Gu Run. For maximum charging current, please consult the battery supplier.</p> <p>4. Derating may be required under low input voltage, please refer to the derating curve for details.</p> <p>5. This protection mechanism is specified for situations where a short circuit occurs after the charger is connected.</p> <p>1.6. The battery charger is considered as an independent device, but the final device still needs to reconfirm that the entire system complies with EMC directives.</p>						

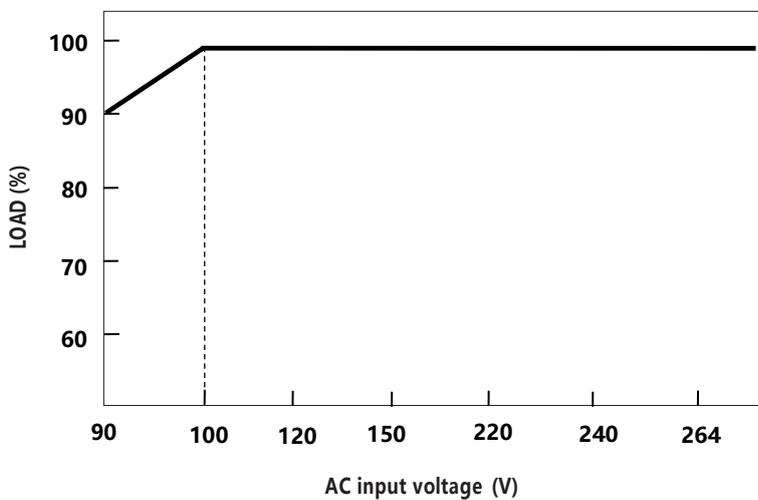
■ Principle block diagram



■ Temperature Derating Curve

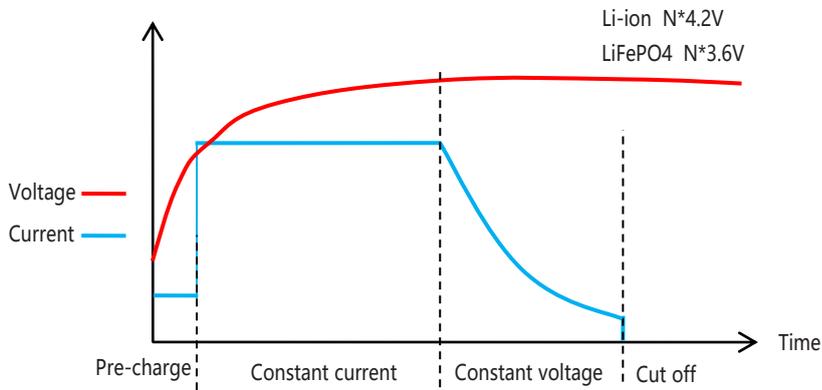


■ Voltage Derating Curve

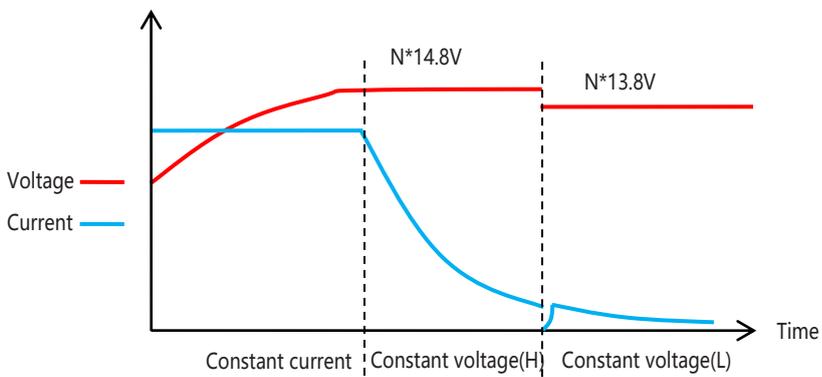


**1. Charge curve**

© 4-stage charging (lithium battery)



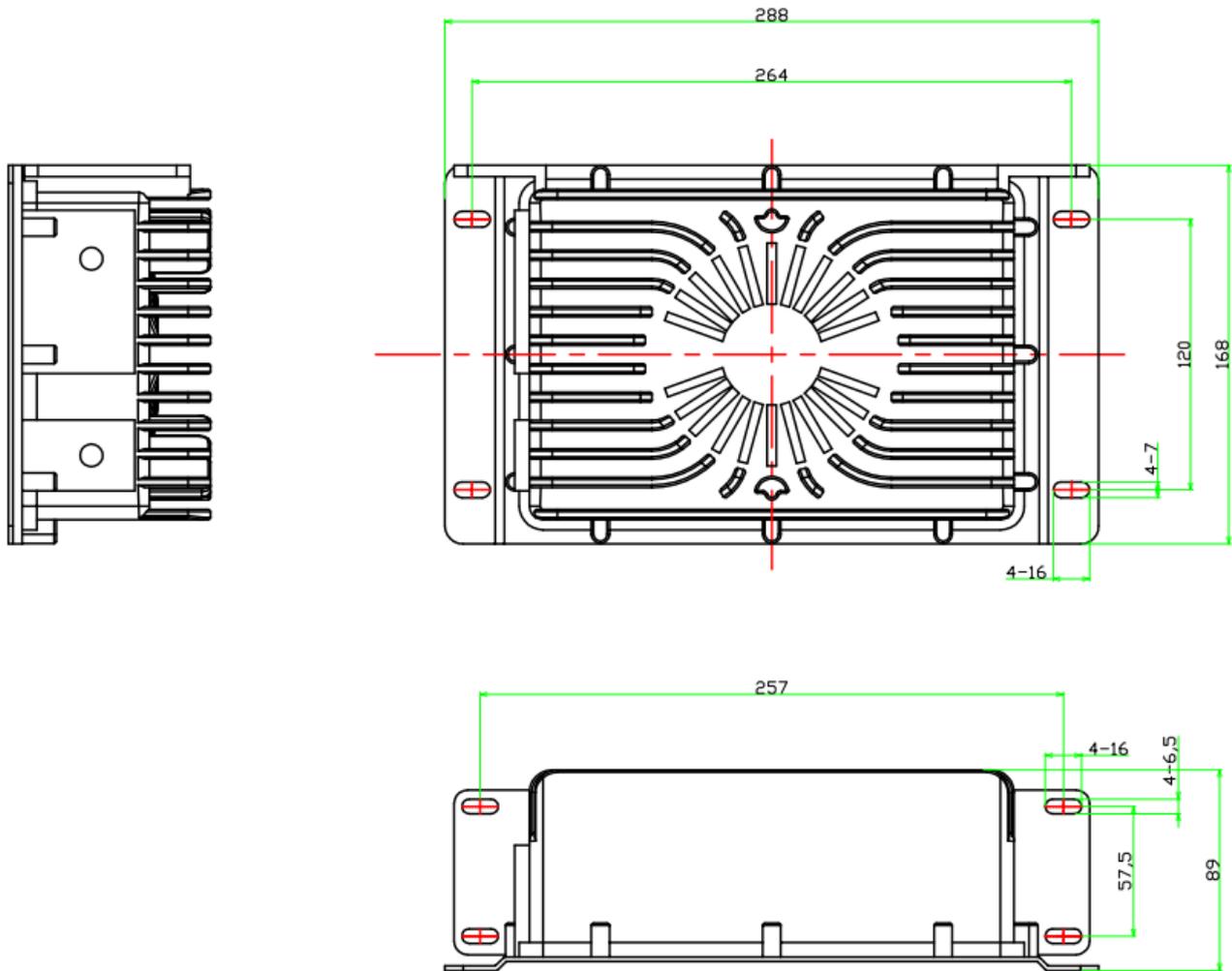
© 3-stage charging curve (lead-acid)



■ Size

1200W Intelligent waterproof charger

# WP1200 series



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