

# 12/24V 40A Battery Charger Specification



Input	
Input Voltage	180-280VAC full performance
	90-180VAC automatically derate to 50% of full load current
Frequency	40Hz to 70Hz
Nominal Input Current at Rated Output	<9Aac
Voltage Measurement Accuracy	±8Vac
Frequency Measurement Accuracy	±1Hz
Output	
Nominal Voltage	12/24Vdc manual adjustable
Output Current	Input voltage 180-280V, output current 40A for 12V mode, output current 20A for 24V mode
	Input voltage 90-180V, output current 20A for 12V mode, output current 10A for 24V mode
Rated Output Current	Manual adjustable
Current Accuracy	± 6% of full rated output current @25°C, for target currents across the range from 10% rated output (for absorption exit criteria accuracy) to the current limit setpoint.
Load Regulation	1.50%
Current Limit	40-44Amp
Dead-Battery Charging	8-14.9Vdc at 100% of rated output current, 8-29.8Vdc at 100% of rated output current
Selectable Battery Type	Flooded Lead-Acid, Gel, AGM, manual adjustable
Parallel Outputs	Maximum two charger units connection in parallel
Efficiency	80%
Protection	
Input Over Voltage	Unit must be safe for input voltage up to 300VacRMS (and up to 430Vpeak), need not be operating. Above this level the unit may be damaged.
Reverse Battery Polarity Protection	Non-destructive reverse battery polarity protection with fuses. Unit shall not sustain damage and shall meet all specifications after fuse replacement.
Input Under-voltage	Unit must not be damaged for all input voltages from 0-300Vac. Shutdown or input current limit or other means may be applied when input voltage is out of normal operating range.
Output over voltage 12/24V mode	Unit will shut down if $V_{charging} > V_{charging} (target) + 1.0Vdc$ for more than 2 seconds; unit will restart when voltage $\leq V_{charging} (target)$ for more than 2 seconds.
	For battery OVP the unit will restart in the same stage.
	Unit will shut down if $V_{charging} > V_{charging} (target) + 1.5Vdc$ for more than 2 seconds; unit will restart when voltage $\leq V_{charging} (target)$ for more than 2 seconds.
	For battery OVP the unit will restart in the same stage.
Charger over temperature protection	The internal temperatures of the charger will be measured by NTC. Based on these measurements, unit will shut down if the temperature exceeds 60°C. Unit will restart when environment temperature cools to 55 °C.
Environmental	
Operation temperature	Nominal ambient temperature: 25°C
	Operating ambient temperature range: -10°C to 60°C
	Full performance: -10°C to +40°C
	Derated mode: +40°C to +60°C
	Automatically shut down when over 60 °C
Relative humidity	5~95% without condensation
Noise	Unit requirements: below 50dB (A) measured at 1 m distance with fan full working.
Storage Conditions Temperature	-20°C to +80°C
Cooling	Fan Cooling with Smart fan control
Safety	CE
Mechanical	
Dimension (D x W x H) mm	224 x 255 x 80
Unit Weight	2.7 kg



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