

Description

12V 30A/50A DC-DC chargers efficiently charge house batteries from both solar panels and vehicle starter batteries.

Multiple built-in protections and intelligent charging logic support safe, reliable operation. Optional remote monitoring and controls via the Renogy App support RVs, overland vehicles, marine applications, and other mobile power systems.

Key Features

High-Efficiency MPPT Charging

Adapts to changing solar conditions and ensures stable performance in high temperatures and low light.

50V Max Input & Flexible Panel Support

Compatible with various solar panel configurations.

Reverse Charging Support

Enables reverse charging to the vehicle starter battery to maintain stable system operation.

Real-Time Monitoring via Renogy App

Pair with BT-2 Bluetooth module for live system data.

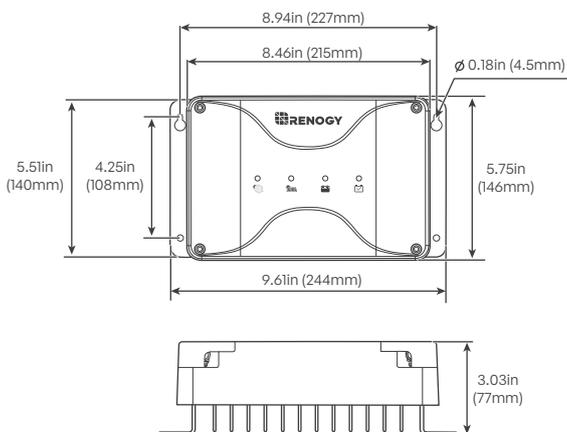
Natural Cooling & Safe Operation

Supports full-load operation up to 45°C with multiple protections including overcharge, overcurrent, short circuit, overheat, reverse current, and ANL fuse.

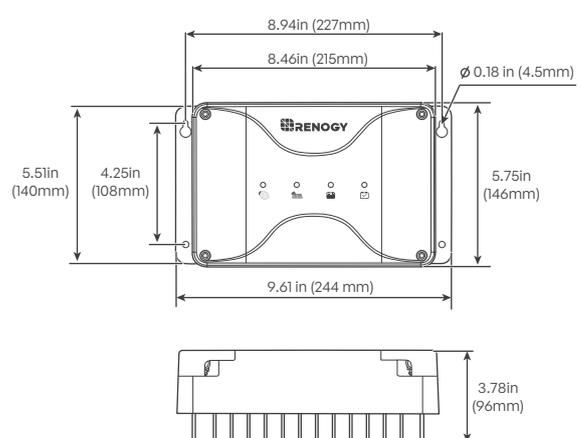


Product Dimensions

Renogy 12V 30A Dual Input DC-DC On-Board Battery Charger with MPPT (RBC30D1S)



Renogy 12V 50A Dual Input DC-DC On-Board Battery Charger with MPPT (RBC50D1S)



Technical Specifications

Electrical Specifications

Model	RBC30D1S	RBC50D1S
System Voltage	12VDC	12VDC
Battery Voltage Range	9-16VDC	9-16VDC
Maximum Charging Current	30A	50A
Battery Types	SLA, Gel, FLD, Li, User-Defined	SLA, Gel, FLD, Li, User-Defined
Charging Efficiency	Up to 97%	Up to 97%
Maximum Solar Input Voltage	30V	50V
Maximum Solar Input Power	400W	660W
Alternator Input Voltage	Traditional Alternator: 13.2-16VDC Smart Alternator (Euro 6): 12-16VDC	Traditional Alternator: 13.2-16VDC Smart Alternator (Euro 6): 12-16VDC
Maximum Alternator Input Power	400W	660W
Temperature Compensation	-3mV / °C / 2V	-3mV / °C / 2V
Self-Consumption	<30mA	<30mA

Mechanical Specifications

Grounding	Common Negative	Common Negative
Terminal Size	M8 x 1.25 - 10mm	M8 x 1.25 - 10mm
Terminal Range	8AWG-4AWG	8AWG-4AWG
Operating Temperature Range	-31°F to 149°F / -35°C to 65°C	-31°F to 149°F / -35°C to 65°C
Storage Temperature Range	-40°F to 176°F / -40°C to 80°C	-40°F to 176°F / -40°C to 80°C
Operating Humidity	0%-95%, No Condensation	0%-95%, No Condensation
IP Rating	IP32	IP32
Communication Protocol	RS485	RS485
Dimensions	9.61 x 5.75 x 3.03in / 244 x 146 x 77mm	9.61 x 5.75 x 3.78in / 244 x 146 x 96mm
Weight	3.11 lbs / 1.41kg	4.10 lbs / 1.86kg
Certifications	CE, UKCA, UL, FCC, CSA, RCM	CE, UKCA, UL, FCC, CSA, RCM
Warranty	2-Year	2-Year

Package Contents

Battery Temperature Sensor	Yes (x1)	Yes (x1)
Battery Voltage Sensor	Yes (x1)	Yes (x1)
IGN Signal Wire	Yes (x1)	Yes (x1)
User Manual	Yes (x1)	Yes (x1)

Recommended Accessories



BT-2 Bluetooth Module

Enables remote monitoring and control via Bluetooth with the Renogy App.



Renogy One Core (RSHGWSN-W02W)

An all-in-one solution for local/remote energy monitoring and analysis.

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These data sheets can be found in the downloads section of our website, www.renogy.com.