

3. Introduction

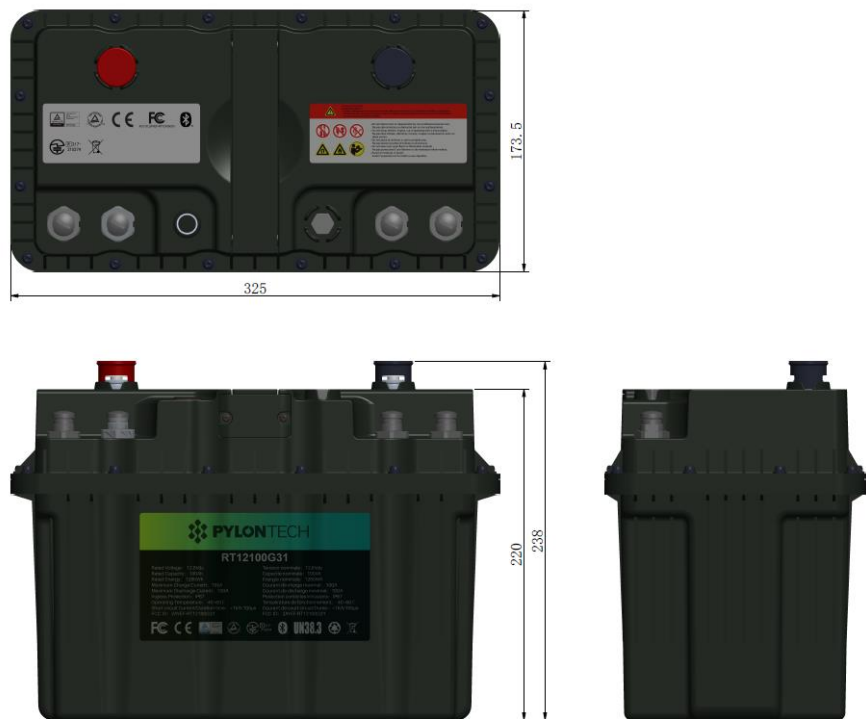
RT12100G31 is a lithium iron phosphate battery module used to replace the typical lead-acid battery. The battery can be charged by solar power, diesel generator, and utility power via relevant AC/DC converter. The battery can be used for energy storage and providing back-up power for typical electrical appliances. Due to the long life and high energy density of lithium batteries, there is a broad market prospect to replace lead-acid batteries.

3.1 Features

- 1) It is important and necessary to read the user manual carefully (in the accessories) before installing or using battery. Failure to do so or to follow any of the instructions or warnings in this document can result in electrical shock, serious injury, or death, or can damage battery, potentially rendering it inoperable;
- 2) If the battery is stored for long time, it is required to charge them every six months, and the SOC should be no less than 90%;
- 3) Battery needs to be recharged within 12 hours, after fully discharged;
- 4) Do not install the product in outdoor environment, or an environment out of the operation temperature or humidity range listed in manual;
- 5) Do not expose cable outside;
- 6) Do not connect power terminal reversely;
- 7) All the battery terminals must be disconnected for maintenance;
- 8) Please contact the supplier within 24 hours if there is something abnormal;
- 9) Do not use cleaning solvents to clean battery;
- 10) Do not expose battery to flammable or harsh chemicals or vapors;
- 11) Do not paint any part of battery, include any internal or external components;
- 12) Do not connect battery with PV solar wiring directly;
- 13) The warranty claims are excluded for direct or indirect damage due to items above;
- 14) Any foreign object is prohibited to insert into any part of battery.

3.2 Specification

RT12100G31 Battery Dimension



Basic Parameters		Value
Nominal Voltage (V)		12.8
Nominal Capacity (Ah)		100
Dimension (mm)		325(L)*173.5(W)*226(H)
Weight (Kg)		12±0.2
Discharge Voltage Range (Vdc)		10.8~14.4
Recommended Charge Voltage (Vdc)		14~14.4
Recommend Charge/Discharge Current (A)		50
Max. Continue Charge/Discharge Current (A)		100
Peak Discharge Current (A)		200@30sec
Communication	CAN	500Kbps
	RS485	default for console, 115200bps
	Bluetooth	BLE5.0
	Dry Contact	2 inputs, 2 outputs
Maximum series-parallel configuration		4S4P
Maximum number of battery modules supported(pcs)		16
Ambient Temperature		-40°C ~ 60°C*
IP rating		IP67
Short-circuit Current/Duration time		<1KA/100uS
Humidity		5 ~ 95%(RH) No Condensation
Altitude(m)		<4000
Certification		IEC/ CE /FCC/ROHS/Telec /UN38.3
Design life		10+yrs
Cycle Life		>4,500 25°C
Reference to standards		UL1973, IEC62619, FCC, CE, Bluetooth SIG, Telec

* Charge is available between 0°C ~ 60°C; Discharge is available between -20°C ~ 60°C; Between -40°C ~ -20°C, heating film can operate to heat up the module via external charger.