ICR Series

Inverter/charger

Overview

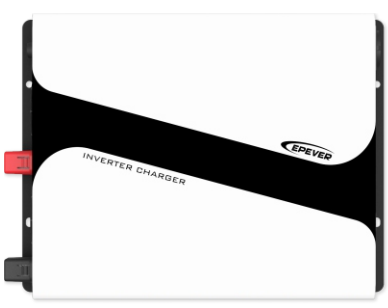
The ICR series inverter/charger is a next-generation integrated power supply specifically engineered for RV systems. It combines three core functions in one unit: shore power charging, shore AC pass-through (bypass mode), and independent inverter output. It supports adjustable charging current and load management based on vehicle usage and system configurations, featuring a compact design, strong load capability, and intelligent control.The AC-DC charger adopts fully digital PFC with dual voltage/current closed-loop control(PF ≈ 1), while the DC-AC inverter employs digital SPWM to deliver pure sine wave AC output.

For system integration, it offers three optional communication interface combinations: 2×RS485, RS485+CAN (RV-C), and RS485+LIN (CI-BUS). It also features an isolated RS485 interface and short-circuit protection for improved system reliability. Optional 4G/WiFi modules enable remote monitoring, and the communication port can be enabled or disabled as needed.

It is suitable for RVs and various AC loads, including appliances, power tools, industrial equipment, and A/V devices.

Features

- PFC technology: Less reactive power; Reduced grid demand
- Compatible with multiple generator types
- Battery compatibility: Adjustable charge/discharge current
- Extend battery life: Low power consumption and LVD (Low Voltage Disconnect)
- RS485 Communication: Optional Bluetooth, WiFi, or 4G modules
- Communication interface options:
  - 2×RS485
  - RS485 + CAN (RV-C)
  - RS485 + LIN (CI-BUS)



Technical Specifications

Model	ICR1012	ICR2012	ICR3012
Battery (DC)			
Voltage Range	10.8V–16V		
Rated Voltage	12V		
Maximum Charging Current	50A	100A	150A
Utility Input			
Rated Input Power (Charging + Bypass)	1,500W	3,000W	4,500W
Rated Input Voltage	230VAC		
Input Voltage Range	190–265VAC		
Input Frequency Range	45–65Hz		
Inverter Output			
Rated Output Power	1,000W	2,000W	3,000W
Transient Surge Output Power	2*Rated output power (5S)		
Output Voltage Level	230VAC ± 3%		
Output Voltage Waveform	Pure Sine Wave		
Output Frequency Level	50Hz		
THDu	< 3%		
Switch Time	< 10ms		
Environment Parameters			
Operating Temperature	-20°C to +65°C(1)		
Storage Temperature	-25°C to +70°C		
Relative Humidity	< 95% (N.C.)		
Altitude	4,000m (> 2,000m derating)(2)		
Ingress Protection	IP20		
Mechanical Parameters			
Dimensions (L × W × H)(mm)	307 × 365 × 92	319 × 420 × 92	
Weight(kg)	6.5	8.1	8.6
Others			
No-load Loss	< 16W		
Static Loss	< 6W		
Fast-charging Type-C	5/9/12/15VDC-3A, 20V-3.25A, MAX 65W		
Certifications – EMC	IEC 61000-6-1, IEC 61000-6-3; EN IEC 61000-6-1, EN IEC 61000-6-3	IEC 61000-6-2, IEC 61000-6-4, IEC 61000-3-2, IEC 61000-3-3; EN IEC 61000-6-2, EN IEC 61000-6-4, EN IEC 61000-3-2; EN 61000-3-3	
Certifications – Safety Compliance	IEC 62109-1, IEC 62109-2; EN 62109-1, EN 62109-2		
Certifications – RoHS	IEC 62321-5, IEC 62321-7, IEC62321-12		

(1)When ambient temperature exceeds 50°C, output load power and grid charging power will decrease.

(2)Altitude derating: For every 1,000-meter increase in altitude above 2,000 meters, the load-carrying capacity decreases by 10%.