PowerSourcePure

Pure Sine Wave Inverter

12V: REINVPA6 / REINVPA10 / REINVPA20 / REINVPA30
24V: REINVPB10 / REINVPB20

FR Onduleur à onde sinusoïdale pure
DE Reiner Sinuswellen-Wechselrichter
IT Invertitore a onda sinusoidale pura
ES Convertidor de onda sinusoidal pura
PT Inversor de onda sinusoidal pura
DK Ægte sinus inverter
NL Zuivere sinusregelaar
SE Växelriktare med ren sinusvåg
FI Siniaaltoinvertteri
NO Ren sinusbølgeomformer
PL Falownik sinusoidalny
CZ Měnič Pure Sine Wave
RO Invertor de undă sinus pur
HU Inverter szabályos szinuszhullám kimenettel
UA Хвильовий перетворювач немодульованої синусоїди
RU Базовый инвертор синусоидального сигнала

Instructions

FR **Mode d'emploi**
DE **Bedienungsanleitung**
IT **Istruzioni**
ES **Instrucciones**
PT **Instruções**
DK **Instruktioner**
NL **Instructies**
SE **Instruktioner**
FI **Ohjeet**
NO **Instrukser**
PL **Instrukcje**
CZ **Pokyny**
RO **Instrucțiuni**
HU **Útmutató**
UA **Інструкції**
RU **Инструкции**

www.ringautomotive.com

1. Contents

Inverter

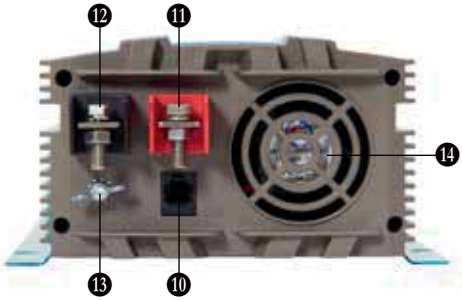
Connecting cables

Protective covers
(1000, 2000, 3000W models only)

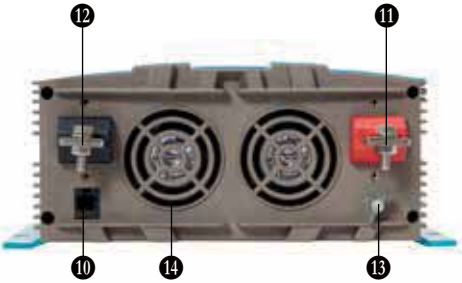
Battery clamps

2. Features

600W Model



1000/2000W Models



❶ - Mains 230V AC outlets(s)
❷ - Power on/off switch
❸ - Power indicator
❹ - Over load indicator
❺ - Over temperature indicator
❻ - LCD display*
❼ - Comms port (RJ-11)
❽ - USB port (2.1A)
❾ - Display port (RJ-11)**
❿ - Sensor port (RJ-11)
⓫ - Battery positive(+)
⓬ - Battery negative(-)
⓭ - Earth connection
⓮ - Cooling fan(s)

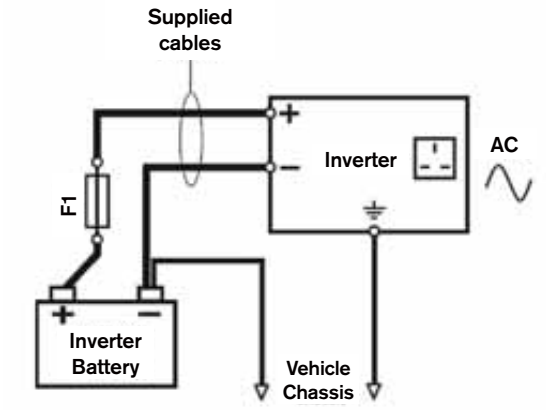
*Only fitted on 1000/2000W models
**Display port is behind LCD display on 1000/2000/3000W models

3. Safety

- Installation should be carried out by a qualified electrician
- Do not expose the unit to moisture or flammable materials
- Do not remove the unit cover, dangerous voltages are present

4. Installation & Setup

1. Ensure that the inverter power on/off switch is in the OFF (O) position.
2. To protect inverter terminals against short circuit, protective covers should be fitted where provided.
3. Attach the black (-) cable to the black (-) terminal on the rear face of the inverter and to the black (-) terminal on the battery
4. Attach the red (+) cable to the red (+) terminal on the rear face of the inverter and to the red (+) terminal on the battery
5. To further protect against short circuit, it is recommended an in-line fuse (F1) be fitted near the positive battery post.



5. Operation

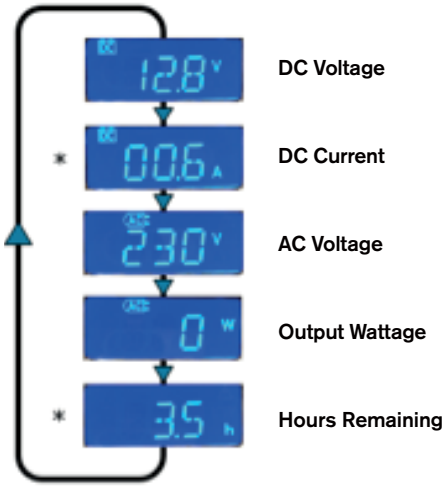
1. Ensure that the inverter power on/off switch is in the OFF (0) position.
2. Plug the appliance into the AC output socket on the inverter, ensuring it does not exceed the maximum output power of the inverter
3. Turn the power on/off switch to the ON (I) position.
4. The Power indicator will illuminate green and mains power will be available from the AC output socket(s). On models fitted with a display the LCD screen will also illuminate.

6. LCD Display & Indicators

Where fitted the LCD display provides additional information to help monitor and manage power from the inverter.

Information Mode

Various information modes are available by pressing ▲▼ buttons to move forward or backwards through the screens.



DC Voltage	Input voltage available from the battery supply.
DC Current	Input current being used from the battery supply in order to power the load. *The optional **Current Sensor** must be fitted to enable measurement of input current.
AC Voltage	Output voltage available from the AC outlets.
Output Wattage	Output power being consumed by the connected loads.
Hours Remaining	An estimate of time remaining before the battery will be depleted based on the current load. *The optional **Current Sensor** must be fitted to enable measurement of hours remaining.

Setup Mode

The inverter can be configured by entering the setup mode

To enter Setup Mode press & hold ↵ key

Press ▲▼ keys to select item then press ↵ , chosen setting will then flash

Adjust setting using ▲▼ then press ↵ to set

Press and hold ↵ key to exit back to **Information Mode**

	Setting	Default
Output Voltage	200/220/230/240V	230V
Last Error Code	N/A	N/A
Battery Size	90 – 540Ah (in 30Ah steps)	90Ah
Power Saving Mode	ON/OFF	ON
Low Voltage Cut-off	9-5 – 11.0V (in 0.5V steps)	10.0V
Output Frequency	50/60Hz	50Hz

Output Voltage	Sets the AC output voltage. Only change if the application requires a different voltage for optimum performance
Last Error Code	Allows the last error code to be viewed
Battery Size	Sets the Ah rating of the battery supplying the inverter. The value is used when calculating input current and hours remaining in conjunction with the Current Sensor
Power Saving Mode	If the inverter does not detect a load for 10 minutes it will enter a sleep mode to reduce drain on the battery. In this mode the power indicator will flash green
Low Voltage Cut-Off	Sets the voltage at which the inverter will switch off should the input voltage become too low
Output Frequency	Sets the output frequency of the inverter. Only change if the application requires a different frequency for optimum performance

Indicator & Error modes

Power	Illuminates green to show the unit is switched on and power is available from the AC output socket(s)
Overload	Illuminates red if the units has been overloaded due to excessive current or a short circuit
Over Temperature	Illuminates yellow if the unit has overheated
Audible Alarm	An alarm sound will be heard if the unit has switched off due to a fault

Error code	Description	LEDs	Inverter Status	Action
–	Normal operation		ON	None
	Battery low voltage warning		ON	Check for low battery voltage Check cable connections are not loose Reduce load to extend battery life
	Battery low voltage shutdown		OFF	Switch inverter off, recharge battery then switch back on
	Battery high voltage shutdown		OFF	Check battery voltage is correct for inverter model e.g. 24volt battery for a 24volt inverter
	Overload shutdown		OFF	Total load exceeded continuous rating Startup current exceeded surge rating Appliance short circuit fault
	Over temperature shutdown		OFF	Check for adequate ventilation around inverter Check inverter cooling fans are working
–	Power saving mode		SLEEP	None

6. Specifications

Part No.	REINVPA6	REINVPA10	REINVPB10	REINVPA20	REINVPB20	REINVPA30
Voltage	12V	12V	24V	12V	24V	12V
Cont Power Rating (up to 12 hrs)	600 watts	1000 watts		2000 watts		3000 watts
Peak Power Rating (up to 200ms)	1200 watts	2000 watts		4000 watts		6000 watts
Output Voltage	200/220/230/240V AC ±10%	200/220/230/240V AC ±10%		200/220/230/240V AC ±10%		200/220/230/240V AC ±10%
Output Frequency	50/60Hz	50/60Hz		50/60Hz		50/60Hz
Output Waveform	Pure Sine Wave	Pure Sine Wave		Pure Sine Wave		Pure Sine Wave
Input Voltage Range	9.5V – 16.5V (12V nom)	9.5V – 16.5V (12V nom)	19V – 33V (24V nom)	9.5V – 16.5V (12V nom)	19V – 33V (24V nom)	9.5V – 16.5V (12V nom)
Input Current	59amps (max)	98amps (max)	49amps (max)	196amps (max)	98amps (max)	294amps (max)
Efficiency @ 75% load	90%	90%		90%		90%
No Load Current	< 1.5amp	< 1.6amp	< 1.1amp	< 2.0amp	1.5amp	< 3.0amp
Power Saving Mode	Yes	Yes		Yes		Yes
Power Saving Mode Current	< 0.2amp	< 0.2amp		< 0.2amp		< 0.2amp
Low Battery Alarm	10.0V-11.5V ±0.5 volt	10.0V-11.5V ±0.5 volt	20.0V-23.0V ±0.5 volt	10.0V-11.5V ±0.5 volt	20.0V-23.0V ±0.5 volt	10.0V-11.5V ±0.5 volt
Low Battery Shutdown	9.5V-11.0V ±0.5 volt	9.5V-11.0V ±0.5 volt	19.0V-22.0V ±0.5 volt	9.5V-11.0V ±0.5 volt	19.0V-22.0V ±0.5 volt	9.5V-11.0V ±0.5 volt
Thermal Protection	60 ± 10°C	60 ± 10°C		60 ± 10°C		60 ± 10°C
USB Port	2.1amp	2.1amp		2.1amp		2.1amp
Display Panel Port	Yes	Yes		Yes		Yes
Current Sensor Port	Yes	Yes		Yes		Yes
Comms Port	Yes	Yes		Yes		Yes
Dimensions (LxWxH)	340 x 170 x 81.5mm	320 x 247 x 118.5mm		420 x 247 x 118.5mm		500 x 170 x 162mm
Weight	2.8kg	4.3kg		5.9kg		8.0kg
Optional Parts						
LCD Display & Frame Kit	RINVLCD	N/A		N/A		N/A
LCD Frame Kit	N/A	RINVFRM		RINVFRM		RINVFRM
Current Sensor Module	RINVCM	RINVCM		RINVCM		RINVCM