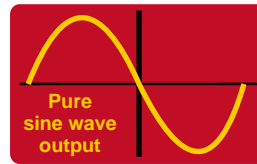
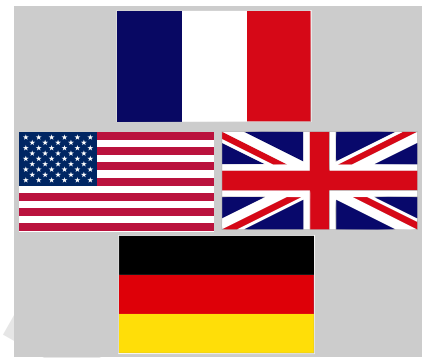


Pro Power SB (R)

Pure Sine Wave Inverters

12V / 24V DC >> 230V AC & 110V AC

English
French
Deutsch



Optional remote control with 10 meter cable

EN60950-1
EN55022: A2:2003 CLASS B
EN55024:2003
EN61000-3-2:2000
EN61000-3-3:1995/A1:2001
IEC61000-4-2:A2:2003
IEC61000-4-3:20002/A1:2002
IEC61000-4-4:2004
IEC61000-4-6:A1:2004
IEC61000-4-8:A1:2000

Option 1

Twin socket adjustable between Centre tapped earth and Neutral earth bonding

Option 2

Pre wired RCD adjustable between Centre tapped earth and Neutral earth bonding

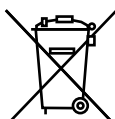


Please read these instructions before installation or use!

Sterling Power Products

Model	Centre tapped Earth	Neutral earth bonded	Remote	Weight	Size mm	Cables	Part number
12V 200 watt Twin Socket	interchangeable	between both	No	1.4 kg	1 mtr Cigarette plug 15 amp fuse		SIB12200
12V 300 watt Twin sockets	interchangeable	between both	Optional extra	1.4 kg	190x85x210L	1m DC 8 mm ring	SIB12300
12V 600 watt Twin sockets	interchangeable	between both	Optional extra	2.2 kg	190x85x250L	1m DC 8 mm ring	SIB12600
12V 1000 watt Twin sockets	interchangeable	between both	Optional extra	3.5 kg	190x85x300L	8 mm connection	SIB121000
12V 1600 watt Twin sockets	interchangeable	between both	Optional extra	3.6 kg	190x85x300L	8 mm connection	SIB121600
12V 2000 watt Twin sockets	interchangeable	between both	Optional extra	4.1 kg	190x85x300L	8 mm connection	SIB122000
24V 200 watt Twin Socket	interchangeable	between both	No	1.4 kg	1 mtr Cigarette plug 15 amp fuse		SIB24200
24V 300 watt Twin sockets	interchangeable	between both	Optional extra	1.4 kg	190x85x210L	1m DC 8 mm ring	SIB24300
24V 600 watt Twin sockets	interchangeable	between both	Optional extra	2.2 kg	190x85x250L	1m DC 8 mm ring	SIB24600
24V 1000 watt Twin sockets	interchangeable	between both	Optional extra	3.5 kg	190x85x300L	8 mm connection	SIB241000
24V 1600 watt Twin sockets	interchangeable	between both	Optional extra	3.6 kg	190x85x300L	8 mm connection	SIB241600
24V 2000 watt Twin sockets	interchangeable	between both	Optional extra	4.1 kg	190x85x300L	8 mm connection	SIB242000
12V 1000 watt with RCD	interchangeable	between both	Optional extra	3.5 kg	190x85x330L	8 mm connection	SIBR121000
12V 1600 watt with RCD	interchangeable	between both	Optional extra	3.6 kg	190x85x330L	8 mm connection	SIBR121600
12V 2000 watt with RCD	interchangeable	between both	Optional extra	4.1 kg	190x85x330L	8 mm connection	SIBR122000
24V 1000 watt with RCD	interchangeable	between both	Optional extra	3.5 kg	190x85x330L	8 mm connection	SIBR241000
24V 1600 watt with RCD	interchangeable	between both	Optional extra	3.6 kg	190x85x330L	8 mm connection	SIBR241600
24V 2000 watt with RCD	interchangeable	between both	Optional extra	4.1 kg	190x85x330L	8 mm connection	SIBR242000
Remote control (fits all the above models)					90 x 60 x 20	10 meter	SWR

Pre-fitted and wired RCD option with 1 meter AC cable



Sterling Power Products Ltd.
www.sterling-power.com
www.sterling-power-usa.com



Option 1

Standard inverter with dual sockets.
Earth adjustable between centre tapped earth (default) and Neutral earth bonded (simply add rear fuse for neutral earth bonding)

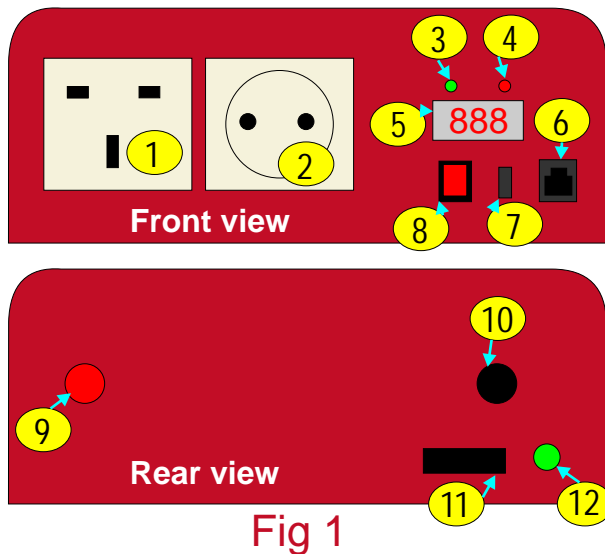


Fig 1

Option 2

Pre-fitted RCD Model.
A 30 mA RCD pre-installed in unit pre-wired for neutral earth bonding to operate RCD.

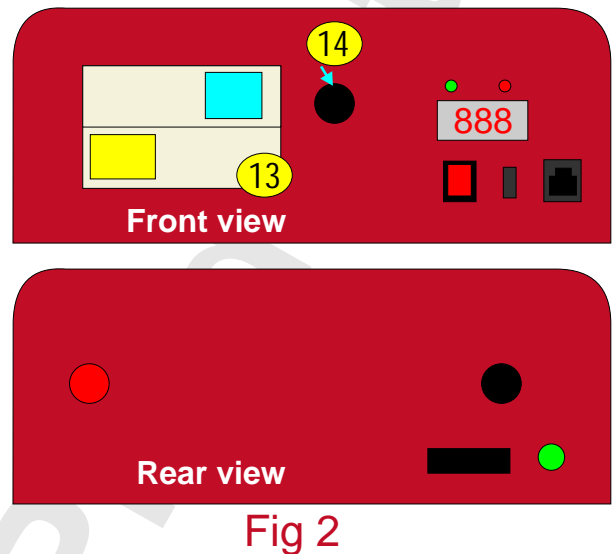


Fig 2

- 1) UK socket
- 2) Euro socket
- 3) Power LED Green, **on** when inverter is Live.
- 4) Fault LED Red, if **on** there is a fault.
- 5) LED display (-P- = Power, watts , not usable on low power loads, about +/- 10%, not very accurate just approx)
(-U- = Voltage (input DC) = +/- 0.2V)
Fault Display i.e. 05 then unit over heat, restart manually
- 6) Remote control (optional)

- 7) USB charger
- 8) On / off (remote control)
- 9) Positive cable or positive connector in larger units
- 10) Negative cable or negative connector in larger units
- 11) Link for converting to neutral earth bonding
- 12) Earth to chassis
- 13) Residual Current Breaker (earth trip)
- 14) Pre-wired AC output cable

Fault	LED light	Alarm	AC output	Reset required
Low input voltage Warning	Green on red off	Yes	Yes	alarm stop when voltage increase
Low input trip	Green on red on	Yes	No	Charge batteries then switch unit off and on to restart
High input voltage	Green on red on	No	No	Reduce input voltage then switch off and on again to reset
Overload Shutdown	Green on red on	No	No	Reduce load, switch off and on to restart
Over Temp shut	Green on red on	Yes	No	Unit must return to temp then switch off and on to restart
Short circuit	Green on red on	No	No	Remove short unit will be on

Specification	300 watt	600 watt	1000 watt	1600 watt	2000 watt
Input voltage	12V model (DC 11-15V)		24V model (DC 22-30V)		
Output voltage	230V +/- 10% or 110V +/- 10%				
Output frequency	230V version 50 Hz +/- 3 Hz		110V version 60 Hz +/- 3 Hz		
USB port	DC 5V, 500 mA				
Continuous power	200W	300W	600W	1000W	1600W
Peak Power	200W	300W	600W	1200W	2000W
Fuse Recommended	12v 15 A	12V 60A	12V 100A	12V 150A	12V 250A
use Sterling ANL fuse	24V 10 A	24V 50A	24V 70A	24V 125A	24V 150A
Digital display	Input voltage and unit power in watts				
Output wave form	Pure sine wave				
Distortion	< 5%				
Efficiency	> 85%				
No load Quiescent current	0.95A				
Low voltage alarm (nominal)	12V = 10.5 V		24V = 21 V		
Low voltage trip (nominal)	12V = 9.5 V		24V = 19 V		
High voltage trip (nominal)	12V = 15.5 V		24V = 31 V		
Fan Operation	the fan will come on in the event of power exceeding 30% of unit rating or the internal exceeds 60C				

Earthing options for Option 1 and 2

*RCD = Residual earth detector / Breaker / earth leak detector.

Inverters tend to come in 2 different versions.

Centre tapped Earth (fig 3) where, in effect, you have no real live and neutral but 2 lives and no neutral . You have 110V on either side of the earth terminal making 220V across the two pins (live to "neutral") but both pins are actually live. This is the most common and is default on this range of inverters products . If no RCD is used this would probably be the best / safety option. The worst case event you will only get a 110V shock, however, it is recommended that a RCD be used on all inverters but we recognise that a lot of people do not use RCDs* especially with smaller units, so, although illegal to do so, we can only give the best advice to our customer base who adopt poor practices. It is Sterling Power Products actual advice that all inverters should be used in conjunction with a RCD for ultimate safety and to comply with electrical installation codes. If you do fit a RCD (as you are suppose to) a centre tapped inverter would be your safest option, but it **will not operate a RCD safely** it is, therefore, vital that if you want to use a RCD in line with the AC output then the inverter unit must be converted from **Centre tapped earth to Neutral earth bonded**, failure to do so will render the RCD ineffective.

Centre tapped

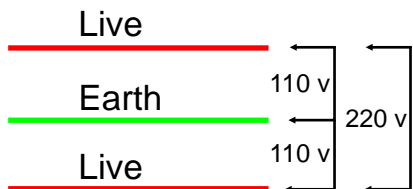


Fig 3

Neutral Earth Bonded

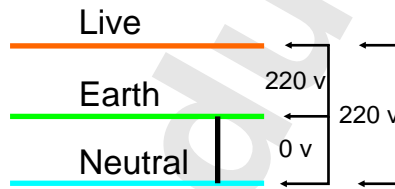


Fig 4

Neutral Earth bonded (fig 4), this is where the neutral is tied to the earth terminal giving 230V across the live and neutral (more in keeping with the actual mains configuration) but also 230V from live to earth. This allows a RCD to safely operate and confirm with hard wire installation requirements on vehicles and boats etc.

To convert Option 1 type unit from Centre tapped earth to Neutral earth bonded simply connect the enclosed link (small fuse) into position 11 on Fig 1.

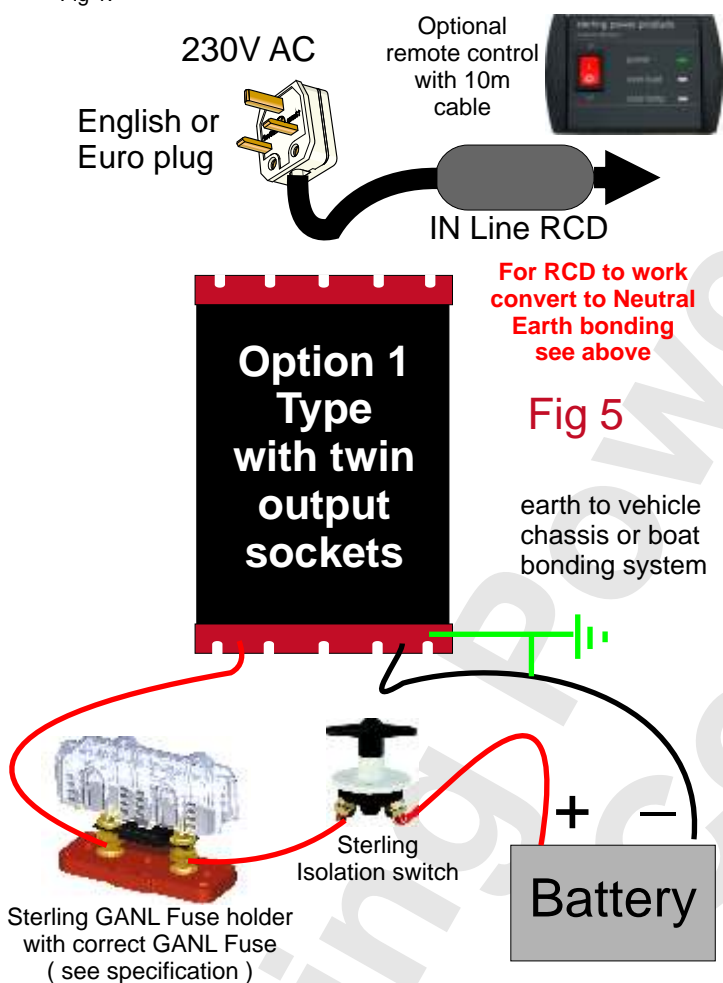


Fig 5

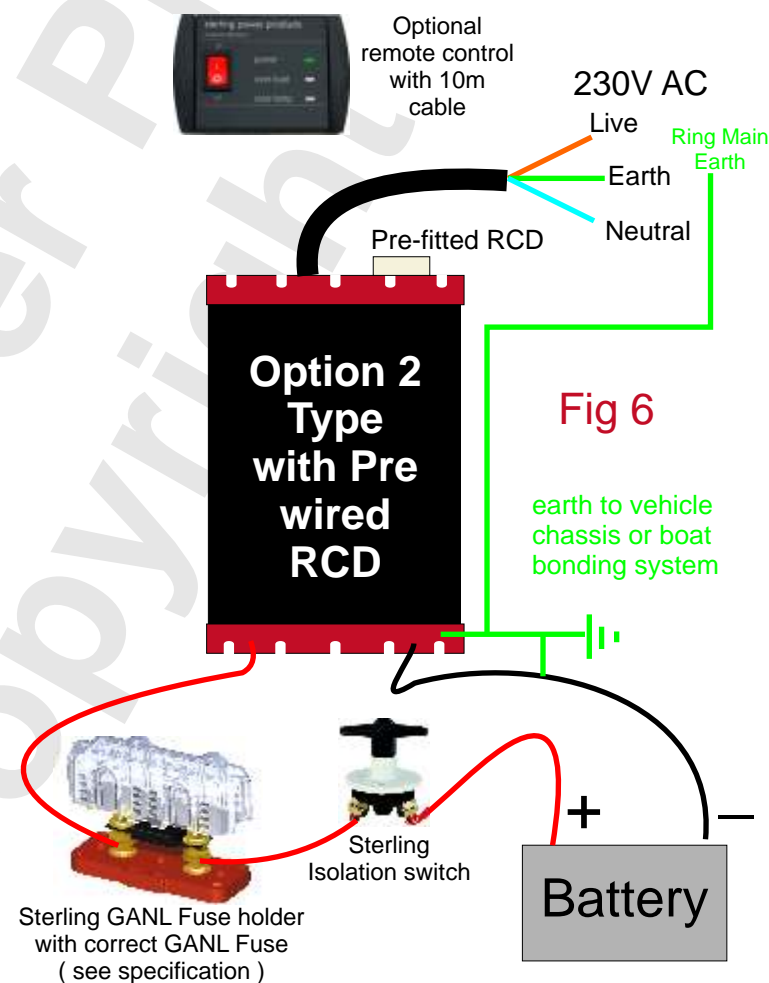


Fig 6

Installation for Option 1 twin socket product

All electrical installations should be carried out by a professional electrician, any doubts about installing this should be addressed to us as soon as possible. Do not install this unit if you are not competent to do so, high voltages are involved and have the potential to kill you.

Installing Option 1 twin front sockets

- 1) Fit in a cool dry well ventilated space as close to the battery bank as possible. Ensure that the inverter has the correct voltage for your boat or vehicle.
- 2) Ensure at least 2 of the 5 mounting supports are screwed to the bulkhead.
- 3) Where cable is not supplied (1000-2000 units) or cable requires extending ensure the cable is large enough to deal with the cable runs.
- 4) Install DC cable fuse into each installation fuse size per unit in specification.
- 5) **It is good safety sense to use in conjunction with a RCD. If a RCD is to be used then please convert this model to NEUTRAL Earth bonded**

by removing the small link cover at the rear of the unit under the inserting the small fuse link into the rear of the unit under the neg gable/connector, then insert the small fuse link and re cover, the unit is now Neutral earth bonded . (Position 11 in Fig 1). This will ensure the safe operation of the RCD.

- 6) Secure the unit in position, fit DC fuse and isolation switch as required in position as per Fig 5. fuse size table on page 4
- 7) **Do not reverse the DC cables.** Connect the red cable to the positive terminal and the black cable to the negative terminal of the battery, reverse polarity could destroy the unit and would not be covered under warranty.
- 8) **In the event of this unit being installed into a ring main or extension power circuit. The output voltage of this unit must never be on your AC system at the same time as the 230V external mains line.** If the output voltage is to be used on a ring mains system, a suitable two-pole crossover switch must be used. Failure to do this will result in the destruction of this unit even if switched off that the time and not covered under warranty
- 9) Only use products that are within the ability of the inverter to operate them, also, take into account overload requirements on things like fridge motor as

and electric grinders etc. This could require a 500-1000% power increase above the product rating i.e. a 80W fridge may require 800W to fire it up (a fridge is probably the hardest product to operate).

Remote control operation: Remove all AC power products from the output of the inverter. Switch the local on/off switch on the main inverter to the off position. Ensure the remote control switch is in the off position. Insert the remote control unit into the remote socket on the front of the inverter. The switch on the remote control is now the one in charge (keep the local control switch off).

Installation for option 2 RCD version

This is a more dangerous product to install due to the 230V flying lead and should be installed by a professional electrical engineer. **Make sure the product is switched off and the RCD is also switched off. Ensure the naked AC fly lead is connected first before the DC. If the DC is connected this lead will become live if not switched off, this is high voltage AC and could kill.**

- 1) Fit in a cool dry well ventilated space as close to the battery bank as possible. Ensure that the inverter has the correct voltage for your boat or vehicle.
- 2) Ensure at least 2 of the 5 mounting supports are screwed to the bulkhead.
- 3) Where cable is not supplied (1000-2000 units) or cable requires extending ensure the cable is large enough to deal with the cable runs.
- 4) Install DC cable fuse into each installation fuse size per unit in specification.
- 5) Secure the unit in position, fit fuse and isolation switch as required in position, as per Fig 5.
- 6) **Do not reverse the DC cables!** Connect the red cable to the positive

terminal and the black cable to the negative terminal of the battery. Reverse polarity could destroy the unit and would not be under warranty.

7) In the event of this unit being installed into a ring main or extension power circuit The output voltage of this unit must never be on your AC system at the same time as the 230V external mains line. If the output voltage is to be used on a ring mains system, a suitable two-pole crossover switch must be used. Failure to do this will result in the destruction of this unit even if switched off that the time and not covered under warranty.

8) Only use products that are within the ability of the inverter to operate them. Also, take into account overload requirements on things like fridge motor and electric grinders etc. This could require a 500-1000% power increase above the product rating, i.e. a 80W fridge may require 800W to fire it up (a fridge is probably the hardest product to operate).

9) **This unit comes standard as centre tapped, and must be converted to neutral earth bonding before installation** Ensure the Neutral bonding link is connected (small fuse) in position 11 in fig 1 (same position on Fig 2, remove the cover and insert the small fuse in that link, the unit is supplied without that link inserted. by inserting the link the unit becomes neutral earth bonded, essential for the operation of the RCD

Remote control installation and operation: Remove all AC power products from the output of the inverter. Switch the local on/off switch on the main inverter to the off position. Ensure the remote control switch is in the off position. Insert the remote control unit into the remote socket on the front of the inverter. The switch on the remote control is now the one in charge (keep the local control switch off). switch the unit on and off using the remote.

DC cables sizes, there is no fixed simple chart for this as length of cable run is a large part of the calculation. I would work on every 3 meter / 10 ft then x 2 the thickness.
By far the best advice is to keep DC runs as short as possible

Amps	AWG	mm dia	mm2
400	0000	11.6	106
320	000	10.4	85
285	00	9.2	66
250	0	8.2	52
200	1	7.3	42
180	2	6.5	34
150	3	5.8	27
135	4	5.2	21
120	5	4.6	16
100	6	4.1	13
90	7	3.6	10
70	8	3.3	8
60	9	2.9	6
50	10	2.5	5

AC cable chart		Max power (230V)	
Conductor size	Current	1/2 for 110V	
1.0 mm2	10	2400 watts	
1.25 mm2	13	3120 watts	
1.5 mm2	15	3600 watts	
2.5 mm2	20	4800 watts	
4.0 mm2	25	6000 watts	

In Line DC fuse
Fuse Recommended use Sterling ANL fuse & holder

300 watt	600 watt	1000 watt	1600 watt	2000 watt
12V 60A	12V 100A	12V 150A	12V 250A	12V 350A
24V 30A	24V 50A	24V 70A	24V 125A	12V 180A



12 v unit alarms and trips for 24 v x 2
High V trip = 15-16V
Low V alarm = 10.2-10.8V
Low V trip = 9.2-9.8V
230 V AC
50 Hz

Customer Service & Warranty

Your 100 % satisfaction is our goal. We realise that every customer and circumstance is unique. If you have a problem, question, or comment please do not hesitate to contact us. We welcome you to contact us even after the warranty and return time has passed.

Product Warranty:

Each product manufactured by Sterling Power comes with at least a 2 year limited factory warranty. Certain Products have a warranty period of time greater than 2 years. Each product is guaranteed against defects in material or workmanship from the date of purchase. At our discretion, we will repair or replace free of charge any defects in material or workmanship that fall within the warranty period of the Sterling Power product. The following conditions do apply:

- **The original receipt or proof of purchase must be submitted to claim warranty. If proof cannot be located a warranty is calculated from the date of manufacture.**
- **Our warranty covers manufacture and material defects. Damages caused by abuse, neglect, accident, alterations and improper use are not covered under our warranty.**
- **Warranty is null and void if damage occurs due to negligent repairs.**
- **Customer is responsible for inbound shipping costs of the product to Sterling Power either in the USA or England.**
- **Sterling Power will ship the repaired or warranty replacement product back to the purchaser at their cost.**

If your order was damaged in transit or arrives with an error, please contact us ASAP so we may take care of the matter promptly and at no expense to you. This only applies for shipping which was undertaken by

our company and does not apply for shipping organised by yourself. Please do not throw out any shipping or packaging materials.

All returns for any reason will require a proof of purchase with the purchase date. The proof of purchase must be sent with the returned shipment. If you have no proof of purchase call the vendor who supplied you and acquire the appropriate documentation.

To make a claim under warranty, call our customer care check telephone numbers on www.sterling-power.com or www.sterling-power-usa.com. We will make the best effort to repair or replace the product, if found to be defective within the terms of the warranty. Sterling Power will ship the repaired or warranty replacement product back to the purchaser, if purchased from us.

Please review the documentation included with your purchase. Our warranty only covers orders purchased from Sterling Power. We cannot accept warranty claims from any other Sterling Power distributor. Purchase or other acceptance of the product shall be on the condition and agreement that Sterling Power USA LLC and Sterling Power LTD shall not be liable for incidental or consequential damages of any kind. Some states may not allow the exclusion or limitation of consequential damages, so, the above limitations may not apply to you. Additionally, Sterling Power USA and Sterling Power LTD neither assumes nor authorizes any person for any obligation or liability in connection with the sale of this product. This warranty is made in lieu of all other obligations or liabilities. This warranty provides you specific legal rights and you may also have other rights, which vary from state to state. This warranty is in lieu of all other, expressed or implied.