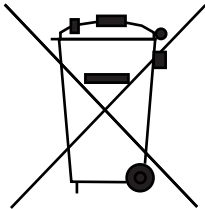




Global Operation

AQUANAUTIC Water proof range

Waterproof IP 68
Power Factor Corrected
20 amp Battery Charger-
One, Two & Three Bank Models



English
Deutsch

CE
RoHS
compliant

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Introduction Thank you from all of us at Sterling Power Products and congratulations on your recent purchase of the Aqua nautic On-board Marine Battery Charger.

For many years, Sterling Power Products has been a leading designer and manufacturer of marine battery chargers. We have expanded our offering to include our latest line of ProSport chargers. Designed for the sport fisherman and recreational boater, the ProSport series offers many features not seen in competitive chargers.

Please save and read this manual carefully and fully understand the safety instructions before installing your new Sterling ProSport battery charger.

General Safety Instructions

Before connecting your batteries or AC power, read all instructions and cautionary markings on the battery charger and batteries.

CAUTION: To reduce the risk of injury, charge only lead-acid type rechargeable batteries (open lead-acid, sealed lead-acid, gel cell and AGM). Other types of batteries may burst, causing personal injury. The ProSport is factory set for lead-acid batteries.

Use of attachments not recommended or sold by Sterling Power Products may result in a risk of fire, electrical shock or personal injury.

Do not operate the charger if it has received a sharp blow, direct hit of force, has been dropped or otherwise damaged in any way.

Do not disassemble the charger. Call the factory directly when service or repair is required. Incorrect assembly may result in risk of electrical shock or fire.

To reduce the risk of electrical shock, remove AC power from the charger prior to any maintenance or cleaning.

WARNING: RISK OF EXPLOSIVE GASES

Working in the vicinity of a lead-acid battery is dangerous. Batteries generate explosive gases during normal battery operation.

Personal Safety Precautions

To reduce the risk of battery explosion, follow these instructions and those published by the battery manufacturer, and of any equipment you intend to use in the vicinity of a battery. Review all cautionary markings and labels.

Someone should be within the range of your voice or close enough to come to your aid when working near a lead-acid battery.

Have plenty of water and soap nearby in case battery acid comes in contact with skin, clothes or eyes.

Wear complete eye protection and clothing protection. Avoid touching eyes while working with a battery.

If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters the eye(s), flood eye(s) with running cold water for at least 10 minutes and get medical attention immediately.

Never smoke or allow a spark or a flame in the vicinity of a battery or engine.

Be extra cautious to reduce the risk of dropping a metal tool onto a battery. It may spark or short-circuit the battery or other electrical parts that may cause explosion.

Remove all personal metal items such as rings, bracelets, necklaces, watches, and jewellery when working near a battery. A battery can produce a short circuit high enough to weld a ring or any metal, causing serious burns.

Use the unit for charging lead-acid batteries only. Do not use the battery charger to charge dry cell batteries that are commonly used with home appliances. These batteries may burst and cause injury to persons and property.

Never charge a frozen battery.

Safety Precautions Prior to Charging Batteries

If necessary to remove a battery from a boat to charge, always remove the grounded terminal from battery first. Make sure all accessories in the boat are off, as to not cause an arc.

Be sure the area around the charger and the batteries is well ventilated while the batteries are being charged. Gases can be forcefully blown away using a piece of cardboard or other nonmetallic material as a fan.

Clean battery terminals with full eye protection to prevent corrosion from coming in contact with eyes.

Add distilled water in each cell until electrolyte reaches levels specified by the battery manufacturer. This helps purge excessive gases from cells. Do not overfill. For batteries without caps, carefully follow the manufacturer's recharging instructions.

Study all manufacturer's specific precautions, such as removing or not removing cell caps while charging, in addition to rates of charge.

Extension cords should be industrial grade / heavy duty and grounded. Check extension cord before use for damage, bent prongs and cuts. Replace if damaged.

Never charge a frozen battery.

Always make your extension cord connection on the charger side first. After connecting the extension cord to the charger proceed to plug the extension cord to a nearby AC RCD-protected (ground fault circuit protected) outlet.

Always remove the extension cord from the AC outlet first when charging is completed, followed by unplugging the charger.

General Overview

The charger is a fully automatic, electronic multi-stage on-board marine battery charger. It is prewired for easy installation and is 100% waterproof for fresh and salt water applications.

The ProSport incorporates an extruded aluminium housing with plastic end caps. This design offers improved durability and heat transfer while comparing it to full plastic case competitive products. The ProSport offers multi-stage charging which includes a "float" maintenance mode that is safe for long and short term storage. ProSport can be left on indefinitely without harming or overcharging your batteries.

The DISTRIBUTED-ON-DEMAND™ multi-stage charging technology will automatically sense and distribute 100% of the available charging amp output, i.e. 8, 12 or 20 amps (model specific) to any one bank or combination of all banks. Each battery bank output is fully isolated.

Easy to view LED indicators will provide you with AC power on and charging status. The LED indicators can be seen from the front and the side of the charger when installed.

The charger is available in different models and can be used in 12, 24 and 36 volt configurations (model specific) without rewiring or switching. Just attach the DC output cable terminals as illustrated in the installation section of this manual.

With your Charger plugged in properly, it will automatically and fully charge your batteries while it conditions and extends the life of your batteries. When you are not at the boat you can leave your charger plugged in to reduce sulfate buildup allowing your batteries to be fully charged and maintained until your next boat trip.

Installation

All battery chargers are designed to be permanently mounted on-board and can be mounted with the extruded fins placed vertically or horizontally. Always mount your charger in a compartment area that can be properly ventilated during use.

Do not mix battery types on-board. All batteries should be of the same age and in good operating condition.

Do not make any electrical connections to the ProSport or to the batteries until the following steps are completed:

11 Easy-to-follow Installation Steps:

1. Select a mounting location that allows for free air ventilation with a minimum of 8 inches of clear, unobstructed space around and in front of the charger. Open all battery and engine compartments and ventilate for at least 15 minutes before starting the installation of the charger.
2. Confirm the selected mounting location allows for a minimum of 8 inches of free space around the front and the sides of the charger. Do not install the charger on carpeted, upholstered, vinyl or varnished surfaces. Be sure to place the charger in an accessible area where all indicators are viewable. Confirm all battery cables can reach each of the batteries.
3. Using the charger as a template use a small awl or screwdriver to mark the position of each mounting hole.
4. Using a 1/8" drill bit, drill pilot holes in the four marked locations as described in step 3. Apply a silicon sealer in each of the mounting locations to waterproof the screw holes.
5. Position the charger over the mounting holes and secure with a power screwdriver by installing 4 marine grade or stainless steel screws (mounting screws not included).
6. Prepare each battery in advance by cleaning each terminal post with a wire brush until a shiny surface is obtained.

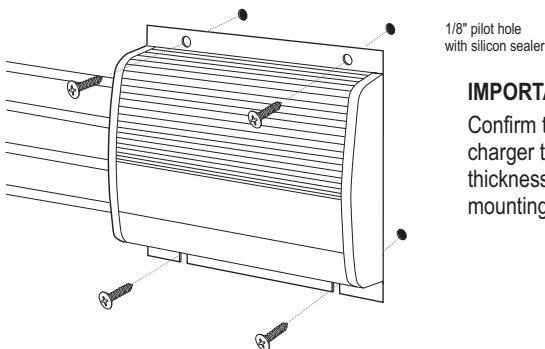
IMPORTANT NOTICE:

As you prepare to attach the positive (red) and negative (yellow or black wires) to the batteries there will be a brief low power spark that is generated as you make the connection. This is due to the high frequency capacitors taking a charger.

Make sure the black (or yellow) wires are connected as illustrated to the negative side of the battery and the red wires are connected to the positive side of the battery.

7. Run your cables free from sharp objects and hold each of them in place with cable ties. Coil excess cable, do not cut or shorten the length of the cables as there are in-line fuses located 4 inches from the end of each positive (red) cable. These fuses are in place to protect the charger and output cables in the event of a short or reverse polarity..
8. Connect the DC output cables as illustrated. Make sure the negative (black or yellow) wires are connected as illustrated to the negative side of the battery and the positive (red) wires are connected to the positive side of the battery.
9. Make sure all DC connections are tight and correct.
10. Locate the AC power cord in an open-air area of your boat at least 21 inches from the charger, batteries and fuel fill lines.
11. Connect a heavy duty extension cord to the charger first. After connecting the extension cord to the charger proceed to plug the extension cord to a nearby RCD-protected (ground fault circuit interrupt) outlet. Always remove the extension cord from the AC outlet first when charging is completed, followed by unplugging the charger.

You are now connected and charging your batteries. View the LED indicators. Assuming your batteries are discharged you should observe both the green "Power On" LED and the red "Charging" LED on, indicating charging mode is in process.



1/8" pilot hole
with silicon sealer

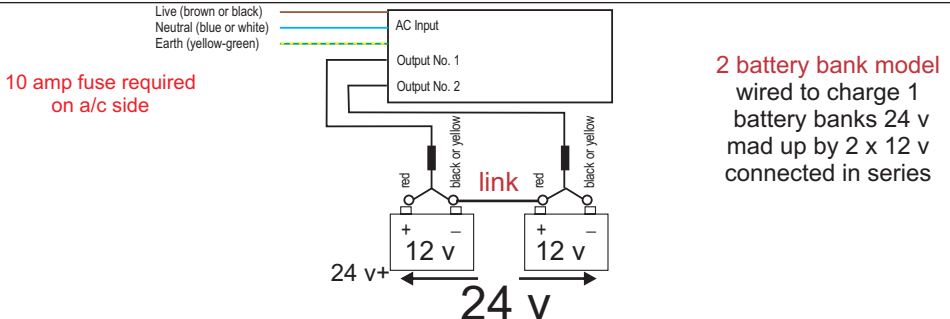
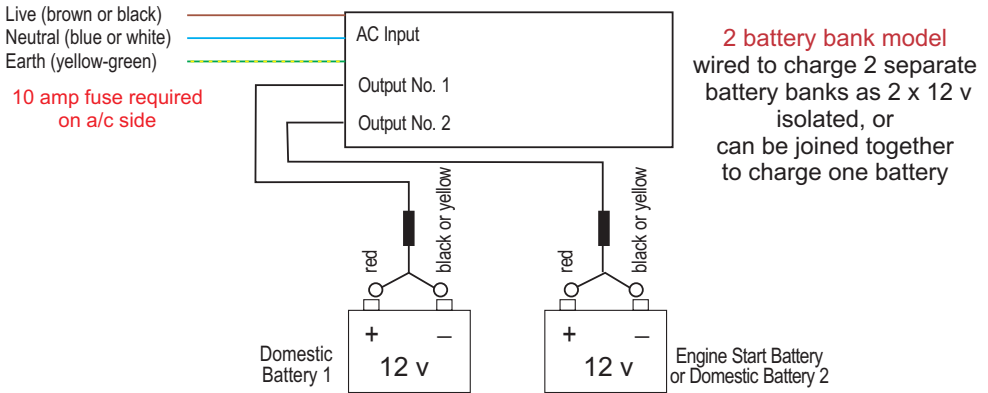
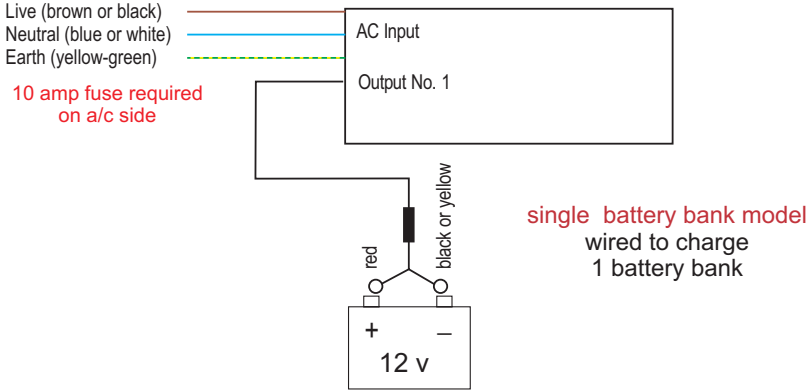
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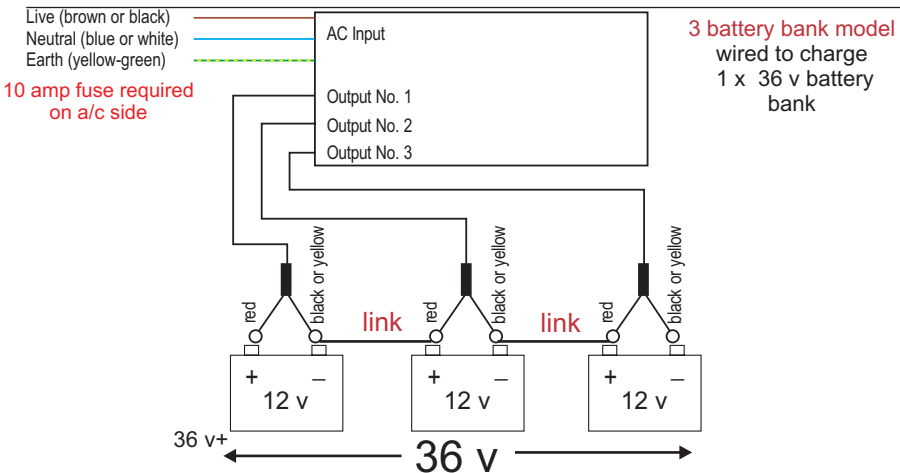
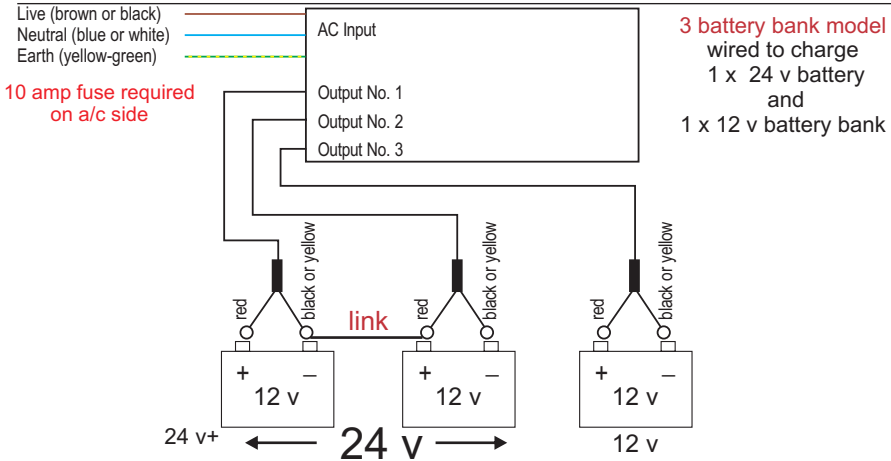
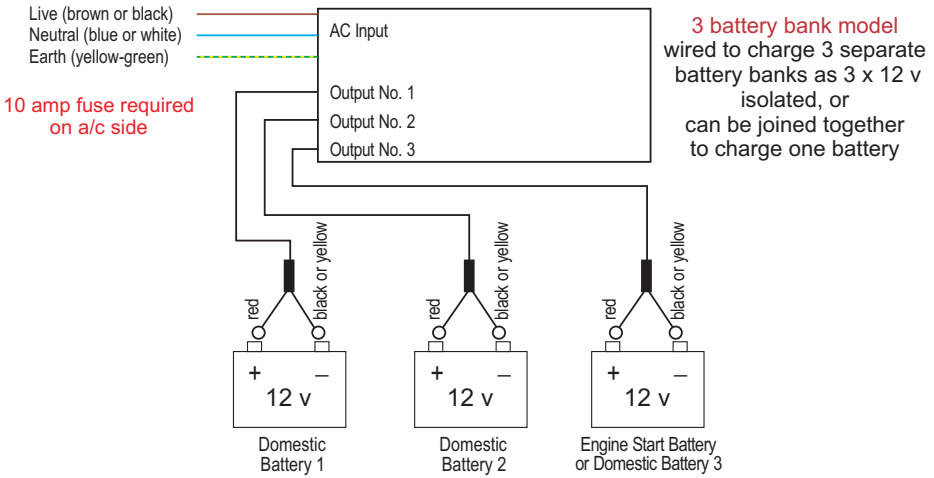
Confirm the surface you will be mounting the charger to is adequate in strength and thickness to hold the unit in place with the mounting screws you have selected.

Wiring Diagrams

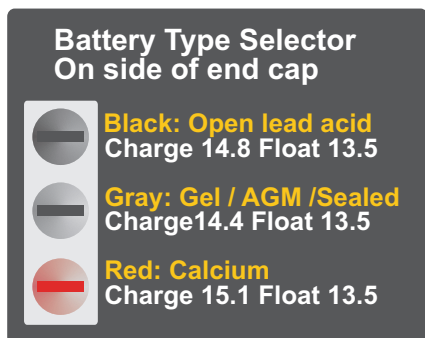
If only two batteries are used with a 3-bank charger, then connect the unused output cable to either one of the two batteries, as instructed in item 8 above.

Always connect each charger output to a single 12V battery even if the batteries are wired in series for 24V or 36V.





Battery type selector,



Simply unscrew the small plastic plug at the side of the case and insert one of the other plugs you require to obtain the correct voltage.

Battery types change so often and manufacturers have a tendency to up their charger voltages so often that we simply cannot keep up, we have labelled our charge curves in rough battery type, however there are battery types which require different voltages, for example some AGM companies are now saying they want 14.8 volts charge for their batteries, as such go by the voltage setting of the charger profiles and forget the battery types we recommend, at the end of the day whatever voltage your battery supplier has asked for the product should be set by voltage.

▶ Charging Batteries

The Sterling Aquanaut series is designed to charge, condition and maintain your batteries. Please follow these steps each time you use your charger.

1. Open all battery compartments and ventilate for at least 15 minutes before applying AC power to your charger. While charging your batteries make sure to keep your battery compartment open, allowing for free air ventilation.
2. Make sure all DC battery connections are tight and clean. Follow the battery manufacturer's recommendation for battery cell caps. Loosen caps if applicable.
3. Connect a heavy duty extension cord to the ProSport charger first. After connecting the extension cord to the charger proceed to plug the extension cord to a nearby RCD-protected AC power outlet.
4. Observe the on-board LED indicators for a solid green and red indication. This will tell you the batteries are in the charging process.
5. Charge your batteries until only the green LED indicator remains on. This indicates that the charging process is completed and your batteries are fully charged and are now being maintained in a gentle float / storage mode. (Recommended while your boat is not in use.) The unit can be left on in this mode indefinitely and will never overcharge your batteries.
6. When ready to use your boat, unplug the extension cord from the AC power outlet first, followed by unplugging the charger.

AC Power and Charging LED Status Indicators

The ProSport includes two LED indicators as shown below.

Blue "AC Power" LED indicator:

Green charge complete and charger on float.

Red "Charging" LED indicator, high charge rate on

Battery type selected LED, green = sealed lead acid, red = calcium, amber = open lead acid .



Multi-Stage Charging Overview

When the charger is turned on, the blue power indicator will turn on followed by the red charging LED indicator.

The multi-stage charger will provide the following:

Unit Charging

During this mode the ProSport will use its available charging amps (as controlled by temperature) until the battery voltage is raised to 14.4 - 15.1 depending on the voltage selected.

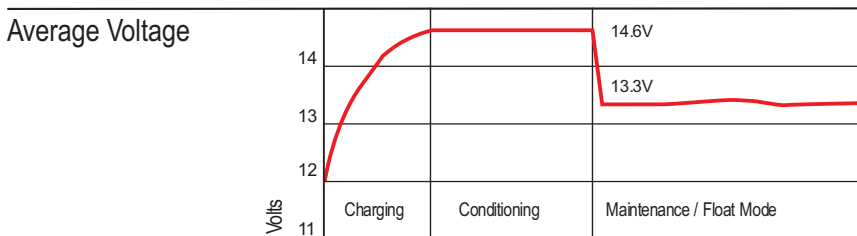
ProSport Conditioning

The unit will hold batteries at the high voltage to complete charging while conditioning batteries by desulfating each battery connected. Upon completion the ProSport will go into float mode. (green ready i.e.d.)

3. Float / Maintenance Mode

During this mode the green ready led will be on indicating that the charging process is over and that the charger is now maintaining your batteries on-board. Only the green LED will remain on, indicating "Power On / Float-Maintenance Mode".

This is a precision 13.5 volts (lead-acid factory setting) finishing voltage that maintains each battery, perfect for short or long storage periods and never overcharging your batteries (step down voltage regulation mode).



Owner's Periodic Maintenance Guide

Item: Battery Connections	
Process:	Clean and tighten all battery connections. Follow battery manufacturer's instructions for cleaning a battery. Clean all battery terminals with a wire brush where required and tighten all battery connections.
When:	Monthly

Item: Battery Electrolyte	
Process:	Per battery manufacturer's instructions monitor and maintain proper levels of distilled water in each battery.
When:	Monthly

Item: DC Output Wiring	
Process:	Visually inspect all wiring for cuts and abrasions. Contact Sterling Power Products if charger needs to be serviced with new wiring.
When:	Monthly

Item: AC Power Cord and Mounting Hardware Inspection	
Process:	Visually inspect the AC power cord. Confirm ground blade is present and plug blades are in good condition and not bent out of place. Check all mounting hardware to ensure there is no loose hardware. Tighten where required.
When:	Monthly

▶ Trouble Shooting Guide

No Blue LED Indicator

Check for loss of power at the AC outlet. Confirm RCD has not tripped. Check with a meter or AC test light that AC is present at the end of your extension cord.

Confirm all charger cables are installed with the correct polarity connections at each battery and that all connections are clean and tight.

With the AC power removed and the engine switched off, check the charge level of each battery with a DC meter or with the Sterling DC Voltage Probe & Diagnostics Tool. If there is no charge level indication for a battery, check each battery with a hydrometer to determine if it has one or more bad cells. (Batteries should always be replaced in sets and always the same type.)

If everything above checks out okay and you still don't get any output from the charger, contact Sterling Power Products for product service.

Battery is Not Charging, Red and Green Indicator is "on"

Confirm all charger cables are installed with the correct polarity connections at each battery, and that all connections are clean and tight. *Reverse polarity connections will blow output fuse, resulting in no output voltage.*

With the charger on, read DC voltage at each battery. If any of the readings are less than 13 volts, proceed with the following:

A. Disconnect AC power at the AC outlet.

B. Remove charger cables from each battery.

C. Reconnect AC power and read DC voltage across each output cable. If output voltage is approximately 13 volts, then the charger is okay and each battery should be tested with a hydrometer with the charger and the engine off to determine if one or more batteries have bad cells. (Batteries should always be replaced in sets and always the same type.)

D. If there is no output when trying to read DC voltage, check each output fuse and replace as needed.

If the DC voltage at each charger output is less than 13.0 volts, contact Sterling Power Products for product service.

▶ Important Notice: FCC Class A Part 15 Notification

Your battery charger has been designed and tested to comply with FCC Class A part 15. These regulations are to provide adequate protection against harmful interference while operated in a commercial application. If in a residential setting you are encountering interference with TV and radio reception, simply remove AC from the ProSport to confirm if your battery charger is causing interference. As an end user you can explore the following measures to minimise interference.

- 1) Choose a different AC circuit to power your ProSport charger.
- 2) Make sure all electrical appliances are properly grounded.
- 3) Re-position receiving aerial.

Specification
input voltage 90-250 v
power factor 0.88
Unit power consumption 500 watts
A/C fuse required 10 amps to cover 110 and 230 v operations

▶ Customer Service & Warranty

We are committed to customer satisfaction and value your business. If at any time during the warranty period you experience a Problem with your Sterling charger, simply check our phone number on www.sterling-power.com.

Limited Two-Year Factory Warranty

Each ProSport model is guaranteed against defects in material and workmanship to the original consumer in normal use for 2 years from the date of purchase. Sterling Power Products Ltd. will at its discretion repair or replace free of charge any defects in material or workmanship. The following conditions apply:

- ✎ Warranty is void if unauthorised repairs attempted.
- ✎ The customer is responsible for returning the product to Sterling Power Products Ltd. Inbound shipping costs must be prepaid.
- ✎ This warranty does not cover blemishes due to normal wear and tear or damages caused by accidents, abuse, alterations or misuse.
- ✎ Repairs not covered by this warranty can be done at the customer's request and expense.

Purchase or other acceptance of the product shall be on the condition and agreement that Sterling Power Products Ltd. shall not be liable for incidental or consequential damages of any kind. (Some countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you.) This warranty is made in lieu of all other obligations or liabilities on the part of Sterling Power Products Ltd. Sterling Power Products Ltd. neither assumes nor authorises any person for any obligation or liability in connection with the sale of this product.

To make a claim under warranty, contact Sterling Power Products Ltd., www.sterling-power.com (for latest contact details). The customer has to provide a proof of purchase. Sterling Power Products Ltd. will make its best effort to repair or replace the product, if found defective, within 30 days after return of the product to the company. Sterling Power Products Ltd. will ship the repaired or replaced product back to the customer in the UK, all warranty is at the factory

This warranty is in lieu of all others expressed or implied.

STERLING POWER PRODUCTS LTD

Website for Europe: www.sterling-power.com

E-mail Europe: help@sterling-power.com

Website for U.S.A - www.sterling-power-usa.com

E-mail USA: info@sterling-power-usa.com

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