Liability
WhisperPower accepts no liability for consequential damage due to use of the WP-BC Supreme-Pro Charger including those caused by possible errors in the manuals. This documented descriptive state of the product at the time of its publication/WhisperPower reserves the right to revise and improve its products.

2.2 Guidelines & safety instructions

2. General
1. Read this manual plus all external warnings & caution labels on the WP-BC Supreme-Pro Charger and associated battery charger safety label before operating the charger.

3. Risk of gas or dust explosions

• Do not use or recharge in areas where there is danger of gas or dust explosions, volatile gases (check label).

1.4 Identification markings

• Ensure batteries are mounted securely enough to prevent movement during charging.

The WP-BC Supreme-Pro Charger must be grounded via the earthing conductor. Grounding and all other wiring must comply with local codes and regulations.

2.2 Risk of gas or dust explosions

• Ensure that the battery charger is well ventilated.

The WARNING symbol identifies a risk of injury to persons or damage to the WP-BC Supreme-Pro Charger. The battery charger is switched on by pressing and holding the power button switch on the right-hand bottom of the display. The battery charger is switched off by pressing the button again or by disconnecting the power supply to the battery charger.

2.1 General

2.3 Warnings regarding the use of batteries

1. Do not make alone – Always ensure someone is close enough to provide assistance if required when working on a battery charger.

2.4 Installation & maintenance of the WP-BC Supreme-Pro Charger

3. Battery charger is well ventilated.

Fuses will not prevent damage caused by overload and short-circuit.

3.3.2 Local Read Out Module (ROM)

• Ensure that all battery charger connections are properly made and connections are made only in accordance with the manufacturer’s instructions.

In the event of overcharging, the battery charger must be used only in a risk of fire, electric shock, or injury to persons or damage to property.

4.2.1 Powering on

• Do not touch electronic components unless a specific written agreement authorising such use has been received from WhisperPower BV.

• All wiring & electrical conditions must be in good electrical condition and inspected annually.

• Do not do anything that could result in a shock load being imposed on the WP-BC Supreme-Pro Charger. It should be inspected by a qualified technician before further use.

• The battery charger is equipped with an intelligent multistage charge controller that continuously monitors the charge state. An overview of the active segments of the charge bar during a charging cycle is illustrated in figure 3.

• Fuses and circuit breakers must be used correctly. Fuses and circuit breakers must be used only in accordance with the manufacturer’s instructions.

5. Do not isolate the connection to the AC source or the DC electrical system unless a specific written agreement authorising such use has been received from WhisperPower BV.

3.2.2 Powering off

• Do not attempt such testing as a part of the manufacturing process. In addition, the WP-BC Supreme-Pro Charger must be grounded against short circuit, overload and high temperature in an industrial environment.

• Do not use the WP-BC Supreme-Pro Charger if it has received a shock load, been dropped, or otherwise damaged in any way; it should be inspected by a qualified technician before further use.

• Ensure that the battery charger is well ventilated.

3.2 Quick reference guide

1. Do not make alone – Always ensure someone is close enough to provide assistance if required when working on a battery charger.

• The WP-BC Supreme-Pro Charger series is a range of fully-automatic, high efficacy battery chargers manufactured and produced by WhisperPower. The WP-BC Supreme-Pro Charger series has been specially developed for use aboard recreational and commercial vessels. The WP-BC Supreme-Pro Charger can function in marine, mobile & stationary applications.

• The battery charger is equipped with an intelligent multistage charge controller that continuously monitors the charge state. An overview of the active segments of the charge bar during a charging cycle is illustrated in figure 3.
3.3.3 Push buttons

Three push buttons are located under the Liquid Crystal Display with a multi-colour backlight illumination. These buttons interact with the LCD text in the bottom part of this display, as described here.

3.3.3.1 Push buttons

In the top centre of Area 3, ‘Failure’ is highlighted whenever a valid AC input is detected.

In the centre there is a 4 digit display of voltage, current or charge bar. Specific information that counteracts with the pushbutton switches is visible at the bottom of the LCD display (Area 3 in fig.2). The display can be programmed to show additional functions. Please contact your installer to correctly install the additional functions. This enables the USB mode, where firmware may be updated by an installer using a preconfigured USB stick. Pushing a combination of buttons again for 5 seconds returns to normal operation.

1 (2) SOURCE SELECTION button

Press the “SELECTION” button briefly to select the voltage unit (V), current (A) or % shows the displayed entity. Pressing button ‘Select’ will sequentially through different entities of the selected battery or system.

2 (3) Information button

Press the “INFORMATION” button to display information e.g. software version or error number may be displayed here.

During installation and commissioning of the WP-BC Supreme-Pro Charger, the safety instructions are applicable at all times (see chapter 2 of this manual). Please check the contents of the package before you start with the installation. The following items are supplied:

- The WP-BC Supreme-Pro battery charger of correct model and type;
- A remote panel (incl. 15 m cable);
- Battery temperature sensor (incl. 6 m cable);
- Covers and installation manual. If one of these items is missing, please contact your supplier.

2.4 Mounting

Mount the WP-BC Supreme-Pro Charger securely when the connecting cables Downstream.

Do not install the WP-BC Supreme-Pro Charger in the same compartment as the batteries.

4. INSTALLATION INSTRUCTIONS

4.1 Installation environment

Choosing an installation location:

- Install the WP-BC Supreme-Pro Charger in a well ventilated room protected against dust, dirt, spray, vapour, fumes, moisture and dust.
- Ambient temperature: 0°C - 40°C (-40°F - 104°F) (power clearing occurs above -40°C / 144°F to increase the internal heat sink temperature).
- Humidity: 0-80% non-condensing.
- Never use the WP-BC Supreme-Pro Charger in a location where there is a danger of gas or liquid explosions.
- Ensure that the charger is undisturbed by the ventilation openings.

NOTE:

Never use the WP-BC Supreme-Pro Charger in the same compartment as the batteries.

NOTE:

Never use the WP-BC Supreme-Pro Charger in a location where there is a danger of gas or liquid explosions.

Ensure that the charger is undisturbed by the ventilation openings.

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Ensure that the charger is undisturbed by the ventilation openings.
AC input wire codes:

- 1.5 mm² (AWG10) for the neutral conductor (N)
- 1.5 mm² (AWG10) for the phase conductors (L1, L2, L3)
- 2.5 mm² (AWG6) for the ground conductor (PE)

Connection of AC wiring and recommended wire colours:

- Brown to L1 and the blue wire to the N terminal. For a safe installation, the correct wire cross section must be applied. Don’t use a cross section that is smaller than indicated. See the table below to select the appropriate cross section for the AC wiring up to 3 x 250 V/30 A.

In the installation of the WP-BC Supreme-Pro Charger, the cabling and/or the terminal block must be designed to meet the applicable standards. The WP-BC Supreme-Pro Charger cannot prevent damage caused by reversed polarity. The damage to the WP-BC Supreme-Pro Charger cannot prevent damage caused by reversed polarity. The damage to the WP-BC Supreme-Pro Charger is not covered by the warranty.

CAUTION!

For proper installation, see the connection diagram included with the battery isolator. Steps:

1. Mount the WP-BC Supreme-Pro Charger in the cabinet.
2. Connect the battery to the WP-BC Supreme-Pro Charger.
3. Check that the DC circuit breaker is closed. Turn the switch to the “on” position.

4.4.4 DC cables

Fixing the cables between the charger and the batteries is important. If it is not possible, make the plus and minus cables with colored insulating tape, e.g. red for plus and black for minus.

Use the following terminal numbers:

Model WP-BC Supreme-Pro Charger,
Length ≤ 30 cm: 20 mm² (AWG6)/ 30 mm² (AWG3)
Model WP-BC Supreme-Pro Charger, Length > 30 cm: 25 mm² (AWG5)/ 40 mm² (AWG2)

Connection of main battery:

1. Pull the cables through the cable glands of the WP-BC Supreme-Pro Charger.
2. Clamp on the free terminals of the cables.
3. Connect the cables to the terminals of the WP-BC Supreme-Pro Charger. Check the polarity is correct, positive on positive & negative on negative.
4. Integrate a suitable cable (in the cable core) in the positive cable. When using a DC distribution box with integral fuse, no additional fuse is necessary.
5. Cut the cables to the required length and crimp on the spring terminals. Connect the cable to the DC distribution box or batteries.

CAUTION!

Assure the positive and negative battery wires can be connected directly to the WP-BC Supreme-Pro Charger. Undercross (cross-over) both wires and the connections can cause dangerous overheating of the cable terminals.

Lay the positive and negative cables next to each other to minimize the electromagnetic field emitted by the cables. The negative cable should be connected directly to the negative post of the battery bank or the ground side of the device. Do not use the full or full charge home as the negative conductor.

4.5 Maximum charge current & battery capacity

Follow the instructions given by the battery manufacturer.

The minimum required battery capacity for each battery set is as follows:

- WP-BC Supreme-Pro Charger, recommended battery capacities:
  - WP-BC Supreme-Pro Charger, Length ≤ 30 cm:
    - 20 mm² (AWG6)/ 30 mm² (AWG3)
  - WP-BC Supreme-Pro Charger, Length > 30 cm:
    - 25 mm² (AWG5)/ 40 mm² (AWG2)

4.6 Battery isolation & diode splitter

If one or more batteries or battery sets must be charged at the same time, use a diode. This will also ensure that the battery isolator prevents the overcharging of the battery. Use the following battery isolators:

- WP-BC Supreme-Pro Charger, Length ≤ 30 cm:
  - 20 mm² (AWG6)/ 30 mm² (AWG3)
  - 25 mm² (AWG5)/ 40 mm² (AWG2)

4.7 Connecting of a secondary battery bank (in parallel)

Battery charger models equipped with an internal fuse to the secondary battery output can be used to add a second battery bank to a set like a smaller or larger charging battery. The maximum charge current of the secondary output is 6A.

- Use 6A or 8A cable for connection.
- Connect the minus of the secondary battery to the common terminal of the main battery.
- Connect the plus of the secondary battery to the +Sense(3) terminal of the WP-BC Supreme-Pro Charger, + and/or +S2.
- Integrate a 15A slow-acting fuse in the plus cable.

4.8 Temperature sensor

The standard temperature sensor is provided with 6 m cable and is double-sided tape for easy installation. Determine the wanted place on the battery set and make a drill and grove free. Remove the backing paper from the tape and stick the sensor on the battery. Route the cable through a cable gland and plug the modular cable into the BTS connector of the WP-BC Supreme-Pro Charger.

4.9 Voltage drop compensation

To obtain the charge time accurately, the battery cables must be compensated by using the voltage sense function. Use a 0,75 mm², preferably red and black wire and secure the wires with self-adhesive ties. Do not connect the wires to the battery terminals of the green connector at the left side of the cabinet. Pay careful attention to the polarity of the wires, red on +Sense(4) and black on –Sense(3). Non-connect the other side of the wires black on the minus of the battery and red on the battery side of the WP-BC Supreme-Pro Charger fuse.

4.10 Current control limitation

When connected, the battery charger will automatically check for the connected battery cables. The following connections are detected on these inputs. Please observe the polarity indicated on these interfaces.

- +Sense(3): DC output (positive)
- –Sense(4): DC output (negative)
- +S1: Balancing output at the furthest left interface connector.
- +S2: Balancing output at the second interface connector.
- +S1 and/or +S2: DC output available

The battery charger is equipped with two potential free contact relays to switch 230V AC functions. The battery charger will not operate if these contacts are not closed. If the contacts are opened, the battery charger will not operate and the alarm relay will be activated.

Relay output 1:

- Input 1: On/off remote switch, activating the front panel 12V battery.
- Input 2: Remote contact, activating the alarm relay.
- Input 3: Remote contact, activating the alarm relay.
- Input 4: Remote contact, activating the alarm relay.

4.11.1 Relay output 1

- Contact form: 12V DC
- Switching capacity: 0.5 A
- Maximum voltage: 250 V AC/DC

4.11.2 Relay output 2

- Contact form: 12V DC
- Switching capacity: 1 A
- Maximum voltage: 250 V AC/DC

4.11.3 Relay output 3

- Contact form: 12V DC
- Switching capacity: 1 A
- Maximum voltage: 250 V AC/DC

4.12.1 DC input voltage

The current drawn by the WP-BC Supreme-Pro Charger is dependent on the AC line voltage. The battery charger will not operate if these contacts are not closed. If the contacts are opened, the battery charger will not operate and the alarm relay will be activated.

Relay output 1:

- Input 1: On/off remote switch, activating the front panel 12V battery.
- Input 2: Remote contact, activating the alarm relay.
- Input 3: Remote contact, activating the alarm relay.
- Input 4: Remote contact, activating the alarm relay.

5 Connection warning

Installation work must be carried out by a licensed electrician. Before beginning with the connection of the wiring, ensure that the AC distribution as well as the DC distribution are live. This must be done for the WP-BC Supreme-Pro Charger as well.

CAUTION!

- Short-circuiting or reversing polarity may lead to serious damage to the battery.
- The WP-BC Supreme-Pro Charger is not designed for the connection of the WP-BC Supreme-Pro Charger or connected to the battery safely. Connect the ground terminal (PE / GND) to the chassis.

For safe installation, use cables of the correct size.

Connection of main batteries:

- 2 3 4 5 6 7 8 9 10

Use cables of the correct size.

- 2 3 4 5 6 7 8 9 10

WARNING!

- Ensure all connecting posts are clean and secure with the covers.

CAUTION!

- Integrate a 10A slow-acting fuse in the plus cable.

WARNING!

- Do not use a cross section that is smaller than indicated. See the table below to select the appropriate cross section for the AC wiring up to 3 x 250 V/30 A.

CAUTION!

- Do not exceed the current rating of the circuit breaker.

WARNING!

- Never use both methods. Non-batteries will be damaged and severely damaged!
CAUTION

Ensure that all wiring before commissioning is correct (positive to negative, positive to negative, and neutral to neutral). Check that all connections are tight and secure. If in doubt, contact a qualified electrician to correct any mistakes.

CAUTION

When plugging these boxes, a spark can occur; caused by the capacitors used in the WP-BC Supreme-Pro Charger. WP-BC Supreme-Pro Charger is particularly dangerous in presence of flammable substances, due to the glowing of the capacitors when present.

Now the WP-BC Supreme-Pro Charger is ready for operation. After switching on the AC power supply, the WP-BC Supreme-Pro Charger will change the charging process.

4.15.2 WhisperControl CAN bus (optional)

During the configuration of the WP-BC Supreme-Pro Charger will be recognized by WhisperControl CAN-bus network automatically (whispericon.com). The WhisperControl CAN-bus network will indicate that a new device has been found. Some settings can be changed by using the WhisperControl CAN-bus or through the WP-BC Supreme-Pro Charger.

4.16 Discommissioning

The following steps should be followed in order to decommission the WP-BC Supreme-Pro Charger:

1. Switch off the WP-BC Supreme-Pro Charger to OFF (see section 3.1.2).
2. Disconnect the DC cables to the battery and disconnect the connections.
3. Remove the AC-socket(s) of the AC-input and disconnect the AC-supply.
4. Open the connection compartment of the WP-BC Supreme-Pro Charger.
5. Check with a suitable voltage meter that the input and output cables of the WP-BC Supreme-Pro Charger are not live.
6. Disconnect the cables.

For a detailed battery charger Service Centre for further details please refer to the appendix for repair.

4.18 Installation

To facilitate the installation of the WP-BC Supreme-Pro Charger the instructions as described in the chapter 6.

5. CONFIGURATION SETTINGS

The WP-BC Supreme-Pro Charger settings can be adjusted by means of DIP switches located on the WP-BC Supreme-Pro Charger as follows:

5.2 DIP switch settings

See Table 5.2 for the function of the various DIP switches.

5.2.1 Battery charge settings

Charge characteristic voltages are set using DIP switches 1 to 4:

- GV (for WP-BC Supreme-Pro V and WP-BC Supreme-Pro X)

The charge voltage will be 27.6V (24V charger).

For the WP-BC Supreme-Pro Charger, the manufacturer specifies only one charging curve may be selected (only row one of DIP switch 4).

6. BATTERY SPECIFICATION

<table>
<thead>
<tr>
<th>Battery Capacity (recommendation)</th>
<th>260Ah</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enclosure type &amp; dimensions (h x w x d in inch)</td>
<td>17.5 x 8.2 x 5.7</td>
</tr>
<tr>
<td>Max. Absorption Time</td>
<td>60A - 2.5h</td>
</tr>
<tr>
<td>Force Float</td>
<td>6A, ±1A</td>
</tr>
<tr>
<td>Charge voltage Bulk (25°C)</td>
<td>27.6V</td>
</tr>
<tr>
<td>System frequency</td>
<td>50Hz</td>
</tr>
<tr>
<td>Battery Bank 1</td>
<td>Positive (+)</td>
</tr>
<tr>
<td>Battery Bank 2</td>
<td>Negative (-)</td>
</tr>
<tr>
<td>Voltage &amp; frequency</td>
<td>24/60-3</td>
</tr>
</tbody>
</table>

6.1 WhisperConnect CAN bus

WhisperConnect CAN bus is fully to the CAN-bus network for communication of WhisperConnect CAN bus devices. WhisperConnect CAN bus is fully to the CAN-bus network for communication of WhisperConnect CAN bus devices. WhisperConnect CAN bus is fully to the CAN-bus network for communication of WhisperConnect CAN bus devices.

6.2 How to setup a WhisperConnect CAN bus network

Every WhisperConnect CAN bus device is equipped with a data port. When two or more devices are connected to these ports, a local network configuration starts. WhisperConnect CAN bus devices is formed. Keep the following rules in mind: Placing a terminating device on both network ends. Connections between devices are made with standard straight RJ45 patch cables.

For central monitoring and control, one of the WP Touch series of remote panels is required.

Call your installer or go to www.whisperpower.com for details of the available panels.

6.3 EC DECLARATION OF CONFORMITY

Hereby WhisperPower declares under our responsibility that...

7. TECHNICAL SPECIFICATION

WhisperPower...To start the generator when the battery state of charge is low...

8. TROUBLE SHOOTING & FAULT FINDING

In the case of a fault, the WP-BC Supreme-Pro Charger display shows an error code to help you find its source. If you cannot solve a problem with the troubleshooting tips, contact your local WhisperPower Service Centre. See www.Whisperpower.com. Make sure you have read the articles and serial number of the installed device(s) (see section 1.6).

9. Pearl finding Table

This is the detailed battery charger Service Centre for further details please refer to the appendix for repair.

4.2.2 Battery charger status

Battery charging status is indicated by using a small screw driver.

The WP-BC Supreme-Pro Charger has nine DIP switches, see chapter 4.

DIP switch function

<table>
<thead>
<tr>
<th>DIP switch</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>BFO switch 1</td>
</tr>
<tr>
<td>2.2</td>
<td>BFO switch 2</td>
</tr>
<tr>
<td>2.3</td>
<td>BFO switch 3</td>
</tr>
<tr>
<td>2.4</td>
<td>BFO switch 4</td>
</tr>
</tbody>
</table>

DIP switch location

The WP-BC Supreme-Pro Charger has eight DIP switches, see chapter 4.

WhisperConnect CAN bus reduces the complexity of electrical power management system for all connected devices, such as WhisperConnect CAN bus devices. WhisperConnect CAN bus devices.

WhisperConnect CAN bus devices.

When placing these fuses, a spark can occur, caused by the capacitors used in the WP-BC Supreme-Pro Charger. The WP-BC Supreme-Pro Charger is particularly dangerous in presence of flammable substances, due to the glowing of the capacitors when present.

If the battery temperature remains within 15-25°C, consider...