USERS/INSTALLATION MANUAL

WP-BC Supreme Multi

Automatic Battery Charger

12 VDC | 80 A-4
24 VDC | 60 A-4
24 VDC | 100 A-4
48 VDC | 50 A-4

Heavy-duty range of battery chargers for domestic, maritime, recreational vehicle, residential or industrial use. Also suitable for use as a power supply. Wide voltage input range, from 180/230VAC (50/60Hz) with multiple DC outputs. Includes the most advanced switched mode technology to ensure compactness and low weight.

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1. GENERAL INTRODUCTION

1.1 Overview

All users/operators of the WhisperPower range of heavy duty battery chargers (Supreme Multi) must ensure that they read this manual before operating this equipment. This manual includes essential safety & operating guidelines to ensure the safe & effective use of the Supreme Multi Charger. This manual also includes a 'trouble shooting & fault finding' guide to support operators in the identification & resolution of operating issues.

1.2 Scope

The contents of this manual apply only to standard versions of the Supreme Multi Charger supplied by WhisperPower.
For other models see other manuals available on our website: www.whisperpower.com

1.3 Safety instructions & warnings

Symbols are used in this manual to identify safety instructions & warnings.

WARNING
The WARNING symbol identifies a risk of injury to the operator or damage to the Supreme Multi Charger, if the instructions & guidelines contained in this manual are not followed.

CAUTION!
The CAUTION symbol highlights an operating or installation procedure where the operator and/or installer must give special attention to prevent damage to the Supreme Multi Charger.

1.4 Identification markings

The identification label includes important information for the service & maintenance of this unit. It is located on the right-hand-side of the Supreme Multi Charger (see figure 1).

WP-BC Supreme Multi battery charger
Part no. 60205601
Type WP-BC Supreme Multi 24/40-6
Input 120-230V/50-60Hz
Serial No: S016A0080
IP23

Figure 1: Identification label

CAUTION!
Do not remove the identification label.

1.5 Liability

WhisperPower accepts no liability for consequential damage due to use of the Supreme Multi Charger including those caused by possible errors in the manuals.
This document describes the state of this product at the time of its publication. WhisperPower reserves the right to revise and improve its products.

2. WARRANTY & IMPORTANT SAFETY INSTRUCTIONS READ AND SAVE THESE INSTRUCTIONS

WARNING
This chapter contains important safety and operating instructions to enable safe & effective use of the Supreme Multi Charger in marine, mobile & stationary applications.

2.1 General

1 Read this manual plus all external warnings & caution labels on the Supreme Multi Charger and associated battery system before operating the charger.
2 Fire risk - Do not cover or obstruct the ventilation openings. Ensure the installed location of the Supreme Multi Charger is well ventilated.
3 Electric shock risk – Supreme Multi Charger must only be installed & operated in an environment free from rain, snow, spray, moisture, excessive pollution, dust and condensation. Disconnect the Supreme Multi Charger from both AC and DC electrical system before attempting any maintenance or cleaning. Only turning off the controls will not reduce this risk.
4 Do not modify, use additional parts or spare parts not recommended or supplied by WhisperPower as this may result in a risk of fire, electric shock, or injury to persons and/or damage to equipment.
5 The Supreme Multi Charger has been designed and tested in accordance with international standards. It is designed to be permanently connected to an AC and DC electrical system. Installation and maintenance of the Supreme Multi Charger may only be carried out by qualified, authorised and trained technicians or electricians, in-line with the local standards and regulations. For example, if installed in a marine application in the United States, external connections to the Supreme Multi Charger must comply with the United States Coast Guard Electrical Regulations (33CFR183, Sub part I).
6 All wiring must be of the correct gauge for the current (ampere) rating of the installed Supreme Multi Charger. All wiring & electrical conditions must be in good electrical condition and inspected annually.
7 Do not operate the Supreme Multi 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.
8 The Supreme Multi Charger must not be opened or disassembled (except for the white covers for the connection compartment, see chapter 4). There are no serviceable parts inside the cabinet. Only qualified, electrician installers are authorised to open the connection compartment. The unit must only be serviced or repaired by an authorised and trained service technician. Incorrect reassembly may result in a risk of electric shock or fire.
9 The Supreme Multi Charger must be grounded via the AC-input ground terminal using a suitable equipment grounding conductor. Grounding and all other wiring must comply with local codes and regulations.
10 Creating a short circuit across, or reversing polarity of the terminals will lead to serious damage to the batteries, the Supreme Multi Charger and the wiring as well as accessories. Fuses will not prevent damage caused by reversed polarity and the warranty will be void.
11 In case of fire, you must use fire extinguishers suitable for electrical equipment.
12 This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
13 Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
14 Do not recharge non - rechargeable batteries.
15 If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similar qualified person in order to avoid a hazard.

2.2 Risk of gas or dust explosions

1 WARNING *– Risk of explosive gases. Normal operation & charging of some battery types generates explosive gases. Working in the vicinity of these battery types (such as lead acid batteries) is dangerous. Therefore, it is important that this manual is read, and the instructions followed for the operation of this charger.*

2 *To reduce the risk of a battery explosion, follow these instructions plus those from the battery manufacturer. The manufacturer recommendations for any equipment intended for use near the battery must be followed. Review cautionary marking on these products.*

3 DANGER *– Never use the Supreme Multi Charger in locations where there is danger of gas or dust explosion or in an area in which ignition-protected equipment is used. Ensure that the area around the battery is well ventilated during charging (refer to the battery manufacturers recommendations).*

2.3 Warnings regarding the use of batteries

1 Do not work alone – Always ensure someone is close enough to provide assistance if required when working on a battery system.
2 Ensure plentiful fresh water and soap are available nearby in case battery acid contacts skin, clothing, or eyes.
3 Ensure complete eye and appropriate skin protection are worn when working on a battery system. Avoid touching eyes whilst working on or near a battery.
4 In the event that battery acid contacts the skin or clothing, wash immediately with soap and water. If acid enters eye, immediately flood the eye with running cold water for at least 10 minutes and seek medical attention immediately.
5 NEVER smoke or allow any other source of ignition such as a spark or flame near a battery or engine.
6 Do not short circuit batteries. This can cause sparks and/or overheating that may result in an explosion or fire. Extra care is required to prevent the risk of dropping a metal tool onto a battery. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a battery. A battery can produce a short-circuit current high enough to weld a ring or similar to another piece of metal, causing a severe burn.
7 Only use the Supreme Multi Charger for charging Lead acid, NiCad plus and LFP batteries to supply consumers attached to these batteries, in permanent connected systems. Do not use the Supreme Multi Charger for charging dry cell batteries (commonly used with home appliances). These batteries may burst and cause injury to persons and damage to property.
8 Do not charge batteries when frozen.
9 To prevent damage to your batteries, do not exceed their recommended charging voltage & discharge current limits.
10 Before removing a battery ensure that all accessories are turned off and remove the grounded terminal from the battery first (to prevent a spark).
11 Ensure batteries are mounted securely enough to prevent them become loose during normal operation or during extreme events such as collisions. Always use suitable handling equipment for the transportation of batteries.

2.4 Medical or life support applications

The Supreme Multi Charger is not sold for use in any medical equipment intended as a component of any life support system unless a specific written agreement authorising such use is obtained from WhisperPower. Such agreement will require the equipment manufacturer either to contract additional reliability testing of the Supreme Multi Charger and/or to commit to undertake such testing as a part of the manufacturing process. In addition, the manufacturer must agree to indemnify WhisperPower against any claims arising from the use of the Supreme Multi Charger in the life support equipment.

2.5 Warranty specifications

WhisperPower guarantees that this unit has been built according to the legally applicable standards and specifications. Any work carried out must be in accordance with the guidelines, instructions and specifications contained in this user's manual. Failure to comply may result in damage or reduced performance of the unit and the guarantee may be invalidated. The guarantee is limited to the cost of repair and/or replacement of the supplied unit. Other associated costs such as the installation labour or shipping of the defective parts are not covered by this guarantee.

3. OPERATION INSTRUCTIONS

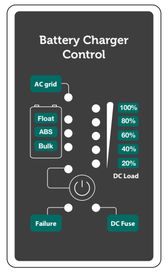
3.1 Introduction

The Supreme Multi Charger series is a range of fully-automatic, high efficiency, battery chargers/rectifiers, developed and produced by WhisperPower. The Supreme Multi Charger, charges batteries rapidly and safely whilst simultaneously supplying power to the connected consumers. In addition, the Supreme Multi Charger is secured against short circuit, overload and high temperatures in an industrial environment.

CAUTION – *Before switching on for the first time, the equipment must be installed properly (see section 4) and the correct charging curves for the connected batteries must be set.*

3.2 Quick reference guide

Normal operation only involves connecting AC power and switching the device on. All functions operate automatically to maintain the connected battery in optimum condition. DC loads may also be powered on during battery charging. Information is readily available on the LED Display on the front panel. Details of the advanced operation features are provided in 3.3 below.



3.2.1 Powering on

The battery charger is switched on by pressing and holding the power button switch on the display for approximately 1 second with a connected grid supply. Once switched on the leds will light up and charging of connected batteries starts immediately.

3.2.2 Powering off

The battery charger is switched off by pressing and holding the power button for aprox. 1 second. However, during normal operation, it is not necessary to power down. As long as the batteries remain electrically connected to the charger the charger settings remain unchanged.

WARNING
Switching off the Supreme Multi Charger does not isolate the connection to the AC source or the batteries. This means that parts of the unit remain electrically live.

3.3 Functions and detailed operating modes

3.3.1 Theory of operation

The battery charger is equipped with an intelligent multistage charge characteristic that delivers the optimum charge rate for the connected batteries. The three charging stages are 'Bulk', 'Absorption' and 'Float.'

During Bulk mode charging, maximum power is delivered to the battery until the battery voltage has risen to a pre-determined level or until the bulk timer has expired. Further charging is accomplished during the Absorption mode, where lower current is transferred at a relative high Absorption voltage. When charging current drops below the 'Return-Amps' level or when timed out, the Absorption mode continues for the set time duration.

Following the Absorption mode, the charger is set to Float mode charging, where the voltage level is decreased to a safe value for prolonged battery life. At pre-set intervals, the charging mode is forced to Bulk charging for a limited time, to keep batteries charged 100% and eventually equalise individual cell voltage within the battery.

When the Battery Temperature Sensor is connected, the charge voltage will be automatically adjusted for the connected batteries based on the measured temperature. The above cycle applies to all batteries connected (outputs 1-4). The lowest output will be charged first.

3.3.2 Local Read Out Module (ROM)

The ROM is located on the Liquid Crystal Display on the front of the charger.

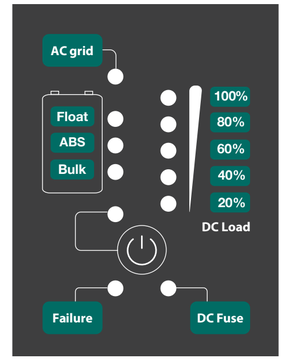


Figure 2: Front Panel

5021-06102025-Manual Supreme Multi

3.3.2.1 Battery State Of Charge (SOC)

The left bar graph represents the actual charging state. An overview of the active segments of the charge bar during a charging cycle is illustrated in figure 3.

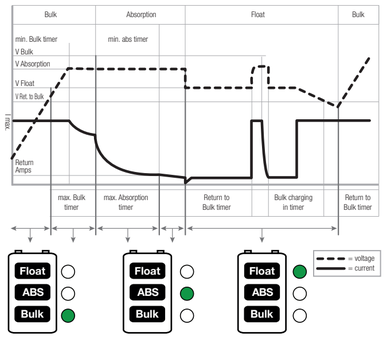


Figure 3: State of Charge bar operation during charging cycle

3.3.2.2 Charger output

On the front of the Supreme Multi Charger, the left bar graph of the LED Display represents the charging current. The more segments illuminated, the higher the total charging and/or DC consumption current. A segment turns on for every 20% of consumption in relation to the specified maximum current.

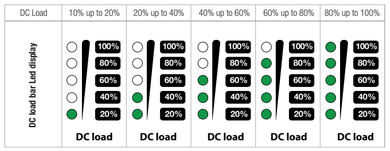


Figure 4: DC Load bar

3.3.2.3 Push button

POWER ON button 

Press the "POWER ON" button for 1 second to switch the on or off.

Charger illuminated = Charger ON
(Charger is delivering power)

NOTE: Besides the colour indication of the button, a marking 'AC grid' appears at the right-hand top of the Led display when valid AC input voltage is detected

3.4 Status input/output remote interface

Installing the following external hardware provides several additional functions. Please contact your installer to correctly install any of the following.

3.4.1 Additional read outs

A OctoView 3-inch Control Panel can be connected to the Supreme Multi Battery Charger and installed in a convenient location. The panel displays the charger's status, battery voltage, and charge current, allowing easy monitoring and basic control of the charging process.

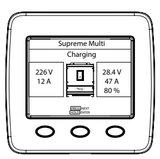


Figure 5: OctoView 3 Display Panel

3.4.2 Temperature compensation

By installing the battery temperature sensor(optional), the charge voltages are automatically adjusted based on the measured temperature. This can increase the battery's lifetime substantially and therefore, significantly reduce the battery replacement costs.

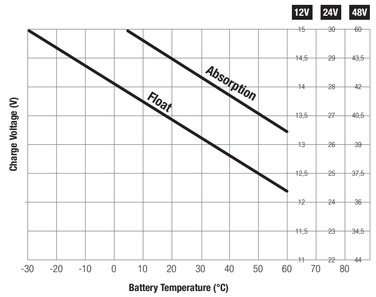


Figure 6: Temperature compensated charging

See figure 6. When the battery temperature is low, the charge voltage increases. On the other hand, when the battery temperature is high, the charge voltage is decreased. Correction is set to -2,5mV/°C per cell, referenced to 25°C. Adjusting the charge voltage based on measured temperature prevents damage to the batteries from overcharging and gassing.

3.4.3 Remote inputs

Control inputs can be remotely provided by connecting switches (or potential-free contact closures) to switch the charger on or off, and/or to inform the charger that is running from a generator enabling a different maximum current setting.

3.4.4 Alarm outputs

The battery charger is equipped with an integrated alarm function. The alarm output signal operates on switch on/off and on failure functions of the charger. The maximum switch current of the relay is 1A and the voltage rating is 24 VDC. Exceeding the set points will activate the alarm.

3.4.5 WhisperConnect CAN bus

Connecting WhisperConnect enables digital communication to other WhisperPower equipment or a personal computer via a common bus structure. In this way, a power management system is possible, where communication between inverters, chargers, generators and many more items of electrical equipment is automatically achieved. As well as visualising parameters, setpoints for the charger may be programmed if sufficient rights are attained.

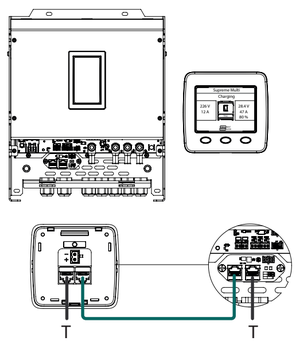


Figure 7: WhisperConnect CAN bus connections

3.4.6 Charging multiple battery banks

Many installations have a main battery bank and one or more additional smaller (cranking) battery banks with the same voltage. It is possible to maintain these multiple banks using the additional charger outputs (2, 3, and 4) of the battery charger.

4. INSTALLATION INSTRUCTIONS

During installation and commissioning of the Supreme Multi 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 included:

- The Supreme Multi battery charger of correct model and type;
- Owners and installation manual;

4.1 Installation environment

Choosing an installation location:

- Install the Supreme Multi Charger in a well ventilated room protected against rain, snow, spray, vapour, bilge, moisture and dust.
- Ambient temperature: -25 to +60˚C / -13 to 140˚F, maximum temperature is 40˚C at 100% output current, above 40˚C - 60˚C, maximum output current is 50% load at 60 ˚C, below 0˚C, maximum output current is 10% load.
- Humidity: 0-95% non-condensing.
- Never use the Supreme Multi Charger in a location where there is a danger of gas or dust explosions.
- Ensure that there are no obstructions to the airflow through the ventilation openings. No objects should be located within a distance of 10cm / 4 inches from the Supreme Multi Charger.
- Mount the Supreme Multi Charger vertically, with the connecting cables downwards.
- Do not install the Supreme Multi Charger in the same compartment as the batteries.

CAUTION: *Before making the connection between the battery charger and the system, be sure that the AC and DC system are switched off. Remove the fuses to protect yourself against unexpected powering on.*

4.2 Mounting

- Once the location for the Supreme Multi Charger is known and verified, unscrew the two Torx screws securing the lid of the wiring compartment.
- Mount the unit by fixing the top bolts.

Note: Mounting screws are not provided as the requirement differs per installation. Choose a flat surface and M6 bolts to fix the unit securely.

- Now locate the bottom mounting hole positions from within the wiring compartment. Pre-drill and mount using a socket wrench with a shaft length of at least 160 mm
- Chargers should be installed lower as 2 m height
- The length of the M6 bolt is not less than 10mm.

The configuration DIP switches and rotary switch are required. To operate (one of) the DIPswitches, remove the top front cover of the charger by unscrewing the 4 Torx screws from the front, without connecting the cable to the Interface connection board. Locate the specific numbered DIP switch and use a small size screwdriver to (de)activate it. Close the front lid and mount the 4 screws.

4.3 CABLING

CAUTION! *The wire and fuse sizes stated in this manual are provided as examples only. The required wire and fuse sizes may be different due to local applicable regulations and standards.*

4.3.1 AC wiring

Check that the voltage of your mains source or generator corresponds with the AC input voltage of the battery charger as mentioned on the type plate, see section 1.4. Using a Torx screwdriver, remove the lid covering the wiring compartment. Strip the cable according to fig. 7. It is important that the green/yellow earth wire is ± 1 cm (0.4 inch) longer than the other wires and allow connection of conductors of 2.5 to 6 mm2. This is to reduce the risk of the ground/earth connection coming loose if the cable is accidentally pulled. Connect the green/yellow wire to PE, brown to L1 and the blue wire to the N terminal. Use a small screwdriver to connect the cables to the AC connector.

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 6m / 20ft length):

AC input wire codes:

Model	Imax [A]	mm2	AWG	Conductors	EU wire code type example	US wire code type example
12/80-4	13	4	10	3	H05VV-F-3G2.5/ H05RN-F-3G2.5	THHN, THHW
24/60-4	19	4	10	3	H05VV-F-3G2.5/ H05RN-F-3G2.5	THHN, THHW
24/80-4	18	4	10	3	H05VV-F-3G4/ H05RN-F-3G4	THHN, THHW

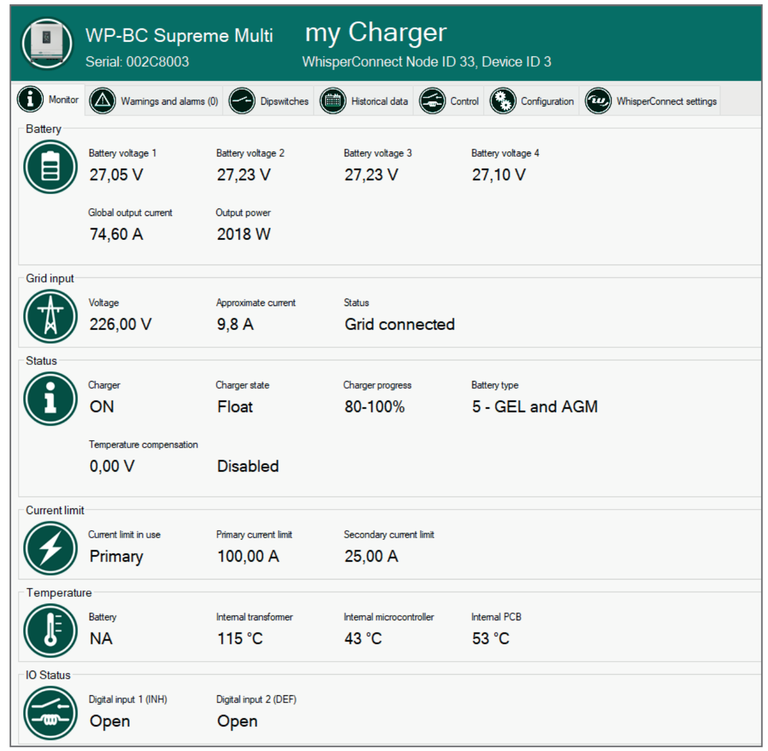
For cable gland, Using the cable grand is not allowed in the US. Please Do not install it in the US. For flexible cord, using the flexible cord is not allowed in the US. Please Do not install it in the US.

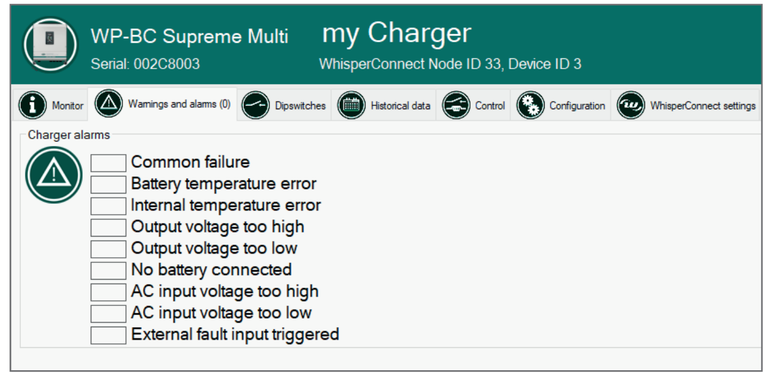
Connection of AC-wiring and recommended wire colours. 230V/50Hz installations

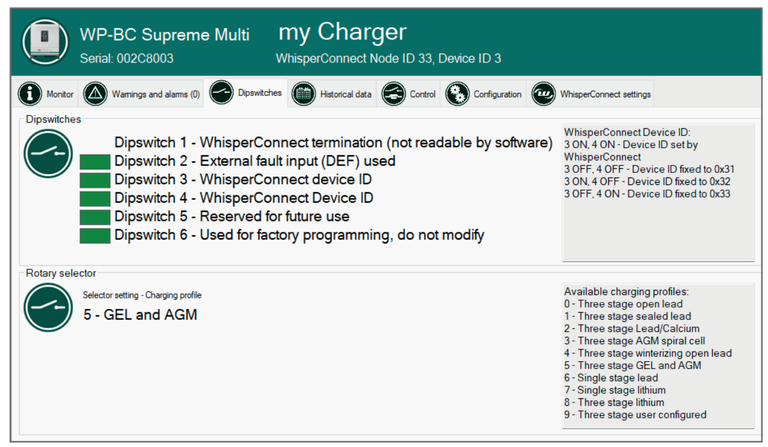
Figure 8 Wire colour meaning
Must be connected to:
- *Brown or black Phase L1*
- *Blue Neutral N*
- *Green/Yellow Earth PE / GND*

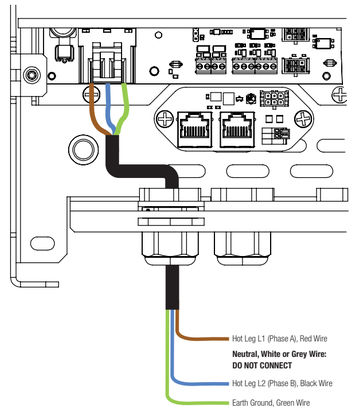
After connection, mount the cover lid and secure with the two screws.

MONITOR AND CONTROL









4.3.2 Grounding

WARNING!

The ground wire only offers protection if the cabinet of the WP-BC Supreme Multi Charger is connected to the safety ground. Connect the ground terminal (PE / GND) to the hull or the chassis.

CAUTION!

For safe installation it is necessary to install a Residual Current Device (earth leakage switch) in the AC input circuit of the WP-BC Supreme Multi Charger.

4.3.3 DC cables

Keep the cable connection between the charger and batteries as short as possible. If available, use coloured battery cables. If this is not possible, mark the plus and the minus cables with coloured insulating tape, e.g. red for plus and blue/black for minus.
Use the following diameters:

Model WP-BC Supreme Multi Charger, Length <3 m/ Length 3-6 m

WP-BC Multi 24/60-4 and 48/50:
25 mm² (AWG 3)/ 35 mm² (AWG2)

WP-BC Multi 12/80-4, 24/100-4:
50 mm² (AWG0)/ 70 mm² (AWG00)

Connection of main batteries:

1. Pull the cables through the cable glands of the WP-BC Supreme Multi Charger.
2. Crimp on the ring terminals to the cables:
   • ring M8 for 24/60-4, 12/80-4,24/100-4 and 48/50.
3. Connect the cables to the terminals of the WP-BC Supreme Multi Charger. Check the polarity is correct, positive on positive & negative on negative
4. Integrate a suitable fuse (charger fuse) in the positive cable. When using a DC distribution box with integral fuses, no additional fuse is necessary.
5. Cut the cables to the required length and crimp on the ring terminals. Connect the cable to the DC distribution box or batteries.

CAUTION!

Reversing the positive and negative battery poles will severely damage the WP-BC Supreme Multi Charger. Undersized (cross-section too small) cables and/or loose connections can cause dangerous overheating of the cables and/or terminals.
Lay the positive and negative cables next to each other to minimise the electromagnetic field around the cables. The negative cable should be connected directly to the negative post of the battery bank or the ground side of a current shunt. Do not use the hull or chassis frame as the negative conductor.

4.4 Maximum charge current & battery capacity

Follow the instructions given by battery manufacturer. The minimum required battery capacity for Whisper-Power gel batteries is as follows:

Supreme Multi Charger recommended battery capacities

Supreme Multi 12/80-4	300-600 Ah
Supreme Multi 24/100-4	300-1500 Ah
Supreme Multi 24/60-4	400-1500 Ah
Supreme Multi 48/50-4	300-1000 Ah

4.10 Status interface alarm

The battery charger is equipped with two potential free contact alarm relays. The normally-closed contacts may be used in your system to control a generator, an appliance, computer interface or visual indicator.

WARNING!

Alarm relay contact ratings are designed for low current battery potentials only. Never use the relays to switch 230V AC functions.

4.10.1 Relay output 1

This output reflects the fault status of the charger.
Closed: normal operation, open: any fault.

4.10.2 Relay output 1

This output reflects the ac input status of the charger.
Closed: normal operation, open: mains undervoltage fault.

4.11 Digital Inputs

The battery charger includes two digital inputs, which can be activated by an external dry contact.

- **Dig. in 1**
  Remote On/Off switch that can override the ON switch on the front panel.
  Closed: charger off, open: charger on.
- **Dig. in 2**
  This input activates the secondary current limit selector. When triggered, the charger recognizes that input power comes from a generator and applies the secondary current limit setting, which is set by default to 100% of the available current. You can only adjust this secondary current limit using the WhisperConnect Tool.
  Closed: use secondary current limit, open: use primary current limit.

4.12 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 not live.

CAUTION!

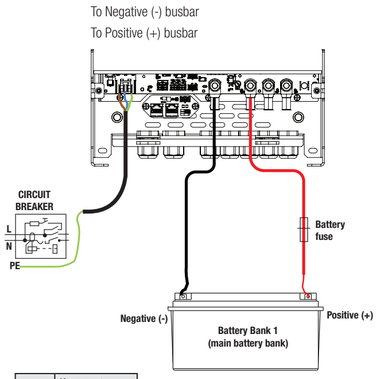
Short circuit or reversing polarity may lead to serious damage to the batteries, the WP-BC Supreme Multi Charger, the cabling and/or the terminal connections. Fuses between the batteries and the WP-BC Supreme Multi Charger cannot prevent damage caused by reversed polarity. The damage as a result of reverse polarity is detectable by the service department and is not covered by the warranty.

CAUTION!

Under sized cables and/or loose connections can cause dangerous overheating of the cables and/or terminals. Therefore, tighten all connections well, in order to limit transition resistance as far as possible. Use cables of the correct size.

Note: If the battery temperature remains within 15-25°C, connection of the battery temperature sensor is optional.

Note: The WP-BC Supreme Multi Charger facilitates connection of WhisperConnect CAN bus.



Model	Max.current protection (230V/120V)
12/80	16A Max
24/60	20A Max
24/100	20A Max
48/50	20A Max

Figure 8: Installation drawing of the Supreme Multi Charger. This schematic is to illustrate the general placement of the Supreme Multi Charger in a system. It is not meant to provide detailed wiring instructions for any particular electrical installation.

Fuse table	
Model	**Recommended fuse**
12/80-4	ANL type 100A
24/60-4	ANL type 80A
24/100-4	ANL type 100A
48/50-4	ANL type 80A

WARNING!

All outputs must be insulated and not exposed.

4.13 Installation requirements and tools:

- Main batteries: note type, charge voltage, individual and total capacity (Ah)
- Battery fuses and fuse-holders, to be installed in positive leads
- Battery cables (obey colour codes and diameter) for main and secondary batteries
- Where appropriate, DC isolation switches with mounting requirements
- Cable shoes and appropriate crimping tool
- Torx screwdriver (TX20) for opening the charger
- Screws (not included) and tools for mounting the charger
- Mains cable (flexible 3-core, appropriate diameter) and flat screwdriver for AC connection
- Utility group with proper isolator switch or earth leakage switch
- Hex socket wrench/screwdriver (10mm and 7mm) for DC cable connections
- UTP patch cable, crimping tool and connectors for WhisperConnect and/or Alarm wiring
- Wiring diagram with connection details, to be left with client

4.14 Commissioning after installation

If the Supreme Multi Charger to be installed has been used previously it is important to consider that previous users may have adjusted the settings. If in doubt, always reset the Supreme Multi Charger to factory settings.

4.14.1 General

The factory settings of the Supreme Multi Charger are optimised to suit most typical installations. However, for some installations it is beneficial to adjust some settings. Several adjustments can be made. See chapter 5.

NOTE: The Rotary switch and DIP-switches must be set before commissioning; all other settings can only be made after commissioning.

CAUTION!

Check the polarity of all wiring before commissioning: positive connected to positive (red cables), negative connected to negative (black cables). If all wiring is OK, place the DC-fuse(s) of the DC distribution box to connect the batteries to the Supreme Multi Charger.

WARNING!

When placing these fuses, a spark can occur, caused by the capacitors used in the Supreme Multi Charger. This is particularly dangerous in places with insufficient ventilation, due to the gassing of the batteries an explosion can occur. Avoid having flammable materials close by.

Now the Supreme Multi Charger is ready for operation. After switching on the AC power supply the Supreme Multi Charger will initiate the charging process.

4.14.2 WhisperConnect CAN bus (optional)

During first commissioning the Supreme Multi Charger will be recognized by the WhisperConnect CAN bus network automatically. The remote control panel of the WhisperConnect CAN bus network will indicate that a new device was found. Some settings can only be changed via the WhisperConnect CAN bus interface.

4.15 Decommissioning

The following steps should be carried out to decommission the Supreme Multi Charger:

1. Switch the Supreme Multi Charger to OFF (see section 3.2.1).
2. Remove the DC-fuse(s) of the DC-distribution and/or disconnect the batteries.
3. Remove the AC-fuse(s) of the AC-input and/or disconnect the AC-mains.
4. Open the connection compartment of the Supreme Multi Charger.
5. Check with a suitable voltage meter that the inputs and the outputs of the Supreme Multi Charger are not live.
6. Disconnect all the wiring.
7. Demount the Supreme Multi Charger.

4.16 Storage, handling and transportation

The Supreme Multi Charger should be stored in the original packing, in a dry and dust free environment. Always use the original packing for transportation. Contact your local WhisperPower Service Centre for further details if you want to return the apparatus for repair.

4.17 Re-installation

To reinstall the Supreme Multi Charger, follow the instructions as described in this chapter (chapter 4).

5. CONFIGURATION SETTINGS

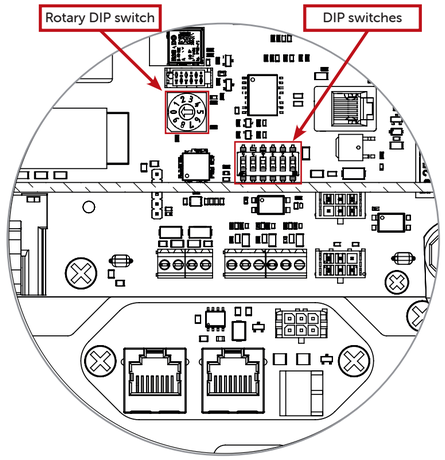
The Supreme Multi Charger settings can be adjusted by means of the Rotary switch and DIP-switches.

CAUTION!

Invalid settings of the Supreme Multi Charger can cause serious damage to your batteries and/or the connected load! Adjustments of settings may be undertaken by authorised personnel only!

5.1 DIP switch operation

The Supreme Multi Charger has six DIP switches, see section 4.3. These switches are operated by flipping the levers to the other position, using a small screw driver.



5.2 DIP switch functions

See the table below for the functional overview of the six DIP switches.

Dip-switch	Function	Description
1	Reserved	Must be set to OFF
2	External fault input DEF	OFF: Inactive ON: Active
3	Whisper-Connect Device ID	3 ON, 4 ON: WhisperConnect Device ID set by WhisperConnect 3 OFF, 4 OFF: WhisperConnect Device ID fixed to 0x31 3 ON, 4 OFF: WhisperConnect Device ID fixed to 0x32 3 OFF, 4 ON: WhisperConnect Device ID fixed to 0x33
4		
5	Reserved for future use	Must be set to ON
6	Used for factory programming, do not modify	Must be set to OFF

5.2.1 Battery charge curves by rotary switch

Charge characteristic voltages are set using DIP switches.

- Factory setting (5)
  This is the standard setting that suits the most frequently used lead-acid batteries. Changing the charge characteristic settings to other curves must only be done after careful consideration and consulting the battery manufacturers specifications. Only one charging curve may be selected.

WARNING!

WhisperPower is not responsible for damage to batteries, even when factory setting is applicable.

Value	Description	Bulk/absorption voltage	Float voltage	
0	Open lead	28.8	26.4	
1	Sealed lead	28.4	27.2	
2	Lead/Calcium	29.6	27.6	
3	AGM spiral cell	29.4	27.6	
4	Winterizing open lead	28.8	26.4	
5	GEL and AGM	28.8	27.6	Default
6	Single stage lead	27.2	27.2	
7	Single stage lithium LFP *	28.8	28.8	
8	Three stage lithium LFP *	28.8	27.6	
9	WhisperPower profile *			Configurable

6. WHISPERCONNECT CAN BUS

6.1 What is WhisperConnect CAN bus?

All devices that are suitable for WhisperConnect CAN bus are marked by the WhisperConnect CAN bus symbol. The WP-CAN bus is a fully decentralised data network for communication between the different WhisperPower system devices. It is CAN bus based which has proven itself as a reliable bus-system in automotive applications. It is used as a power management system for all connected devices, such as the inverter, battery charger, generator and many more. This enables communication between the connected devices, for instance to start the generator when the battery state of charge is low. WhisperConnect CAN bus reduces the complexity of electrical systems by using UTP patch cables. All system components are simply chained together. Therefore, each device is equipped with two WhisperConnect CAN bus data ports. As only a few WhisperConnect CAN bus cables are needed, installation and material costs are reduced significantly.
New devices can be added to the existing network easily. Consequently, the WhisperConnect CAN bus network is highly flexible for extended system configuration.
For more information refer to the WhisperConnect manual on our website: www.whisperpower.com

CAUTION!

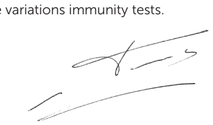
Never connect a non-WhisperConnect CAN bus device to the WhisperConnect CAN bus network directly! This will void the warranty of all WhisperConnect CAN bus connected devices.

7. EC DECLARATION OF CONFORMITY

Manufacturer: WhisperPower BV • Address: Kelvinlaan 82 9207 JB Drachten, The Netherlands
Hereby WhisperPower declares under our responsibility that **Product:** WP-BC Supreme Multi battery charger **Model:** WP-BC Supreme Multi 12/80-4, 24/60-4, 24/100-4 Is in conformity with the provisions of the following EC directives:

2014/35/EU (LVD Directive); the following harmonised standards have been applied:
EN 62368-1: 2014/A11:2017 Safety requirements of Audio/video, information and communication technology equipment
EN 60335-1:2012+A11 General Safety requirements of Household and similar electrical appliances:
EN 60335-2-29:2004+A2: 2010 Particular Safety requirements for battery chargers
EN 62233:2008 Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure

2014/30/EU (EMC Directive); the following harmonised standards have been applied:
EN 55032: 2015 Electromagnetic compatibility of multimedia equipment - Emission Requirements
EN 55014-1: 2017 Emission Requirements for household appliances, electric tools and similar apparatus
EN 61000-6-2: 2005 Generic standards - Immunity for industrial environments
EN 61000-3-2: 2014 Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
EN 61000-3-3: 2013 Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <= 16 A per phase and not subject to conditional connection
EN 61000-4-11: 2004 Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests.



M.B. Favot WhisperPower Product Manager
Drachten, 22/10/2025

5053-22.12.2025-Manual Supreme Multi

8. TROUBLE SHOOTING & FAULT FINDING

In the case of a fault, the Supreme Multi Charger display shows an error code to help you find its source. If you cannot solve a problem with the aid of the fault finding table, contact your local WhisperPower Service Centre. See www.whisperPower.com. Make sure you have a record of the article and serial number of the installed device(s) (See section 1.4).

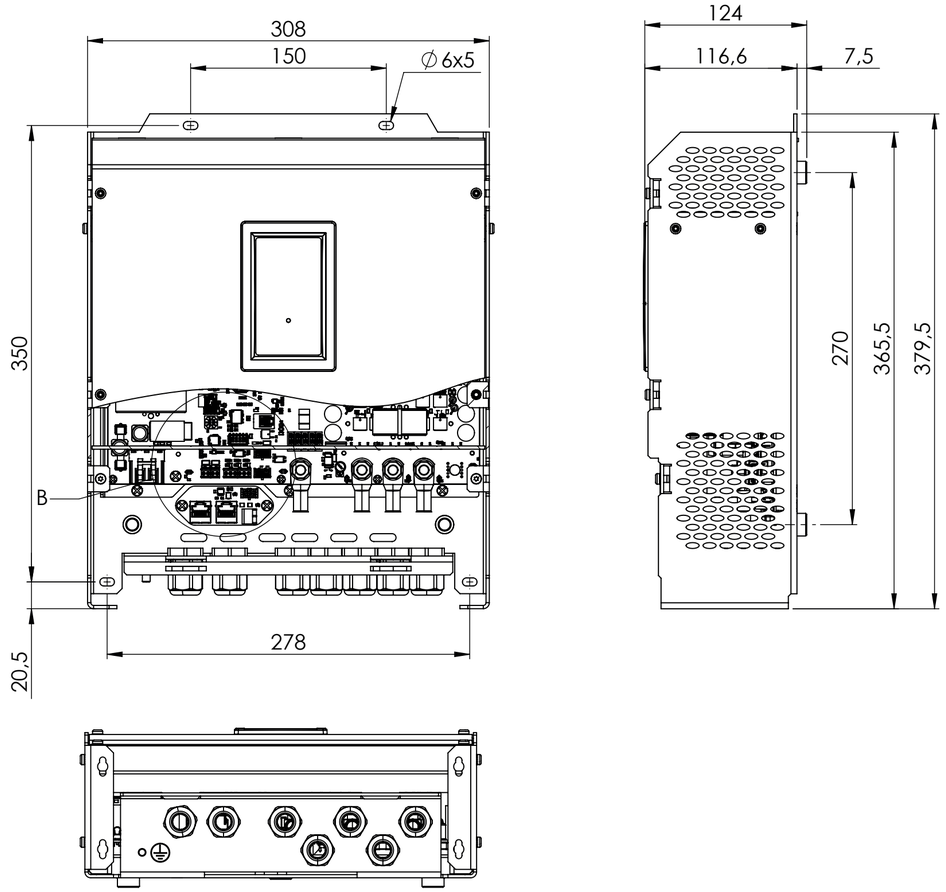
8.1 Fault finding table

FAULT	POSSIBLE CAUSE	RECOMMENDED ACTION
No output voltage and/or current	No AC-input.	Check AC wiring, check remote control panel.
	AC-input voltage too low (< 180VAC).	Check input voltage, check generator.
	AC input frequency out of range.	Check input voltage, check generator.
Output voltage too low, charger supplies maximum current	Load that is connected to the batteries is larger than charger can supply.	Reduce load taken from the batteries.
	Batteries not 100% charged.	Measure battery voltage. After some time this will be higher.
Charge current too low	Batteries almost fully charged.	Nothing, this is normal when the battery is almost fully charged.
	High ambient temperature.	Nothing; if ambient temperature is more than 40°C the charge current is automatically reduced.
	Low AC input voltage. At lower AC-input voltages the charge current is reduced.	Check AC-input voltage.
Batteries not fully charged	Charge current too low.	See "Charge current too low".
	Current supplied to DC load is too high.	Reduce load taken from the batteries.
	Charge time too long.	Use a battery charger with higher capacity.
	Battery temperature too low.	Use the battery temperature sensor.
	Defective or old battery.	Check battery and replace if necessary.
Batteries are discharged too fast	Battery capacity reduced due to wastage or sulphation, stagnation.	Charge and recharge a few times, this might help. Check battery and replace if necessary.
Batteries are too warm, gassing	Defective battery (short circuit in cell).	Check battery and replace if necessary.
	Battery temperature too high.	Use the battery temperature sensor.
	Charge voltage too high.	Check settings (see chapter 5).

9. TECHNICAL SPECIFICATION

	SUPREME MULTI			
Art. nr.	**12/80-4** 60205580	**24/60-4** 60205660	**24/100-4** 60205601	**48/50-1** 60205750
GENERAL SPECIFICATIONS				
Nominal input voltage	120 / 230 V	120 / 230 V	230 V	230 V
Nominal input frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Nominal output voltage	12 V	24 V	24 V	48 V
Total charge current (25°C)	60A @ 28.8V @ 120 VAC	60A @ 28.8V @ 120 VAC	N.A.	N.A.
	60A @ 28.8V @ 230 VAC	60A @ 28.8V @ 230 VAC	100A @ 28.8V @ 230 VAC	50A @ 57.6V @ 230 Vac
Number of battery outlets	4	4	4	1
Charge characteristic	IUoUo, automatic / 3-step for GEL/AGM/wet/lead acid batteries/LIFEPO4			
Charge voltage Bulk (25°C)	14.4 V	28.8 V	28.8 V	57.6 V
Charge voltage Absorption (25°C)	14.25 V	28.5 V	28.5 V	57.6 V
Charge voltage Float (25°C)	13.25 V	26.5 V	26.5 V	55.2 V
Max. Bulk time	8 hours	8 hours	8 hours	4 hours
Dimensions (hxwxd in mm)	380 x 308 x 123	380 x 308 x 123	380 x 308 x 123	380 x 308 x 123
Dimensions (hxwxd in inch)	14.96" x 12.13" x 4.84"	14.96" x 12.13" x 4.84"	14.96" x 12.13" x 4.84"	14.96" x 12.13" x 4.84"
Weight	4.4 kg /9.7 lbs	4.4 kg /9.7 lbs	5.2 kg /11.46 lbs	5.2 kg /11.46 lbs
Battery capacity (recommendation)	300-500 Ah	300-600 Ah	400-1500 Ah	400-1000 Ah
TECHNICAL SPECIFICATIONS				
Power factor (cos phi)	>_ 0.97	>_ 0.97	>_ 0.97	>_ 0.97
Full load consumption (230VAC)	2100VA	2100VA	3400VA	3200VA
Temperature compensation	battery temperature sensor (optional)			
DC consumption with connected battery	< 5 mA			
Display	unit has a LED display for charge/voltage and charge indication			
Temperature range	-25 to +60˚C / -13 to 140°F, maximum temperature is 40°C at 100% output current, above 40°C-60 ˚C, maximum output current is 50% load at 60°C, below -20°C , maximum output current is 10% load.			
Cooling	3 x vario fan and natural cooling to ensure optimized cooling			
Protection degree	IP23	IP23	IP23	IP23
Approvals	fully CE according to LVD Directive 2014/35/EU, EMC directive 2014/30/EU, design to meet ISO8846, SAE J1171 and Ignition Proof.			

Supreme Multi Dimensions



OctoView 3 Control Panel Dimensions