PosiCharge ProCore™

Operations and Maintenance

Disclaimer: this manual includes the latest information available at the time of printing. Webasto Charging Systems, Inc., reserves the right to make changes to this manual and/or product without further notice. Changes or modifications to this product not completed by an authorized service provider could void the product warranty.

posicharge.com | posichargeprocore.com | webasto-charging.com

A NOTE ABOUT CUSTOMER SUPPORT

Please write down the unit serial number in the Owner's Record (below) to ensure superior service, and have it available when contacting Webasto Customer Service. The serial number can be found on the nameplate rating label on the left side of the unit.

Customer Support

IPCService@webasto.com

1–866–767–4242

Parts

WCSIParts@webasto.com

Owner's Record

Model:

PosiCharge ProCore™

Serial Number (SN):

MAC Address ID:

Installation Date:

Contents

Figures

Tables

1. Symbol Usage

The PosiCharge ProCore™ is designed with safety as the highest priority. The following safety precautions must be read and observed.

WARNING Indicates information about safety practices which, if not followed, could result in personal injury, fire, or equipment overheating

NOTE Indicates helpful information for installation or usage, but does not contain personnel or equipment safety-related information

2. Performance Ratings

Table 1 provides the physical and performance parameters for each ProCore™ model.

Table 1 ProCore™ Physical and Performance Parameters

Power Rating	10 kW	15 kW	20 kW	30 kW w a single cable	30 kW w a single cable	30 kW w a dual cable	30 kW w a dual cable
Max. output current at 24/36/48V (A)	200/200/200	320/320/320	400/400/400	400/400/400	500/500/500	500/500/500	600/600/600
Max. output current at 60V (A)	167	250	320	320	500	500	500
Max. output current at 48/72/80V (A)	200/139/125	300/208/187	400/278/250	400/400/375	NA	NA	NA
Max. output current at 100V (A)	100	150	200	300	NA	NA	NA
Min. input conductor size (AWG)	12	10	8	6	6	6	6
Min. grounding conductor size (AWG)	12	10	8	8	8	8	8
Min. input wire terminal torque (in-lb)	30–33	30–33	30–33	30–33	30–33	30–33	30–33
Min. ground wire terminal torque (in-lb)	35–44	35–44	35–44	35–44	35–44	35–44	35–44
Circuit breaker rating 480 VAC	20A	25A	40A	50A	50A	50A	50A
Connector option	Euro	Euro	Euro	Euro	Rema	Euro	Euro SBX
Dimensions H×W×D (in)	28.5×20×7	28.5×20×11.5	28.5×20×11.5	28.5×20×16.5	28.5×20×16.5	28.5×20×16.5	28.5×20×16.5
Weight (with cables)	81 lbs	129 lbs	129 lbs	173 lbs	184 lbs	197 lbs	197 lbs

- Operating temperature range: −25 °C to 45 °C
- Storage temperature range: −30 °C to 65 °C

3. Operation

3.1. Charger Display

Figure 1 Charger Display

Indicator	Description
Status	• Indicates whether a vehicle is connected to the charger (Figure 1) "Connect Vehicle" indicates that there is no vehicle connected to the charger (and that in order to be connected, it must be connected). The charger is idle. **NOTE** If the status bar displays "Connect Vehicle," then the buttons have no function.
Charger name	• Displays the name broadcast to the ProCore™ Mobile Application (App) You can change the charger name, using the mobile app, in the Charger Data window.
Charger maximum output power	• Displays the power rating for the charger The value changes as modules are added or removed.
Day and time	• The ProCore™ Mobile App automatically sets this indicator.

3.2. Battery Display

The graphical battery display (Figure 2) changes, showing parameters relating to the battery state of charge (SOC), when the charger connects to a battery.

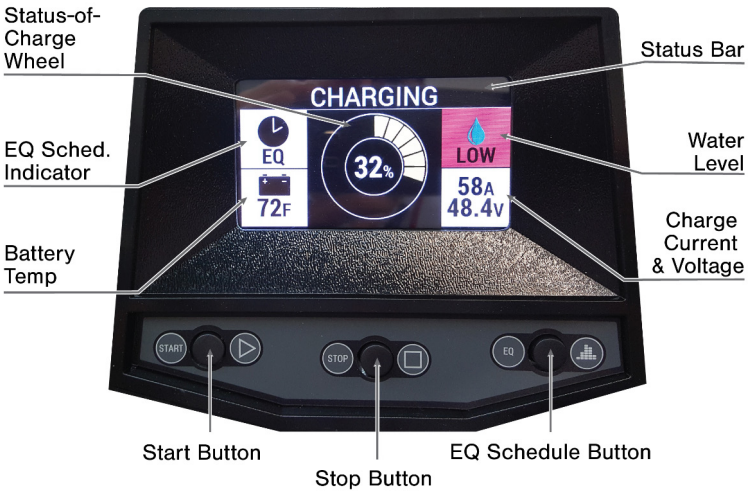

Figure 2 Battery Display

Indicator	Description
SOC wheel	The charger estimates the battery charge percentage (or SOC) at the connection. The SOC wheel adds segments as the battery charges. The SOC displayed in the center of the wheel increases in value. The color of the wheel also indicates the SOC, as indicated below, allowing the battery charging status to be monitored at a distance.

Color	Charge Percentage
Yellow	Less than 80%
Blue	80% or greater
Green	100% fully charged battery

<table>
<tr><th>Indicator</th><th>Description</th></tr>
<tr><td>Equalization (EQ) schedule indicator</td><td>
<table>
<tr><th>Color</th><th>Meaning</th></tr>
<tr><td>Light gray</td><td>No EQ scheduled</td></tr>
<tr><td>Black</td><td>EQ scheduled</td></tr>
<tr><td>Flashing green</td><td>EQ charge in progress</td></tr>
<tr><td>Solid green</td><td>EQ charge completed for the current week</td></tr>
</table>
</td></tr>
<tr><td>Battery temperature</td><td>The temperature reading comes from a temperature sensor installed in the battery. If there is no sensor, then the display grays out.

The display can be set to °F or °C, using the ProCore™ Mobile App Charger Setup/ Display Options window.

If the battery is over-temperature, then the charger faults and displays the battery temperature window as red.</td></tr>
<tr><td>Status bar</td><td>Indicates the charging status with the following displays:

• Charging

• Charge Stopped

• Charge Completed

• EQ Charging

• Full Charging

• Offline-charging stopped to use the ProCore™ Mobile App to change the configuration

• Fault-additional information displays about the fault or warnings</td></tr>
</table>

<table>
<tr><th>Indicator</th><th>Description</th></tr>
<tr><td>Water level indicator</td><td>
<table>
<tr><th>Color</th><th>Indication</th></tr>
<tr><td>Grayed out</td><td>There is no battery monitor and identifier (BMID) with a water level sensor present.</td></tr>
<tr><td>Red background</td><td>LOW: the battery water level is low.</td></tr>
<tr><td>White background</td><td>OK: the battery water level is OK.</td></tr>
</table>
</td></tr>
<tr><td>Charge current and voltage</td><td>The charger controls the charging current via Webasto proprietary charging algorithms.</td></tr>
</table>

3.2.1. Alternate Battery Display

You can switch the battery graphical display to an alternate tabular battery display that shows additional parameters for the charging battery.

3.2.1.1. Press and hold the **Start** button for three seconds to change the graphical battery display to the alternate tabular battery display (Figure 3). Repeat this step to return the display to the graphical battery display.

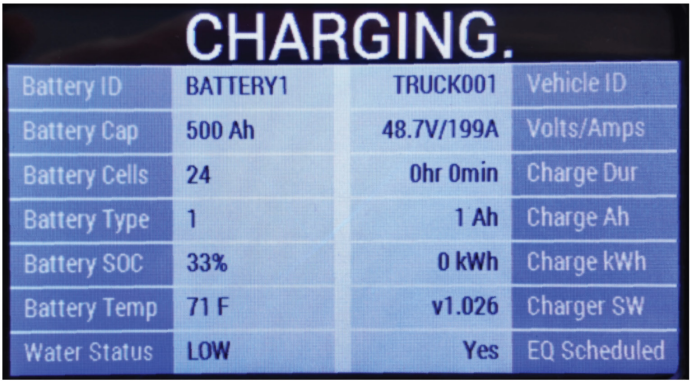

Figure 3 Alternate Battery Display

3.3. Buttons

NOTE ProCore™ starts charging automatically when you connect a vehicle. You can disconnect a vehicle safely from ProCore™ even while charging. You do not need to start or stop the charge with the following buttons.

Button	Function
Start	If the charger is in the Charge Stopped state, then press the **Start** button (Figure 2) momentarily to restart the charge. Press and hold the **Start** button for three seconds to switch from the battery display (Figure 2) to the alternate battery display (Figure 3). Press and hold the **Start** button again to switch back to the battery display.
Stop	Press the **Stop** button (Figure 2) to stop the charge. The charger displays, on the status bar, "Charge Stopped."
EQ Schedule	Equalization (EQ) is an extended low-current charge performed once per week to maintain battery health. EQ normally is scheduled automatically by settings in the charger or BMID, and it is performed if scheduled after a regular charge to 100% SOC. The alternate battery display shows the EQ Scheduled status (Figure 3). If, at the top, the alternate battery display shows • "Charging," then press the **EQ Schedule** button (Figure 2) to schedule or unschedule an EQ charge. • "Charge Stopped," then press the **EQ Schedule** button to start an EQ charge. • "Battery Undervoltage," then press and hold the **EQ Schedule** button to start a recovery charge, which is a low-current charge designed to raise safely the battery voltage. The battery should be able to accept a normal charge after the recovery charge is complete.

3.4. Standby Switch and USB Port

The standby switch and universal serial bus (USB) port (Figure 4) are located on the left side of the charger. The Standby switch must be turned to the ON position (indicated) before the display turns on and charger operates.

The USB port is used only by qualified service personnel to update software and run diagnostics.

WARNING Turning the Standby switch to the OFF position ONLY turns off the display and prevents charger operation. High-voltage alternate current (AC) is still present in the cabinet. AC voltage can be turned off only at the breaker.

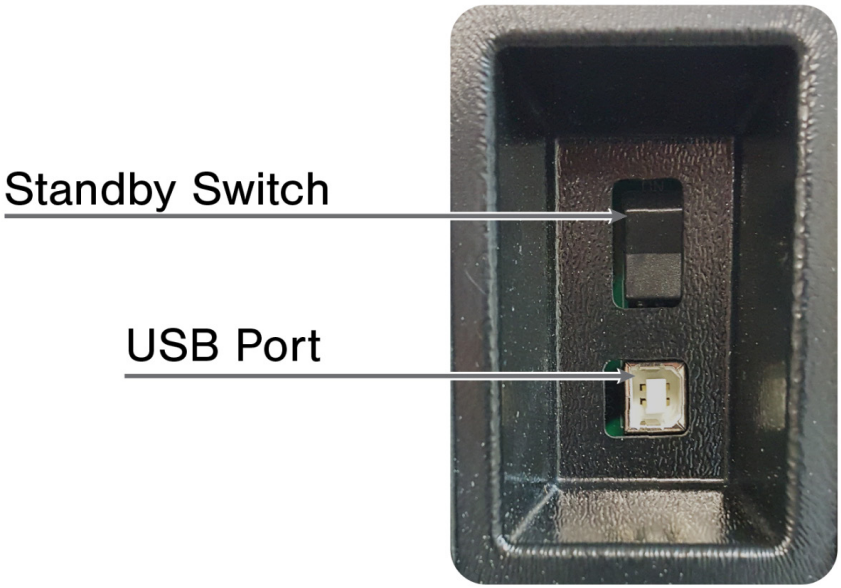

Figure 4 Standby Switch and USB Port

3.5. Power Module Redundancy

ProCore™ models rated 15kW or more have multiple power modules. If any power module faults, then it becomes disabled; charging continues at reduced power using the remaining module(s). The display shows a warning stating that the charger has a faulting module. Replace the faulty module as soon as practical.

Use the ProCore™ Mobile App, to speed service, to send the charger fault log to Webasto Customer Support.

3.6. Power Module Replacement

Follow these simple steps to replace a faulting power module.

3.6.1. Turn off the utility power breaker to the charger, and lock out the breaker.

3.6.2. Disconnect the vehicle, if there is one.

3.6.3. Wait five minutes to allow capacitor voltages in the charger to bleed down.

3.6.4. Remove the right side panel of the charger.

3.6.5. Grasp the hand holds on the power module, and pull them firmly to unseat the module.

3.6.6. Slide the power module out of the cabinet. Be careful: a module weighs 35 lbs.

3.6.7. Slide the replacement power module into the cabinet.

3.6.8. Seat the module by making sure that it is flush with the cabinet sill.

3.6.9. Replace the right panel.

3.6.10. Restore the utility power.

3.7. User-Level Troubleshooting

Fault Message	Possible Cause(s)	Solution(s)
CURRENT CONTROL The charging current cannot be produced.	The module failed.	Replace the power module.
OVP FAULT There is a module overvoltage.	The battery became disconnected without opening the pilot.	Wait for the fault to clear.
OCP FAULT There is a module overcurrent.	The module failed.	Replace the power module.
GATE DRIVE UV There is a gated drive undervoltage.	The module failed.	Replace the power module.
POWER SUPPLY FLT	The module failed.	Replace the power module.
MODULE OVER TEMP	The air intake is blocked. The module failed.	Remove the blockage. Replace the power module.

Fault Message	Possible Cause(s)	Solution(s)
BATT UNDER VOLT	The battery is drained to a voltage below a safe level for charging. The BMID number of battery cells setting is incorrect.	Press and hold the **EQ Schedule** button to initiate a recovery charge and safely raise the battery voltage. Use the ProCore™ App BMID setup to set the correct number of battery cells.
BAT OVER VOLTAGE	The BMID number of battery cells setting is incorrect.	Use the ProCore™ App BMID setup to set the correct number of battery cells.
BATTERY TEMP The battery temperature is too high.	The faulty battery cannot accept a high-charge current. An incorrect BMID setting is resulting in an improper charging.	Service the battery. Use the ProCore™ App to correct the BMID settings.
BMID LOST COMM BMID communication is lost.	There are damaged BMID communication (comm) wires in the charger output cable or in the vehicle.	Repair the wiring.
CABLE TEMP There is a connector over temperature.	Damage to the charging connector is causing an unsafe temperature.	Repair the charging connector.
AC POWER HIGH	The utility AC voltage is too high for safe charger operation.	Check the AC input voltage.

Fault Message	Possible Cause(s)	Solution(s)
AC POWER LOW	The utility AC voltage is too low for safe charger operation.	Check the AC input voltage.
AC POWER PHASE	The charger is not receiving AC power in all three phases. The module has failed and blown a backplane fuse.	Confirm that the utility breaker has not tripped on one of the phases. Replace the power module that caused the fuse to blow, and replace the backplane fuses.
MODULE TYPE ERR	The power module and cabinet voltage settings do not match.	Install the correct power module.

3.8. Maintenance

3.8.1. Brush dust from the intake grill, on the bottom, every six months.

3.8.2. Check the condition of the output cable and connectors every month.

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