



Operator Manual

PowerCommand[®] 2 Amp @ 12 and 24 Volt Battery Chargers

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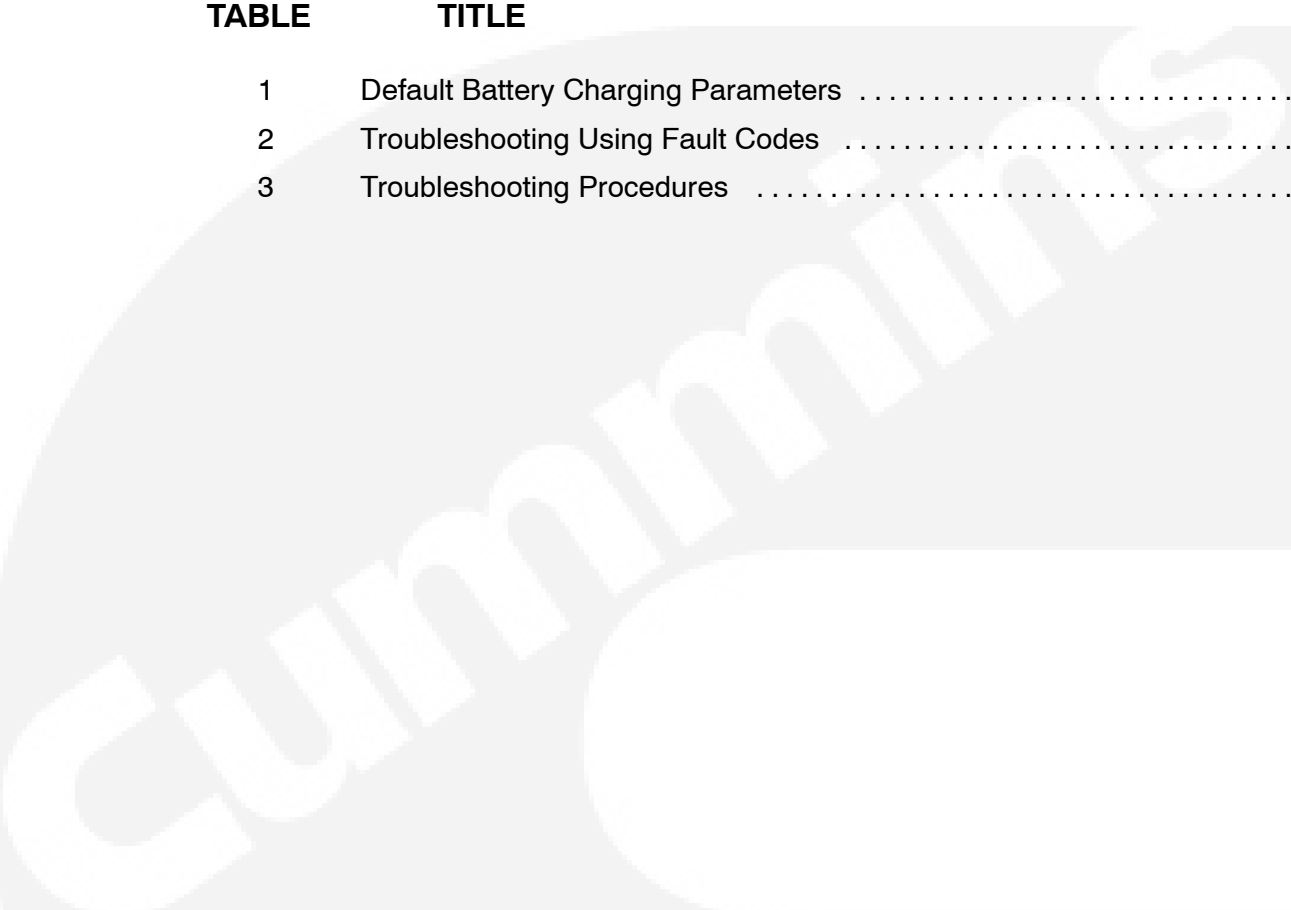


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Specifications

BATTERY CHARGER FEATURES							
Compatible Battery Types				12 or 24-Volt Lead-Acid			
Maximum Charge Rate				2 Amps @ 12 or 24 VDC			
Operating Input Voltage				120, 208, 240, 277, 380, 416, 480, 600 VAC			
Operating Input Frequency				50 or 60 Hz			
Charge Control				4-Stage Automatic Charger			
Configuration				Transfer Switch Assembly			
Network Interface (Not currently available)				RS-485 Connector			
Alarm Contacts				2 Amps, 30 VDC			
ENVIRONMENT							
Operating Temperature Range				-22 to +140 Degrees F (-30 to +60 Degrees C)			
Non-Operating Temperature Range				-22 to +158 Degrees F (-30 to +70 Degrees C)			
Relative Humidity				95%			
WEIGHT AND DIMENSIONS							
Weight				3.5 lbs (1.58 kg)			
Dimensions: Length x Depth x Height				9.14 x 4.96 x 2.94 Inches (232.2 x 126 x 74.68 MM)			
ELECTRICAL RATINGS							
INPUT		12V BATTERY CHARGER			24V BATTERY CHARGER		
VOLTAGE (NOMINAL)	CURRENT (AMPS)	OUTPUT VOLTAGE	FLOAT VOLTAGE	OUTPUT CURRENT (AMPS)	OUTPUT VOLTAGE	FLOAT VOLTAGE	OUTPUT CURRENT (AMPS)
120	0.9	15.0	13.5	2.0	30.0	27.0	2.0
208	0.5	15.0	13.5	2.0	30.0	27.0	2.0
240	0.45	15.0	13.5	2.0	30.0	27.0	2.0
277	0.4	15.0	13.5	2.0	30.0	27.0	2.0
380	0.3	15.0	13.5	2.0	30.0	27.0	2.0
416	0.25	15.0	13.5	2.0	30.0	27.0	2.0
480	0.22	15.0	13.5	2.0	30.0	27.0	2.0
600	0.18	15.0	13.5	2.0	30.0	27.0	2.0



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Safety Precautions

Electricity and batteries present hazards which can result in severe personal injury or death.

Thoroughly read this manual before operating the battery charger. Safe operation and top performance can only be attained when equipment is operated and maintained properly.

The following symbols in this manual alert you to hazards to operators, service personnel, and equipment.

⚠ DANGER *This symbol alerts you to an immediate hazard which will result in severe personal injury or death.*

⚠ WARNING *This symbol alerts you to a hazard or unsafe practice that can result in severe personal injury or death.*

⚠ CAUTION *This symbol alerts you to a hazard or unsafe practice that can result in personal injury or equipment damage.*

ELECTRICITY

All electrical connections must be made by trained and experienced electricians in accordance with applicable codes.

Use caution when working on live electrical equipment. Remove jewelry, use tools with insulated handles, make sure clothing and shoes are dry, and stand on a dry wooden platform or insulating pad.

Disconnect all sources of AC and DC power from the battery charger before servicing.

BATTERY CHARGER

Do not use the battery charger unless the battery voltage matches the output voltage rating of the charger.

Do not operate the battery charger in a closed-in area or restrict ventilation in any way.

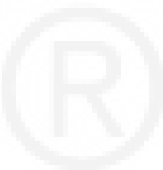
Never place the battery charger directly above or below the battery. Gases or fluids from the battery can corrode and damage the charger.

Do not expose the battery charger to rain, snow, or other precipitation.

Do not operate the battery charger if it has received a sharp blow, been dropped, or otherwise been damaged in any way. If damaged, take it to a qualified service technician.

Grounding Instructions: This battery charger should be connected to a grounded, metal, permanent wiring system; or an equipment-grounding conductor should be run with circuit conductors and connected to an equipment-grounding terminal or lead on the battery charger. Connections to the battery charger must comply with all local codes and ordinances.

Use of an attachment not recommended or sold by the battery charger manufacturer can result in a risk of fire, electric shock, or personal injury.



SAVE THIS MANUAL — IMPORTANT SAFETY INSTRUCTIONS

BATTERIES

To reduce the risk of injury, only use this battery charger to charge rechargeable batteries of the types listed in this manual. Other types of batteries can burst, causing personal injury and property damage.

Carefully read and follow all of the battery manufacturer's instructions and safety precautions, such as removing or not removing cell caps while charging and recommended rates of charge.

Never charge a frozen battery.

Do not smoke when servicing batteries. Wear safety glasses. If acid gets in your eyes or on your skin, flush with water for 15 minutes and get medical attention.

To keep sparks from igniting explosive battery gases, always disconnect AC power to the battery charger and turn off all DC loads before disconnecting the battery cables.

The high capacitance of the battery charger can cause sparking whenever battery cables are disconnected or reconnected. This is normal, do not be alarmed. Take the following precautions:

1. Do not disconnect or reconnect the battery charger when fuel fumes are present.
2. ***To keep sparking away from the batteries when disconnecting battery cables:***
 - a. Disconnect the negative (-) cable from the battery charger and then the Batteries.
 - b. Disconnect the positive (+) cable from the battery charger and then the Batteries.
3. ***To keep sparking away from the batteries when reconnecting battery cables:***
 - a. Reconnect the positive (+) cable at the Batteries and then at the battery charger.
 - b. Reconnect the negative (-) cable at the Batteries and then at the battery charger.

Introduction

This manual provides information on the installation and operation of the Cummins® 4-stage, 2 amp, PowerCommand® battery chargers. These battery chargers can charge 12 volt or 24 volt Wet Cell (lead-acid) batteries.

This battery charger is intended for use in a permanently wired, industrial application. This battery charger can function as a stand-alone charger and can be also be installed in a configuration acceptable to mounting a transfer switch assembly.

MODEL IDENTIFICATION

To identify your model, refer to the charger rating label on the front of the battery charger (see Figure 1). This label lists electrical characteristics and the charger part number.

If there is a problem with the operation of the battery charger, contact your local distributor and give the complete description. This information is necessary to properly identify your unit among the various types manufactured.

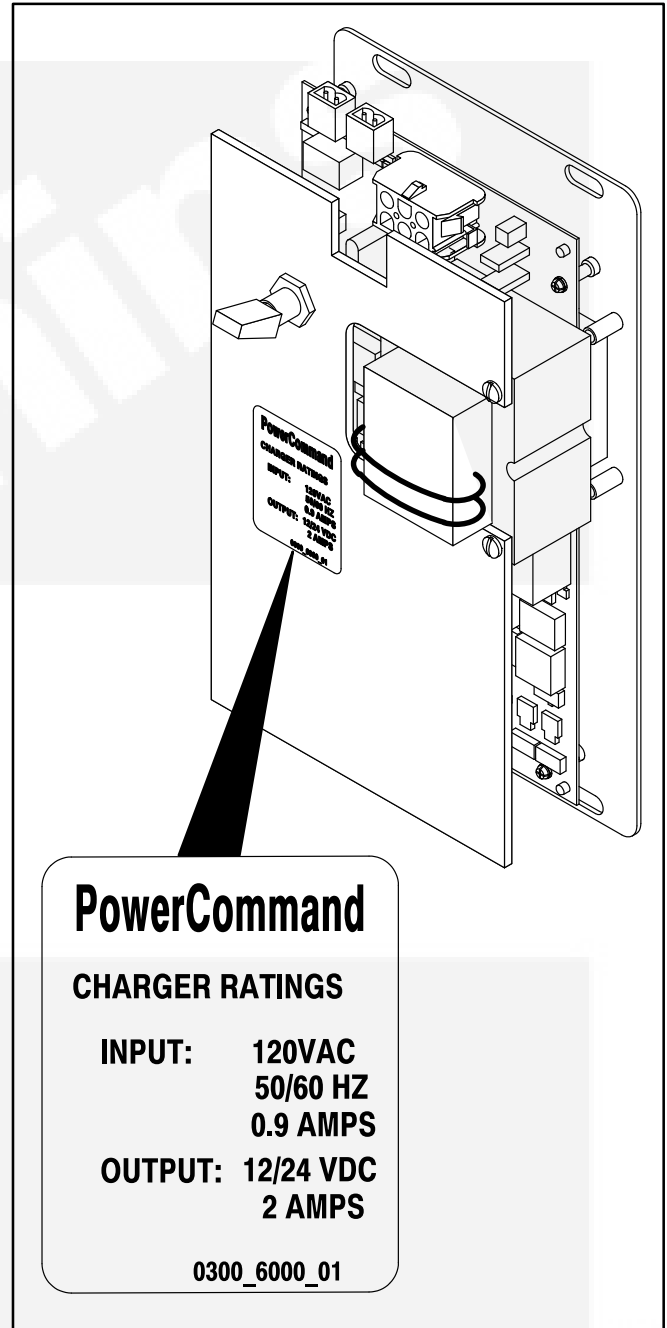


FIGURE 1. CHARGER RATINGS LABEL

HOW TO OBTAIN SERVICE

In North America: Call 1-800-888-6626 for the nearest Cummins Power Generation distributor in the United States or Canada. Press 1 (Option 1) to be automatically connected to the distributor nearest you.

If you are unable to contact a distributor using the automated service, consult the Yellow Pages. Typically, our distributors are listed under:

GENERATORS – ELECTRIC,
ENGINES – GASOLINE OR DIESEL, or
RECREATIONAL VEHICLES – EQUIPMENT,
PARTS AND SERVICE

Outside North America: Call Cummins Power Generation at 1-763-574-5000 from 7:30 AM to 4:00 PM (Central Standard Time), Monday through Friday, or send a fax at 1-763-528-7229.

Information to have available when calling:

- *Part Number (see Figure 1)*
- *Nature of problem (see Troubleshooting, on page 11).*

⚠WARNING *Improper service can result in severe personal injury or death and damage to equipment. Service must be performed by trained and experienced personnel.*



Description and Operation

DESCRIPTION

Connectors and major components of the two amp battery charger are illustrated in the two views included in Figure 2.

A five amp DC circuit breaker switch and a connector for the transfer switch harness are included on the front of the battery charger. Two connectors (fault alarm output and RS-485) are located on the top of the battery charger.

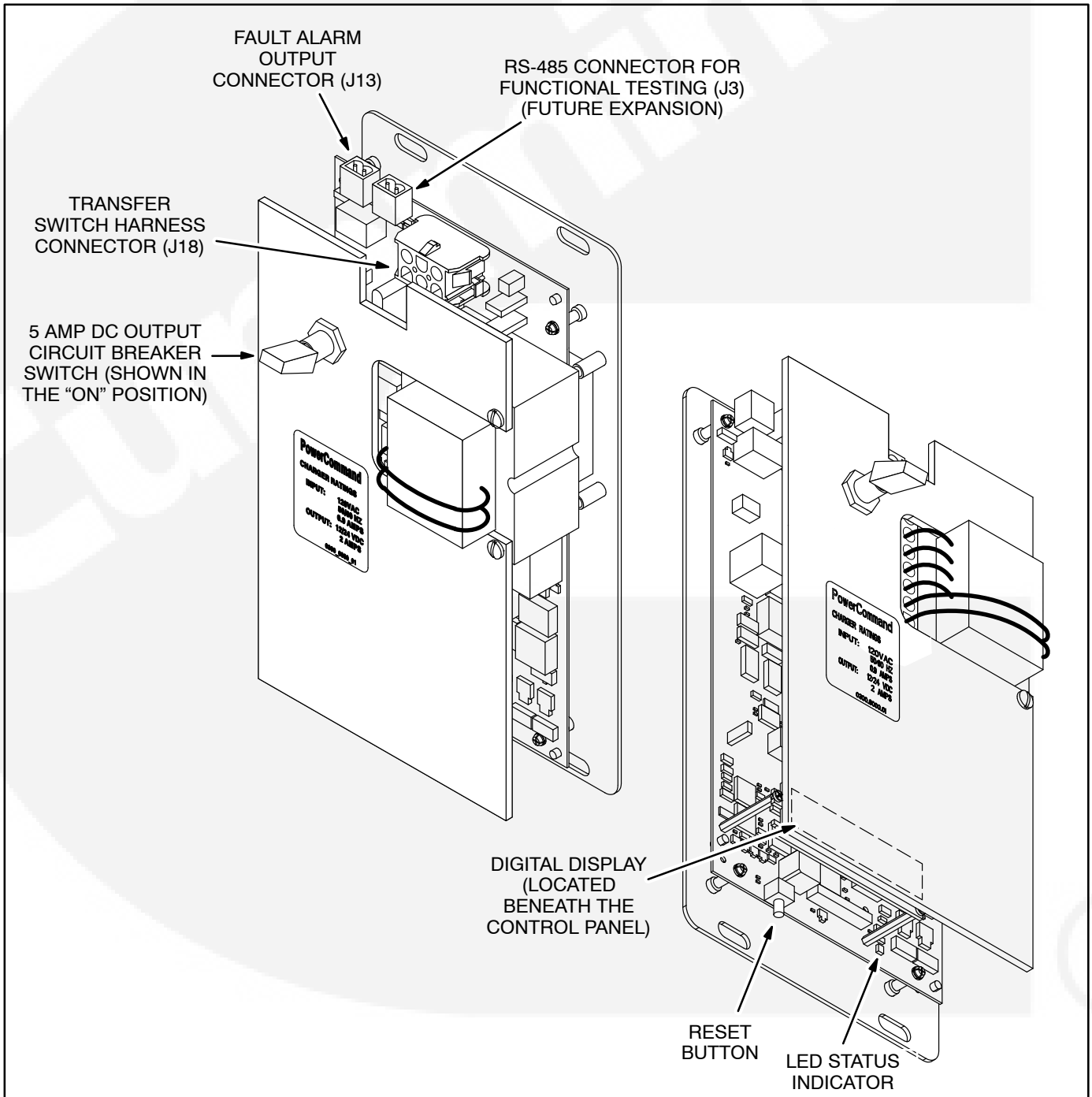


FIGURE 2. TYPICAL BATTERY CHARGER

BATTERY CHARGER CONTROL PANEL

The battery charger control panel includes a digital display, a Reset button, and two indicator LEDs (see Figure 3).

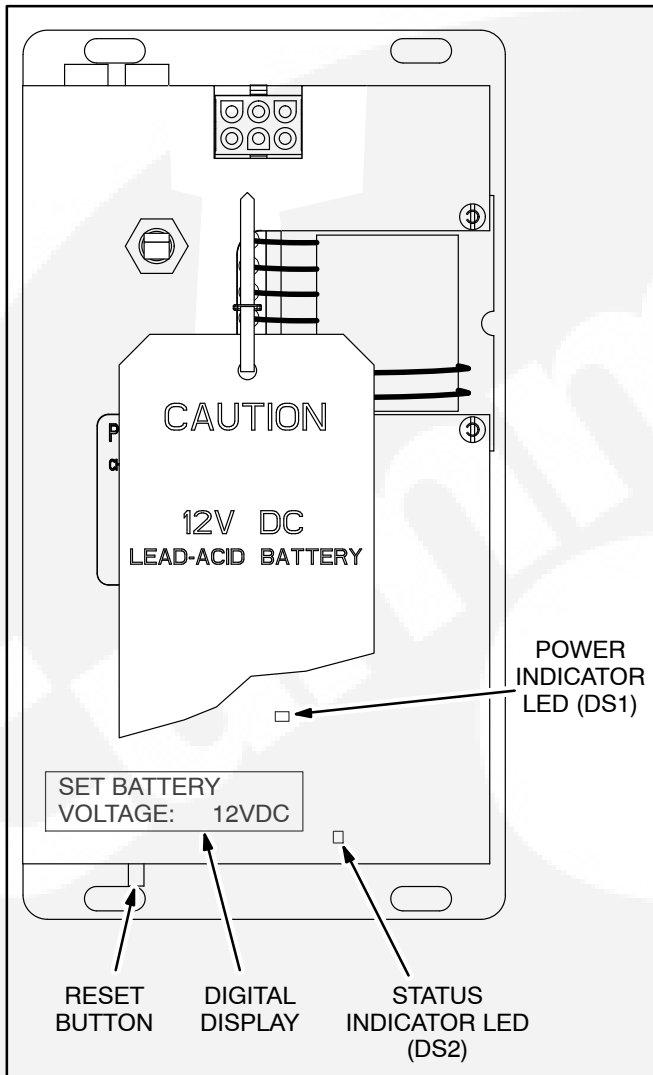


FIGURE 3. CONTROL PANEL

Power Indicator LED

The power indicator LED (DS1) is green when the charger is powered up.

Digital Display

The battery charger includes a 2-line x 16-character digital display that displays menus and faults. It is located near the bottom of the charger (behind the control panel).

Reset Button

The Reset button is used to select menu options and to clear fault messages.

Status Indicator LED

The status indicator LED (DS2) displays the appropriate color for the following conditions.

- **Green** – On solid indicates unit is charging
- **Red** – On solid indicates a fault condition. See the digital display for the fault number.

Setup Menu

The Configuration Mode includes a setup menu that can be used to set the battery voltage. Refer to “Battery charger Configuration” on the following page for more information. **All battery charging is disabled when Configuration Mode is entered.**

Faults

The following is a list of the seven possible faults that can be displayed on the control panel digital display.

- Overcurrent (fault code 379)
- High battery voltage (fault code 442)
- Low battery voltage (fault code 441)
- Input undervoltage (fault code 2331)
- Input overvoltage (fault code 2358)
- Charger overtemp (fault code 2544)
- Unrecoverable battery (fault code 9115)

Each fault displayed includes a description and a fault code number (an example is shown in Figure 4). Battery charging will cease when any of these faults occur. More information on battery charger faults is included in the *Troubleshooting* section, starting on page 11.

FAULT 442
High Batt Volts

FIGURE 4. HIGH BATTERY VOLTAGE FAULT

BATTERY CHARGER CONFIGURATION

The charger identification screen is displayed on the control panel for less than one second upon power-up (see Figure 5).

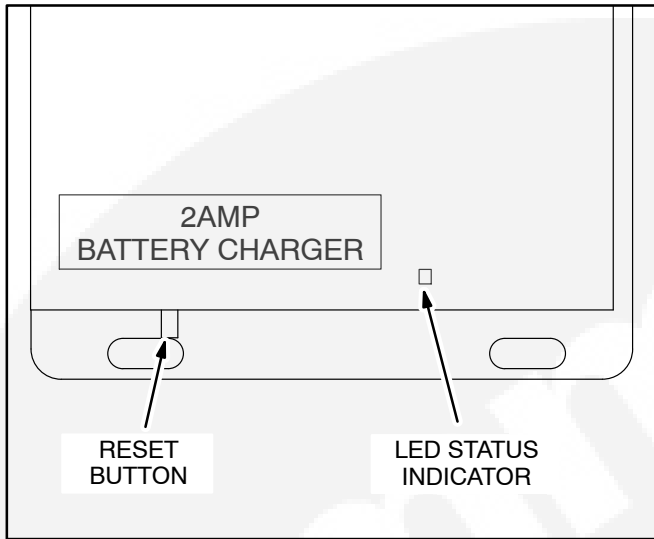


FIGURE 5. CONTROL PANEL IDENTIFICATION SCREEN

Make sure the battery charger is configured for the correct battery voltage before connecting it to the battery. To configure the battery charger, press and hold the **RESET** button for two seconds to enter the Configuration Mode. Adjust the Setup menus, as necessary.

1. The Set Battery Voltage menu is displayed. Press the **RESET** button to change the battery voltage (12 or 24 VDC, default = 12 VDC) – see Figure 6.



FIGURE 6. BATTERY VOLTAGE SETUP MENU

2. Press and hold the **RESET** button for two seconds to save the setting.

NOTE: Once the charger has been properly configured, the cable tie and caution label (see Figure 3) can be removed.

CIRCUIT BREAKER AND FUSE

The two amp battery charger includes a 5 amp DC output circuit breaker. The circuit breaker is enabled

when in the up position (see Figure 7). The charger also includes a five amp fuse.

DC Output Circuit Breaker

The 5 amp DC circuit breaker provides output circuit overcurrent protection. If the circuit breaker trips (is in the OFF (down) position), there will be no DC output. Correct the possible overload and reset the circuit breaker.

AC Fuse

The 5 amp AC fuse provides input circuit overcurrent protection. It protects the AC power input leads connected to the battery charger. If the fuse is blown, there will be no DC output.

⚠ WARNING Voltages within the charging system present an electrical shock hazard that can cause severe personal injury or death. Disconnect all sources of AC and DC power from the battery charger before servicing.

If the fuse is blown, it must be replaced. The control panel must be removed to replace the fuse (see Figure 7). The two amp battery charger uses a five amp, 250V Slo-Blo fuse (part number 321-0298).

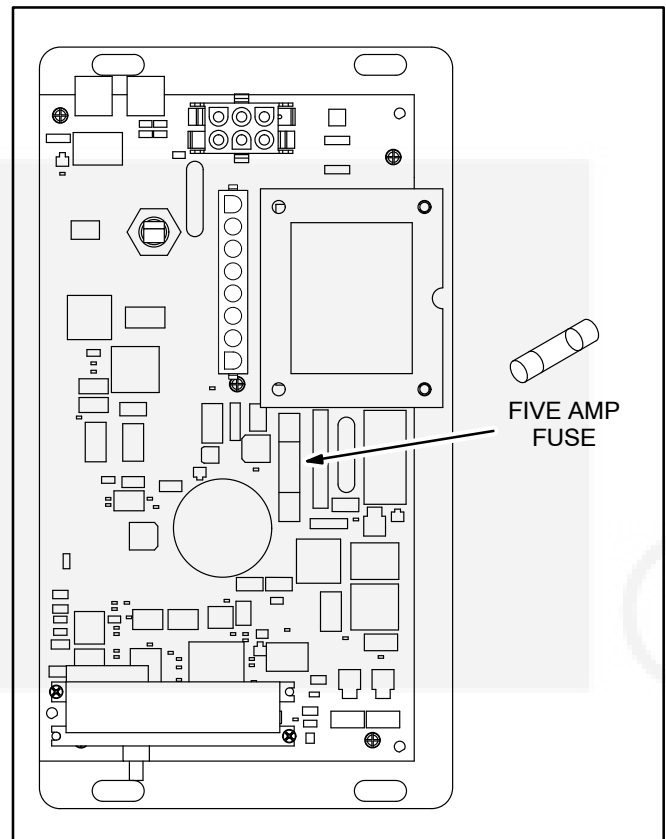


FIGURE 7. FUSE LOCATION

TEMPERATURE SENSOR

An internal temperature sensor monitors the temperature of the charger and displays a warning message (fault code 2544) if the temperature is too high.

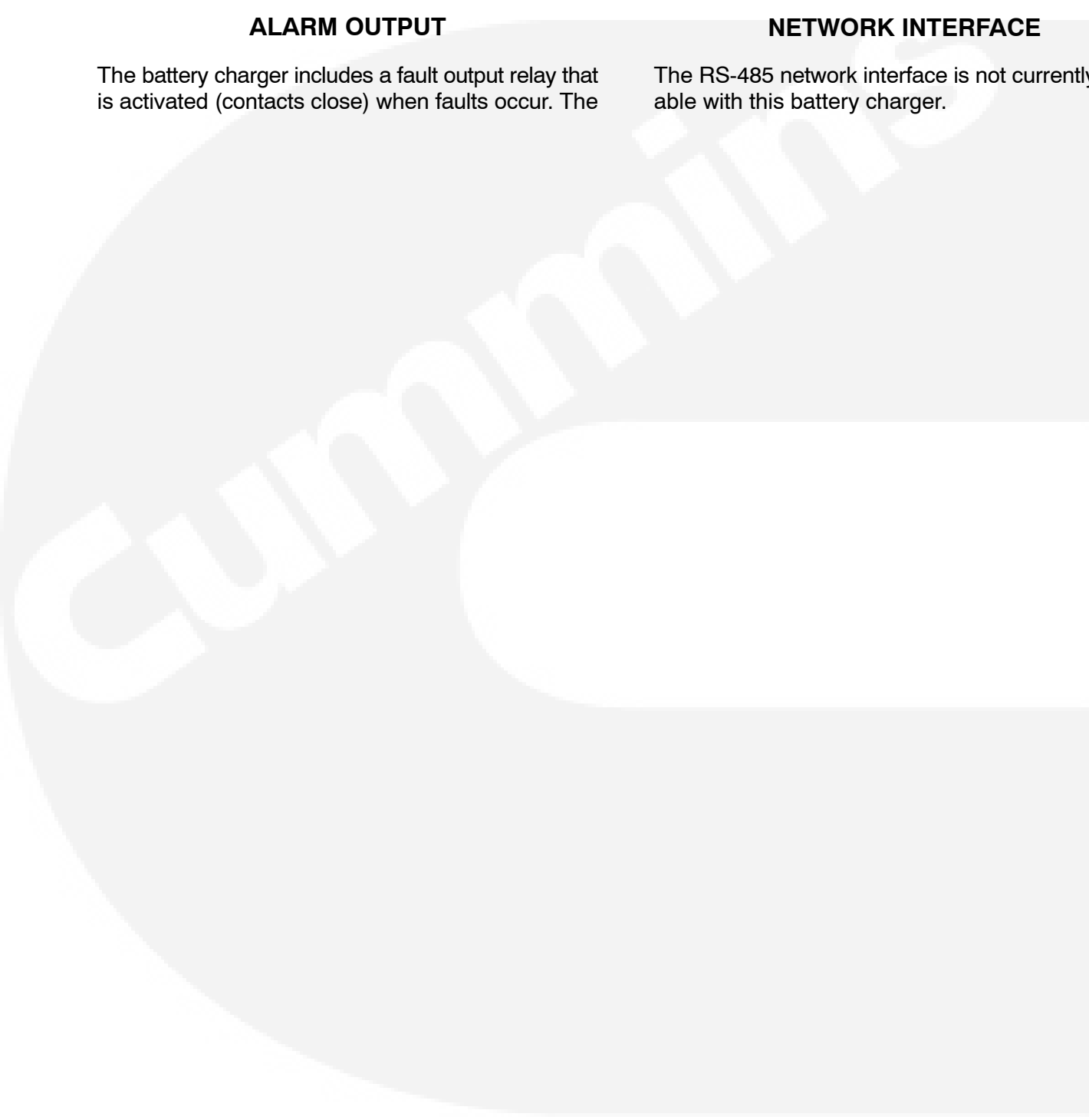
ALARM OUTPUT

The battery charger includes a fault output relay that is activated (contacts close) when faults occur. The

contacts are rated at 2 amps/30 VDC. This feature can be used by wiring a fault indicator (LED, alarm, etc.) to a two-position terminal block that is installed on the fault alarm output connector located on the top of the battery charger (see Figure 2).

NETWORK INTERFACE

The RS-485 network interface is not currently available with this battery charger.



Battery Charging and Maintenance

BATTERY CHARGING

The battery charger normally goes through the following four stages when charging a battery.

- 1 – Low / Dead Battery Charging – Only required if the battery is deeply discharged
- 2 – High (Bulk) Charging
- 3 – Medium (Absorption) Charging
- 4 – Low (Float) Charging

Stage 1 — Low / Dead Battery Charging

If the battery is deeply discharged, this stage is required to determine if the battery can be charged or needs to be replaced.

A battery is considered to be deeply discharged when its voltage is less than 10.2 VDC (12V batteries) or 20.4 VDC (24V batteries). If the charger determines that the battery is not deeply discharged, the charger immediately transitions to bulk charging mode.

When a battery is deeply discharged, the battery charger transitions to a trickle current mode and limits the DC output current to 0.5 amps until a DC voltage of 10.2 (or 20.4) VDC is reached. At that time, the battery charger transitions from Stage 1 charging to bulk charging mode (Stage 2) and continues charging at full output.

If the battery voltage does not rise to 10.2 (or 20.4) VDC within ten hours, the battery is considered to be dead and the warning message “BATT FAIL” (fault code 9115) is displayed. Replace the battery.

Stage 2 — High (Bulk) Charging

The charger enters bulk charging mode when external AC power is applied and the battery voltage is greater than 10.2 volts for 12 volt batteries or 20.4 volts for 24 volt batteries. Otherwise, the charger enters a low battery charging mode (see “Stage 4 – Low (Float) Charging”).

The battery charger maintains constant charging current during high (bulk) charging. During Stage 2 charging, current is limited by the maximum charging current, maximum charger current draw, and/or AC circuit breaker rating.

The battery charger maintains Stage 2 charging until the bulk voltage is reached.

Stage 3 — Medium (Absorption) Charging

The battery charger switches to Stage 3 charging when the high charge (bulk) voltage is reached. When in the absorption stage, the unit outputs constant voltage. The current is only limited by the charger’s output capability or the maximum charger output set point.

The absorption current level depends upon battery type and bank size (see Table 1).

The battery charger maintains the high charge voltage until one of the following conditions are met.

- The maximum absorption time has elapsed (default is 10 hours).
- The charging current is over 2.5amps. It then reverts back to bulk charging mode.
- Charging current is at or less than the absorption current threshold (0.2 amps).

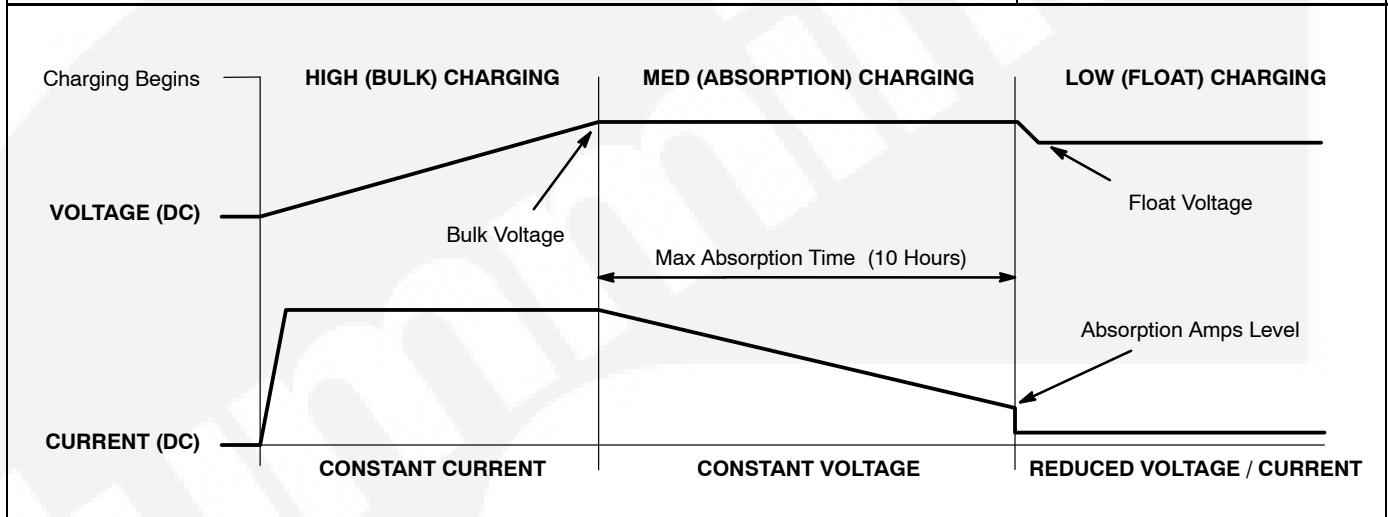
After the absorption state is complete or the maximum absorption time has elapsed, the charger switches to float charging mode.

Stage 4 — Low (Float) Charging

The battery charger switches to Stage 4 charging after the absorption stage is completed or the absorption time expires. The battery charger remains in Stage 4 charging until charging is disabled, external AC power is removed, or output exceeds 90% of the bulk mode. If output exceeds 90% of the bulk mode, the charger reverts back to bulk charging mode.

TABLE 1. DEFAULT BATTERY CHARGING PARAMETERS

Parameter	Wet Cell Batteries
Bulk Volts – 12V Battery (VDC)	14.5
Bulk Volts – 24V Battery (VDC)	29.0
Float Volts – 12V Battery (VDC)	13.5
Float Volts – 24V Battery (VDC)	27.0
Maximum Absorption Time (Hours)	10
Absorption Amps (The current level at which the charging algorithm transitions to Float (Low) Charging – see the diagram below)	0.2



BATTERY MAINTENANCE

Carefully read and follow all of the battery manufacturer’s recommendations for maintenance and storage and observe all safety precautions.

In addition, the following guidelines for wet-cell batteries will help to ensure long battery life.

- Shallow battery discharges lead to longer battery life. Discharges of 50 percent or less are preferable. It is recommended that batteries be recharged after each period of use.
- Discharging more than 80 percent of a battery’s total capacity can reduce its life. Leaving a battery discharged more than 50 percent for extended periods of time can damage the battery plates and reduce its life. For maximum battery life, do not discharge more than 40 percent of a battery’s capacity.

- Batteries that can be charged but cannot support a load are probably failing and should be tested to see if they need to be replaced.
- The electrolyte level in Wet Cell batteries should be checked at least once a month. Always keep the level just above the top of the plates in each battery cell by adding as much distilled water as necessary. Allowing the electrolyte level to fall below the top of the plates will lead to shorter battery life.

⚠ CAUTION *Allowing the electrolyte level to fall below the top of the plates in a Wet Cell battery will lead to shorter battery life.*

- Always replace the fuse with a UL and Canadian Standards Association (CSA) certified fuse of the specified amp rating (see page 15).

CONNECTING / DISCONNECTING BATTERIES

Always First Disconnect AC Power and DC Loads

To keep sparks from igniting explosive battery gases, always disconnect AC power to the battery charger and turn off all DC loads before disconnecting the battery cables.

⚠️ WARNING *Battery acid can cause severe burns. Always wear safety glasses and protective clothing when working with batteries. If acid gets in your eyes or on your skin, flush with water for 15 minutes and get medical attention.*

⚠️ WARNING *Remove hanging jewelry, rings and bracelets before working on batteries. They can short and weld to battery terminals causing severe burns.*

⚠️ WARNING *Lead-Acid Batteries produce explosive hydrogen gas that can lead to severe personal injury—Do not smoke near batteries—To reduce sparking, always disconnect AC power to the battery charger, turn off all DC loads before disconnecting the battery cables and observe the Proper Battery Terminal Connection / Disconnection Sequence below.*

Always Observe Proper Battery Terminal Connection / Disconnection Sequence

The high capacitance of the battery charger can cause sparking whenever the battery cables are disconnected or reconnected. This is normal, do not be alarmed. Take the following precautions:

1. Do not disconnect or reconnect the battery charger when fuel fumes are present.
2. **To keep sparking away from the batteries when disconnecting battery cables:**
 - a. Disconnect the negative (-) cable from the battery charger and then the batteries,

- b. Disconnect the positive (+) cable from the battery charger and then the batteries.

3. **To keep sparking away from the batteries when reconnecting battery cables:**

- a. Reconnect the positive (+) cable at the Batteries and then at the battery charger,
- b. Reconnect the negative (-) cable at the batteries and then at the battery charger.

Always Observe Proper Battery Polarity

⚠️ CAUTION *Damage as a result of reverse polarity is not covered under Warranty.*

Always observe battery polarity when making battery connections to the battery charger. Positive (+) must always be connected to Positive (+) and Negative (-) to Negative (-).

REPLACING BATTERIES

⚠️ WARNING *Do not use batteries of other types than specified for use with this battery charger. Other types of batteries can explode, causing severe personal injury.*

- The battery charger is designed for use with Wet Cell (lead-acid) type batteries. Other types of batteries can explode when subjected to the charging duty cycle of this application. (Engine starting batteries are not suitable for deep-cycle service. They have thin plates designed for brief, high-current service. They tend to warp and become unserviceable as a result of the heat generated in deep-cycle service.)
- Always remove the AC power source before replacing a battery.
- Before connecting the charger, check the battery voltage and make sure that the battery charger is configured for the correct battery voltage (see page 5).
- Make sure to reconnect the batteries properly.
- Used batteries must be disposed of in accordance with local environmental regulations.



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Troubleshooting and Service

FAULT INDICATIONS

Most troubleshooting issues result in fault codes that are displayed on the battery charger's digital display (see Table 2). Overload conditions or equipment failures may require additional troubleshooting (see Table 3).

Troubleshooting at the Battery Charger Digital Display

When a fault occurs, the red fault LED lights and a brief description of the fault and the numeric fault code is displayed on the digital display (see Fig-

ure 4). To correct the fault, find the fault code number in Table 2 and take the suggested corrective actions. Call an authorized Cummins Power Generation distributor for help if the problem persists.

Clearing Displayed Faults

Most displayed faults are cleared by the fault code being removed. However, faults 379 – OVER CURR, 442 – HIGH BATT VOLT, and 9115 – BATT FAIL can only be cleared by cycling completely through the Setup menus or by powering down the charger.

TABLE 2. TROUBLESHOOTING USING FAULT CODES

<p>⚠ WARNING <i>Some battery charger service procedures present hazards that can result in severe personal injury or death. Only trained and experienced personnel may perform service.</i></p> <p>⚠ WARNING <i>Ignition of explosive battery gasses can cause severe personal injury. Do not smoke or cause any spark, arc, or flame while servicing batteries.</i></p>			
Fault	Description	Possible Cause	Solution
379 – OVER CURR	Output Overload	Output current is excessive. Charger control may be failing.	Cycle through the Setup menus to try and clear the fault. If the fault returns, the charger control may have failed.
441 – LOW BATT VOLT	Low Battery Voltage	1. No battery connected.	Connect the battery.
		2. Output breaker is in the “Off” (down) position.	Verify the output breaker is in “On” (up) position.
		3. Charger is set for 24V charging with a 12V battery connected.	Attach a 24V battery or set the charger for 12V charging.
		4. Battery can no longer maintain charge.	Replace the battery.
		5. The wire between the charger and the battery is loose or broken.	Check the wire.
442 – HIGH BATT VOLT	High Battery Voltage	1. Charger is set for 12V charging with a 24V battery connected.	Attach a 12V battery or set the charger for 24V charging.
		2. Large load dump may have caused momentary voltage rise.	Cycle through the Setup menus to clear the fault and restart charging.

TABLE 2. TROUBLESHOOTING USING FAULT CODES (CONT.)

<p>⚠ WARNING Some battery charger service procedures present hazards that can result in severe personal injury or death. Only trained and experienced personnel may perform service.</p> <p>⚠ WARNING Ignition of explosive battery gasses can cause severe personal injury. Do not smoke or cause any spark, arc, or flame while servicing batteries.</p>			
Fault	Description	Possible Cause	Solution
2331 – LOW AC VOLT	Low Input Voltage	AC input voltage is more than 10% below nominal rated voltage.	Check level of input voltage. Charger will not operate with voltage 10% or more below nominal.
2358 – HIGH AC VOLT	High Input Voltage (12VDC)	AC input voltage is more than 5% above nominal rated voltage.	Check level of input voltage. Charger will not operate with voltage 5% or more above nominal
2358 – HIGH AC VOLT	High Input Voltage (24VDC)	AC input voltage is more than 7.5% above nominal rated voltage	Check level of input voltage. Charger will not operate with voltage 7.5% or more above nominal
2544 – OVER TEMP	Charger is overheating	Charger’s ambient temperature is too high.	Power down the charger and let it to cool down. After the temperature lowers, power up the charger.
9115 – BATT FAIL	Unrecoverable battery	The battery can no longer hold a charge or has been damaged excessively due to extremely deep discharge.	Replace the battery and cycle through the Setup menus to clear the fault.
<p>NOTE: The following faults can only be cleared by cycling completely through the Setup menu or powering down the charger.</p> <p>379 – OVER CURR 442 – HIGH BATT VOLT 9115 – BATT FAIL</p>			

TABLE 3. TROUBLESHOOTING PROCEDURES

<p>⚠ WARNING Some battery charger service procedures present hazards that can result in severe personal injury or death. Only trained and experienced personnel may perform service.</p> <p>⚠ WARNING Ignition of explosive battery gasses can cause severe personal injury. Do not smoke or cause any spark, arc, or flame while servicing batteries.</p>		
Trouble	Possible Cause	Corrective Action
No DC Output	<ol style="list-style-type: none"> 1. Tripped DC circuit breaker. 2. Blown AC fuse. 	<ol style="list-style-type: none"> 1. Correct the possible overload and reset the circuit breaker. 2. Correct the possible overload and replace the fuse, as described below.

⚠ WARNING Some battery charger service procedures present hazards that can result in severe personal injury or death. Only trained and experienced personnel may perform service.

⚠ WARNING Ignition of explosive battery gasses can cause severe personal injury. Do not smoke or cause any spark, arc, or flame while servicing batteries.

Low DC Output	1. Faulty battery 2. Charger failure	1. Replace the battery. 2. Call a service representative.
High DC Output	Charger failure	Call a service representative.

Loss of AC Power

When there is a loss of power, the relay contacts announce this fault as an AC power loss. Since the charger is no longer powered, nothing is displayed on the digital display.

REPLACING THE FUSE

When replacing a blown fuse, be sure to use a fuse of the same rating and type. Do not use fuses of a higher rating. Fuses must be UL and CSA certified. The replacement fuse is listed on page 15.

⚠ WARNING Voltages within the charging system present an electrical shock hazard that can cause severe personal injury or death. Disconnect all sources of AC and DC power from the battery charger before servicing.

1. Disconnect the battery charger from AC power and the battery.
2. Remove the hex nut from the circuit breaker.
3. Remove the two screws securing the control panel to the charger. Remove the control panel.
4. Check the fuse and replace it, if blown.
5. Reinstall the control panel, circuit breaker nut, and screws.

6. Reconnect the battery charger to AC power and reconnect the charger to the battery.

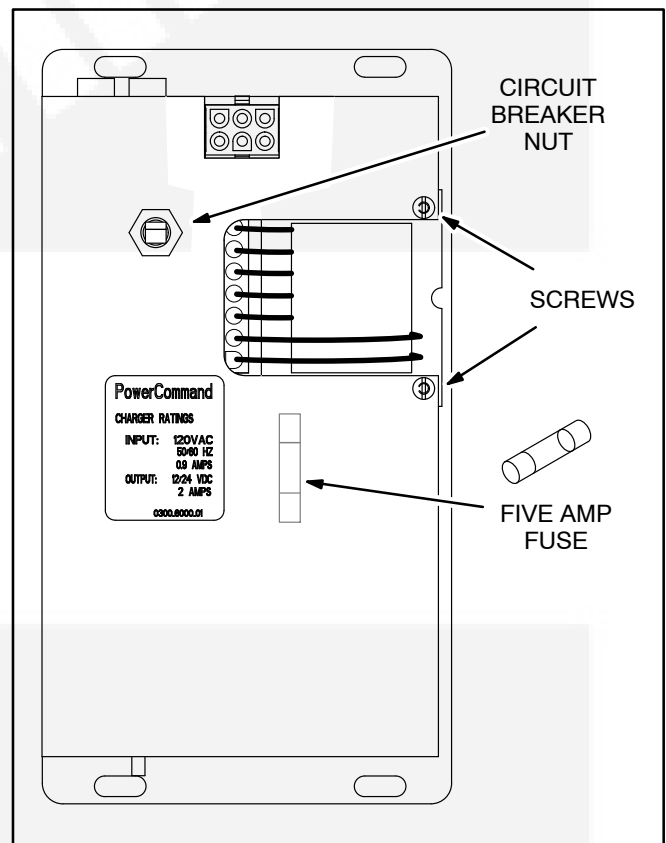


FIGURE 8. FUSE REPLACEMENT



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Parts Information

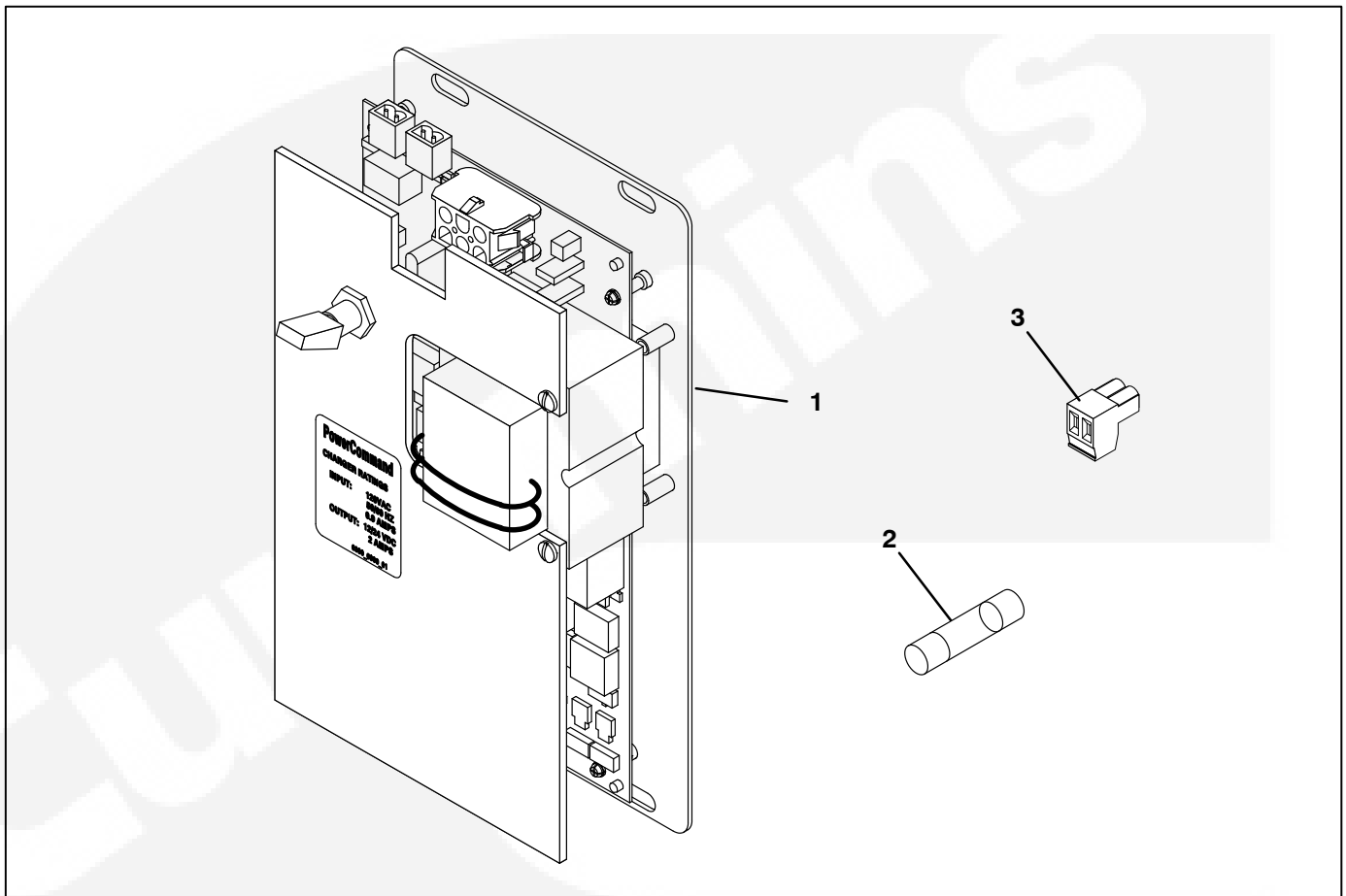


FIGURE 9. BATTERY CHARGER PARTS

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			2 Amp Battery Charger (Includes 5 Amp Fuse [Item 2])	2	321-0298	2	Fuse, 5 Amp, 250V
	300-6026-09	1	120 VAC	3	323-1678-02	1	Connector, Fault Alarm Output
	300-6026-10	1	208 VAC				
	300-6026-11	1	240 VAC				
	300-6026-12	1	277 VAC				
	300-6026-13	1	380 VAC				
	300-6026-14	1	416 VAC				
	300-6026-15	1	480 VAC				
	300-6026-16	1	600 VAC				

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