

## **PART# 0053393000**

### **Industrial On-Board Battery Chargers**

### **Product Manual and Safety Instructions**



#### **WARNING**

1. Only use the charger with an algorithm selected for the specific battery type. Other usage can result in injury and/or damage and will not be covered under warranty.
2. Lead acid batteries may generate explosive hydrogen gas during normal operation. Explosion may result in blindness, serious injury, permanent disfigurement and/or scarring.
3. Keep sparks, flames and smoking materials away from batteries. Do not put flammable material on or under charger. Do not use near gasoline vapors.
4. Risk of electric shock. Connect charger power cord to an outlet that has been properly installed and grounded in accordance with all local codes and ordinances. A grounded outlet is required to reduce the risk of electric shock. Do NOT use ground adapters or modify the plug.
5. Risk of electric shock. Do NOT touch uninsulated portions of output connector or uninsulated battery terminals.

#### **SAFETY PRECAUTIONS**

1. Before use, read and follow all instructions and warnings on the charger, batteries and equipment.
2. Safety glasses should be worn at all times to protect the eyes from all angles. Batteries can explode when least expected.
3. Disconnect the AC supply before making or breaking connections to the battery.
4. Provide adequate ventilation during charging.
5. Chargers require 1" clearance on all sides except bottom.
6. Do NOT operate this charger if the AC supply cord is damaged or if the charger has received a sharp blow, been dropped or is damaged in any way.
7. Do NOT open, disassemble or service the charger.
8. Refer all repair work to an authorized dealer.
9. This charger is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge on electrical systems and battery charging, unless they have been given instruction concerning use of the charger by a person responsible for their safety and supervision. Children should be supervised when near charger.
10. Never charge a frozen or non-rechargeable battery.
11. The charger may become hot during the charging cycle. Use hand protection to safely touch the charger during charging.
12. Extension cords must be 3-wire cord, no longer than 100ft. (30m.) at AWG or 25ft. (7.5m.) at AWG. Do NOT use a 2-wire adapter.

#### **OPERATING INSTRUCTIONS**

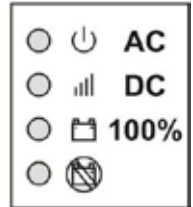
1. Unpack and examine the charger. If shipping damage is found, please photograph it and report it as a claim through the place of purchase or shipping company. Do NOT operate the charger if it, or its cords are damaged. Contact the dealer.  
**NOTE:** Do NOT carry using the cables.
2. Locate the charger rating label on the side of the charger. Below is an example. Verify the label matches the application before use.

Battery Charger  
Output: xx V xx A Battery Type: Flooded/GEL/AGM  
Input Voltage: 110/230VAC  
MFG Date: Jan 2018

3. Do not mount the charger near or on flammable materials. Preferred mounting surfaces are stone, brick, concrete or grounded metal. The charger can be mounted upright (i.e. on a shelf), vertically or horizontally (i.e. on a wall). Do not mount upside down.
4. Optional Function: Select proper battery type by cutting
5. With the DC output plug unplugged, connect the charger's AC power cord into an appropriate AC outlet. The AC light will turn YELLOW when powered.
6. Insert the DC output plug into the battery receptacle for a solid connection. The DC light will turn green when charging.
7. To disconnect the charger from the equipment, first disconnect the AC plug from the outlet. Then disconnect the DC output plug from the equipment.  
**CAUTION:** Risk of electric shock. Do NOT disconnect the DC plug from the equipment while the charge cycle is in process.
8. When fully charged, the battery 100% LED indicator will turn solid green. The charger will automatically shut off when the charge cycle is complete or the maximum charge time has been reached.
9. If there is an error, the error light will turn red. Please refer to the indicator guide for troubleshooting tips. If a repair is needed, do NOT open, disassemble or service the charger. Please contact an authorized dealer.



Wire	
CUT	AGM/GEL
CONNECTED	FLOODED



### INDICATOR AND TROUBLESHOOTING GUIDE

AC Yellow	DC Green	100% Green	Red	Status	Solution
ON	Flashes 2x every 8 sec.	-	-	Preparing to Charge	Normal status. Charger is waiting to connect to AC power.
ON	ON	-	-	Charging	Normal
ON	ON	ON	-	Full or Floating Charge	Normal
ON	-	-	Flashes 1x every 8 sec.	DC Output Short-Circuit Battery High or Low Voltage	<b>Possible Causes:</b> Battery cells can be shorted or damaged; or the output has short-circuited. If output is short-circuited, voltage will be zero. <b>Possible Solutions:</b> Check DC connections. The error will automatically clear once the charger is reset by cycling AC or DC. <b>Possible Causes:</b> Incorrect battery voltage for charger; additional battery charger attached; battery has too much or too little resistance. <b>Possible Solutions:</b> Check the battery voltage and cable connections. Check battery size and condition. The error will automatically clear when the voltage is in range. Replace batteries if bad. Contact dealer if problem persists.
ON	-	-	Flashes 2x every 8 sec.	Charging Timeout	<b>Possible Causes:</b> Battery pack hasn't achieved the nominal voltage after 6 hours. <b>Possible Solutions:</b> Check the voltage at the battery and at the cable connections. If out of nominal range, change batteries. Contact dealer if voltage is normal.
ON	-	-	Flashes 3x every 8 sec.	Temperature Sensor Warning	<b>Possible Cause:</b> Battery temperature is too high to charge. <b>Possible Solution:</b> Wait until temperature is normal.
Flashes 1x every 8 sec.	-	-	-	AC Input Failure (High or Low Voltage)	<b>Possible Cause:</b> AC source is unstable. <b>Possible Solution:</b> Could be caused by an undersized power source and/or severely undersized input cables. Connect charger to an AC source that provides a stable 110/230VAC / 45-65 Hz. The charger has voltage protection. This error will clear once the condition has been corrected.
ON	-	-	Flashes 4x every 8 sec.	Charger Overheated	<b>Possible Cause:</b> Working temperature is over 85°C. <b>Possible Solution:</b> Charger will resume once temperature is less than 75°C. If not, contact dealer.