EAGLE EYE POWER SOLUTIONS

NERC COMPLIANT TPL-001-5

MADE IN U. S. A.

BC-2500™ High Efficiency Modular Stationary Charger

Common Applications: Stationary, substation, utility, switchgear, process control, & industrial applications

BC-2500 4 & 8-Slot Chassis (16-Slot Not Pictured)

Product Description

The **BC-2500** is a stationary float Battery Charger based on a high efficiency modular, redundant platform design. It utilizes high availability with uptime architecture. Available in 480W or 400W with hot-swappable Intelligent Power Modules (iPMs) which are available at the following ratings:

- 24V with ranges 10 – 40 VDC, 0-80 ADC
- 48V with ranges 30 – 61 VDC, 0-80 ADC
- 130V with ranges 75 – 150 VDC, 0-64 ADC

Multiple iPMs in a single chassis provide redundancy (N+1, N+2, etc.) and will continue to operate independently if the user interface module (UIM) fails. This ensures maximum reliability for critical uptime applications. Our chargers are compatible with a range of battery types including VLA, VRLA, Ni-Cd with user defined alarms to suit each battery type.

Product Features

- Low DC output ripple - battery eliminator option standard
- AC/DC powered UIM for continued operation without AC
- Heavy-duty steel chassis with high quality conformal coated circuit boards for moisture protection
- Convection cooled with wide -40 – 70°C (-40 – 158°F) operating range and no fan failure points
- High energy efficiency of > 93% at 240 VAC and > 91% at 120 VAC and full load
- Battery temperature compensation with controlled limits
- Alarms can be individually enabled/disabled, assigned a delay
- Alarm SCADA options, SNMPV2, Modbus TCP/ RS232/RS485, DNP3 TCP/RS232/RS485, and Dry Contacts
- Optional digital amp/volt meter for 4-Bay models
- Meets IEEE std 2405-2022

Alarms

Name	Alarm	Trigger Level	Delay[m]	Priority	Manual Clearing	Relay	Action
AC Input Power Lost	Enabled	---	0	Major	Disabled	K1	
AC Input Voltage High	Enabled	265 V	0	Major	Disabled	K1	
Battery Voltage Low	Enabled	1.75 V/cell	0	Major	Disabled	K1	
Battery Voltage High	Enabled	3.00 V/cell	0	Major	Disabled	K1	
Battery Temperature Low	Enabled	32 °F	0	Major	Disabled	K1	
Battery Temperature High	Enabled	140 °F	0	Major	Disabled	K1	
Min DC Output Current	Enabled	0.20 A	1	Major	Disabled	K1	
iPM Fault	Enabled	---	0	Major	Disabled	K1	
iPM Communication Lost	Enabled	---	0	Major	Disabled	K1	
iPM Incorrect DC Voltage	Enabled	---	0	Major	Disabled	K1	
UIM Fault	Enabled	---	0	Major	Disabled	K1	
Battery Temp Sensor Fault	Enabled	---	0	Major	Disabled	K1	
Remote DC Voltage Sensing Fault	Enabled	---	0	Major	Disabled	K1	

Software View on PC or Mobile Browser

iPM (Intelligent Power Module)

- Modular & convection cooled
- Multiple iPMs in a single charger offer redundancy
- Hot swappable

Web-Based Software

- Internal web server uses a modern, responsive framework for attractive display on smart phones and tablets
- Access on any desktop PC or laptop via web browser
- View all measured parameters in real-time
- Log up to 10,000 history records, downloadable to a CSV file
- Ethernet communication standard for field or remote monitoring

AC Input	
Voltage range, rated	100 – 240 VAC
Voltage range, operating	90 – 264 VAC; < 100 VAC: reduced power
Frequency, rated	50 – 200 Hz
Frequency, operating	45 – 205 Hz
Phase	Single-phase
Efficiency	> 91%, 120 VAC, full load; > 93%, 240 VAC, full load;
Power Factor	> 0.98, 120 VAC, full load; > 0.96, 240 VAC, full load
Protection	Current limit, surge, transient (lightning), under voltage, over voltage
DC Output	
Voltage range	
24 VDC	10 – 40 VDC
48 VDC	30 – 61 VDC
130 VDC	75 – 150 VDC
Power, maximum, per iPM	
24 VDC	400 W
48 VDC	480 W
130 VDC	480 W
Current, maximum, per iPM	
24 VDC	10 A
48 VDC	10 A
130 VDC	4 A
Current, rated, per iPM	
24 VDC	10 A
48 VDC	8.1 A
130 VDC	3.3 A
Protection	Current limit, short circuit, reverse polarity, surge, transient (lightning)
Environmental	
24 VDC	-40 – 70°C (-40 – 158°F)
48 VDC, 130 VDC	-40 – 70°C (-40 – 158°F) > 50°C: reduced power mode
Storage Temperature	-55 – 85°C (-67 – 185°F)
Humidity Range	0 – 95%, non-condensing
Operations	
TPL Compliance Charging Operations	Automated/Manual Continuity Test
Load Testing	Manual Load Testing
Certifications	
UL/CSA/CEC certified Meets IEEE std 2405-2022	

User Interface	
Communication	Ethernet; 10/100BASE-TX; auto crossover, auto MDI-X; RJ45 connector; support for TCP/IP, NTP, and SNMP Traps; internal web server; ability to be used for networked comm or direct comm (direct connection to a laptop)
DC voltage switches	2 switches for Number of Cells 3 switches for Volts per Cell
Button	Confirm Local Presense
Battery temp comp	Yes (sensor optional)
Remote voltage sensing	Yes (sensor optional)
LEDs	
UIM	4 single-color; AC Present, Alarm UIM Status, Confirm Local Presense
Front Panel	3 single-color; AC Present, Alarm & UIM Status
iPM	1 tri-color; DC Output, Fault
Alarming	
Alarms	Individually enabled/disabled assigned a delay, assigned a priority, assigned to the summary alarm relay
Summary alarm relay	Form C, dry contact
Ethernet alarming	SNMP Traps
Logging	Up to 10,000 events (alarms, faults, AC on/off)
Mechanical	
Cooling	Natural convection (no fans)
Protection	Conformal coated circuit boards
AC/DC terminals	Screw terminal block
Mounting	Wall, shelf, floor, EIA 19-inch and 23-inch rack (front or rear)
Dimensions (WxHxD) & Weight (Including standard brackets)	
4-slot chassis	18.93 x 17.71 x 12.79 in. (481 x 450 x 325 mm) 65 lbs. (30 kg) 41 lbs. (19 kg) unloaded
8-slot chassis	18.93 x 30.5 x 14.31 in. (481 x 775 x 363 mm) 125 lbs. (57 kg) 77 lbs. (35 kg) unloaded
16-slot chassis	18.93 x 51.25 x 14.47 in. 481 x 1302 x 325 mm) 296 lbs. (134 kg) 200 lbs. (90 kg) unloaded

Ordering Information

Model No.	Description
BC-2500	Modular Float Battery Charger & Power Supply: 24, 48, or 130 VDC. **Includes Standard**: 10 ft temperature cable, 10 ft voltage sense cable, breakers, mounting assembly for 19 or 23 inch racks. **Optional:** Ground fault detection, Modbus communication, external alarm board, high interrupt breakers, floor stand (4 and 8-bay)