



TP-BC Series

DATA SHEET

High Power Battery Charge Controller

Features

- 210W Total Power
- Regulated 12VDC or 24VDC or 48VDC Output Voltage
- Seamless Switchover From AC to Battery Power when AC Power Fails.
- Load Control to Prevent Battery Overdischarge. Automatic Recovery.
- Smart Charge program for GEL/AGM or WET type batteries
- Wide temperature operation



Applications

- Wireless Base Stations, Cellular Base Stations
- Surveillance Systems
- Battery Backup Systems



Description

The **TP-BC** series of smart battery chargers provide up to 210W of total power. Part of the power is allocated to the regulated load output and remaining power is allocated to battery charging. The smart battery charger is compatible with GEL/AGM type sealed lead acid batteries and also WET type lead acid batteries (like car batteries).

The load output is regulated so that output voltage does not exceed 12.5VDC on the 12V model and 24.5VDC on the 24V model and 48.5VDC on the 48V model. Also the load output will turn off when the battery voltage is low to prevent over discharge of the batteries which can shorten the useable life of the batteries. Load output will turn back on automatically when batteries have sufficient charge. The TP-BC series provides seamless switchover from AC power to battery power so there is no interruption which could reset a user's electronics. The charger auto-recovers from a power failure so no user action is necessary.

The charger has various protections for short circuit, overvoltage protection, overcurrent and reverse battery. It operates over a wide temperature range making it suitable for industrial applications.

The battery charger will not work without a battery connected.

A solar panel and solar charge controller can be added to the system if supplemental power from solar is desired. A Wind Turbine can be added if wind power is available.

There are various LEDs on the front panel to see status-at-a-glance of the Load Output, Charging Condition and AC Power Condition.

LED Indicators

- LOAD** (Load Power is Turned On = Green)
- PWR** (AC Power On = Yellow)
- BATT** (Battery is Connected = Green)
- CHD** (Battery is Fully Charged = Green)
- CHG** (Battery is Charging = Yellow)
- WET / GEL** – Switch is positioned to WET(Green) or GEL(Yellow)

Specifications

	TP-BC12-300	TP-BC24-300	TP-BC48-300
Total Power Available (for Load and Battery charging)	210W	210W	210W
Nominal Battery Voltage	12VDC	24VDC	48VDC
Load Output Min Current	1A	1A	1A
Load Output Max Current	12A	8A	4A
Battery Charge Max Current	5A	7.5A* * with zero load. If load current is 5A then battery charge current is 3.75A.	3.62A* *with zero load. If load current is 2.5A then battery charge current is 1.9A.
Suggested Max Load	~10A (120W)	~5A (120W)	~2.5A (120W)
Battery Charger Voltage	WET Equalize = 14.6V, Float = 13.2V GEL Equalize = 14.2V, Float = 13.5V	WET Equalize = 28.8V, Float = 26.4V GEL Equalize = 28.4V, Float = 27V	WET Equalize = 58V, Float = 53V GEL Equalize = 56.8V, Float = 54V
Overdischarge Protection	10.7V Load off / 12.6V Load on	21.5V Load off / 25.2V Load on	40V Load off / 51V Load on
Load Regulation	5%		
Line Regulation / Ripple	1%		
Noise	2%		
Efficiency	75% Minimum		
Self Consumption	<5W		
Load and Batt Connections	Screw Wire Terminal, 10 AWG MAXIMUM		
EMC Standards	FCC Class A , NE55022 Class A		
Safety Standards	UL1950, CSA 22.2, TUV EN60950		
AC Power Input (+-10%)	Selector Switch 120VAC / 240VAC , 50/60Hz		
AC Input Current	3.5A @ 115VAC / 1.8A @ 240VAC		
Fuse	250V 6A Internal SloBlow (Littlefuse #021306.3)		
Operating Temperature	-20 to +60C (-4 to +140°F)		
Operating Humidity (RH)	Up to 90% (non condensing)		
Cooling	Temperature Controlled Fan		
Storage Temperature	-25 to +85°C (-13 to +185°F)		
Storage Humidity	Up to 90% (non-condensing)		
MTBF (Mean Time Between Failure)	81,940 Hours		
Dimensions (LxWxH)	250 x 185 x 55mm (9.8 x 7.3 x 2.2")		
Weight	2.4kg (5.2lb)		
Warranty	3 Years		

System Ordering:

TP-BC12-300 210W Smart Battery Charger with regulated 12VDC load output with US Power Cord*

TP-BC24-300 210W Smart Battery Charger with regulated 24VDC load output with US Power Cord*

TP-BC48-300 210W Smart Battery Charger with regulated 48VDC load output with US Power Cord*

*Add an "E" suffix for Euro power cord

For further information contact:

Tyconsystems.com

