

Tempest[®] Wireless

T-BC5A 5-Bay Battery Charger & T-LP1 Battery



T-BC5A 5-Bay Battery Charger

Description

The Tempest **T-BC5A** is a battery charger for Tempest Lithium-Polymer rechargeable batteries. The T-BC5A charges up to 5 batteries from empty to full in approximately 2.5 hours.

Each bay individually charges the respective battery without affecting the charge of the other four batteries.

LED Indicators

Individual LED indicators on the T-BC5A show the current charge status of each battery.

Amber - Blinking Light:

indicates the battery is in a pre-charge condition. If the battery voltage is below a specified level (deeply discharged), the battery is charged with a low current until it reaches the specified voltage level.

Amber - Solid Light:

indicates the battery is in the fast charge mode.

Green - Solid Light:

indicates that the battery is fully charged and ready for use.

Red - Blinking Light:

indicates a trouble condition or battery failure.

LED off:

indicates that the bay is in standby mode.

Charge Termination Methods

Current Cut-off:

If the charging current goes lower than 40mA, the battery charging process is terminated.

Timer:

A safety timer will terminate the charge process after 5 hours.

TCO:

Charge process stops if the temperature is above 50°C.

Features:

- Up to 5 Tempest Lithium-Polymer batteries charged both separately and simultaneously
- Fully charges batteries from empty in 2.5 hours
- Battery Temperature monitoring
- Resistor-based battery identification
- LED status indicators
- Compact size



Tempest® Wireless

T-BC5A 5-Bay Battery Charger & T-LP1 Battery



T-LP1 Lithium-Polymer Battery

T-LP1: Lithium-Polymer Battery

The Tempest **T-LP1** is Lithium-Polymer rechargeable battery is compatible with all Tempest BeltStations. One battery is supplied with each BeltStation.

The T-LP1 is equipped with onboard fuel gauge technology, ensuring that the battery level indication on the BeltStation is accurate. Onboard protection circuitry protects the battery against over-charge and over-discharge conditions.

T-LP1's ship with approximately 50% charge. It is not necessary to charge or discharge the battery before the first use. The Li-Poly technology is immune to harmful under charging memory that can be present with other battery chemistries. Under normal operating conditions, the battery can last in excess of nine hours.

Long term storage of the batteries at maximum charge can result in permanent loss of capacity. For long term storage, charge/discharge batteries to approximately 60% of capacity. Batteries stored longer than one year should be recharged to 60% annually.

Technical Specifications (Charger):

Power Input

Voltage Range:	90 - 264VAC
Frequency Range:	50 - 60Hz
Input Current:	0.8A max
Standby Power:	1W max
Input Fuse:	800mA per bay
Input Connector:	IEC60320 C8 (2-Pin)

Output (per bay)

Voltage:	0 - 4.2V
Current:	0 - 1A
Power:	6W max
Voltage Tolerance:	±1% max
Current Tolerance:	±5% max
Leakage Current:	< 1mA
Ripple & Noise:	< 120mV (peak to peak)
Protection:	Short Circuit Over Temp Shutdown Reverse Polarity

Environmental

Cooling:	Convection cooled
Temperature - Operating:	32° - 104° F (0° - 40° C)
Non-Operating:	-40° - 158° F (-40° - 70° C)
Altitude - Operating:	-382m - 2000m
Non-Operating:	-382m - 4570m
Humidity:	5 - 95% r.H., non-condensing

Dimensions

Charger
6.9 in W x 2.91 in H x 1.57 in D
(176.5 mm x 74 mm x 40 mm)

Power Supply
4.7 in W x 2.2 in H x 1.3 in D
(120.5 mm x 56 mm x 32.3 mm)

Weight

Charger: 10.5 oz (0.3 kg)
Power Supply: 8.8 oz (0.25 kg)

Technical Specifications (Battery):

Electrical

Rated Capacity:	2000 mAh typical
Nominal Voltage:	3.7 VDC
Charging Method:	Constant Current + Constant Voltage
	4.20 VDC
Max Charge Voltage:	
Max Continuous Charge Current:	1000 mA
Rec Charge Cut-off:	40 mA or 5 hours
Max Continuous Discharge Current:	2000 mA
Rec Discharge Cut-off:	3.0 VDC
Internal Impedance:	Approx. <180 milliOhms
Expected Cycle Life:	>500 cycles, >70% of initial capacity (0.5C/0.5C)

Over-charge

Detection: 4.325 VDC ± 25mV, 960 to 1400 msec delay, resume at charging current

Over-current

Detection: 2.1 A to 5.5 A (7.2 to 11 msec delay)

Environmental

Temperature - Charge:	32° - 113° F (0° - +45° C)
Temperature - Discharge:	-4° - 140° F (-20° - +60° C)
Temperature - Retention/Storage:	1 yr at -20 to +20° C > 80%, 3 mo at -20 to +45° C > 80%, 1 mo at -20 to +60° C > 80%
Humidity:	10 - 90% non-condensing

Dimensions

0.63 in W x 2.05 in H x 1.69 in D
(16 mm x 52 mm x 43 mm)

Weight

1.76 oz (0.05kg)

Notice About Specifications

While Clear-Com makes every attempt to maintain the accuracy of the information contained in its product manuals, that information is subject to change without notice. Performance specifications included in this manual are design-center specifications and are included for customer guidance and to facilitate system installation. Actual operating performance may vary.

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