



LiPo

3.7V-
44.4VDC

5A max.

50W

Turtle Charger (50W) - LiPo

Pre-programmed Battery Charger for Lithium Polymer



GENERAL SPECIFICATIONS

Input Voltage	10-75VDC
Input Connector	2.1mm DC jack (enclosure)
Output Voltage	3.7V-50V for battery packs up to: – 12 cells in series (LiPo)
Output Current	5A max.
Voltage Accuracy	<1%
Voltage Limit	4.20V ±1% p/cell
Current Accuracy	<5%
Tolerance on Timing	±5%
Temp. Accuracy	Internal: <1°C External: <1%, resolution 0.01°C
Dimensions	L112mm x W66mm x H40mm (enclosure)
Weight	140 grams (enclosure)

LED PATTERNS - ROUTINE

Traffic light (red-orange-green):	System reset. Occurs at power on and battery connection.
Slow orange blink:	System waiting. Battery disconnected.
Solid orange:	Constant current phase. (inc. pre-condition if programmed)
Orange with green blink:	Constant voltage phase
Solid green	Charge Complete. Float Charge continues (if programmed)

LED PATTERNS - EXCEPTIONS

Three red flashes:	Charge suspended. Battery volts too low.
Two red flashes:	Charge suspended. Battery volts too high.
Slow red blinking: (1 flash every 5 sec)	Charge suspended. Battery or PCB too hot (PCB self protected to 75°C)
Fast red blinking:	Thermistor Error. (Needs Power Reset)
Orange blinking: (1 flash every ½ sec)	Timeout. Time limit is customisable on request
Solid red:	Fault. (Needs Power Reset)

DESCRIPTION

The TSB002-LPO series offer a wide range of single output DC chargers up to 50 Watts.

It is custom programmed by our engineers to fit specific design requirements for LITHIUM POLYMER.

Pre-programming includes functions setting, charging current and charging voltage, constant current, constant voltage, pre-conditioning, float charging, charge termination methods and setting. Input and output cabling and connector options for all international markets are available upon request.

Features:

- Choice of 50 different models.
- Wide input voltage range.
- Single voltage output up to 50W.
- Constant current limiting overload.
- Proven field reliability and performance.
- Status LED indicator.
- High operating temperature +71°C.

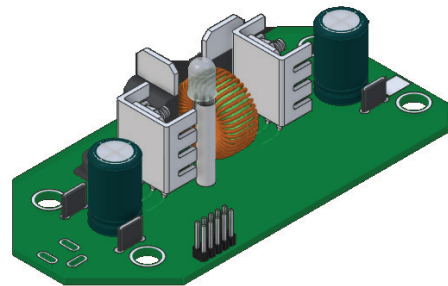
MOUNTING OPTIONS:

Modules available as options below:

PCB: PCB stand-alone charger.

ENCLOSURE: Housed enclosure for environmental protection.

PCB



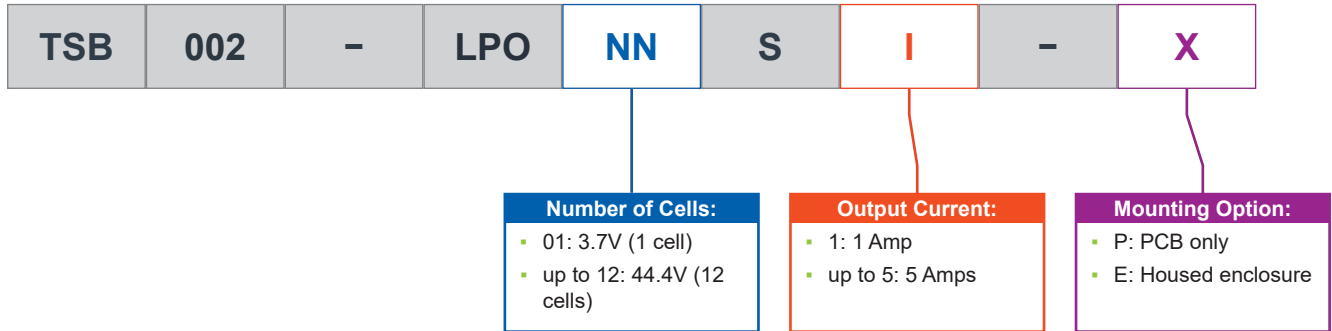
ENCLOSURE



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PART NUMBER SELECTION KEY



*Termination of choice available.

SELECTION TABLE

Part Number	Chemistry	Battery Pack Voltage	Input Voltage	Output Current	Mounting Option
TSB002-LPO01S5	LiPo	3.7VDC (1 cell)	10-75VDC	5A max.(21W)	<i>Select from options above</i>
TSB002-LPO01S4	LiPo	3.7VDC (1 cell)	10-75VDC	4A (16.8W)	
TSB002-LPO01S3	LiPo	3.7VDC (1 cell)	10-75VDC	3A (12.6W)	
TSB002-LPO01S2	LiPo	3.7VDC (1 cell)	10-75VDC	2A (8.4W)	
TSB002-LPO01S1	LiPo	3.7VDC (1 cell)	10-75VDC	1A (4.2W)	
TSB002-LPO02S5	LiPo	7.4VDC (2 cells)	10-75VDC	5A max.(42W)	
TSB002-LPO02S4	LiPo	7.4VDC (2 cells)	10-75VDC	4A (33.6W)	
TSB002-LPO02S3	LiPo	7.4VDC (2 cells)	10-75VDC	3A (25.2W)	
TSB002-LPO02S2	LiPo	7.4VDC (2 cells)	10-75VDC	2A (16.8W)	
TSB002-LPO02S1	LiPo	7.4VDC (2 cells)	10-75VDC	1A (8.4W)	
TSB002-LPO03S4	LiPo	11.1VDC (3 cells)	10-75VDC	3.97A (50W max.)	
TSB002-LPO03S3	LiPo	11.1VDC (3 cells)	10-75VDC	3A (37.8W)	
TSB002-LPO03S2	LiPo	11.1VDC (3 cells)	10-75VDC	2A (25.2W)	
TSB002-LPO03S1	LiPo	11.1VDC (3 cells)	10-75VDC	1A (12.6W)	
TSB002-LPO04S3	LiPo	14.8VDC (4 cells)	10-75VDC	2.98A (50W max.)	
TSB002-LPO04S2	LiPo	14.8VDC (4 cells)	10-75VDC	2A (33.6W)	
TSB002-LPO04S1	LiPo	14.8VDC (4 cells)	10-75VDC	1A (16.8W)	
TSB002-LPO05S3	LiPo	18.5VDC (5 cells)	10-75VDC	2.38A (50W max.)	
TSB002-LPO05S2	LiPo	18.5VDC (5 cells)	10-75VDC	2A (42W)	
TSB002-LPO05S1	LiPo	18.5VDC (5 cells)	10-75VDC	1A (21W)	
TSB002-LPO06S2	LiPo	22.2VDC (6 cells)	10-75VDC	1.98A (50W max.)	
TSB002-LPO06S1	LiPo	22.2VDC (6 cells)	10-75VDC	1A (25.2W)	
TSB002-LPO07S2	LiPo	25.9VDC (7 cells)	10-75VDC	1.7A (50W max.)	
TSB002-LPO07S1	LiPo	25.9VDC (7 cells)	10-75VDC	1A (29.4W)	
TSB002-LPO08S2	LiPo	29.6VDC (8 cells)	10-75VDC	1.49A (50W max.)	
TSB002-LPO08S1	LiPo	29.6VDC (8 cells)	10-75VDC	1A (33.6W)	
TSB002-LPO09S2	LiPo	33.3VDC (9 cells)	10-75VDC	1.32A (50W max.)	
TSB002-LPO09S1	LiPo	33.3VDC (9 cells)	10-75VDC	1A (37.8W)	
TSB002-LPO10S2	LiPo	37VDC (10 cells)	10-75VDC	1.19A (50W max.)	

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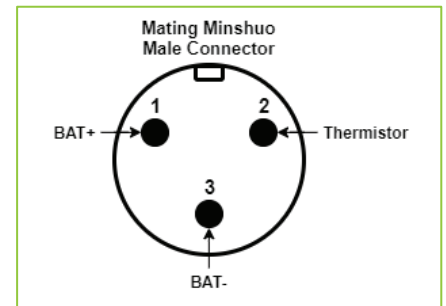
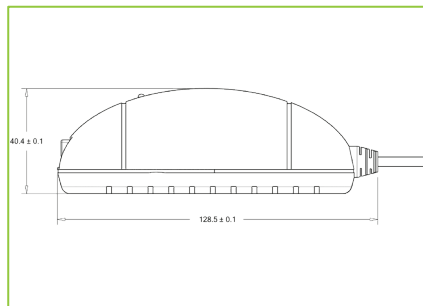
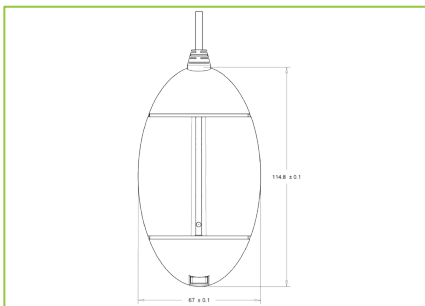


Part Number	Chemistry	Battery Pack Voltage	Input Voltage	Output Current	Mounting Option
TSB002-LPO10S1	LiPo	37VDC (10 cells)	10-75VDC	1A (42W)	Select from options above
TSB002-LPO11S2	LiPo	40.7VDC (11 cells)	10-75VDC	1.08A (50W max.)	
TSB002-LPO11S1	LiPo	40.7VDC (11 cells)	10-75VDC	1A (46.2W)	
TSB002-LPO12S1	LiPo	44.4VDC (12 cells)	10-75VDC	0.99A (50W max.)	

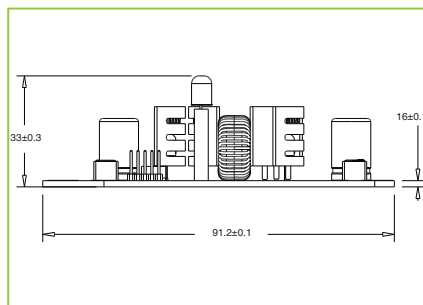
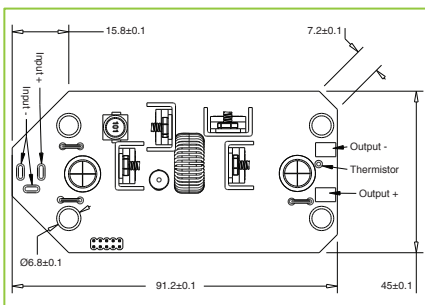
*****IMPORTANT:** The Part Number must have the mounting option code (-P, or -E) your project requires.

TECHNICAL DIAGRAMS (2D)

ENCLOSURE



PCB



All dimensions in millimeters (mm).

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