

LiPo

3.7V-  
44.4VDC

5A max.

100W

## Turtle Charger (100W) - LiPo

### Pre-programmed Battery Charger for Lithium Polymer



#### DESCRIPTION

The TSB003-LPO Series offer a wide range of single output DC **LITHIUM POLYMER** battery chargers up to 100 Watts.

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

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 100W.
- Constant current limiting overload.
- Proven field reliability and performance.
- Status LED indicator (NOT available in DIN-V version).
- Chassis and DIN rail mounting options.
- High operating temperature +71°C.

#### MOUNTING OPTIONS:

Modules available as PCB stand-alone or DIN mounting case. See options below.

**PCB:** PCB stand-alone charger with 5 (five) electric isolated screw terminals for panel mounting.

**ENCLOSURE:** Housed enclosure for environmental protection.

**DIN-V:** DIN Rail mounting case in vertical format. Suitable for Top hat IEC/EN 60715 and G section rail types.

**DIN-H:** DIN Rail mounting case in horizontal format. Suitable for Top hat IEC/EN 60715 and G section rail types.

#### GENERAL SPECIFICATIONS

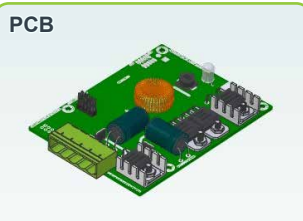
Input Voltage	10-75VDC
Output Voltage	3.7V-50V for battery packs up to: – 12 cells in series (LiPo)
Output Current	5A (Buck) 60W (Boost)
Voltage Accuracy	<1%
Voltage Limit	4.2V ±1% p/cell
Current Accuracy	<5%
Tolerance on Timing	±5%
Temp. Accuracy	Internal: <1°C
	External: <1%, resolution 0.01°C
Dimensions	L80mm x W61mm x H14.5mm (PCB only)
Weight	60 grams (PCB only)

#### LED PATTERNS - ROUTINE

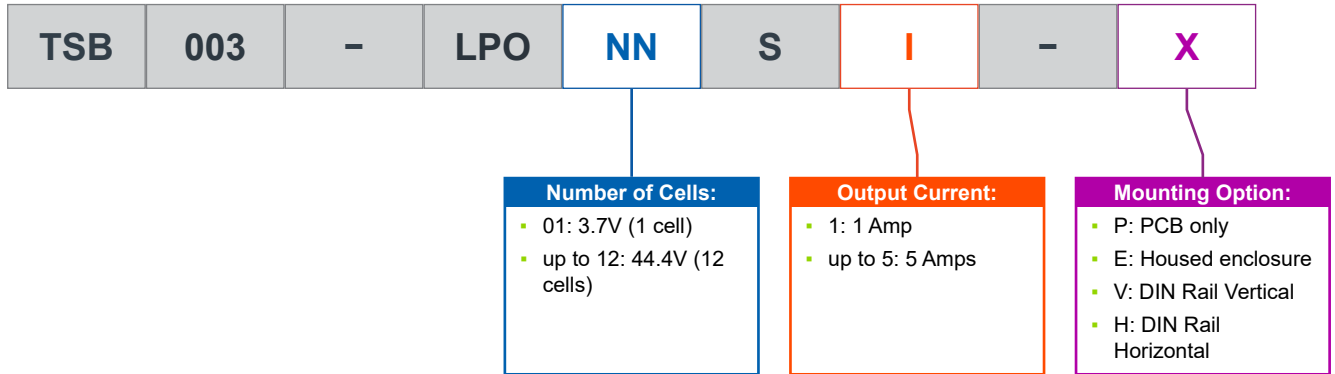
Traffic light (red-orange-green):	System reset. Occurs at power on and battery connection.
Slow orange blink:	System waiting. Battery disconnected.
Solid orange:	Constant current phase. (inc. pre-condition if programmed)
Orange with green blink:	Constant voltage phase
Solid green	Charge Complete. Float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



### PART NUMBER SELECTION KEY



\*Termination of choice available.

### SELECTION TABLE

Part Number	Chemistry	Battery Pack Voltage	Input Voltage	Output Current	Mounting Option
TSB003-LPO01S5	LiPo	3.7VDC (1 cell)	10-75VDC	5A max.(21W)	
TSB003-LPO01S4	LiPo	3.7VDC (1 cell)	10-75VDC	4A (16.8W)	
TSB003-LPO01S3	LiPo	3.7VDC (1 cell)	10-75VDC	3A (12.6W)	
TSB003-LPO01S2	LiPo	3.7VDC (1 cell)	10-75VDC	2A (8.4W)	
TSB003-LPO01S1	LiPo	3.7VDC (1 cell)	10-75VDC	1A (4.2W)	
TSB003-LPO02S5	LiPo	7.4VDC (2 cells)	10-75VDC	5A max.(42W)	
TSB003-LPO02S4	LiPo	7.4VDC (2 cells)	10-75VDC	4A (33.6W)	
TSB003-LPO02S3	LiPo	7.4VDC (2 cells)	10-75VDC	3A (25.2W)	
TSB003-LPO02S2	LiPo	7.4VDC (2 cells)	10-75VDC	2A (16.8W)	
TSB003-LPO02S1	LiPo	7.4VDC (2 cells)	10-75VDC	1A (8.4W)	
TSB003-LPO03S5	LiPo	11.1VDC (3 cells)	10-75VDC	5A max.(63W)	
TSB003-LPO03S4	LiPo	11.1VDC (3 cells)	10-75VDC	4A (50.4W)	
TSB003-LPO03S3	LiPo	11.1VDC (3 cells)	10-75VDC	3A (37.8W)	
TSB003-LPO03S2	LiPo	11.1VDC (3 cells)	10-75VDC	2A (25.2W)	
TSB003-LPO03S1	LiPo	11.1VDC (3 cells)	10-75VDC	1A (12.6W)	
TSB003-LPO04S5	LiPo	14.8VDC (4 cells)	10-75VDC	5A max.(84W)	
TSB003-LPO04S4	LiPo	14.8VDC (4 cells)	10-75VDC	4A (67.2W)	
TSB003-LPO04S3	LiPo	14.8VDC (4 cells)	10-75VDC	3A (50.4W)	
TSB003-LPO04S2	LiPo	14.8VDC (4 cells)	10-75VDC	2A (33.6W)	
TSB003-LPO04S1	LiPo	14.8VDC (4 cells)	10-75VDC	1A (16.8W)	
TSB003-LPO05S5	LiPo	18.5VDC (5 cells)	10-75VDC	4.76A (100W max.)	
TSB003-LPO05S4	LiPo	18.5VDC (5 cells)	10-75VDC	4A (84W)	
TSB003-LPO05S3	LiPo	18.5VDC (5 cells)	10-75VDC	3A (63W)	
TSB003-LPO05S2	LiPo	18.5VDC (5 cells)	10-75VDC	2A (42W)	
TSB003-LPO05S1	LiPo	18.5VDC (5 cells)	10-75VDC	1A (21W)	
TSB003-LPO06S4	LiPo	22.2VDC (6 cells)	10-75VDC	4A (100W max.)	
TSB003-LPO06S3	LiPo	22.2VDC (6 cells)	10-75VDC	3A (75.6W)	
TSB003-LPO06S2	LiPo	22.2VDC (6 cells)	10-75VDC	2A (50.4W)	

Select from options above

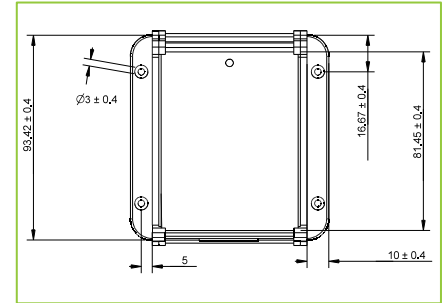
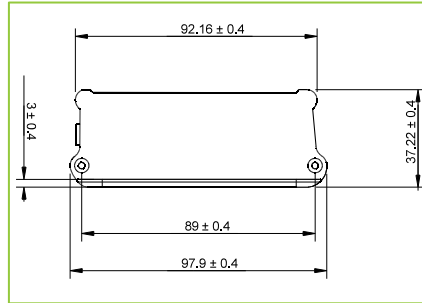
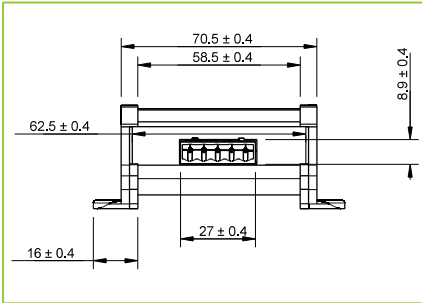
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Part Number	Chemistry	Battery Pack Voltage	Input Voltage	Output Current	Mounting Option
TSB003-LPO06S1	LiPo	22.2VDC (6 cells)	10-75VDC	1A (25.2W)	<i>Select from options above</i>
TSB003-LPO07S4	LiPo	25.9VDC (7 cells)	10-75VDC	3.4A (100W max.)	
TSB003-LPO07S3	LiPo	25.9VDC (7 cells)	10-75VDC	3A (88.2W)	
TSB003-LPO07S2	LiPo	25.9VDC (7 cells)	10-75VDC	2A (58.8W)	
TSB003-LPO07S1	LiPo	25.9VDC (7 cells)	10-75VDC	1A (29.4W)	
TSB003-LPO08S3	LiPo	29.6VDC (8 cells)	10-75VDC	3A (100W max.)	
TSB003-LPO08S2	LiPo	29.6VDC (8 cells)	10-75VDC	2A (67.2W)	
TSB003-LPO08S1	LiPo	29.6VDC (8 cells)	10-75VDC	1A (33.6W)	
TSB003-LPO09S3	LiPo	33.3VDC (9 cells)	10-75VDC	2.65A (100W max.)	
TSB003-LPO09S2	LiPo	33.3VDC (9 cells)	10-75VDC	2A (75.6W)	
TSB003-LPO09S1	LiPo	33.3VDC (9 cells)	10-75VDC	1A (37.8W)	
TSB003-LPO10S3	LiPo	37VDC (10 cells)	10-75VDC	2.38A (100W max.)	
TSB003-LPO10S2	LiPo	37VDC (10 cells)	10-75VDC	2A (84W)	
TSB003-LPO10S1	LiPo	37VDC (10 cells)	10-75VDC	1A (42W)	
TSB003-LPO11S3	LiPo	40.7VDC (11 cells)	10-75VDC	2.16A (100W max.)	
TSB003-LPO11S2	LiPo	40.7VDC (11 cells)	10-75VDC	2A (92.4W)	
TSB003-LPO11S1	LiPo	40.7VDC (11 cells)	10-75VDC	1A (46.2W)	
TSB003-LPO12S2	LiPo	44.4VDC (12 cells)	10-75VDC	2A (100W max.)	
TSB003-LPO12S1	LiPo	44.4VDC (12 cells)	10-75VDC	1A (50.4W)	

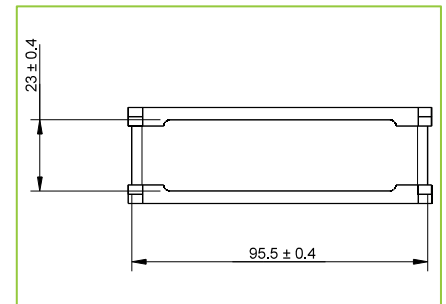
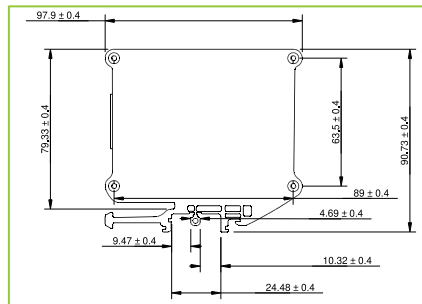
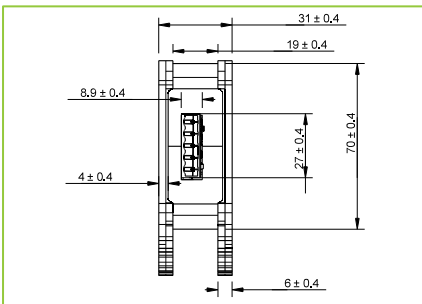
**\*\*\*IMPORTANT:** The Part Number must have the mounting option code (-P, -E, -V, or -H) your project requires.

## TECHNICAL DIAGRAMS (2D)

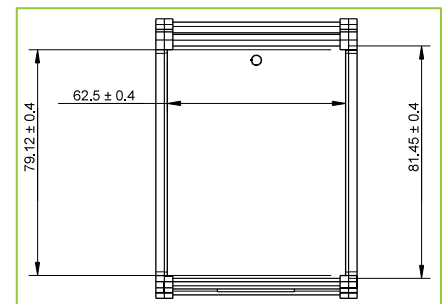
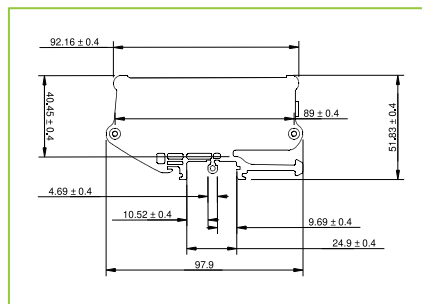
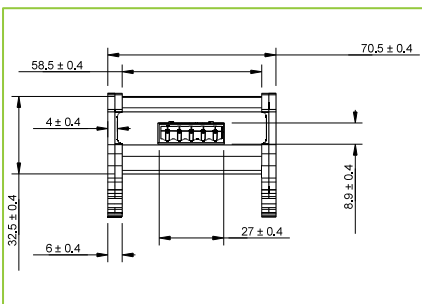
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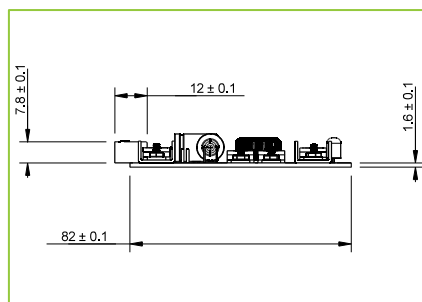
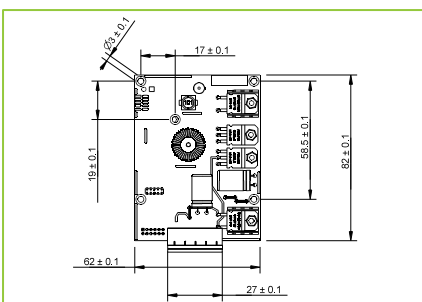
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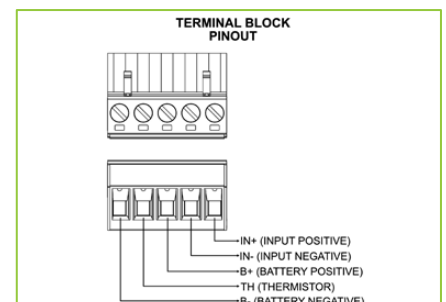
### DIN-H



### PCB



### TERMINAL BLOCK PINOUT



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