

Lilon

3.7V-
44.4VDC

3A max.

50W

Turtle Charger (50W) - Lilon

Pre-programmed Battery Charger for Lithium Ion



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 (Lilon)
Output Current	3A max.
Voltage Accuracy	<1%
Voltage Limit	4.20V \pm 1% p/cell
Current Accuracy	<5%
Tolerance on Timing	\pm 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-NCM 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 ION.

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.

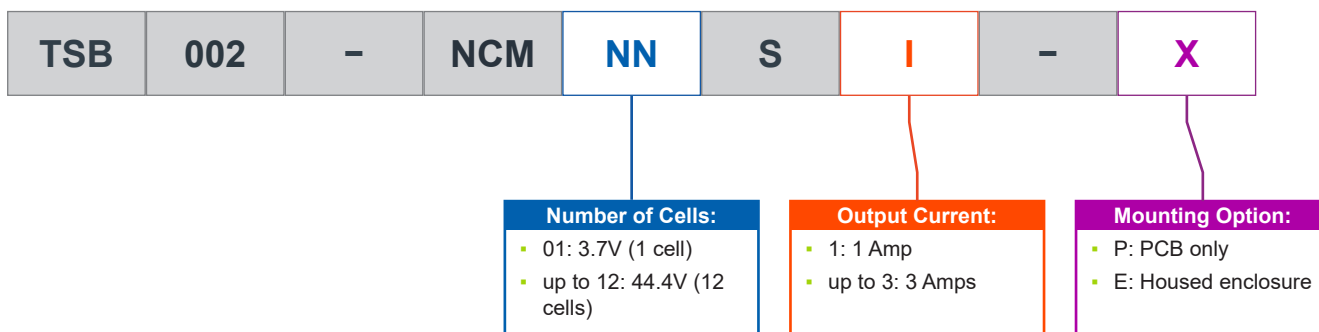
PCB



ENCLOSURE



PART NUMBER SELECTION KEY



*Termination of choice available.

SELECTION TABLE

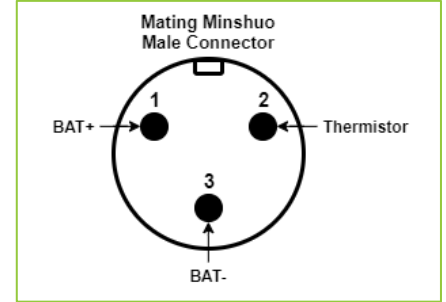
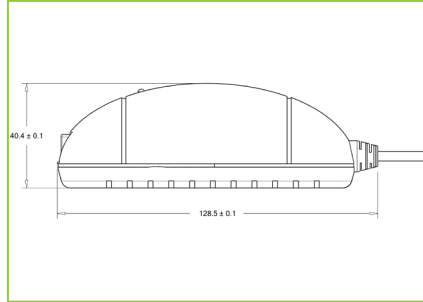
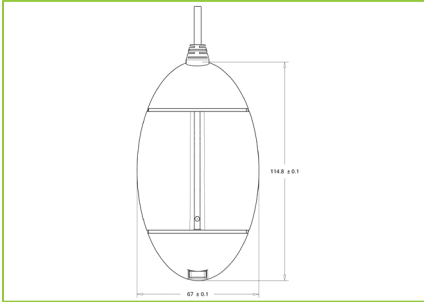
Part Number	Chemistry	Battery Pack Voltage	Input Voltage	Output Current	Mounting Option
TSB002-NCM01S1	Li-Ion	3.7VDC (1 cell)	10-75VDC	1A (4.2W)	<i>Select from options above</i>
TSB002-NCM01S2	Li-Ion	3.7VDC (1 cell)	10-75VDC	2A (8.4W)	
TSB002-NCM01S3	Li-Ion	3.7VDC (1 cell)	10-75VDC	3A (12.6W)	
TSB002-NCM02S1	Li-Ion	7.4VDC (2 cells)	10-75VDC	1A (8.4W)	
TSB002-NCM02S2	Li-Ion	7.4VDC (2 cells)	10-75VDC	2A (16.8W)	
TSB002-NCM02S3	Li-Ion	7.4VDC (2 cells)	10-75VDC	3A (25.2W)	
TSB002-NCM03S1	Li-Ion	11.1VDC (3 cells)	10-75VDC	1A (12.6W)	
TSB002-NCM03S2	Li-Ion	11.1VDC (3 cells)	10-75VDC	2A (25.2W)	
TSB002-NCM03S3	Li-Ion	11.1VDC (3 cells)	10-75VDC	3A (37.8W)	
TSB002-NCM04S1	Li-Ion	14.8VDC (4 cells)	10-75VDC	1A (16.8W)	
TSB002-NCM04S2	Li-Ion	14.8VDC (4 cells)	10-75VDC	2A (33.6W)	
TSB002-NCM04S3	Li-Ion	14.8VDC (4 cells)	10-75VDC	2.98A (50W max.)	
TSB002-NCM05S1	Li-Ion	18.5VDC (5 cells)	10-75VDC	1A (21W)	
TSB002-NCM05S2	Li-Ion	18.5VDC (5 cells)	10-75VDC	2A (42W)	
TSB002-NCM05S3	Li-Ion	18.5VDC (5 cells)	10-75VDC	2.38A (50W max.)	
TSB002-NCM06S1	Li-Ion	22.2VDC (6 cells)	10-75VDC	1A (25.2W)	
TSB002-NCM06S2	Li-Ion	22.2VDC (6 cells)	10-75VDC	1.98A (50W max.)	
TSB002-NCM07S1	Li-Ion	25.9VDC (7 cells)	10-75VDC	1A (29.4W)	
TSB002-NCM07S2	Li-Ion	25.9VDC (7 cells)	10-75VDC	1.7A (50W max.)	
TSB002-NCM08S1	Li-Ion	29.6VDC (8 cells)	10-75VDC	1A (33.6W)	
TSB002-NCM08S2	Li-Ion	29.6VDC (8 cells)	10-75VDC	1.49A (50W max.)	
TSB002-NCM09S1	Li-Ion	33.3VDC (9 cells)	10-75VDC	1A (37.8W)	
TSB002-NCM09S2	Li-Ion	33.3VDC (9 cells)	10-75VDC	1.32A (50W max.)	
TSB002-NCM10S1	Li-Ion	37VDC (10 cells)	10-75VDC	1A (42W)	
TSB002-NCM10S2	Li-Ion	37VDC (10 cells)	10-75VDC	1.19A (50W max.)	
TSB002-NCM11S1	Li-Ion	40.7VDC (11 cells)	10-75VDC	1A (46.2W)	
TSB002-NCM11S2	Li-Ion	40.7VDC (11 cells)	10-75VDC	1.08A (50W max.)	
TSB002-NCM12S1	Li-Ion	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.

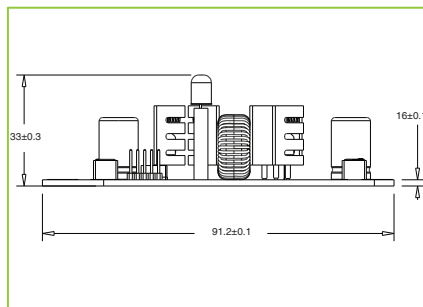
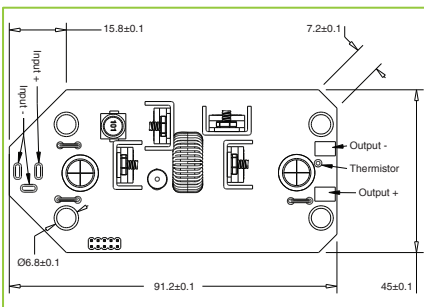
All specifications are correct at time of creation. All specifications and operation conditions contained in this datasheet are subject to change or improvement without prior notice to the user. This data is for evaluation purposes only. No guarantee is intended or implied by this data. For clarification and updated information, please contact us.

TECHNICAL DIAGRAMS (2D)

ENCLOSURE



PCB



All dimensions in millimeters (mm).