

**VERSION: C**  
**20170714**

# TBB3 USER MANUAL



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# Contents

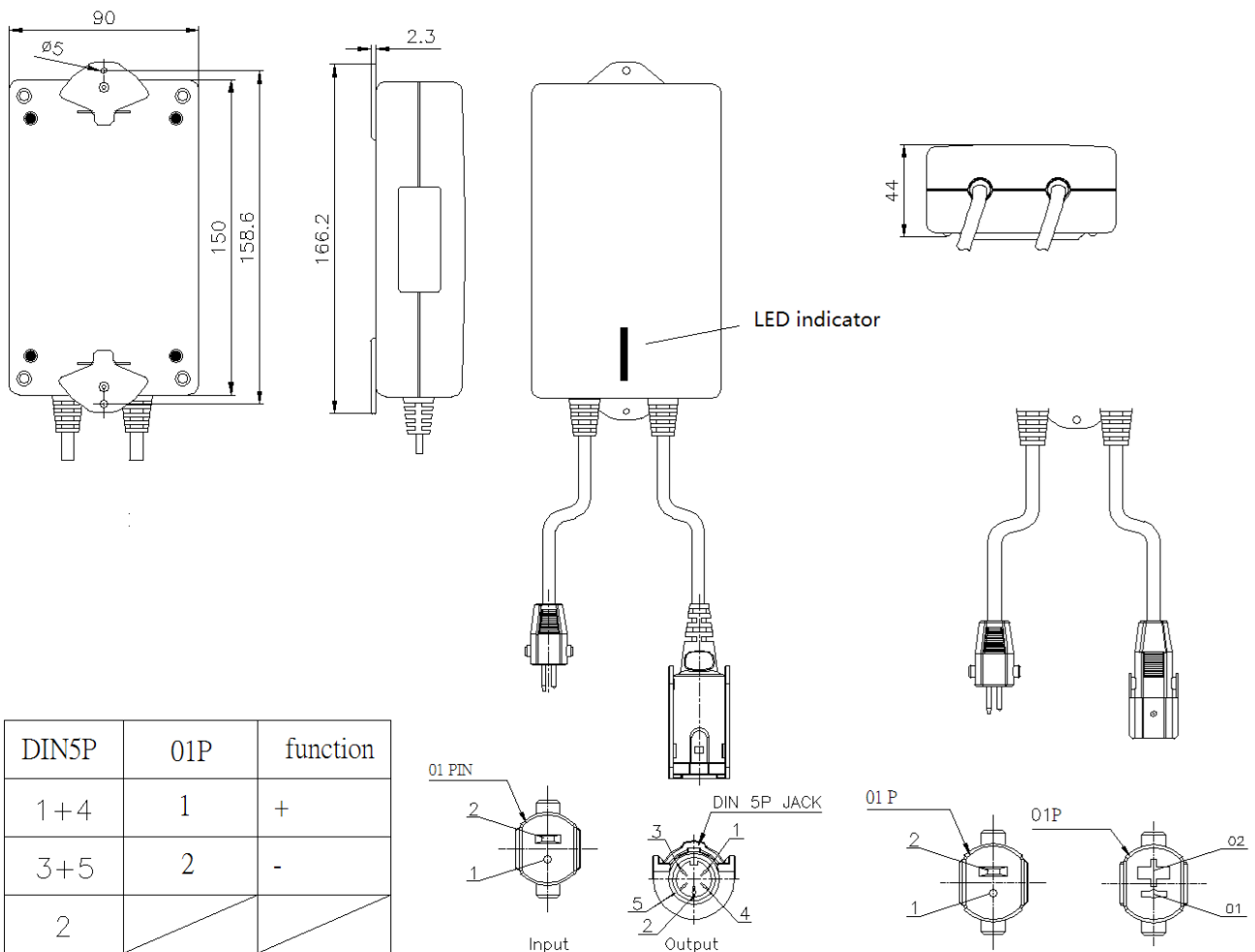
<b>Contents</b> .....	<b>2</b>
<b>1. Warning</b> .....	<b>3</b>
<b>2. Specifications</b> .....	<b>4</b>
<b>3. Indications</b> .....	<b>5</b>
3.1 Status.....	5
3.2 Table .....	5
3.3 Remarks.....	5
<b>4. Protection</b> .....	<b>6</b>
<b>5. Maintenance</b> .....	<b>6</b>
5.1 Storage .....	6
5.2 Repair.....	6
5.3 Transportation .....	6
5.4 Storage .....	6
<b>6. Appendix</b> .....	<b>7</b>
6.1 Discharge time curve .....	7
6.2 Discharge voltage - current curve.....	8

# 1.Warning

- Must follow the rated input voltage
- Don't discard or expose the products into water or heat source
- Recycle with certified depots
- Repair by authorized maintenance centers

## 2. Specifications

Model name	TBB3
Battery capacity	1.8Ah (0.1C discharge, 180mA)
Input	24~32VDC
Output	25.2VDC, 1.8A (Max discharge current 5A, 2 min; Peak 10A, 20 sec)
Duty cycle	10% (2 min on / 18 min off)
Operation temperature	5~45°C
IP rating	Up to IP66
Dimension	158.6*90*44mm
Net weight/pc	0.6kg
ON/OFF switches	Without
Buzzer	With (optional)



## 3. Indications

### 3.1 Status

Process	Status	
When charged	Hi charging	Charging
Discharging	Hi battery	Low battery
Others	Protection	Failure

### 3.2 Table

Status	Capacity	LED		Buzzer
Hi charging	>90%	Green	continuous on	off
Charging	<90%	Green	short dimming (1 sec / 1 sec)	off
Hi battery	>25%	Green	long dimming (0.5 sec / 4 sec)	off
Low battery	<25%	Orange	long dimming (0.5 sec / 4 sec)	Alarm (1 beep / sec)
Protection	<20%	-	off	off

### 3.3 Remarks

- First time use: Pre charge about 10 sec until orange LED dimming
- It takes 7hrs to charge from protect to fully charged status

## 4. Protection

Under below protection status- LED continuous off, without beep alarm

Protection type	When	Lasting for
Discharge- Over current protect	Current = 5A	>2 min
	Current =11A	>20 sec
	Current >14A	0 sec (instant protection)
	Output short circuit	0 sec (instant protection)
Standby- Low voltage protect	Voltage <21VDC	0 sec (instant protection)

## 5. Maintenance

The product should be charged continuously at least 7hrs under following circumstances- First operation

- Before long period storage without AC-in
- First operation after long period storage

### 5.1 Storage

Storage period when without AC-in V.S estimated capacity (100% capacity when shipped out from factory)

Period (including shipping)	Capacity	Status
1 months	80%	Usable
3 months	70%	Please charge before using
>6 months	<60%	Too long storage period, battery capacity harmed * Be sure to charge 7hrs every 6 months least

### 5.2 Repair

Please consult to the seller

### 5.3 Transportation

By air, ocean & inland shipment

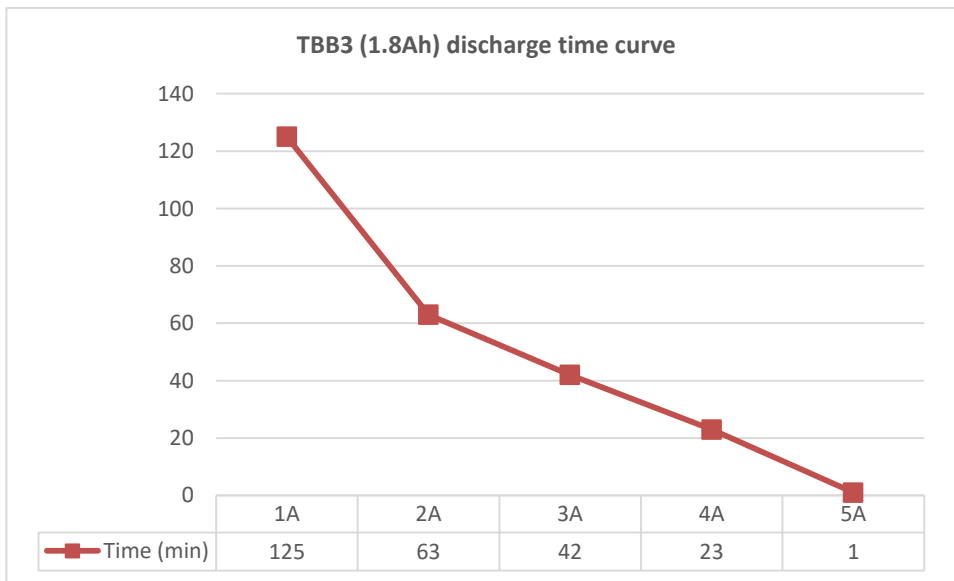
### 5.4 Storage

- Temperature: 0~ 40°C
- Humidity: 10%~93%
- Atmosphere: 86KPa ~1006Kpa

## 6. Appendix

### 6.1 Discharge time curve

Sample	Product
Status	From full capacity (100%) to protect (20%)
X axis	Discharge current (A)
Y axis	Discharge time (min)
Remark	In real situation the discharge varies- this test is only for reference



## 6.2 Discharge voltage - current curve

Sample	Product
Status	At full capacity (100%)
X axis	Discharge current (A)
Y axis	Discharge voltage (V)
Remark	In real situation the discharge varies- this test is only for reference

