

Features

- ◆ Battery protection for over voltage, deep discharge, short circuit and reverse connection
- ◆ Alarm outputs for input, output and battery condition
- ◆ Remote On/Off for battery and power supply
- ◆ Controlled end of charge voltage by temperature sensor
- ◆ International safety approval package
- ◆ 3-year product warranty



This module provides a professional battery management system to charge and monitor an external lead-acid battery. Together with a power supply of the TSP series, a perfect DC-UPS system can be configured. The connected battery will be charged and held in charged mode by the power supply. In the event of a mains power failure the battery will supply the output power until the battery is discharged. As a consequence, the output voltage of the system is equivalent to the battery voltage. To avoid overcharging the battery, an external temperature sensor adjusts the battery voltage automatically to the required end of charge voltage. This can extend the battery life.

The battery is protected against deep discharge. Mains power and battery status are monitored regularly and failures indicated by corresponding LED's and alarm outputs. The module also provides an external On/Off input to switch-off both, power supply and battery.

Models

| Order Code | Input & Battery voltage | Max Power per Input | Output Voltage | Output Current max.* | Output Power max. |
|------------|-------------------------|---------------------|----------------|----------------------|-------------------|
| TSP-BCM12 | 12 VDC | 144 W | 12 VDC | 12.0 A | 144 W |
| TSP-BCM24 | 24 VDC | 360 W | 24 VDC | 15.0 A | 360 W |
| TSP-BCM48 | 48 VDC | 360 W | 48 VDC | 7.5 A | 360 W |
| TSP-BCM24A | 24 VDC | 600 W | 24 VDC | 25.0 A | 600 W |
| TSP-BCM48A | 48 VDC | 600 W | 48 VDC | 12.5 A | 600 W |

* Maximum current at nominal Vout

| Battery Controller Module | Possible TSP input source | Battery Controller Module | Possible TSP input source |
|---------------------------|--|---------------------------|---------------------------|
| TSP-BCM12 | TSP 70-112 TSP 140-112 | TSP-BCM24A | TSP 600-124 |
| TSP-BCM24 | TSP 90-124 TSP 180-124(-WR) TSP 360-124(-WR) | TSP-BCM48A | TSP 600-148 |
| TSP-BCM48 | TSP 90-148 TSP 180-148 TSP 360-148 | | |

Input Specifications

| | | |
|---|--------------|--------|
| Input current limitation (factory setting) | – TSP-BCM12 | 10.5 A |
| | – TSP-BCM24 | 12.8 A |
| | – TSP-BCM48 | 6.4 A |
| | – TSP-BCM24A | 10.7 A |
| | – TSP-BCM48A | 6.4 A |

Output Specifications

| | | |
|---|--------------------------|-----------|
| Output Voltage range (adjustable with potentiometer) | – TSP-BCM12 | 12-14 VDC |
| | – TSP-BCM24 & TSP-BCM24A | 24-28 VDC |
| | – TSP-BCM48 & TSP-BCM48A | 48-56 VDC |

Ripple and noise (20 MHz bandwidth) **200 mVp-p max.**

Capacitive load **unlimited**

General Specifications

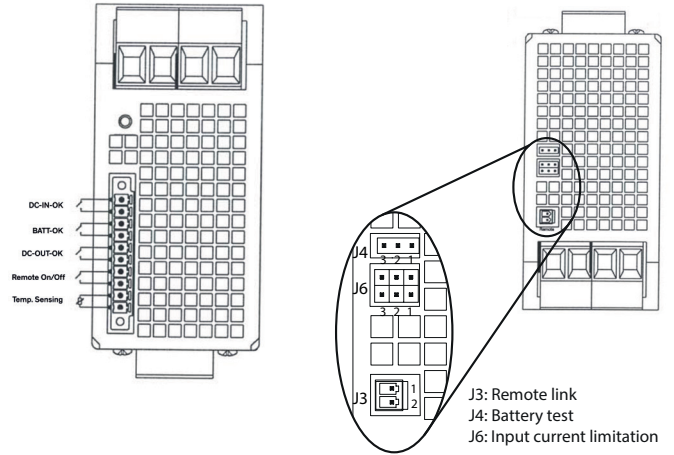
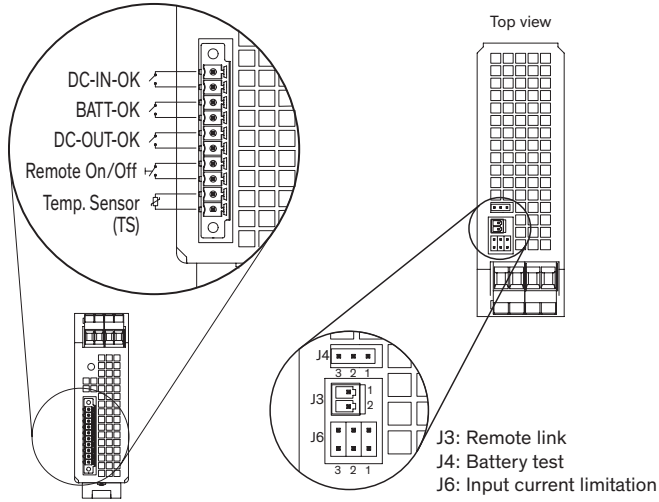
| | | |
|---|---------------------------------|---|
| Operating temperature | | –25°C to +70°C max. |
| | – TSP-BCM24 & TSP-BCM24A | derating above +40°C : 1.5 %/K |
| | – other models | derating above +40°C : 1.67 %/K |
| Storage temperature | | –25°C to +85°C max. |
| Temperature coefficient | | 0.02 %/K |
| Humidity (non condensing) | | 95 % rel. H max. |
| Reliability, calculated MTBF at +25°C acc. to IEC 61709 | | > 1.5 Mio. h |
| Battery protection | | against over voltage, deep discharge, overcharge, short circuit and reverse connection (built-in fuse) |
| Status signals | | DC OK input, DC OK output, BAT OK all relay contact closed at status OK |
| Rating per relay contact | | 30 VDC / 0.6A or 60 VDC / 0.3A |
| Polution degree | | 2 |
| Remote On/Off | | by ext. contact: contact open = On, contact closed = Off |
| Remote link cable (0.5 m) | | 2 cables included (order code TSP-JC) www.tracopower.com/products/tsp-jc.pdf |
| Degree of protection | | IP 20 (IEC/EN 60529) |
| Safety standard | | IEC/EN 60950-1, UL 60950-, UL508 IEC/EN 61010-1, IEC/EN 61010-2-201 |
| Safety approvals | – CSA | UL 60950, UL 508 |
| | – CB test certificate | IEC 60950-1 (SIQ for EN) IEC/EN 61010-1, IEC 61010-2-201 |
| | – Certification documents | www.tracopower.com/overview/tsp |
| Electromagnetic compatibility | | in correspondence to connected units (no internal switching device) |
| Environment | – Vibration acc. IEC 60068-2-6; | 3 axis, sine sweep, 10 – 55 Hz, 1 g, 1 oct/min |
| | – Shock acc. IEC 60068-2-27 | 3 axis, 15 g half sine, 11 ms |
| Enclosure material | | aluminium (chassis) / stainless steel (cover) |
| Mounting | – DIN-rail mounting | for DIN-rails as per EN 50022-35×15/7.5 (snap-on with self-locking spring) |
| | – Wall mounting (option) | with wall mounting bracket - see page 4 |
| Connection | | detachable screw terminals (plugs included) |
| Installation instructions | | www.tracopower.com/overview/tsp |

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Connector Position

TSP-BCM12
TSP-BCM24
TSP-BCM48

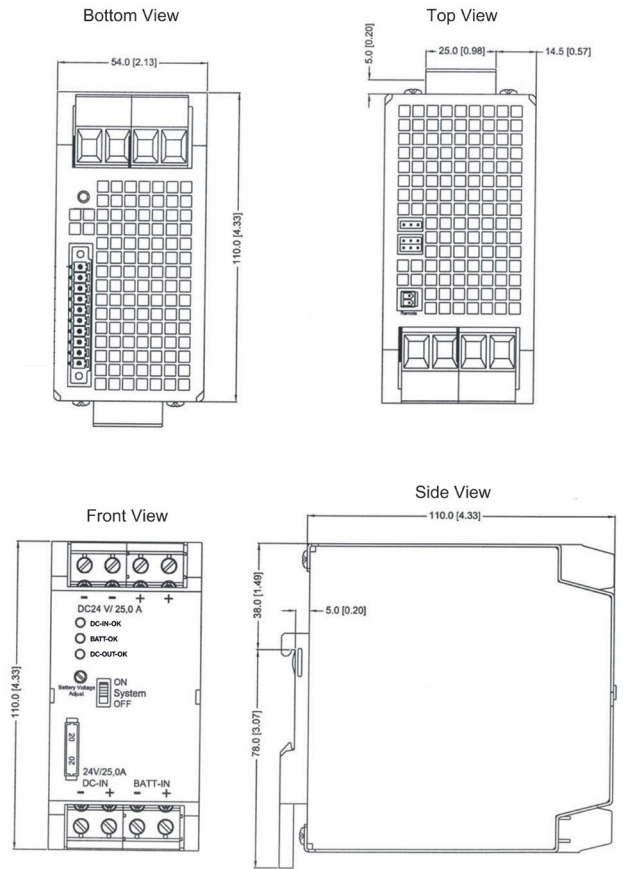
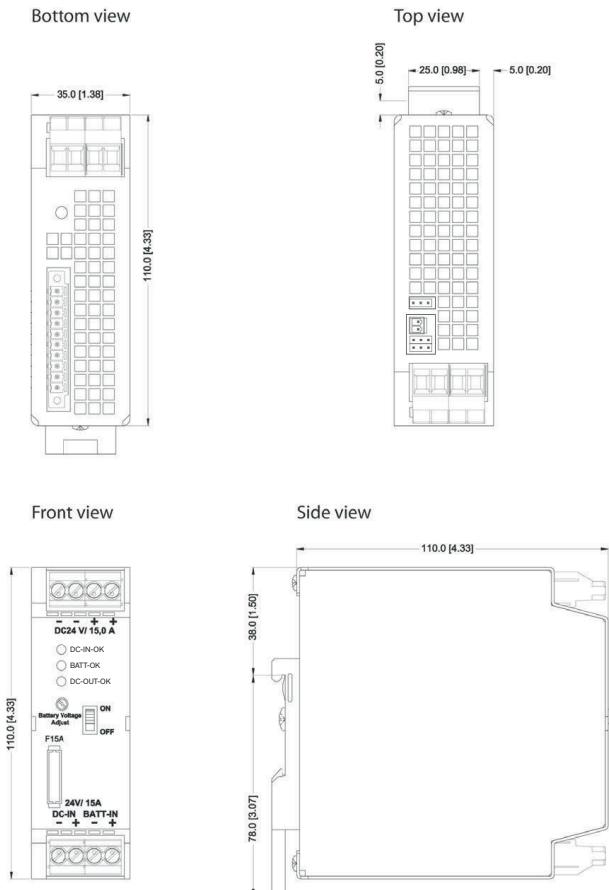
TSP-BCM24A
TSP-BCM48A



Outline Dimensions

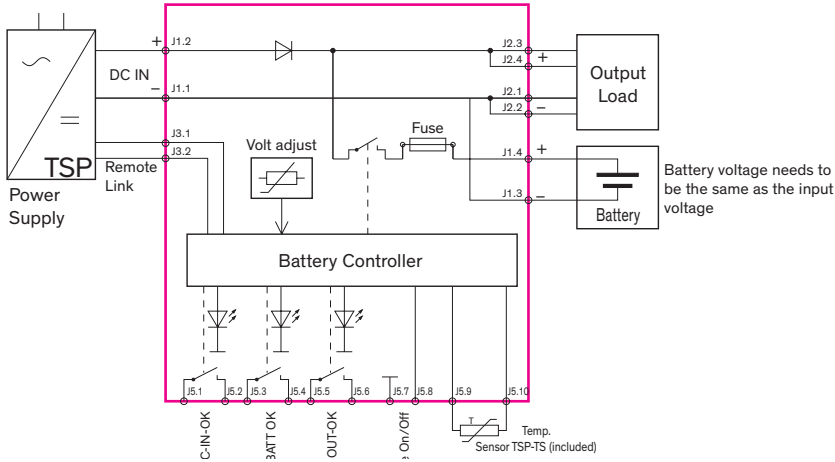
TSP-BCM12
TSP-BCM24
TSP-BCM48

TSP-BCM24A
TSP-BCM48A



Function

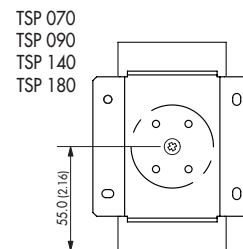
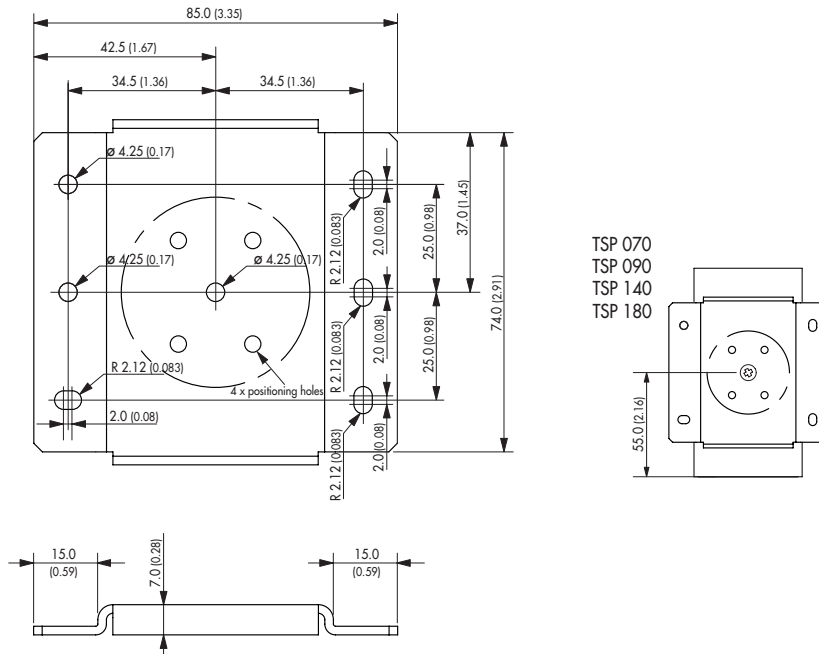
Function Diagram:



TSP-WMK Wall Mounting Bracket

| Ordercode of Kit | For Models | Content of Kit |
|------------------|------------------------|----------------|
| TSP-WMK03 | TSP-BCMxx & TSP-BCMxxA | 1 bracket |

TSP-WMK03



All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

TSP-BAT Battery Pack

The TSP battery packs are designed to build, in connection with the TSP-BCM battery controller module, a complete DC-UPS system. The entire range utilizes 12 V maintenance free VRLA (valve regulated lead acid) batteries made by PANASONIC. These are not spillable lead gel type batteries. Two 12 V batteries are connected in series and assembled into a stainless steel enclosure, with integrated connector and connection cable.



Models

| Order code (includes mating connectors) | Nominal Voltage | Charge current max. | Nominal Capacity (at 25°C, 77°F) |
|--|-----------------|-------------------------------------|-------------------------------------|
| TSP-BAT12-072 * | 12 | 1.08 A | 7.2 Ah |
| TSP-BAT24-012 * | 24 VDC | 0.30 A | 1.2 Ah |
| TSP-BAT24-034 * | | 0.51 A | 3.4 Ah |
| TSP-BAT24-072 * | | 1.08 A | 7.2 Ah |
| TSP-BAT24-120 * | | 1.80 A | 12.0 Ah |
| TSP-BAT24-072KIT TSP-BAT24-120KIT | | Installation rack without batteries | |

Note * End of life

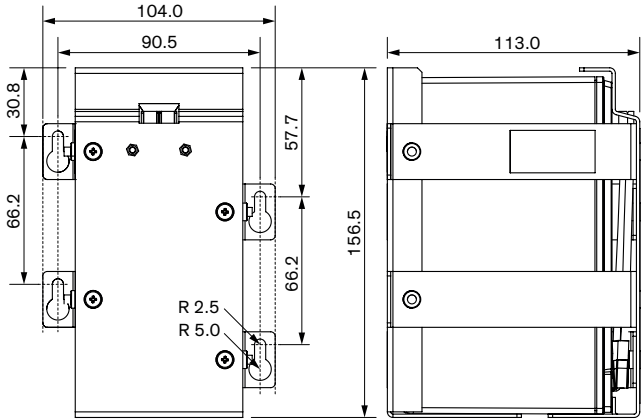
Specifications

| | | |
|---------------------------|---|--|
| Temperature ranges (max) | – during discharge – when charging / charged – storage | –15°C to +50°C max. 0°C to +40°C max. –15°C to +40°C max. |
| Battery lifetime | | 3 – 5 years see general battery information for details & warranty limitations www.tracopower.com/products/tsp-panas_gen.pdf |
| Remote link cable (0.5 m) | | 1 cable included (order code TSP-JC) www.tracopower.com/products/tsp-jc-cable.pdf |
| Weight | TSP-BAT24-034 TSP-BAT24-072 TSP-BAT24-120 | 3.2 kg (7.1lb) 5.8 kg (12.9lb) 9.0 kg (20.0lb) |
| Battery datasheets | TSP-BAT12-072 TSP-BAT24-012 TSP-BAT24-034 TSP-BAT24-072 TSP-BAT24-120 | www.tracopower.com/products/tsp-panas_072.pdf www.tracopower.com/products/tsp-powers_012.pdf www.tracopower.com/products/tsp-panas_034.pdf www.tracopower.com/products/tsp-panas_072.pdf www.tracopower.com/products/tsp-panas_120.pdf |

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

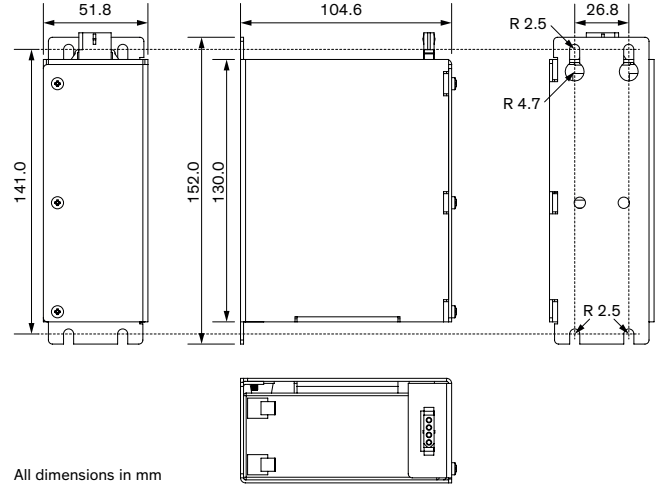
TSP-BAT Battery Pack

TSP-BAT12-072



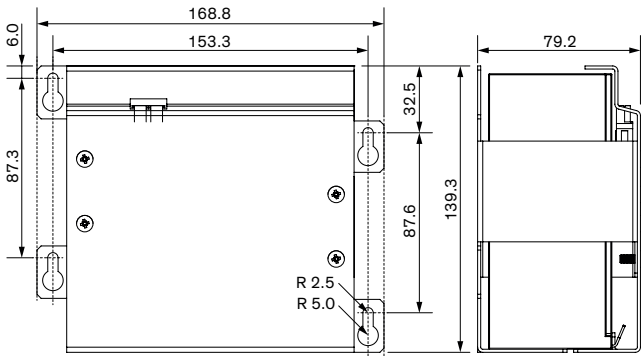
All dimensions in mm

TSP-BAT24-012



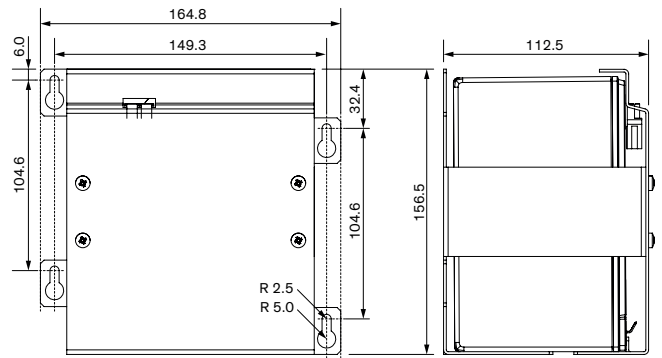
All dimensions in mm

TSP-BAT24-034



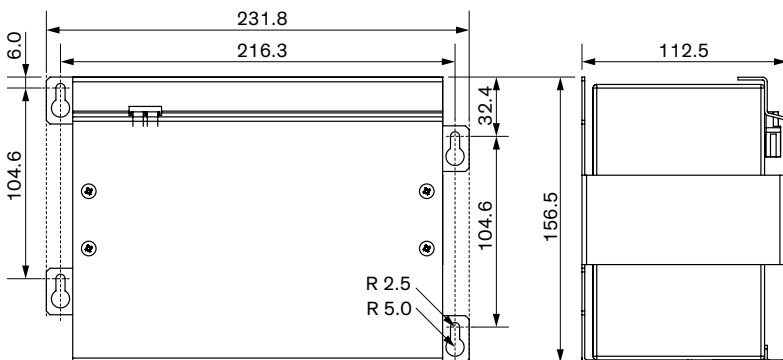
All dimensions in mm

TSP-BAT24-072



All dimensions in mm

TSP-BAT24-120



All dimensions in mm

Specifications can be changed without notice! Make sure you are using the latest documentation, downloadable at www.tracopower.com