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TRACO POWER

Battery Controller Modules

TSP-BCM Series, 72–600 Watt

CE EMC LVD

CB Scheme IEC 60950-1

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	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 Controler Module	Possible TSP input source	Battery Controler 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		

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Battery Controller Module

TSP-BCM Series **72–600 Watt**

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

Ouput 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)
Altitude during operation		**tba.**
Safety standard		**IEC/EN 60950-1, UL 60950-, UL508 IEC/EN 61010-1, IEC/EN 61010-2-201**
Safety approvals	– CSA – CB test certificate	**UL 60950, UL 508** **IEC 60950-1 (SIQ for EN)** **IEC/EN 61010-1, IEC 61010-2-201**
	– Certfication documents	www.tracopower.com/overview/tsp
Electromagnetic compatibility		**in correspondence to connected units** (no internal switching device)
Environment	– Vibration acc. IEC 60068-2-6; – Shock acc. IEC 60068-2-27	**3 axis, sine sweep, 10 – 55 Hz, 1 g, 1 oct/min** **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)** **2 terminals per output**
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.

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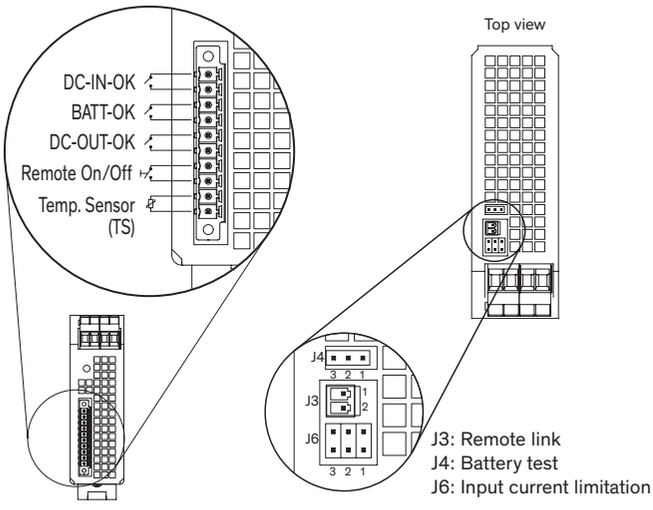
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Battery Controller Module

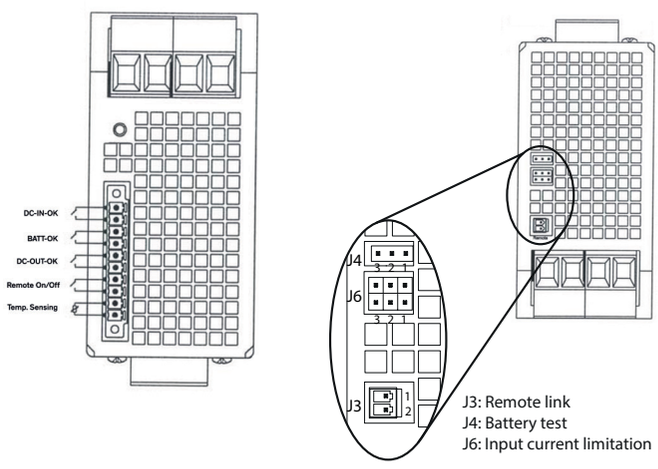
TSP-BCM Series **72–600 Watt**

Connector Position

TSP-BCM12
TSP-BCM24
TSP-BCM48

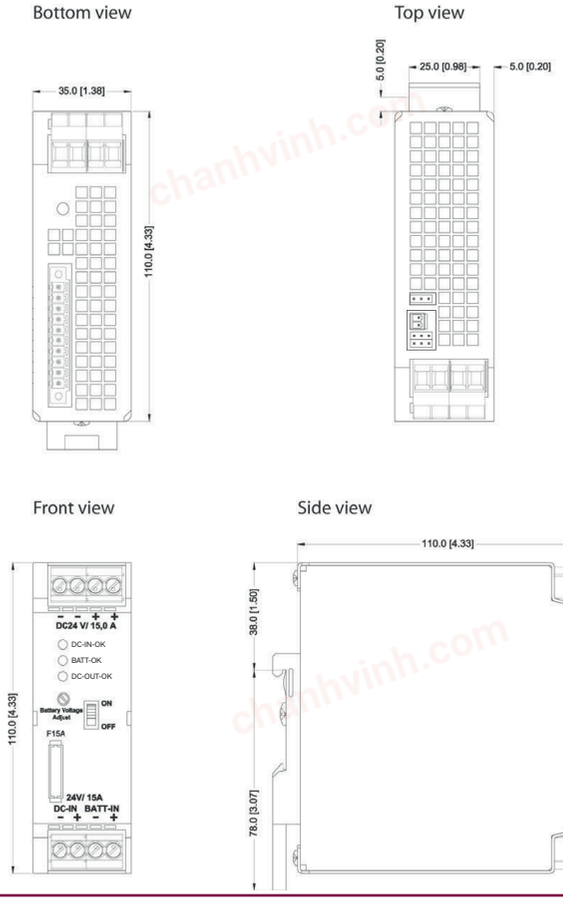


TSP-BCM24A
TSP-BCM48A

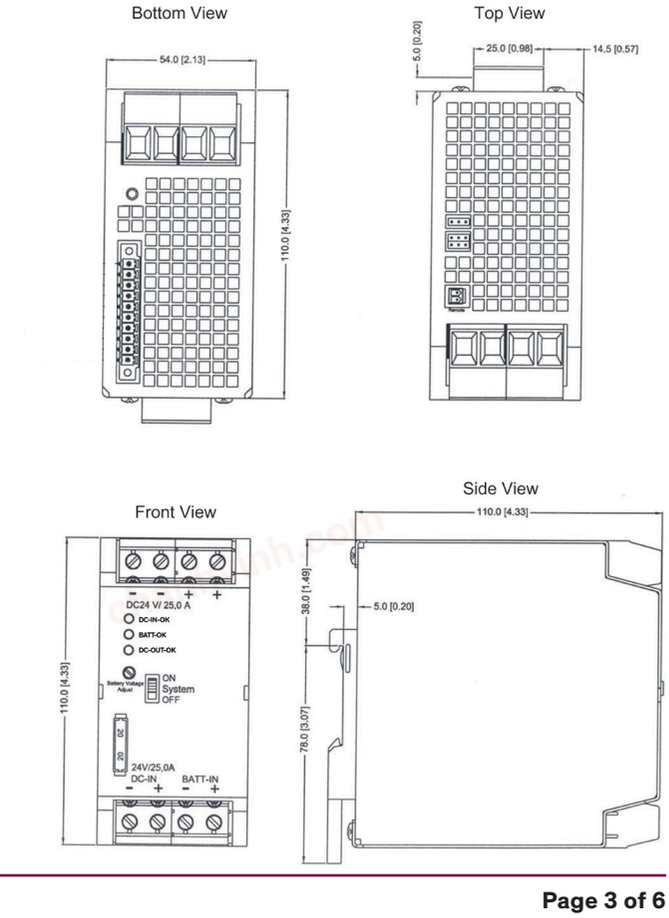


Outline Dimensions

TSP-BCM12
TSP-BCM24
TSP-BCM48



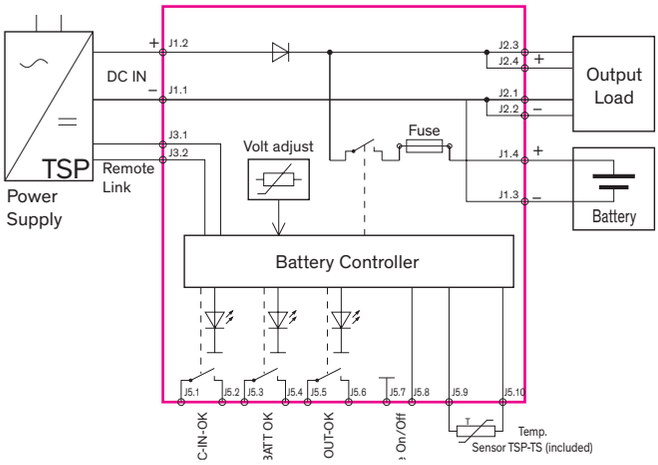
TSP-BCM24A
TSP-BCM48A



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Function

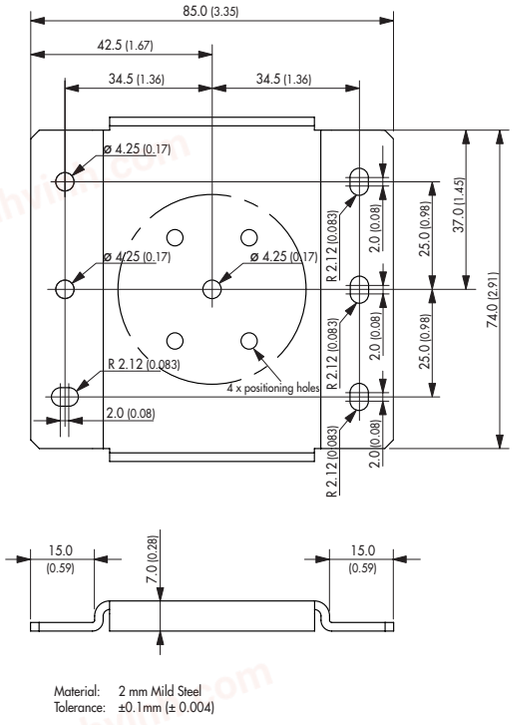
Function Diagram:

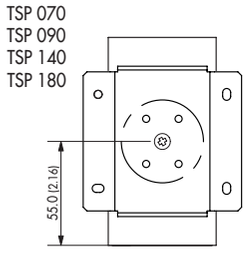


TSP–WMK Wall Mounting Bracket

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.

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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	**–15°C to +50°C max.**
	– when charging / charged	**0°C to +40°C max.**
	– storage	**–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	**3.2 kg** (7.1lb)
	TSP–BAT24–072	**5.8 kg** (12.9lb)
	TSP–BAT24–120	**9.0 kg** (20.0lb)
Battery datasheets	TSP–BAT12–072	www.tracopower.com/products/tsp-panas_072.pdf
	TSP–BAT24–012	www.tracopower.com/products/tsp-powers_012.pdf
	TSP–BAT24–034	www.tracopower.com/products/tsp-panas_034.pdf
	TSP–BAT24–072	www.tracopower.com/products/tsp-panas_072.pdf
	TSP–BAT24–120	www.tracopower.com/products/tsp-panas_120.pdf

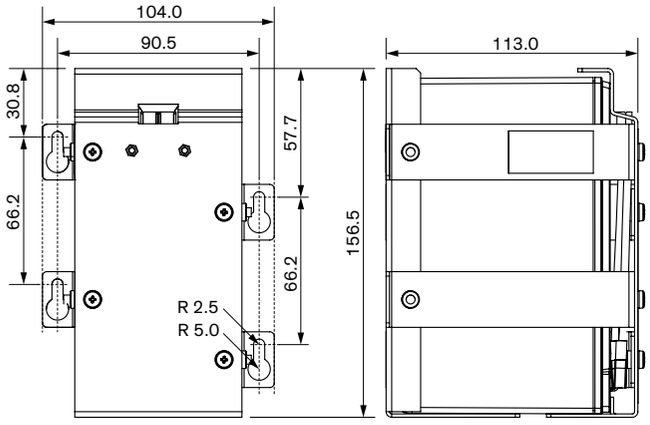
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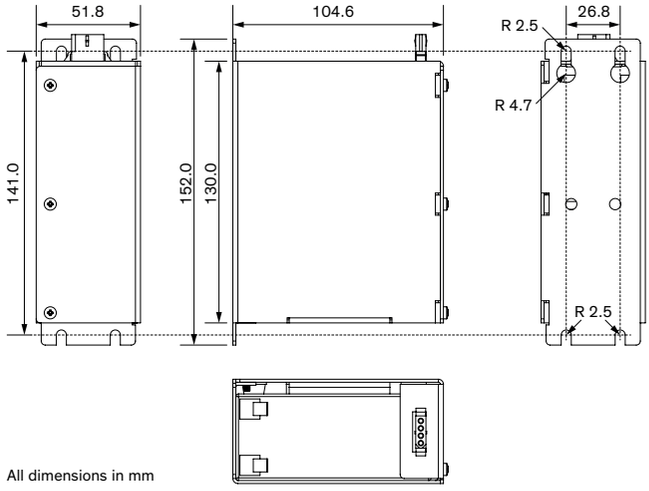
TSP–BAT Battery Pack

TSP-BAT12-072



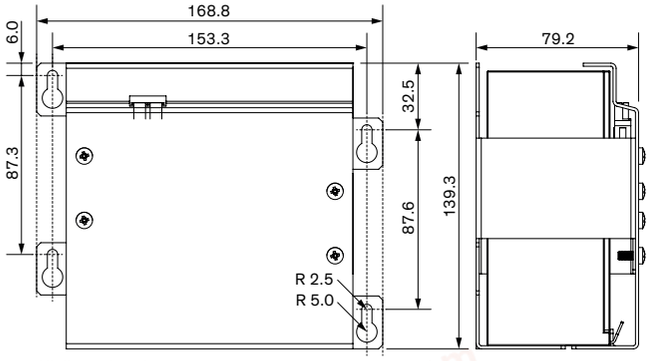
All dimensions in mm

TSP-BAT24-012



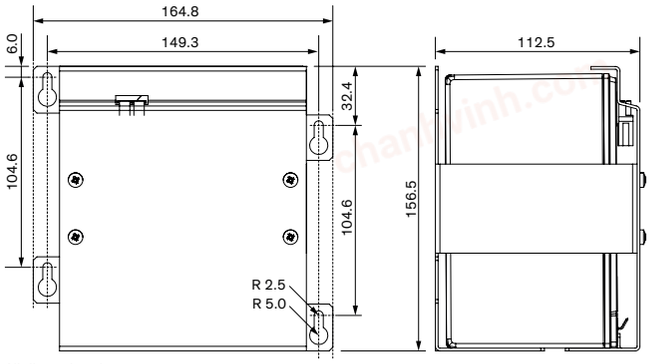
All dimensions in mm

TSP-BAT24-034



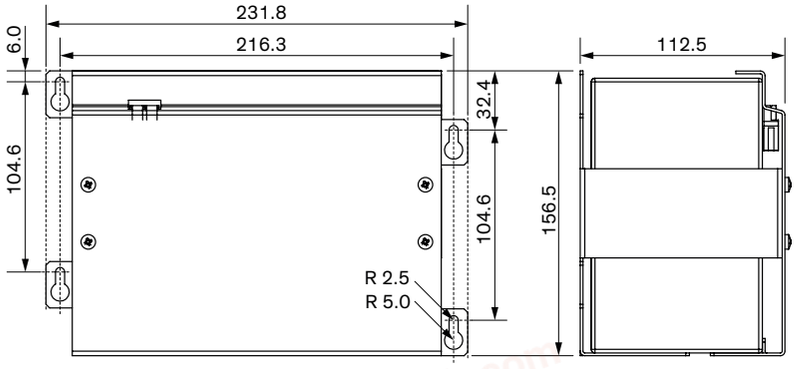
All dimensions in mm

TSP-BAT24-072



All dimensions in mm

TSP-BAT24-120



All dimensions in mm