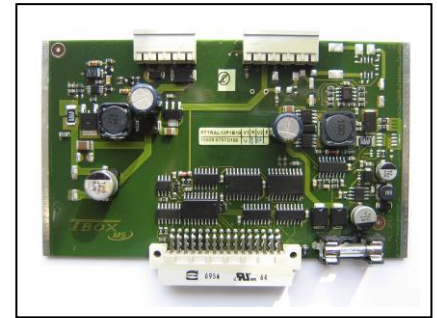


TBOX MS-PS-DCN

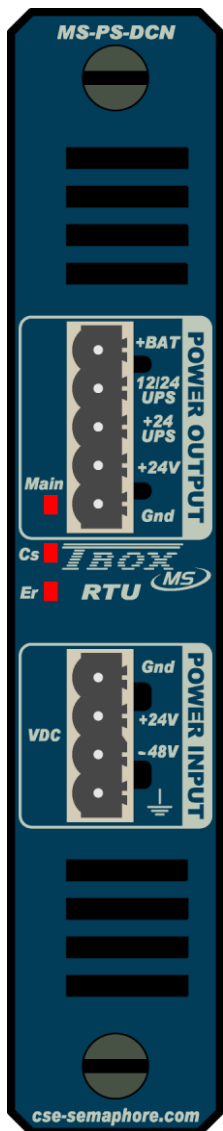
Version 3.09

TBOX MS-PS-DCN

- Power Supplies -48 .. +24 VDC



Technical Specifications



Input

Voltage input:	either:	+8..+30 VDC
	or:	-60..-24 VDC
Connector		Screw connector (4 x 5.08 mm) Wire range: 0.14 – 2.5 mm ² (or max. 12 AWG)

Power

Input Power at I out max.

with **positive input** voltage:
with **negative input** voltage:

Hw. Rev. 01	Hw. Rev. 02
Max. 20 W	Max. 40 W
Max. 25 W	Max. 50 W

Input Power in overload or short-circuit
with **positive input** voltage:
with **negative input** voltage:

Max. 75 W	Max. 150 W
Max. 85 W	Max. 170 W

Output Power
with **all input** voltages:

Max. 15 W	Max. 30 W @ 50 °C (*)
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(*) Linear derating from 30W @ 50°C to 20W @ 70 °C.

Input Current

Hw. Rev. **02** : Max. 2A
(depending on input voltage, input max power: 40W)

Output

+BAT	Battery Connection (+ 12VDC LEAD ACID battery)
- Mode	Constant current / limited voltage
- Voltage	Maximum: 13.8 V
- Current	Typical: 90 mA
+24 UPS (as of Hw. Rev. 02)	+24VDC when mains or battery is present. <u>Current:</u> max. 120 mA
12/24 UPS	+24VDC when mains is present otherwise battery voltage (8V ..+13.8V). Ideal to power another rack MS. <u>Current:</u> see below
+24V	+24VDC when mains is present. <u>Current:</u> total current, including the one needed for the MS cards.

with **positive input** voltage:
with **negative input** voltage:

Hw. Rev. 01	Hw. Rev. 02
Max. 0,625 A	Max. 1,25 A @ 24 V (or 30 W)
Max. 0,625 A	Max. 1,25 A

Gnd

Ground and 0V of Battery

	Hw. Rev. 01	Hw. Rev. 02
Output current on the Bus (Vcc=3.3V)	Max. 3 A	Max. 5 A @ 50 °C (*)
	(*) Linear derating from 5A @ 50°C to 3A @ 70 °C.	

	Hw. Rev. 01	Hw. Rev. 02
Total current used by all secondary outputs - battery charger, Bus, 24 V output - (Vp=24 V):	Max. 0.625 A	Max. 1.5 A

Connector Screw connector (5 x 5.08 mm)
Wire range: 0.14 – 2.5 mm² (or max. 12 AWG)

Protection

Test	Automatic test of the access of the card by the CPU (see LED 'CS' below)
EMC protection	
Overload and short-circuit	Maximum 1 second every minute Above this time, risk of permanent damage (output line is opened)
FUSE primary voltage	Soldered Fuse of 1.25 A. Not replaceable by user.
FUSE battery	Standard Glass Fuse of 2A fast (5x20). Replaceable by user.

Isolation

Input between Gnd and Earth	No isolation
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LED

Main	Input Voltage present
CS	Card Selection: card corresponds to a card declared in TWinSoft.
ER	Error: card type does not correspond to the one declared in TWinSoft.

Input

Active Power Supply	Digital input = 1 when power supply active (used in redundancy)
Power Fail	Digital input = 1 when 'main' power breaks down
Temperature	See above

Environment

Temperature storage	-40°C to 85°C
Temperature working (ambient)	Industrial Temperature: -40°C to 70°C
Humidity	15 to 95 % without condensation
Altitude	Max. 5000 m

Dimensions

Without connector	Height x Depth x Width: 150 x 83 x 29 mm
Weight (w/o connector)	350 g

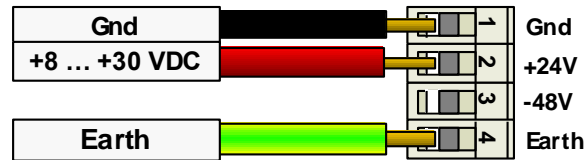
Approvals

CE, UL, CSA, C-Tick

Cabling Schematic

Cabling – Power Supply 24 VDC

Connector: POWER INPUT Screw connector (4 x 5.08 mm)



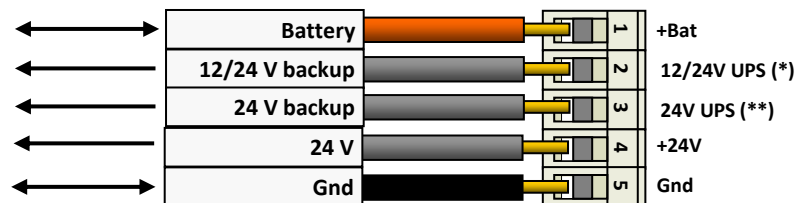
Cabling – Power Supply 48 VDC

Connector: POWER INPUT Screw connector (4 x 7.68 mm)



Cabling – Battery

Connector: POWER OUTPUT Screw connector (5 x 5.08 mm)



(*): 12V when battery active; 24 V when mains active

(**): 24V when battery and mains active