

FOR PC5, PC10 AND PC20 SWITCHMODE STEP-DOWN CONVERTERS 24VDC/12VDC – 5A / 10A / 20A

Dear Customer,

Thank you for buying our product. You have bought one of the most powerful, most compact and most reliable power converter of its class. Please make sure to read this manual carefully before putting the unit into operation.

WARNING!!! Important security advice!

- Operation under extreme conditions must be avoided, such as: in temperatures above 50°C, inflammable gas, solvents, vapour, dust, humidity over 80% non cond., etc.)
- The unit must be kept and operated in closed, dry area.
- As soon as you assume that safe operation of the unit is no longer possible, unplug it immediately and make sure that it cannot be switched back by somebody else. Operation has become unsafe when the unit does not show any signs of working or has been visibly damaged under transportation or after storing the unit in unfavourable conditions. Under adverse circumstances (e.g. lack of charge regulation, extremely high temperature) lead acid batteries can produce hydrogen – danger of explosion! Batteries must be stored and installed in well-ventilated areas only!
- Servicing and repair can only be conducted by authorized personnel! Always use fuse with identical ratings and characteristics as a replacement. When the fuse blows again after the replacement and there is no short-circuit in the wiring, it is probable that the converter got damaged.
- Batteries are able to deliver high currents, which can, despite the corresponding protecting measures taken, damage equipment and cause injuries to persons. In adverse conditions short-circuit could result in heat development and consequent fire. Please carefully observe technical specification on voltages and polarity!

Operation description

The PC type switchmode dc/dc converters do not have galvanic isolation between the input and the output. The high 50kHz switching frequency results in compact design, high 85% efficiency and low heat development. The PC type dc/dc power converters are protected against reverse polarity connection, output short-circuit and overload or against idling (unloaded condition).

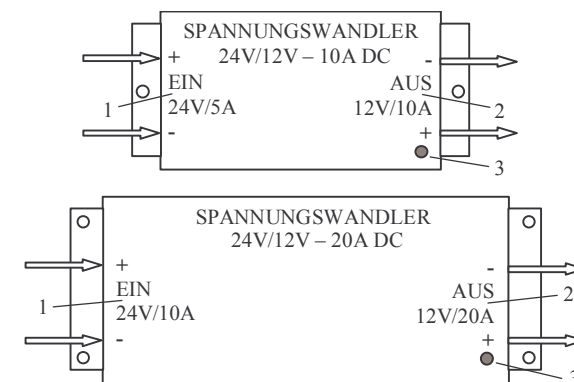
Application area

This power converter can be applied wherever the 24 V DC power needs to be converted into 12 V DC power, such as industrial, automotive, solar and marine application.

The PCB of the standard PC10 type converter is treated with a special material (conformal coating), which makes the unit particularly resistant against mechanical vibration or operation in high humidity areas (such as in tropical climate).

Parts

- 1) Input cables (EIN - 24V DC)
- 2) Output cables (AUS - 12V DC)
- 3) Red LED operation indicator



Attention: Look out for the right polarity! Follow the security advice!

Wiring and installation must follow the corresponding regulations! Check the voltage / power rating and polarity of each equipment which is to be connected to the converter, **before** you start with the actual connection! If you have any doubts – ask your local dealer.

Installation

Please use a min. 2,5 mm² diameter cable for the input (24V) and the output (12V) connection in order to reduce cable voltage drops to an acceptable level. Make sure that the output current won't exceed the 5A (at type PC5), 10A (at type PC10) or the 20A (type PC20) nominal value!

The unit fails to operate – possible faults

- The input fuse is blown (24V – 5 / 10 / 20A)
- Reverse polarity connection

Specifications

Type	PC5	PC10	PC20
	24 / 12V, 5A DC	24 / 12V, 10A DC	24 / 12V, 20A DC
Input voltage:	18 - 32V DC	18 - 32V DC	18 - 32V DC
Output voltage:	13,8 V ± 3%		
Output current:	5A	10A	20A
Efficiency:	85%		
Short circuit current:	6A max.	12A max.	22A max.
Spikes:	100 mV _{ss}		
Fuse:	5A	10A	20A
Conformal coating against humidity and vibration:	Optional	Standard	Optional
Weight:	approx. 240 g	approx. 300 g	approx. 400 g
Dimensions (L × W × H):	125 × 57 × 50 mm	125 × 59 × 50 mm	185 × 75 × 60 mm
Operating temperature:	- 20 °C ... + 50 °C		
Storing temperature:	- 40 °C ... + 70 °C		