



DC/DC Converter PS1000-D2-24.10

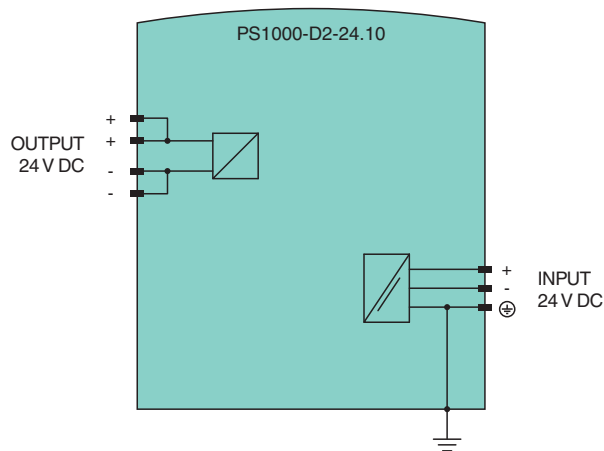
- 24 V DC input
- Isolated output 24 V DC, 10 A, 240 W
- Housing width 42 mm
- Efficiency up to 94.2 %
- Minimal inrush current surge
- Reverse input polarity protection
- 20 % output power reserves



Function

The device provides a stable, galvanically isolated SELV/PELV output voltage of 24 V DC. The device has a power reserve of 20 % included, which may even be used continuously at temperatures up to +45 °C. A reverse polarity protection prevents damage to the device caused by faulty wiring. The output voltage can be adjusted via a potentiometer. The device status is indicated by an LED. The device is mounted on a 35 mm DIN mounting rail according to EN 60715.

Connection



Technical Data

Electrical specifications

Efficiency		94.2 %
Power dissipation		14.8 W
Input		
Rated voltage	U_r	24 V DC
Voltage range		18 ... 35 V DC
Current		10.5 mA at 24 V DC
Inrush current		6 A peak at ambient temperature 25 °C (77 °F)
Output		
Rated voltage	U_r	24 V DC

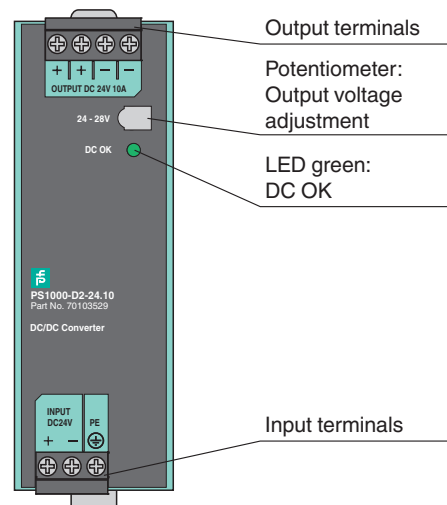
Technical Data

Voltage range		24 ... 28 V DC factory setting: 24.1 V
Rated current	I_r	10 A
Current		12 ... 10.3 A at ambient temperature < 45 °C (113 °F) 10 ... 8.6 A at ambient temperature 60 °C (140 °F) 7.5 ... 6.5 A at ambient temperature 70 °C (158 °F) linear power derating see characteristic curve
Power		240 W
Ripple		max. 50 mV _{pp}
Retention time/hold time		4 ms at 24 V DC
Short-circuit current		max. 15 A
Galvanic isolation		
Input/Output		SELV/PELV
Indicators/settings		
Display elements		LED green: status DC OK - LED lights up if the output voltage is > 21 V
Control elements		potentiometer
Configuration		setting of the output voltage via potentiometer
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		IEC/EN 61000-6-1 , IEC/EN 61000-6-2 , IEC/EN 61000-6-3 , IEC/EN 61000-6-4
Low voltage		
Directive 2014/35/EU		EN 61010-1
RoHS		
Directive 2011/65/EU (RoHS)		IEC/EN 63000:2019
Conformity		
Degree of protection		EN 60529
Shock resistance		EN 60068-2-27
Vibration resistance		EN 60068-2-6
Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F) , see characteristic curve
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Relative humidity		5 ... 95 % , noncondensing
Shock resistance		20 g , 11 ms or 30 g , 6 ms
Vibration resistance		2 ... 17.8 Hz : ± 1.6 mm , 17.8 ... 500 Hz : 2 g
Mechanical specifications		
Housing material		aluminum alloy , galvanized steel
Degree of protection		IP20
Connection		
Input/Output		screw terminals conductor cross section: max. 6 mm ² (AWG 20-10) cable diameter: max. 2.8 mm, wire end ferrules included stripped insulation length: 7 mm tightening torque: max. 1 Nm
Mass		approx. 500 g
Dimensions		42 x 124 x 117 mm , without DIN mounting rail
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
International approvals		
UL approval		E223176
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

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Assembly

Front view



Installation Conditions

Mount the device on the DIN mounting rail so that the input terminals are located on the bottom of the device.

This device is designed for convection cooling and does not require an external ventilator. Do not obstruct airflow. Do not cover the ventilation grid by more than 15 %, e. g. cable ducts.

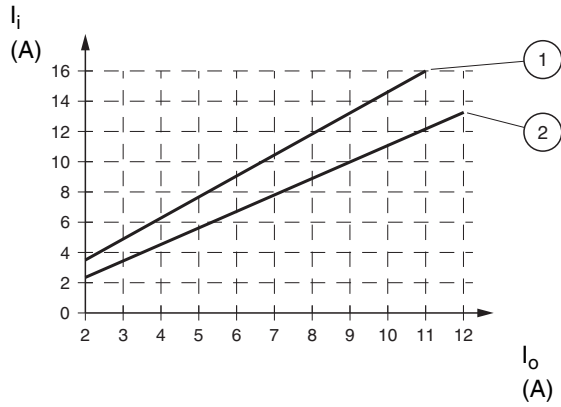
If you load the device with more than 50 % of the rated power permanently keep the following mounting distances:

- 40 mm above
- 20 mm below
- 5 mm on the left and right side

Increase this distance to 15 mm if the adjacent device is a heat source, e. g. another power supply.

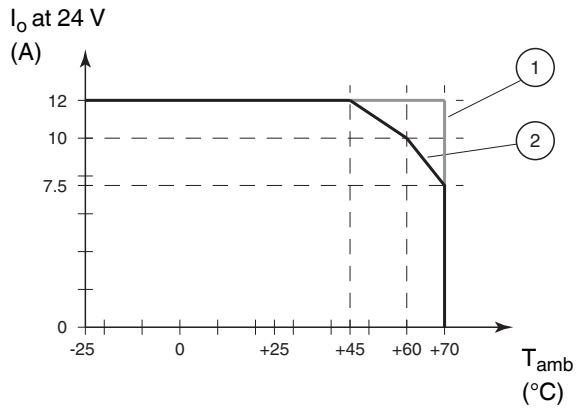
Characteristic Curve

Input current versus output current at 24 V output voltage



- 1 Input: 18 V DC
- 2 Input: 24 V DC

Output current versus ambient temperature



- 1 short term
- 2 continous

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