



Redundancy Module PS1000-D2-24.40.RM

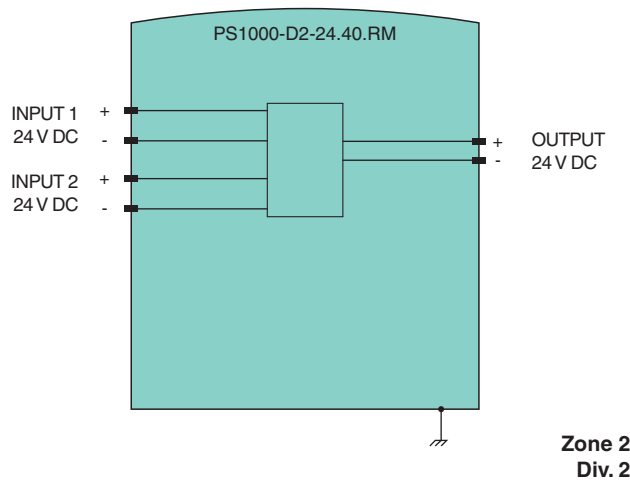
- 12 V DC to 28 V DC input
- 2 inputs with 1 output
- Output 24 V DC, 40 A
- Housing width 36 mm
- Built-in decoupling mosfets for 1+1 and N+1 redundancy
- Only 72 mV voltage drop at 20 A output current
- Only 1.7 W loss at 2 x 10 A and 5.9 W at 2 x 20 A input current
- Reverse input polarity protection
- Suitable for Zone 2/Div. 2 mounting



Function

The device is a redundancy module for building redundant power supply systems. The device is equipped with 2 inputs and 1 output. Power supplies with an output current of up to 20 A and one output can be connected to the inputs. The power supplies can transmit a rated current of up to 40 A and 40 A to 65 A for 5 s. The both inputs are decoupled by MOSFETs. This reduces heat generation and voltage drop between input and output. The device is mounted on a 35 mm DIN mounting rail according to EN 60715.

Connection



Technical Data

Electrical specifications

Voltage drop		input to output 72 mV at input 2 x 10 A 140 mV at input 2 x 20 A
Power dissipation		0.23 W no load 1.7 W at input 2 x 10 A 5.9 W at input 2 x 20 A
Input		
Rated voltage	U_r	12 ... 28 V
Voltage range		8.4 ... 36.4 V DC
Current		2 x 20 A at ambient temperature < 60 °C (140 °F) 2 x 15 A at ambient temperature 70 °C (158 °F) 2 x 20 ... 32.5 A for up to 5 s for lower output currents see characteristic curve

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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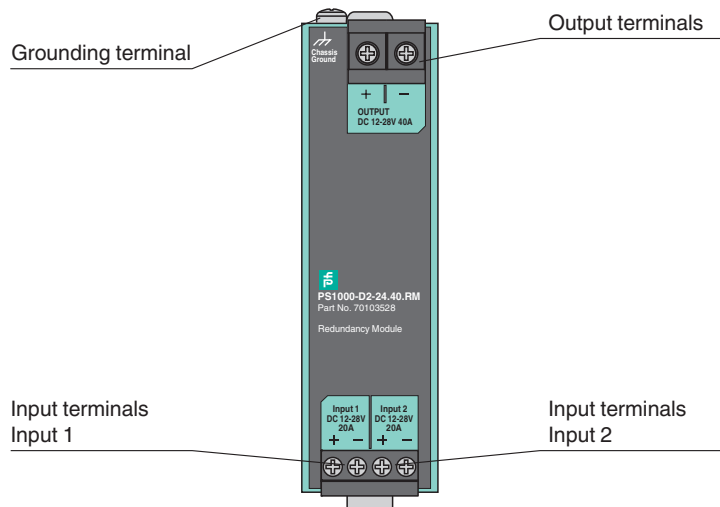
Technical Data

Output	
Voltage	12 ... 28 V DC
Current	40 A at ambient temperature < 60 °C (140 °F) 30 A at ambient temperature < 70 °C (158 °F) 65 A for up to 5 s max. 26 A in overload or short circuit mode (voltage < 6 V DC)
Galvanic isolation	
Input/Output	SELV/PELV
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	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: recommendet 0.8 Nm
Output	screw terminals conductor cross section: max. 16 mm ² (AWG 22-8) cable diameter: max. 5.2 mm, wire end ferrules included stripped insulation length: 12 mm tightening torque: recommendet 1.2 Nm
Mass	approx. 280 g
Dimensions	36 x 124 x 127 mm , without DIN mounting rail
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001
Data for application in connection with hazardous areas	
ATEX approval	
ATEX certificate	EPS 11 ATEX 1 312 X
ATEX marking	Ⓜ II 3G Ex ec II T4 Gc
Directive conformity	
Directive 2014/34/EU	EN 60079-0:2012+A11:2013 , EN 60079-7:2016 , EN 60079-15:2010
International approvals	
UL approval	E223176
IECEX approval	
IECEX certificate	IECEX EPS 20.0057X
IECEX marking	Ex ec IIC T4 Gc
Standards	IEC 60079-0:2011 , IEC 60079-7:2015 , IEC 60079-15:2010
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.

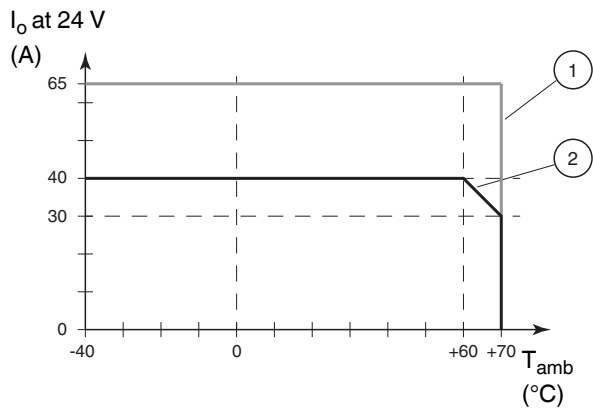
If you load the device with more than 50 % of the rated power permanently keep the following mounting distances:

- 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

Output current versus ambient temperature



- 1 short term, max. 5 s
- 2 continuous

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