

# Redundancy Module PS1000-D2-24.20.RM

- 24 V DC to 28 V DC input
- 2 inputs with 1 output
- Output 24 V DC, 20 A
- Housing width 32 mm
- Built-in decoupling mosfets for 1+1 and N+1 redundancy
- Automatic load sharing
- Reverse input polarity protection
- Easy wiring: distribution terminal for negative pole included
- Redundancy status indicator
- Suitable for Zone 2/Div. 2 mounting













#### **Function**

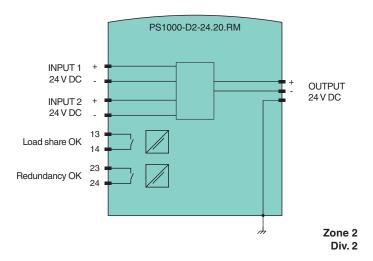
The device is a redundancy module for building redundant power supply systems.

The device is equipped with 2 inputs and 1 output. Power supplies with an output current of up to 24 A and one output can be connected to the inputs. The power supplies can transmit a rated current of up to 20 A.

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 0.1 0.5 V at input 2 x 5 A 0.2 0.5 V at input 2 x 10 A 0.24 0.5 V at input 2 x 12 A load share dependent
Power dissipation		1.7 W no load 2.6 4.7 W at input 2 x 5 A 5.6 8.7 W at input 2 x 10 A
Input		
Rated voltage	$U_{r}$	24 28 V
Voltage range		18 35 V DC

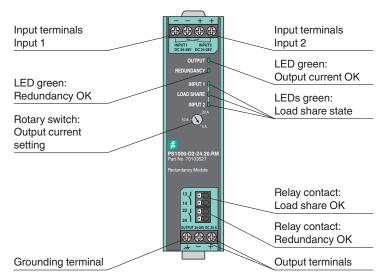
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Current 2 x 12 A at ambient temperature < 45 °C (113 °F) 2 x 10 A at ambient temperature 70 °C (158 °F) 2x 17 A A for max. 5 for lower output currents see technical information  Output  Voltage range 24 28 V DC  Current 24 A at ambient temperature < 45 °C (113 °F) 20 A at ambient temperature < 70 °C (158 °F) 32.5 A for max. 5 s max. 26 A in overfoad or short circuit mode (voltage < 6 V DC)  Fault indication output  Connection terminals 13. 14 : relay contact load share terminals 23. 24 : relay contact redundancy  Cutput type relay contact load share experience of the adjustment of the output voltages are sufficient contact is closed if in for fault is detected contact is open if in equiput current is higher than the adjusted value of the output policy is required. The special policy is required. The property of the contact is open if in equiput current is higher than the adjusted value of the output policy is required. The property of the p	
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Degree of protection EN 60529 Shock resistance EN 60068-2-27	
Shock resistance EN 60068-2-27	
Vibration resistance EN 60068-2-6	
Ambient conditions	
Ambient temperature -40 70 °C (-40 158 °F) , see technical information	
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 mm² (AWG 20-10) cable diameter: max. 2.8 mm, wire end ferrules included stripped insulation length: 7 mm tightening torque: max. 0.8 Nm
Relay contact output	spring terminals conductor cross section: max. 1.5 mm² (AWG 24-16) cable diameter: max. 1.6 mm, wire end ferrules included stripped insulation length: 7 mm
Mass	approx. 310 g
Dimensions	$32 \times 124 \times 117 \text{ mm}$ (W x H x D) , without DIN mounting rail
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001
Data for application in connection with hazard	ous areas
ATEX approval	
ATEX certificate	EPS 11 ATEX 1 312 X
ATEX marking	
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 nC 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.

## **Assembly**

#### Front view



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.