



# Power Supply

## PS1000-A6-24.20.R

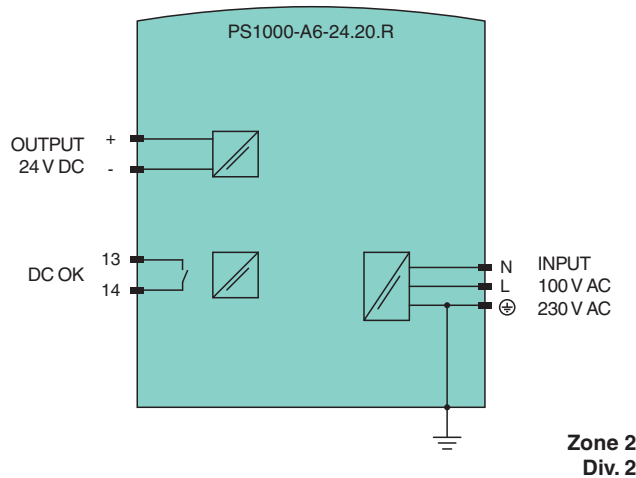
- 100 V AC to 240 V AC wide-range input
- Output 24 V DC, 20 A, 480 W, 1-phase
- Housing width 48 mm
- Built-in decoupling mosfet for 1+1 and N+1 redundancy
- Efficiency up to 95.2 %
- Minimal inrush current surge
- DC OK relay contact
- Current sharing for parallel use
- Suitable for Zone 2/Div. 2 mounting



### Function

The device is used to supply field devices with 24 V DC and 20 A.  
 The device includes a decoupling MOSFET for building 1+1 or n+1 redundant power supply systems.  
 To achieve current sharing between power supplies connected in parallel, the device is permanently factory-set to "parallel use" operating mode.  
 The device status is indicated by an LED.  
 The device has a relay contact output for remote monitoring.  
 The device is mounted on a 35 mm DIN mounting rail according to EN 60715.

### Connection



### Technical Data

Electrical specifications	
Efficiency	93.8 % at 120 V AC 95.2 % at 230 V AC
Power dissipation	31.7 W at 120 V AC 24.2 W at 230 V AC
Input	
Voltage range	100 ... 240 V AC (-15 %/+10 %), 50 ... 60 Hz (±6 %) 110 ... 150 V DC (±20 %)
Current	4.28 A at 120 V AC 2.25 A at 230 V AC 4.64 A at 110 V DC for lower output currents see technical information
Inrush current	10 A peak at 120 V AC, temperature independent 4.5 A peak at 230 V AC, temperature independent

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## Technical Data

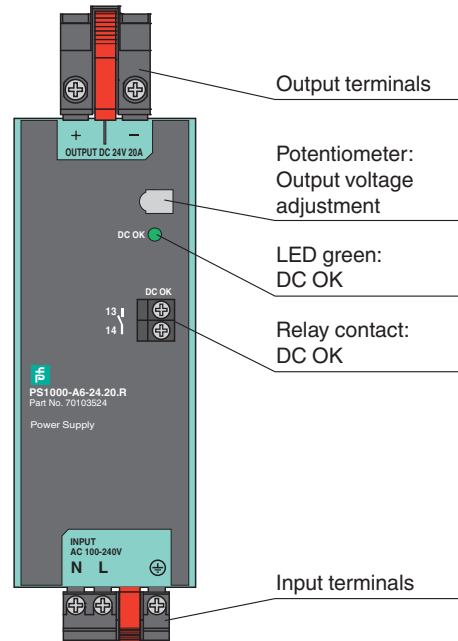
Capacity factor		0.99 at 120 V AC 0.98 at 230 V AC
<b>Output</b>		
Rated voltage	$U_r$	24 V DC
Voltage range		23.8 ... 25.2 V DC factory setting: 24.1 V
Rated current	$I_r$	20 A
Current		24 A at ambient temperature < 45 °C (113 °F) 20 A at ambient temperature 60 °C (140 °F) 15 A at ambient temperature 70 °C (158 °F) linear power derating see technical information
Power		480 W
Ripple		max. 100 mV <sub>pp</sub>
Hold-up time		32 ms at 120 V AC 32 ms at 230 V AC
Overload behavior		continuous current : output voltage > 13 V DC intermittent current : output voltage < 13 V DC
Short-circuit current		typ. 29 A , intermitted current peak value for typ. 2 s
Voltage limitation		typ. 30.5 V DC max. 32 V DC
<b>Fault indication output</b>		
Connection		terminals 13, 14
Output type		relay contact DC OK - contact is closed if the output voltage is > 90 % of the adjusted output voltage
Contact loading		max. 60 V DC/0.3 A ; 30 V DC/1 A ; 30 V AC/0.5 A resistive load min. 1 mA at 5 V DC
<b>Galvanic isolation</b>		
Input/Output		SELV/PELV
<b>Indicators/settings</b>		
Display elements		LED green: status DC OK - LED lights up if the output voltage is > 90 % of the adjusted output voltage
<b>Directive conformity</b>		
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 , IEC/EN 61000-3-2 , IEC/EN 61000-3-3
Low voltage		
Directive 2014/35/EU		EN 61010-1
RoHS		
Directive 2011/65/EU (RoHS)		IEC/EN 63000:2019
<b>Conformity</b>		
Degree of protection		EN 60529
Shock resistance		EN 60068-2-27
Vibration resistance		EN 60068-2-6
<b>Ambient conditions</b>		
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
Corrosion resistance		IEC 60068-2-60, Method 4 ISA-71.04, severity level G3
<b>Mechanical specifications</b>		
Housing material		aluminum alloy , galvanized steel
Degree of protection		IP20
Connection		

## Technical Data

Input	plug-in connector with screw terminals conductor cross section: max. 4 mm <sup>2</sup> (AWG 20-12) cable diameter: max. 2.4 mm, wire end ferrules included stripped insulation length: 7 mm tightening torque: max. 0.5 Nm
Output	plug-in connector with screw terminals conductor cross section: max. 6 mm <sup>2</sup> (AWG 24-10) cable diameter: max. 3.2 mm, wire end ferrules included stripped insulation length: 12 mm tightening torque: max. 0.6 Nm
Relay contact output	plug-in connector with screw terminals conductor cross section: max. 1.5 mm <sup>2</sup> (AWG 26-14) cable diameter: max. 1.8 mm, wire end ferrules included stripped insulation length: 6 mm tightening torque: max. 0.8 Nm
Mass	approx. 850 g
Dimensions	48 x 124 x 127 mm (W x H x D) , without plugs and without DIN mounting rail
Height	124 mm
Width	48 mm
Depth	127 mm
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001
<b>Data for application in connection with hazardous areas</b>	
ATEX approval	
ATEX certificate	EPS 17 ATEX 1 089 X
ATEX marking	Ⓔ II 3G Ex ec nC II T4 Gc
Directive conformity	
Directive 2014/34/EU	EN 60079-0:2012+A11:2013 , EN 60079-7:2015 , EN 60079-15:2010
<b>International approvals</b>	
UL approval	
UL approval	E350173 , E223176
IECEx approval	
IECEx certificate	IECEx EPS 20.0056X
IECEx marking	Ex ec nC IIC T4 Gc
Standards	IEC 60079-0:2011 , IEC 60079-7:2015 , IEC 60079-15:2010
<b>General information</b>	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

## 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.