



## Power Supply PS1000-A6-12.16

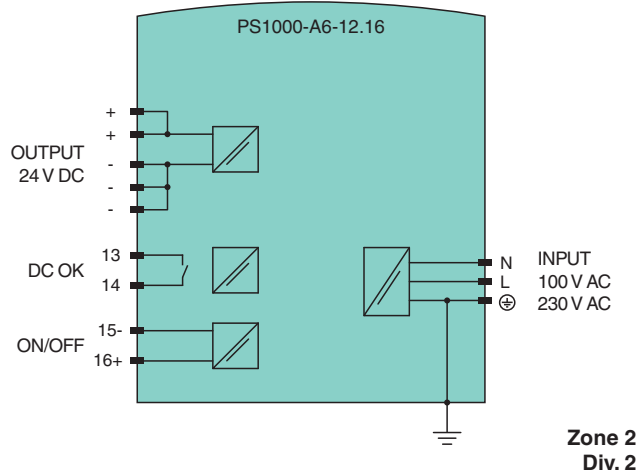
- 100 V AC to 240 V AC wide-range input
- Output 12 V DC, 16 A, 192 W, 1-phase
- Housing width 39 mm
- Efficiency up to 94.3 %
- Minimal inrush current surge
- Remote control for ON/OFF
- DC OK relay contact
- Suitable for Zone 2/Div. 2 mounting



### Function

The device is used to supply field devices with 12 V DC and 16 A.  
The device has a power reserve of 20 % included, which may even be used continuously at temperatures up to +45 °C.  
The output voltage can be adjusted via a potentiometer. The device status is indicated by an LED.  
The device has a relay contact output for remote monitoring.  
The device has a connection for switching off the device via a remote control.  
The device is mounted on a 35 mm DIN mounting rail according to EN 60715.

### Connection



### Technical Data

#### Electrical specifications

|                   |                                                                                                                            |
|-------------------|----------------------------------------------------------------------------------------------------------------------------|
| Efficiency        | 92.8 % at 120 V AC<br>94.3 % at 230 V AC                                                                                   |
| Power dissipation | 14.9 W at 120 V AC<br>11.6 W at 230 V AC                                                                                   |
| <b>Input</b>      |                                                                                                                            |
| Current           | 1.74 A at 120 V AC<br>0.92 A at 230 V AC<br>1.9 A at 110 V DC<br>for lower output currents see characteristic curve        |
| Inrush current    | 6 A peak at 120 V AC and ambient temperature 40 °C (104 °F)<br>9 A peak at 230 V AC and ambient temperature 40 °C (104 °F) |

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

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## Technical Data

|                                  |                |                                                                                                                                                                                                                        |
|----------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Voltage                          |                | 100 ... 240 V AC (-15 %/+10 %), 50 ... 60 Hz (±6 %)<br>110 ... 150 V DC (±20 %)                                                                                                                                        |
| Capacity factor                  |                | 0.99 at 120 V AC<br>0.96 at 230 V AC                                                                                                                                                                                   |
| Remote control                   |                | terminals 15-, 16+<br>remote control for ON/OFF                                                                                                                                                                        |
| <b>Output</b>                    |                |                                                                                                                                                                                                                        |
| Rated voltage                    | U <sub>r</sub> | 12 V DC                                                                                                                                                                                                                |
| Voltage range                    |                | 12 ... 15 V DC<br>factory setting: 12 V                                                                                                                                                                                |
| Rated current                    | I <sub>r</sub> | 16 A                                                                                                                                                                                                                   |
| Current                          |                | 19.2 ... 15.4 A at ambient temperature < 45 °C (113 °F)<br>16 ... 12.8 A at ambient temperature 60 °C (140 °F)<br>12 ... 9.6 A at ambient temperature 70 °C (158 °F)<br>linear power derating see characteristic curve |
| Power                            |                | 192 W                                                                                                                                                                                                                  |
| Ripple                           |                | max. 50 mV <sub>pp</sub>                                                                                                                                                                                               |
| Retention time/hold time         |                | 50 ms at 120 V AC<br>50 ms at 230 V AC                                                                                                                                                                                 |
| Overload behavior                |                | continuous current : output voltage > 6.5 V DC<br>intermittent current : output voltage < 6.5 V DC                                                                                                                     |
| Short-circuit current            |                | typ. 55 A for up to 12 ms, load impedance < 30 mΩ                                                                                                                                                                      |
| Voltage limitation               |                | typ. 18.2 V DC<br>max. 19 V DC                                                                                                                                                                                         |
| <b>Fault indication output</b>   |                |                                                                                                                                                                                                                        |
| Connection                       |                | terminals 13, 14                                                                                                                                                                                                       |
| Output type                      |                | relay contact DC OK<br>- 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<br>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<br>- LED lights up if the output voltage is > 90 % of the adjusted output voltage                                                                                                              |
| Control elements                 |                | potentiometer                                                                                                                                                                                                          |
| Configuration                    |                | setting of the output voltage via potentiometer                                                                                                                                                                        |
| <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 ,<br>IEC/EN 61000-3-2 ,<br>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              |                | -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                                                                                                                                                                       |
| <b>Mechanical specifications</b> |                |                                                                                                                                                                                                                        |
| Housing material                 |                | aluminum alloy , galvanized steel                                                                                                                                                                                      |
| Degree of protection             |                | IP20                                                                                                                                                                                                                   |

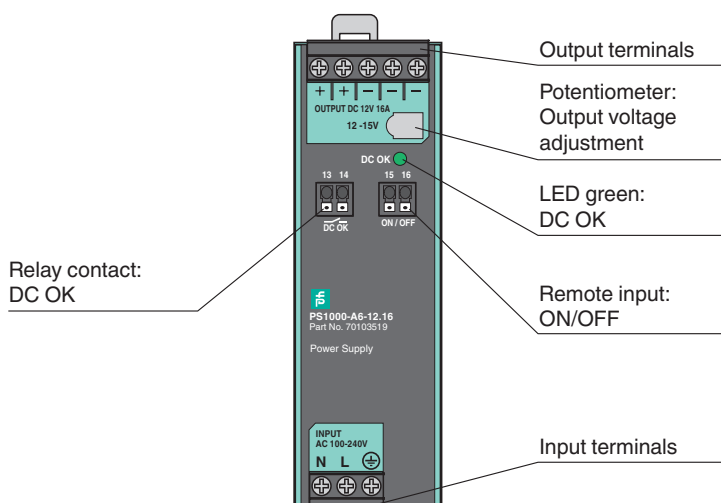
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## Technical Data

|                                                                |  |                                                                                                                                                                                                               |
|----------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connection                                                     |  |                                                                                                                                                                                                               |
| Input/Output                                                   |  | screw terminals<br>conductor cross section: max. 6 mm <sup>2</sup> (AWG 20-10)<br>cable diameter: max. 2.8 mm, wire end ferrules included<br>stripped insulation length: 7 mm<br>tightening torque: max. 1 Nm |
| Relay contact output                                           |  | spring terminals<br>conductor cross section: max. 1.5 mm <sup>2</sup> (AWG 24-16)<br>cable diameter: max. 1.6 mm, wire end ferrules included<br>stripped insulation length: 7 mm                              |
| Remote control                                                 |  | spring terminals<br>conductor cross section: max. 1.5 mm <sup>2</sup> (AWG 24-16)<br>cable diameter: max. 1.6 mm, wire end ferrules included<br>stripped insulation length: 7 mm                              |
| Mass                                                           |  | approx. 600 g                                                                                                                                                                                                 |
| Dimensions                                                     |  | 39 x 124 x 117 mm , without DIN mounting rail                                                                                                                                                                 |
| 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 15 ATEX 1 101 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+A1:2018 , EN 60079-15:2010                                                                                                                                         |
| <b>International approvals</b>                                 |  |                                                                                                                                                                                                               |
| UL approval                                                    |  | E223176                                                                                                                                                                                                       |
| IECEX approval                                                 |  |                                                                                                                                                                                                               |
| IECEX certificate                                              |  | IECEX EPS 20.0055X                                                                                                                                                                                            |
| IECEX marking                                                  |  | Ex ec nC IIC T4 Gc                                                                                                                                                                                            |
| Standards                                                      |  | IEC 60079-0:2017 , IEC 60079-7:2017 , IEC 60079-15:2017                                                                                                                                                       |
| <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



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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.

Configuration

The remote control input allows to switch off the device output with a signal switch or transistor. To switch off the device, connect pins 15 and 16 with a plug-in jumper. Pin 15 is related to the (-) output voltage.

The open circuit voltage between pin 15 and pin 16 can be up to 18 V. The maximum current in the remote OFF mode can be up to 2.5 mA. The output shutdown threshold is typically 5 V. The threshold for switching the output on is typically 9 V.

If multiple devices are connected in parallel, pin 15 and pin 16 may also be connected in parallel. This allows all devices to be controlled by the same signal switch or transistor. Observe that the shutdown function is not a safety function.

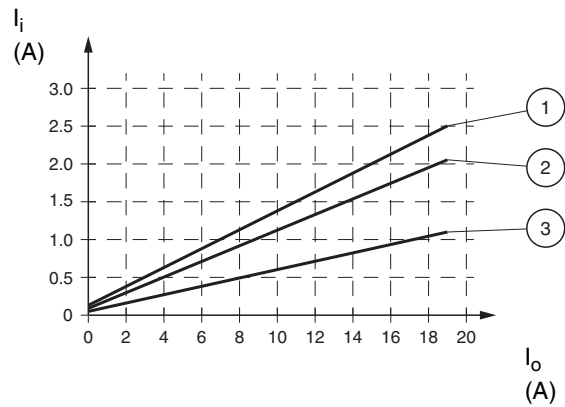
Accessories

|                                                                                   |                           |  |
|-----------------------------------------------------------------------------------|---------------------------|--|
|  | <b>PS1000-D2-24.40.RM</b> |  |
|-----------------------------------------------------------------------------------|---------------------------|--|

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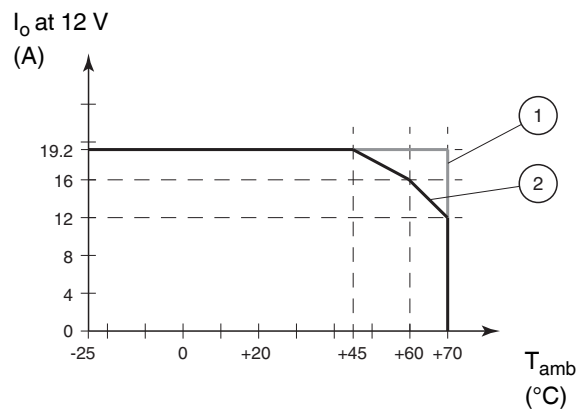
## Characteristic Curve

Input current versus output current at 12 V output voltage



- 1 100 V AC
- 2 120 V AC
- 3 230 V AC

Output current versus ambient temperature



- 1 short term, max. 60 s
- 2 85 V AC ... 264 V AC, continuous