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Power Supply

PS1000-A6-24.20.R

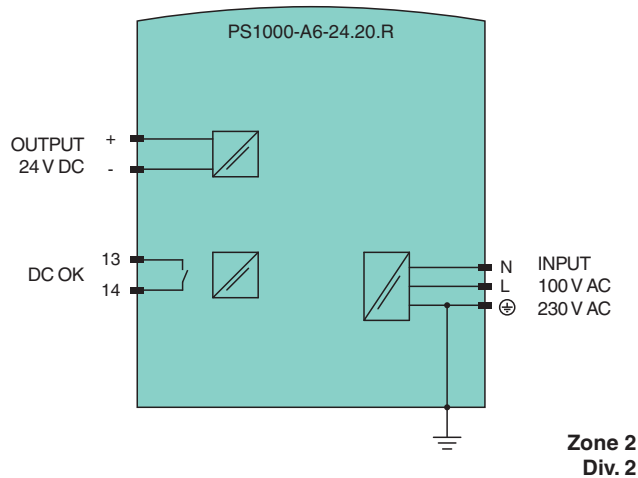
- 100 V AC to 240 V AC wide-range input
- Output 24 V DC, 20 A, 480 W, 1-phase
- Housing width 48 mm
- Built-in decoupling mosfet for 1+1 and N+1 redundancy
- Efficiency up to 95.2 %
- Minimal inrush current surge
- DC OK relay contact
- Current sharing for parallel use
- Suitable for Zone 2/Div. 2 mounting



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

Technical Data

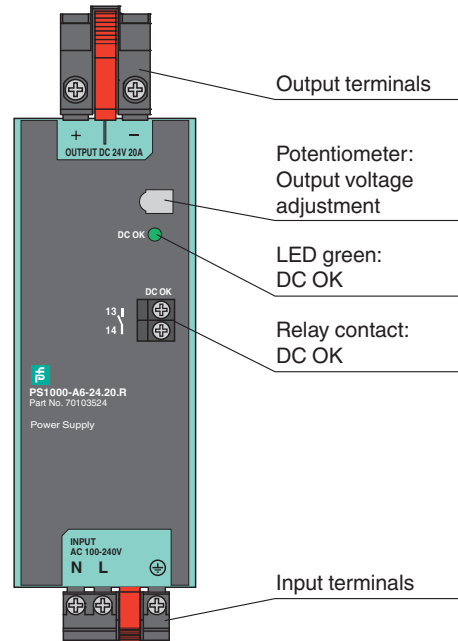
Capacity factor		0.99 at 120 V AC 0.98 at 230 V AC
Output		
Rated voltage	U_r	24 V DC
Voltage range		23.8 ... 25.2 V DC factory setting: 24.1 V
Rated current	I_r	20 A
Current		24 A at ambient temperature < 45 °C (113 °F) 20 A at ambient temperature 60 °C (140 °F) 15 A at ambient temperature 70 °C (158 °F) linear power derating see technical information
Power		480 W
Ripple		max. 100 mV _{pp}
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
Fault indication output		
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
Galvanic isolation		
Input/Output		SELV/PELV
Indicators/settings		
Display elements		LED green: status DC OK - LED lights up if the output voltage is > 90 % of the adjusted output voltage
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 , 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
Conformity		
Degree of protection		EN 60529
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
Corrosion resistance		IEC 60068-2-60, Method 4 ISA-71.04, severity level G3
Mechanical specifications		
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 ² (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 ² (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 ² (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
Data for application in connection with hazardous areas	
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
International approvals	
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
General information	

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.



Power Supply PS1000-A6-24.5

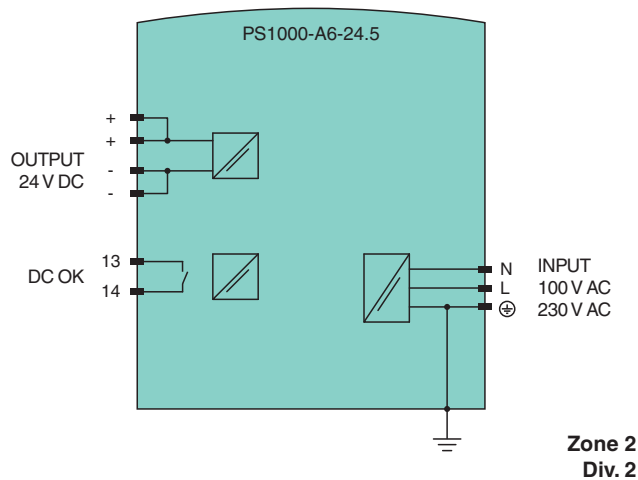
- 100 V AC to 240 V AC wide-range input
- Output 24 V DC, 5 A, 120 W, 1-phase
- Housing width 32 mm
- Efficiency up to 94.3 %
- Minimal inrush current surge
- DC OK relay contact
- Suitable for Zone 2/Div. 2 mounting



Function

The device is used to supply field devices with 24 V DC and 5 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 is mounted on a 35 mm DIN mounting rail according to EN 60715.

Connection



Technical Data

Electrical specifications

Efficiency	93.6 % at 120 V AC 94.3 % at 230 V AC
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Power dissipation	8.2 W at 120 V AC 7.3 W at 230 V AC
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Input

Voltage range	100 ... 240 V AC (-15 %/+10 %), 50 ... 60 Hz (±6 %) 110 ... 150 V DC (±20 %)
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Current	1.09 A at 120 V AC 0.6 A at 230 V AC 1.21 A at 110 V DC for lower output currents see technical information
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Technical Data

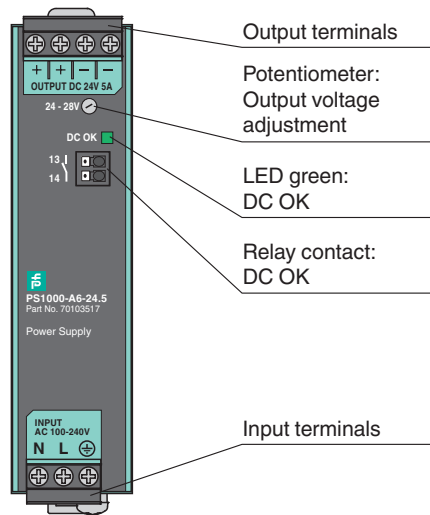
Inrush current		5 A peak at 120 V AC and ambient temperature 40 °C (104 °F) 6 A peak at 230 V AC and ambient temperature 40 °C (104 °F) or ambient temperature 25 °C (77 °F)
Capacity factor		0.98 at 120 V AC 0.91 at 230 V AC
Output		
Rated voltage	U_r	24 V DC
Voltage range		24 ... 28 V DC factory setting: 24.1 V
Rated current	I_r	5 A
Current		6 ... 5.1 A at ambient temperature < 45 °C (113 °F) 5 ... 4.3 A at ambient temperature 60 °C (140 °F) 3.8 ... 3.2 A at ambient temperature 70 °C (158 °F) linear power derating see technical information
Power		120 W
Ripple		max. 50 mV _{pp}
Hold-up time		35 ms at 120 V AC 35 ms at 230 V AC
Overload behavior		continuous current at output voltage > 13 V DC Hiccup behaviour at output voltage < 13 V DC
Short-circuit current		typ. 15 A for 12 ms or 3 A _{rms} continuous current
Voltage limitation		typ. 30.5 V DC max. 32 V DC
Fault indication output		
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
Galvanic isolation		
Input/Output		SELV/PELV
Indicators/settings		
Display elements		LED green: status DC OK - 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
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 , 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
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 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

Technical Data

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
Relay contact output		spring terminals with push-in connection technology conductor cross section: max. 1.5 mm ² (AWG 24-16) cable diameter: max. 1.6 mm, wire end ferrules included stripped insulation length: 7 mm
Mass		approx. 440 g
Dimensions		32 x 124 x 102 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 hazardous areas		
ATEX approval		
ATEX certificate		EPS 19 ATEX 1201 X
ATEX marking		Ⓔ II 3G Ex ec nC II T4 Gc
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2018 , EN 60079-7:2015+A1:2018 , EN 60079-15:2010
International approvals		
UL approval		E350173 , E223176
IECEX approval		
IECEX certificate		IECEX EPS 20.0058X
IECEX marking		Ex ec nC IIC T4 Gc
Standards		IEC 60079-0:2017 , IEC 60079-7:2017 , IEC 60079-15:2017
General information		

Assembly

Front view





Power Supply PS1000-A6-12.16

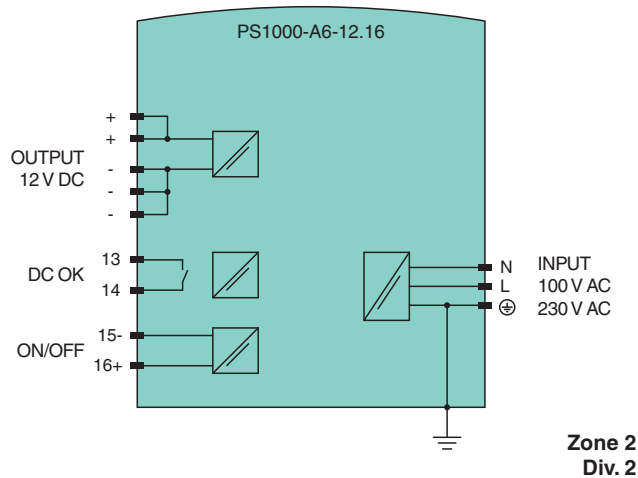
- 100 V AC to 240 V AC wide-range input
- Output 12 V DC, 16 A, 192 W, 1-phase
- Housing width 39 mm
- Efficiency up to 94.3 %
- Minimal inrush current surge
- Remote control for ON/OFF
- DC OK relay contact
- Suitable for Zone 2/Div. 2 mounting



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 94.3 % at 230 V AC
Power dissipation	14.9 W at 120 V AC 11.6 W at 230 V AC
Input	
Voltage range	100 ... 240 V AC (-15 %/+10 %), 50 ... 60 Hz (±6 %) 110 ... 150 V DC (±20 %)
Current	1.74 A at 120 V AC 0.92 A at 230 V AC 1.9 A at 110 V DC for lower output currents see technical information
Inrush current	6 A peak at 120 V AC and ambient temperature 40 °C (104 °F) 9 A peak at 230 V AC and ambient temperature 40 °C (104 °F)

Technical Data

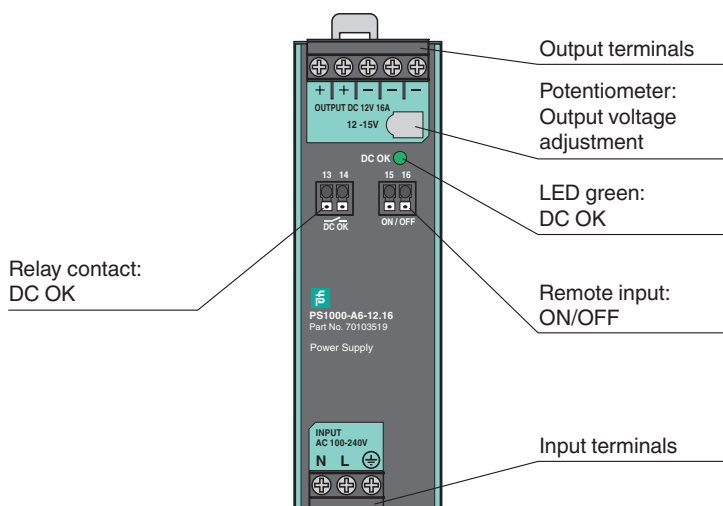
Capacity factor		0.99 at 120 V AC 0.96 at 230 V AC
Remote control		terminals 15-, 16+ remote control for ON/OFF
Output		
Rated voltage	U_r	12 V DC
Voltage range		12 ... 15 V DC factory setting: 12 V
Rated current	I_r	16 A
Current		19.2 ... 15.4 A at ambient temperature < 45 °C (113 °F) 16 ... 12.8 A at ambient temperature 60 °C (140 °F) 12 ... 9.6 A at ambient temperature 70 °C (158 °F) linear power derating see technical information
Power		192 W
Ripple		max. 50 mV _{pp}
Hold-up time		50 ms at 120 V AC 50 ms at 230 V AC
Overload behavior		continuous current : output voltage > 6.5 V DC 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 max. 19 V DC
Fault indication output		
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
Galvanic isolation		
Input/Output		SELV/PELV
Indicators/settings		
Display elements		LED green: status DC OK - 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
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 , 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
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 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		

Technical Data

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	
Relay contact output		spring terminals conductor cross section: max. 1.5 mm ² (AWG 24-16) cable diameter: max. 1.6 mm, wire end ferrules included stripped insulation length: 7 mm
Remote control		spring terminals conductor cross section: max. 1.5 mm ² (AWG 24-16) cable diameter: max. 1.6 mm, wire end ferrules included stripped insulation length: 7 mm
Mass		approx. 600 g
Dimensions		39 x 124 x 117 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 hazardous areas		
ATEX approval		
ATEX certificate		EPS 15 ATEX 1101 X
ATEX marking		Ex 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
International approvals		
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
General information		

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.

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.



Power Supply PS1000-A6-24.10

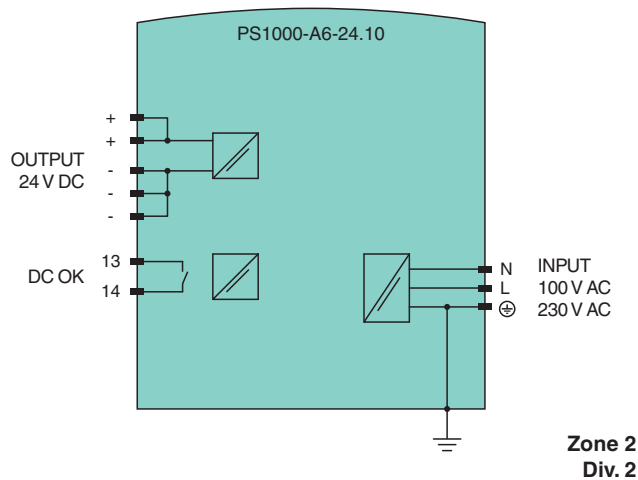
- 100 V AC to 240 V AC wide-range input
- Output 24 V DC, 10 A, 240 W, 1-phase
- Housing width 39 mm
- Efficiency up to 95.2 %
- Minimal inrush current surge
- DC OK relay contact
- Suitable for Zone 2/Div. 2 mounting



Function

The device is used to supply field devices with 24 V DC and 10 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 is mounted on a 35 mm DIN mounting rail according to EN 60715.

Connection



Technical Data

Electrical specifications

Efficiency	93.6 % at 120 V AC 95.2 % at 230 V AC
Power dissipation	16.4 W at 120 V AC 12.1 W at 230 V AC
Input	
Voltage range	100 ... 240 V AC (-15 %/+10 %), 50 ... 60 Hz (±6 %) 110 ... 150 V DC (±20 %)
Current	2.15 A at 120 V AC 1.13 A at 230 V AC 2.35 A at 110 V DC for lower output currents see technical information
Inrush current	6 A peak at 120 V AC and ambient temperature 40 °C (104 °F) 9 A peak at 230 V AC and ambient temperature 40 °C (104 °F)

Technical Data

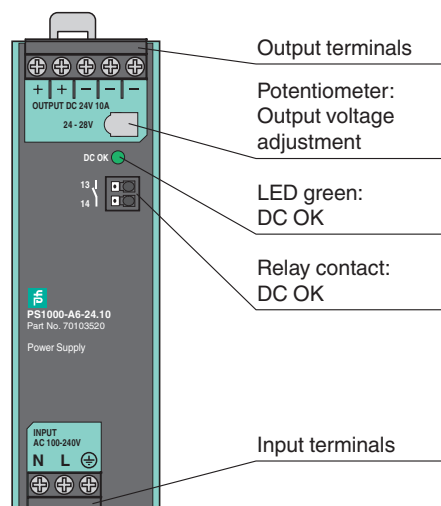
Capacity factor		0.99 at 120 V AC 0.97 at 230 V AC
Output		
Rated voltage	U_r	24 V DC
Voltage range		24 ... 28 V DC factory setting: 24.1 V
Rated current	I_r	10 A
Current		12 ... 10.3 A at ambient temperature < 45 °C (113 °F) 10 ... 8.6 A at ambient temperature 60 °C (140 °F) 7.5 ... 6.5 A at ambient temperature 70 °C (158 °F) linear power derating see technical information
Power		240 W
Ripple		max. 50 mV _{pp}
Hold-up time		37 ms at 120 V AC 37 ms at 230 V AC
Overload behavior		continuous current at output voltage > 13 V DC Hiccup behaviour at output voltage < 13 V DC
Short-circuit current		typ. 30.5 A for up to 12 ms, load impedance < 45 mΩ max. 5 A _{rms} average continuous current, load impedance 50 mΩ
Voltage limitation		typ. 30.5 V DC max. 32 V DC
Fault indication output		
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
Galvanic isolation		
Input/Output		SELV/PELV
Indicators/settings		
Display elements		LED green: status DC OK - 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
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 , 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
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 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		

Technical Data

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
Relay contact output	spring terminals with push-in connection technology conductor cross section: max. 1.5 mm ² (AWG 24-16) cable diameter: max. 1.6 mm, wire end ferrules included stripped insulation length: 7 mm
Mass	approx. 600 g
Dimensions	39 x 124 x 117 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 hazardous areas	
ATEX approval	
ATEX certificate	EPS 15 ATEX 1101 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
International approvals	
UL approval	E350173 , 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
General information	

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.



Power Supply PS1000-A6-24.10.R

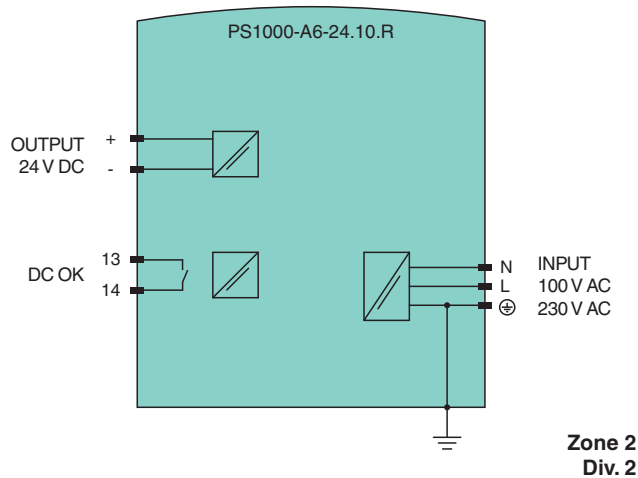
- 100 V AC to 240 V AC wide-range input
- Output 24 V DC, 10 A, 240 W, 1-phase
- Housing width 39 mm
- Built-in decoupling mosfet for 1+1 and N+1 redundancy
- Efficiency up to 94.7 %
- Minimal inrush current surge
- DC OK relay contact
- Current sharing for parallel use
- Suitable for Zone 2/Div. 2 mounting



Function

The device is used to supply field devices with 24 V DC and 10 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 % at 120 V AC 94.7 % at 230 V AC
Power dissipation	18.1 W at 120 V AC 13.4 W at 230 V AC
Input	
Voltage range	100 ... 240 V AC (-15 %/+10 %), 50 ... 60 Hz (±6 %) 110 ... 150 V DC (±20 %)
Current	2.17 A at 120 V AC 1.14 A at 230 V AC 2.35 A at 110 V DC for lower output currents see technical information
Inrush current	6 A peak at 120 V AC and ambient temperature 40 °C (104 °F) 9 A peak at 230 V AC and ambient temperature 40 °C (104 °F)

Technical Data

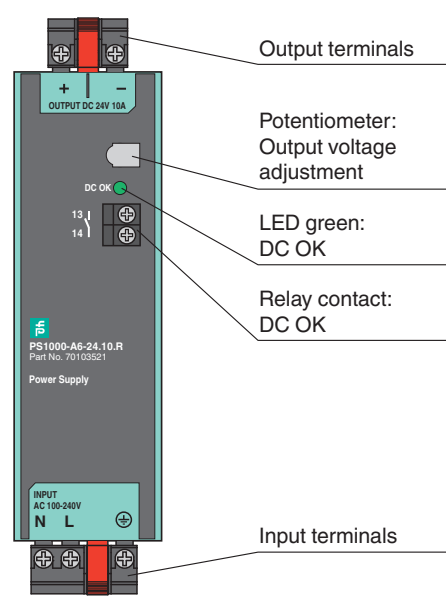
Capacity factor		0.99 at 120 V AC 0.97 at 230 V AC
Output		
Rated voltage	U _r	24 V DC
Voltage range		23.8 ... 25.2 V DC factory setting: 24.1 V
Rated current	I _r	10 A
Current		12 A at ambient temperature < 45 °C (113 °F) 10 A at ambient temperature 60 °C (140 °F) 7.5 A at ambient temperature 70 °C (158 °F) linear power derating see technical information
Power		240 W
Ripple		max. 50 mV _{pp}
Hold-up time		37 ms at 120 V AC 37 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. 14 A , intermitted current peak value for typ. 2 s, load impedance < 10 mΩ
Voltage limitation		typ. 30.5 V DC max. 32 V DC
Fault indication output		
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
Galvanic isolation		
Input/Output		SELV/PELV
Indicators/settings		
Display elements		LED green: status DC OK - LED lights up if the output voltage is > 90 % of the adjusted output voltage
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 , 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
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 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		plug-in connector with screw terminals conductor cross section: max. 4 mm ² (AWG 20-12) cable diameter: max. 2.4 mm, wire end ferrules included stripped insulation length: 7 mm tightening torque: max. 0.5 Nm

Technical Data

Relay contact output	plug-in connector with screw terminals conductor cross section: max. 1.5 mm ² (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. 600 g
Dimensions	39 x 124 x 117 mm (W x H x D) , without plugs and 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 15 ATEX 1101 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
International approvals	
UL approval	E350173 , 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
General information	

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



Power Supply PS1000-A6-48.5

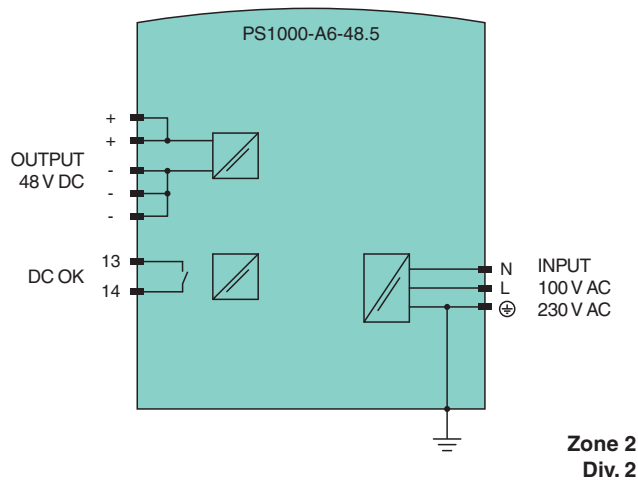
- 100 V AC to 240 V AC wide-range input
- Output 48 V DC, 5.4 A, 260 W, 1-phase
- Housing width 39 mm
- Efficiency up to 95.5 %
- Minimal inrush current surge
- DC OK relay contact
- Suitable for Zone 2/Div. 2 mounting



Function

The device is used to supply field devices with 48 V DC and 5.4 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 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 95.5 % at 230 V AC
Power dissipation	17.2 W at 120 V AC 12.3 W at 230 V AC
Input	
Voltage range	100 ... 240 V AC (-15 %/+10 %), 50 ... 60 Hz (±6 %) 110 ... 150 V DC (±20 %)
Current	2.32 A at 120 V AC 1.2 A at 230 V AC 2.51 A at 110 V DC for lower output currents see technical information
Inrush current	6 A peak at 120 V AC and ambient temperature 40 °C (104 °F) 9 A peak at 230 V AC and ambient temperature 40 °C (104 °F)

Technical Data

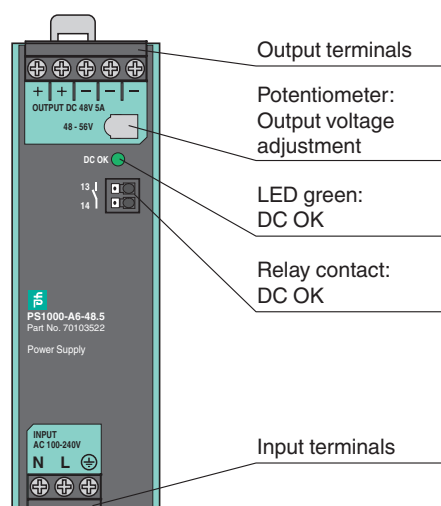
Capacity factor		0.99 at 120 V AC 0.98 at 230 V AC
Output		
Rated voltage	U_r	48 V DC
Voltage range		48 ... 56 V DC factory setting: 48 V
Rated current	I_r	5 A
Current		6 ... 5.2 A at ambient temperature < 45 °C (113 °F) 5.4 ... 4.6 A at ambient temperature 60 °C (140 °F) 4 ... 3.4 A at ambient temperature 70 °C (158 °F) linear power derating see technical information
Power		260 W
Ripple		max. 50 mV _{pp}
Hold-up time		34 ms at 120 V AC 34 ms at 230 V AC
Overload behavior		continuous current : output voltage > 26 V DC intermittent current : output voltage < 26 V DC
Short-circuit current		typ. 16 A for up to 12 ms, load impedance < 90 mΩ
Voltage limitation		typ. 58.5 V DC max. 60 V DC
Fault indication output		
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
Galvanic isolation		
Input/Output		SELV/PELV
Indicators/settings		
Display elements		LED green: status DC OK - 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
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 , 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
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 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		

Technical Data

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
Relay contact output	spring terminals with push-in connection technology conductor cross section: max. 1.5 mm ² (AWG 24-16) cable diameter: max. 1.6 mm, wire end ferrules included stripped insulation length: 7 mm
Mass	approx. 600 g
Dimensions	39 x 124 x 117 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 hazardous areas	
ATEX approval	
ATEX certificate	EPS 15 ATEX 1101 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
International approvals	
UL approval	E350173 , 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
General information	

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.



Power Supply PS1000-A6-24.20

- 100 V AC to 240 V AC wide-range input
- Output 24 V DC, 20 A, 480 W, 1-phase
- Housing width 48 mm
- Efficiency up to 95.6 %
- 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.

It is possible to select between the operating modes "parallel use" and "single use". Plug in the plug-in jumper to set the operating mode "parallel use". Do not plug in the plug-in jumper to set the operating mode "single use".

The device status is indicated by an LED.

The device has a relay contact output for remote monitoring.

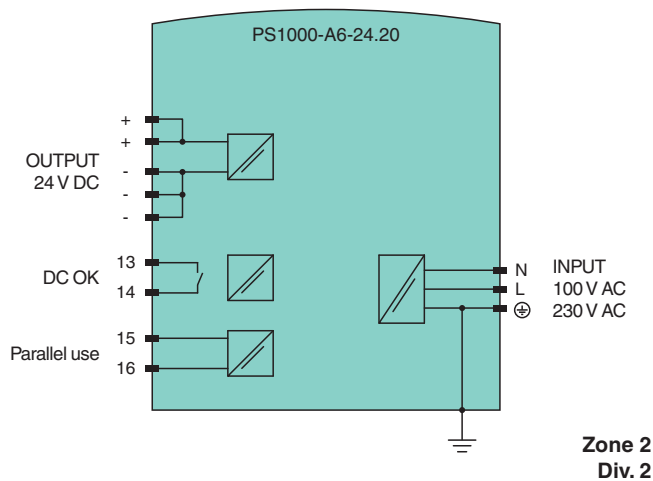
The device is mounted on a 35 mm DIN mounting rail according to EN 60715.

Application

Parallel Use

Link the two terminal poles when power supplies are connected in parallel. In order to achieve a sharing of the load current between the individual power supplies, the "parallel use" regulates the output voltage in such a manner that the voltage at no load is approx. 4 % higher than at nomina load.

Connection



Technical Data

Electrical specifications

Efficiency	94.2 % at 120 V AC 95.6 % at 230 V AC
Power dissipation	29.6 W at 120 V AC 22.1 W at 230 V AC

Input

Technical Data

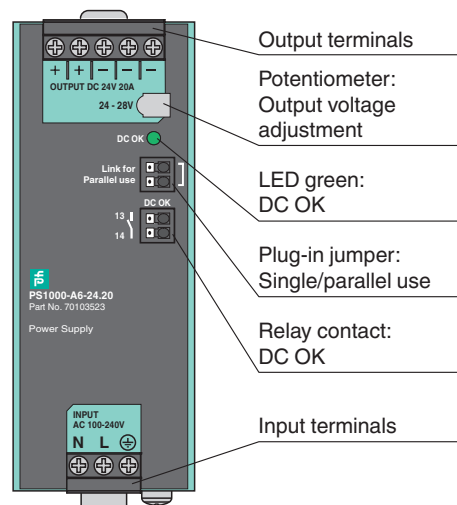
Voltage range		100 ... 240 V AC (-15 %/+10 %), 50 ... 60 Hz (±6 %) 110 ... 150 V DC (±20 %)
Current		4.26 A at 120 V AC 2.23 A at 230 V AC 4.64 A at 110 V DC for lower output currents see technical information
Inrush current		10 A peak at 120 V AC, temperature independent 4.5 A peak at 230 V AC, temperature independent
Capacity factor		0.99 at 120 V AC 0.98 at 230 V AC
Output		
Rated voltage	U _r	24 V DC
Voltage range		24 ... 28 V DC factory setting: 24.1 V
Rated current	I _r	20 A
Current		24 ... 20.6 A at ambient temperature < 45 °C (113 °F) 20 ... 17.1 A at ambient temperature 60 °C (140 °F) 15 ... 13 A at ambient temperature 70 °C (158 °F) linear power derating see technical information
Power		480 W
Ripple		max. 50 mV _{pp}
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 intermittent current peak value for typ. 2 s
Voltage limitation		typ. 30.5 V DC max. 32 V DC
Fault indication output		
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
Galvanic isolation		
Input/Output		SELV/PELV
Indicators/settings		
Display elements		LED green: status DC OK - LED lights up if the output voltage is > 90 % of the adjusted output voltage
Control elements		potentiometer , plug-in jumper
Configuration		setting of the output voltage via potentiometer setting of the operating mode - plug-in jumper plugged in: "parallel use" operating mode - plug-in jumper not plugged in: "single use" operating mode
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 , 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
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 technical information
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Relative humidity		5 ... 95 % , noncondensing

Technical Data

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
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
Relay contact output	spring terminals with push-in connection technology conductor cross section: max. 1.5 mm ² (AWG 24-16) cable diameter: max. 1.6 mm, wire end ferrules included stripped insulation length: 7 mm
Mass	approx. 830 g
Dimensions	48 x 124 x 127 mm , 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
Data for application in connection with hazardous areas	
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
International approvals	
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
General information	

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.



Power Supply PS1000-A9-24.40

- 380 V AC to 480 V AC wide-range inputs
- Output 24 V DC, 40 A, 960 W, 3-phase
- Housing width 110 mm
- Efficiency up to 95.3 %
- Minimal inrush current surge
- Shutdown input
- Remote control for ON/OFF
- DC OK relay contact
- Current sharing for parallel use



Function

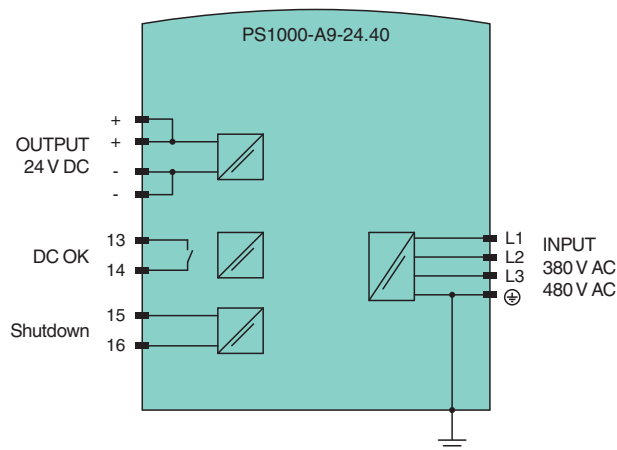
The device is used to supply field devices with 24 V DC and 40 A.
The device has a large power reserve of 150 % for up to 4 s to support the starting of heavy loads such as DC motors or capacitive loads.
The output voltage can be adjusted via a potentiometer. Device status and overload are indicated by LEDs.
The device has a relay contact output for remote monitoring.
The device has a connection for switching off the device via a switch or an external voltage.
The device is mounted on a 35 mm DIN mounting rail according to EN 60715.

Application

Parallel Use

Link the two terminal poles when power supplies are connected in parallel. In order to achieve a sharing of the load current between the individual power supplies, the "parallel use" regulates the output voltage in such a manner that the voltage at no load is approx. 4 % higher than at nomina load.

Connection



Technical Data

Electrical specifications		
Efficiency		95.3 % at 3 x 400 V AC 95.2 % at 3 x 480 V AC
Power dissipation		47.3 W at 3 x 400 V AC 48.4 W at 3 x 480 V AC
Input		
Voltage range		3x 380 ... 480 V AC (-15 %/+20 %), 50 ... 60 Hz (±6 %)

Technical Data

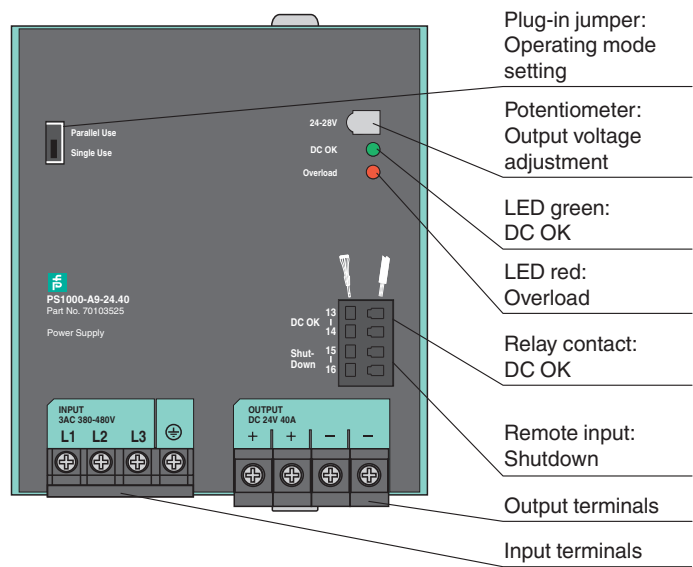
Current		1.65 A at 3 x 400 V AC 1.35 A at 3 x 480 V AC for lower output currents see technical information
Inrush current		4.5 A peak at 3 x 400 V AC, temperature-independent 4.5 A peak at 3 x 480 V AC, temperature-independent
Capacity factor		0.88 at 3 x 400 V AC 0.9 at 3 x 480 V AC
Remote control		terminals 15, 16 remote control for ON/OFF and shutdown input
Output		
Rated voltage	U_r	24 V DC
Voltage range		24 ... 28 V DC factory setting: 24.1 V
Rated current	I_r	40 A
Current		continuous: 40 ... 34.3 A short-term up to 4 s: 60 ... 51.5 A linear power derating see technical information
Power		960 W
Ripple		max. 100 mV _{pp}
Hold-up time		25 ms at 3 x 400 V AC 25 ms at 3 x 480 V AC
Overload behavior		constant current mode
Short-circuit current		typ. 46 A continuous, load impedance < 10 mΩ
Voltage limitation		typ. 30.5 V DC max. 32 V DC
Fault indication output		
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
Galvanic isolation		
Input/Output		SELV/PELV
Indicators/settings		
Display elements		LED green: status DC OK - LED lights up if the output voltage is > 90 % of the adjusted output voltage LED red: overload - LED lights up if the output voltage is < 90 % of the adjusted output voltage or in case of short circuit - flashes if the shutdown has been activated or if the device has shut down due to overtemperature
Control elements		potentiometer, plug-in jumper
Configuration		setting of the output voltage via potentiometer setting of the operating mode - plug-in jumper plugged in: "parallel use" operating mode - plug-in jumper not plugged in: "single use" operating mode setting of the shutdown input: - plug-in jumper plugged in: device switches off
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, 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
Conformity		
Degree of protection		EN 60529
Shock resistance		EN 60068-2-27
Vibration resistance		EN 60068-2-6

Technical Data

Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F) , see technical information
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Relative humidity		5 ... 95 %, noncondensing
Shock resistance		15 g , 6 ms or 10 g , 11 ms
Vibration resistance		2 ... 17.8 Hz : ± 1.6 mm , 17.8 ... 500 Hz : 1 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: max. 1 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: max. 2.3 Nm
Relay contact output		spring terminals conductor cross section: max. 1.5 mm ² (AWG 24-16) cable diameter: max. 1.6 mm, wire end ferrules included stripped insulation length: 7 mm
Remote control/shutdown input		spring terminals conductor cross section: max. 1.5 mm ² (AWG 24-16) cable diameter: max. 1.6 mm, wire end ferrules included stripped insulation length: 7 mm
Mass		approx. 1500 g
Dimensions		110 x 124 x 127 mm (W x H x D) , without DIN mounting rail
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
International approvals		
UL approval		E223176
General information		

Assembly

Front view



Indication

Mode of operation	Red LED overload	Green LED status DC OK	Relay contact DC OK
Normal operation	OFF	ON	closed
Overload ($V_{out} < 0\%$)	ON	OFF	open
Output short circuit	ON	OFF	open
Temperature shutdown	flashing	OFF	open
Active shutdown input	flashing	OFF	open
No input power	OFF	OFF	open

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.



Power Supply PS1000-A9-24.40-IO

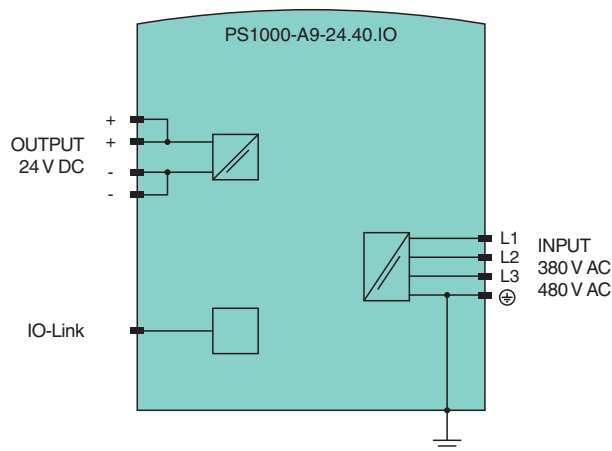
- 380 V AC to 480 V AC wide-range inputs
- Output 24 V DC, 40 A, 960 W, 3-phase
- Housing width 110 mm
- Efficiency up to 95.3 %
- Minimal inrush current surge
- IO-Link interface
- Current sharing for parallel use



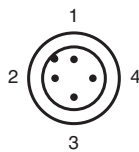
Function

The device is used to supply field devices with 24 V DC and 40 A.
The device has a large power reserve of 150 % for up to 5 s to support the starting of heavy loads such as DC motors or capacitive loads.
The device is equipped with an IO-Link interface V1.1 to configure and parameterize the device and access data.
Communication status, device status and overload are indicated by LEDs.
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



Connection Assignment



Connection Assignment

Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Technical Data

Memory		
Type/Size	8 kBit EEPROM	
Electrical specifications		
Efficiency	95.3 % at 3 x 400 V AC 95.2 % at 3 x 480 V AC	
Power dissipation		47.3 W at 3 x 400 V AC 48.4 W at 3 x 480 V AC
Interface		
Interface type		IO-Link
Device profile	Identification and Diagnosis - I&D	
Process data		Input 6 Byte - input voltage 16 Bit - output voltage 16 Bit - output current 16 Bit
Vendor ID	1 (0x0001)	
Device ID		999425 (0x0F4001)
Transfer rate	COM2 (38.4 kBit/s)	
Min. cycle time		2 ms
SIO mode support	no	
Compatible master port type		Class A , Class B
Current consumption	max. 90 mA	
Voltage range		18 ... 30 V
Input		
Voltage range		3x 380 ... 480 V AC (-15 %/+20 %), 50 ... 60 Hz (±6 %)
Current	1.65 A at 3 x 400 V AC 1.35 A at 3 x 480 V AC for lower output currents see technical information	
Inrush current		4.5 A peak at 3 x 400 V AC, temperature-independent 4.5 A peak at 3 x 480 V AC , temperature-independent
Capacity factor	0.88 at 3 x 400 V AC 0.9 at 3 x 480 V AC	
Output		
Rated voltage	U _r	24 V DC
Voltage range		24 ... 28.5 V DC hardware limitation via potentiometer 15 ... 28 V DC via IO-Link factory setting: 24.1 V
Rated current	I _r	40 A
Current		continuous: 40 ... 33.7 A at ambient temperature < 55 °C (131 °F) 27.5 ... 23.4 A at ambient temperature 70 °C (158 °F) short-term up to 5 s: 60 ... 50.5 A at ambient temperature < 70 °C (158 °F) linear power derating see technical information
Power	960 W	
Ripple		max. 100 mV _{pp}
Hold-up time	25 ms at 3 x 400 V AC 25 ms at 3 x 480 V AC	
Overload behavior		constant current mode
Short-circuit current	typ. 46 A continuous, load impedance < 10 mΩ	

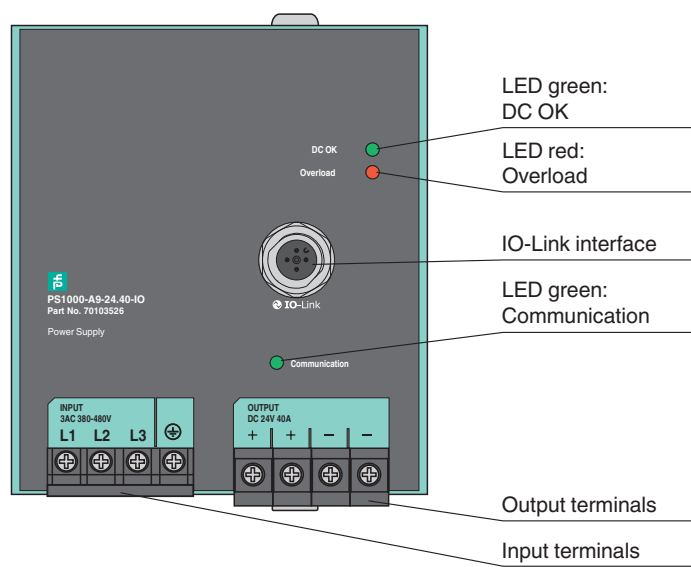
Technical Data

Voltage limitation		typ. 30.5 V DC max. 32 V DC
Galvanic isolation		
Input/Output		SELV/PELV
Indicators/settings		
Display elements		LED green: status DC OK - LED lights up if the output voltage is > 90 % of the adjusted output voltage LED red: overload - LED lights up if the output voltage is < 90 % of the adjusted output voltage or in case of short circuit - flashes if the shutdown has been activated or if the device has shut down due to overtemperature IO-Link communication, LED green/red: LED green: - LED flashes if the communication is active - LED lights up if IO-Link is powered - LED is off if IO-Link is not powered LED red: - LED lights up if an IO-Link event is present - LED is off if no IO-Link event is present or at DC OK
Configuration		configuration via IO-Link - output voltage adjustment - operating mode adjustment - shutdown input adjustment
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 , 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
Conformity		
Degree of protection		EN 60529
Communication interface		IEC 61131-9 / IO-Link V1.1.2
Shock resistance		EN 60068-2-27
Vibration resistance		EN 60068-2-6
Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F) , see technical information
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Relative humidity		5 ... 95 % , noncondensing
Shock resistance		15 g , 6 ms or 10 g , 11 ms
Vibration resistance		2 ... 17.8 Hz : ± 1.6 mm , 17.8 ... 500 Hz : 1 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: max. 1 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: max. 2.3 Nm
Mass		approx. 1500 g
Dimensions		110 x 124 x 143.5 mm (W x H x D) , without DIN mounting rail
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
International approvals		
UL approval		E223176
General information		

Technical Data

Assembly

Front view



Indication

Mode of operation	Red LED overload	Green LED status DC OK	Green/red LED IO-Link communication
Normal operation	OFF	ON	–
Overload ($V_{out} < 0\%$)	ON	OFF	–
Output short circuit	ON	OFF	–
Temperature shutdown	flashing	OFF	–
Active shutdown input	flashing	OFF	–
No input power	OFF	OFF	–
No IO-Link power	–	–	Green OFF
No IO-Link communication	–	–	Green ON
IO-Link communication active	–	–	Green flashing
IO-Link event	–	–	Red ON

Cybersecurity

- From the security point-of-view, the responsible plant operator requires to take the following measures:
- Provide physical protection of the device from unauthorized third-party access
 - Ensure that the IO-Link device communicates in a point-to-point connection to the counter station

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.



Redundancy Module PS1000-D2-24.20.RM

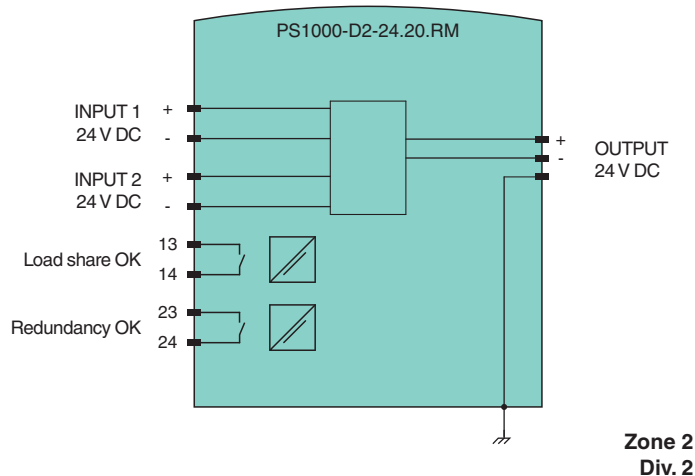
- 24 V DC to 28 V DC input
- 2 inputs with 1 output
- Output 24 V DC, 20 A
- Housing width 32 mm
- Built-in decoupling mosfets for 1+1 and N+1 redundancy
- Automatic load sharing
- Reverse input polarity protection
- Easy wiring: distribution terminal for negative pole included
- Redundancy status indicator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

Technical Data

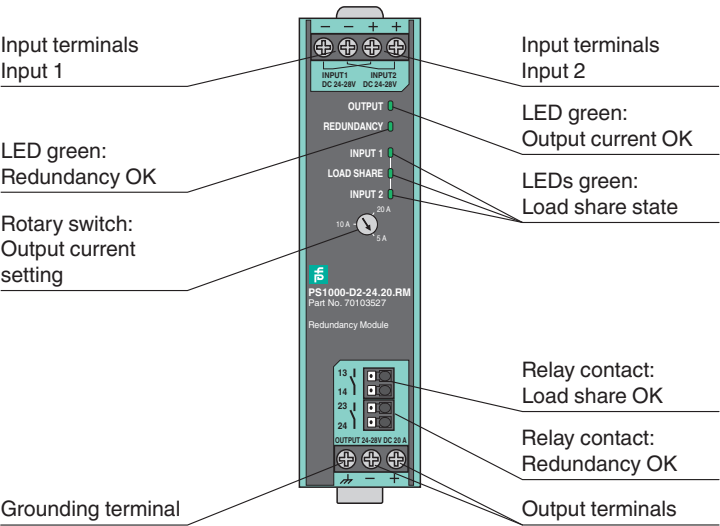
Current		2 x 12 A at ambient temperature < 45 °C (113 °F) 2 x 10 A at ambient temperature 70 °C (158 °F) 2x 17 mA for max. 5 s for lower output currents see technical information
Output		
Voltage range		24 ... 28 V DC
Current		24 A at ambient temperature < 45 °C (113 °F) 20 A at ambient temperature < 70 °C (158 °F) 32.5 A for max. 5 s max. 26 A in overload 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
Output type		relay contact load share - contact is closed if the adjustment of the output voltages are sufficient - contact is open if an even load share does not occur and readjustment of the output voltage is required relay contact redundancy - contact is closed if no fault is detected - contact is open if one or both input voltages are below 22 V DC or above 30 V DC - contact is open if the output current is higher than the adjusted value of the output current - contact is open if an internal defect of the device is detected
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
Galvanic isolation		
Input/Output		SELV/PELV
Indicators/settings		
Display elements		LED green: output status - LED lights up if the output current is smaller than the adjusted value of the output current LEDs green: load share status - LEDs indicate the load share status between the two power supplies LED green: redundancy status - LED lights up if no fault is detected - LED flashes if one or both input values are below 22 V or above 30 V - LED flashes if the output current is higher than the adjusted value of the output current - LED flashes if an internal defect is detected
Control elements		rotary switch
Configuration		setting of the output current via rotary switch - switch setting to 5 A in combination with two 5A power supplies (1+1 redundancy) - switch setting to 10 A in combination with two 10A power supplies (1+1 redundancy) - switch setting to 20 A for N+1 redundant systems
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		-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		

Technical Data

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. 0.8 Nm
Relay contact output		spring terminals conductor cross section: max. 1.5 mm ² (AWG 24-16) cable diameter: max. 1.6 mm, wire end ferrules included stripped insulation length: 7 mm
Mass	approx. 310 g	
Dimensions		32 x 124 x 117 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 hazardous areas		
ATEX approval		
ATEX certificate		EPS 11 ATEX 1 312 X
ATEX marking		Ⓔ II 3G Ex ec nC II T4 Gc
Directive conformity		
Directive 2014/34/EU	EN 60079-0:2012+A11:2013 , EN 60079-7:2016 , 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		
General information		

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.



Redundancy Module PS1000-D2-24.40.RM

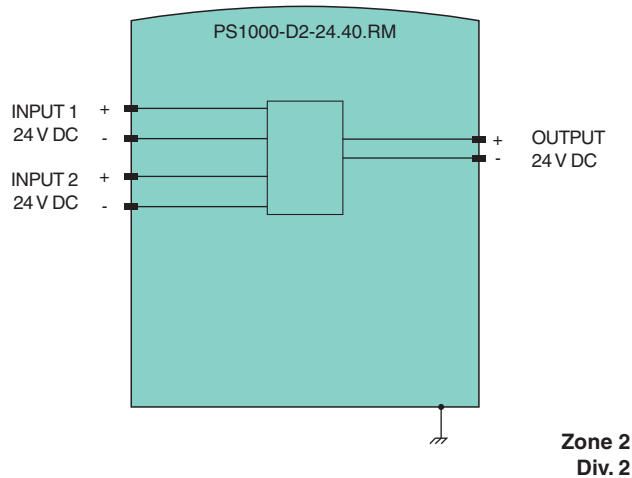
- 12 V DC to 28 V DC input
- 2 inputs with 1 output
- Output 24 V DC, 40 A
- Housing width 36 mm
- Built-in decoupling mosfets for 1+1 and N+1 redundancy
- Only 72 mV voltage drop at 20 A output current
- Only 1.7 W loss at 2 x 10 A and 5.9 W at 2 x 20 A input current
- Reverse input polarity protection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

Technical Data

Output

Voltage range	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
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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 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

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 (W x H x D) , without DIN mounting rail
Height	124 mm
Width	36 mm
Depth	127 mm
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

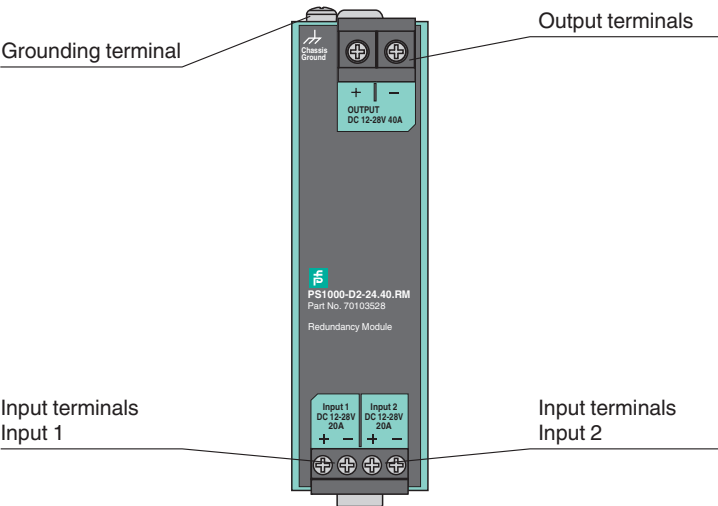
UL approval	E223176
IECEx approval	
IECEx certificate	IECEx EPS 20.0057X

Technical Data

IECEX marking	Ex ec IIC T4 Gc
Standards	IEC 60079-0:2011 , IEC 60079-7:2015 , IEC 60079-15:2010
General information	Observe the certificates, declarations of conformity, instruction manuals, and manuals
Supplementary information	where applicable.

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.



DC/DC Converter PS1000-D2-24.10

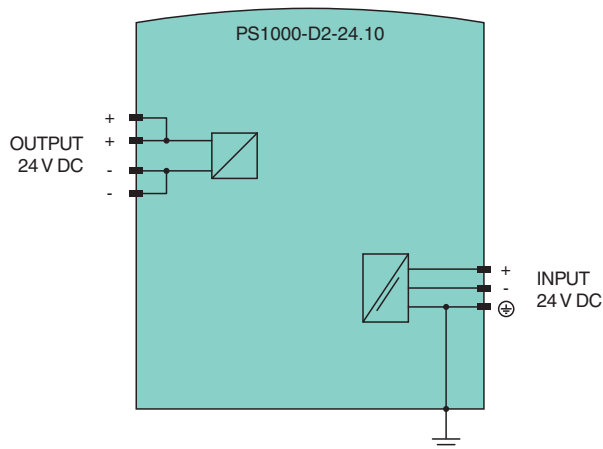
- 24 V DC input
- Isolated output 24 V DC, 10 A, 240 W
- Housing width 42 mm
- Efficiency up to 94.2 %
- Minimal inrush current surge
- Reverse input polarity protection
- 20 % output power reserves



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

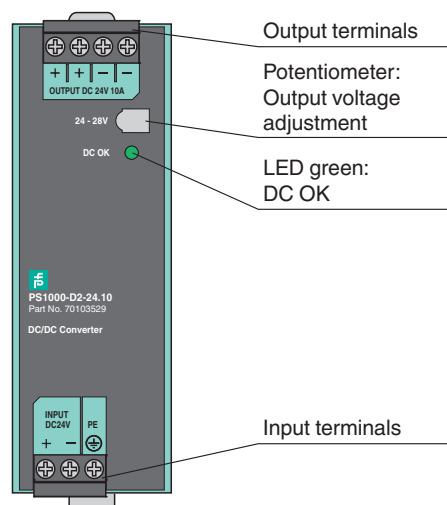
Efficiency		94.2 %
Power dissipation		14.8 W
Input		
Rated voltage	U_r	24 V DC
Voltage range		18 ... 35 V DC
Current		10.5 mA at 24 V DC
Inrush current		6 A peak at ambient temperature 25 °C (77 °F)
Output		
Voltage range		24 ... 28 V DC factory setting: 24.1 V
Rated current	I_r	10 A

Technical Data

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 ... 6.4 A at ambient temperature 70 °C (158 °F) linear power derating see technical information
Power	240 W
Ripple	max. 50 mV _{pp}
Hold-up 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 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 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 (W x H x D) , without DIN mounting rail
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001
International approvals	
UL approval	E223176
General information	

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.

По вопросам продаж и поддержки обращайтесь:

Алматы (727)345-47-04
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижегород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
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