



Power Supply PS1000-A9-24.40-IO

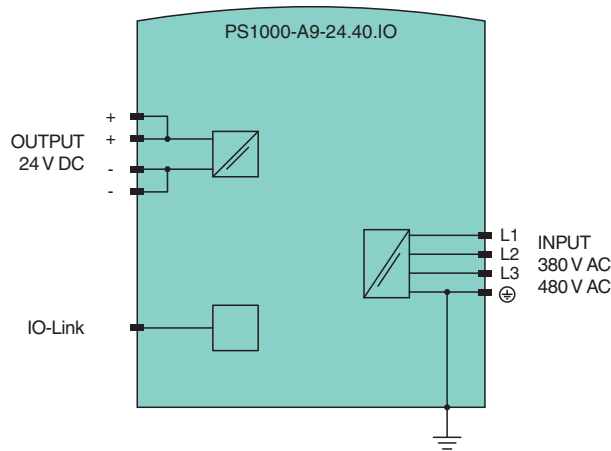
- 380 V AC to 480 V AC wide-range inputs
- Output 24 V DC, 40 A, 960 W, 3-phase
- Housing width 110 mm
- Efficiency up to 95.3 %
- Minimal inrush current surge
- IO-Link interface
- Current sharing for parallel use



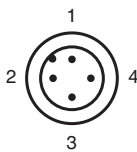
Function

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	

Release date: 2023-11-30 Date of issue: 2023-11-30 Filename: 70103526_eng.pdf

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		

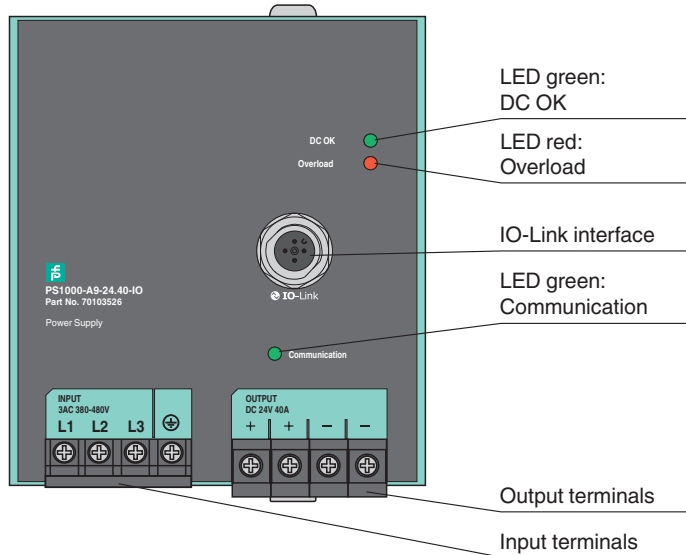
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Technical Data

Supplementary information Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com.

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.

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