

Isolating Amplifier S1SD-1AI-1U.1

- 1-channel signal conditioner
- 24 V DC supply
- Input current and voltage sources
- Current and voltage output
- Accuracy 0.1 %
- Configurable by DIP switches
- Connection via screw terminals



Function

This signal conditioner provides the galvanic isolation between field circuits and control circuits.

The device has an input for the following signals:

- 0/4 mA ... 20 mA signal
- 0/2 V ... 10 V signal

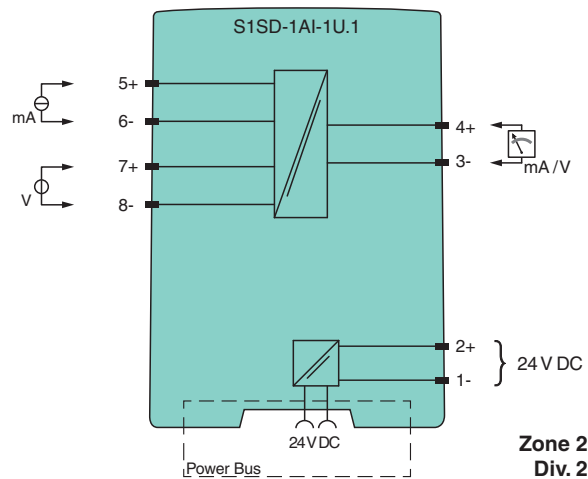
The device provides the following standard signals at the output:

- 0/4 mA ... 20 mA signal
- 0/2 V ... 10 V signal

The device is easily configured by the use of DIP switches.

The device can be powered via terminals or Power Bus.

Connection



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

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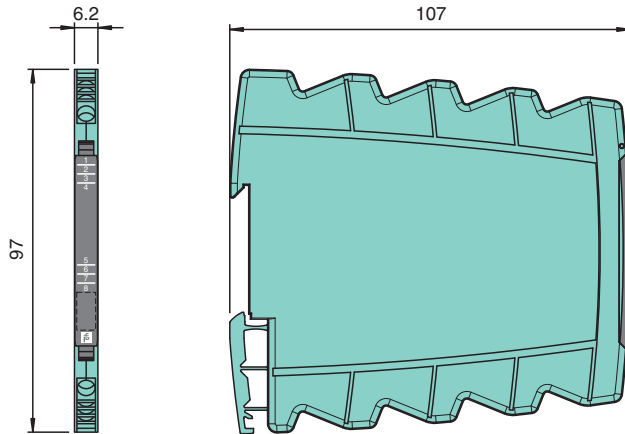
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Dimensions



Technical Data

General specifications		
Signal type		Analog input
Operation time		MTBF: 536 a acc. to SN 29500 stationary continuous operating, average ambient temperature 40 °C (104 °F)
Supply		
Connection		Power Bus or terminals 1-, 2+
Rated voltage	U _r	16.8 ... 31.2 V DC
Power dissipation		0.6 W
Power consumption		0.7 W
Input		
Connection side		field side
Transmission range		linearity range: -1 ... 110 %
Input I		
Connection		terminals 5+, 6-
Input signal		0/4 ... 20 mA , max. 50 mA
Input resistance		≤ 25 Ω
Input II		
Connection		terminals 7+, 8-
Input signal		0/2 ... 10 V , max. 30 V
Input resistance		> 100 kΩ
Output		
Connection side		control side
Connection		terminals 3-, 4+
Analog voltage output		0/2 ... 10 V , load ≥ 2 kΩ
Analog current output		0/4 ... 20 mA , load ≤ 600 Ω
Ripple		≤ 10 mV _{eff}
Transfer characteristics		
Accuracy		max. 0.1 % of full-scale value
Influence of ambient temperature		< 100 ppm/K of full-scale value
Frequency range		0 ... 10 Hz , 0 ... 100 Hz , 0 ... 5 kHz
Settling time		70 ms , 7 ms , 150 μs
Galvanic isolation		
Output/power supply		safe electrical isolation by reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} test voltage 3 kV, 50 Hz, 1 min
Input/Other circuits		safe electrical isolation by reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} test voltage 3 kV, 50 Hz, 1 min
Indicators/settings		
Control elements		DIP-switch

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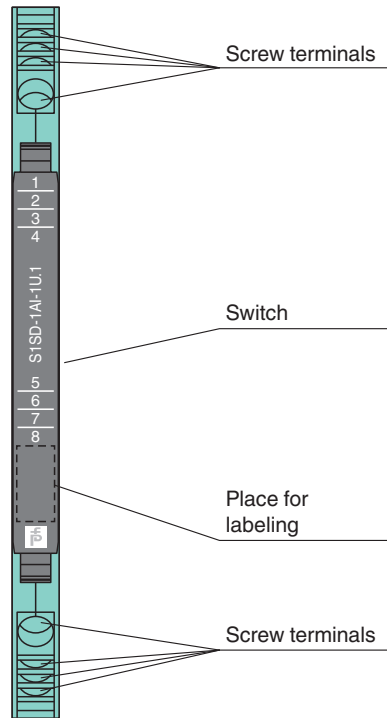
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Technical Data

Configuration	via DIP switches
Labeling	space for labeling at the front
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)
Conformity	
Degree of protection	IEC 60529:2001
Protection against electrical shock	EN 61010-1:2010
Ambient conditions	
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Damaging gas	designed for operation in environmental conditions acc. to ISA-S71.04-1985, severity level G3
Mechanical specifications	
Degree of protection	IP20
Connection	screw terminals
Core cross-section	0.5 ... 2.5 mm ² (20 ... 14 AWG)
Mass	approx. 70 g
Dimensions	6.2 x 97 x 107 mm (0.24 x 3.82 x 4.21 inch) , housing type S1
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001
Data for application in connection with hazardous areas	
Certificate	DEMKO 16 ATEX 1750X
Marking	Ⓜ II 3G Ex nA IIC T4 Gc
Directive conformity	
Directive 2014/34/EU	EN 60079-0:2012+A11:2013 , EN 60079-15:2010
International approvals	
UL approval	E106378
IECEX approval	IECEX UL 16.0116X
Approved for	Ex nA IIC T4 Gc
General information	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

Assembly

Front view



Accessories

	S1SD-2PF	Power feed module with screw terminals
	POWERBUS-SETL5.250	Power bus for 35 mm DIN mounting rail, height: 7.5 mm, length: 250 mm
	POWERBUS-SETH5.250	Power bus for 35 mm DIN mounting rail, height: 15 mm, length: 250 mm
	POWERBUS-COV.250	Cover for 35 mm DIN mounting rail, length: 250 mm
	POWERBUS-CAP	End Cap for Power Bus

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Configuration

Switch settings

Input	Output	S					
		1	2	3	4	5	6
0 mA ... 20 mA	0 mA ... 20 mA						
4 mA ... 20 mA					ON		
0 V ... 10 V							
2 V ... 10 V					ON		
0 mA ... 20 mA	4 mA ... 20 mA			ON			
4 mA ... 20 mA							
0 V ... 10 V				ON			
2 V ... 10 V							
0 mA ... 20 mA	0 V ... 10 V	ON	ON				
4 mA ... 20 mA		ON	ON		ON		
0 V ... 10 V		ON	ON				
2 V ... 10 V		ON	ON		ON		
0 mA ... 20 mA	2 V ... 10 V	ON	ON	ON			
4 mA ... 20 mA		ON	ON				
0 V ... 10 V		ON	ON	ON			
2 V ... 10 V		ON	ON				
Filter 5 kHz							
Filter 100 Hz						ON	
Filter 10 Hz							ON

Factory settings: all switches in position OFF

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