



Millivolt Converter S1SD-1AI-1U.3

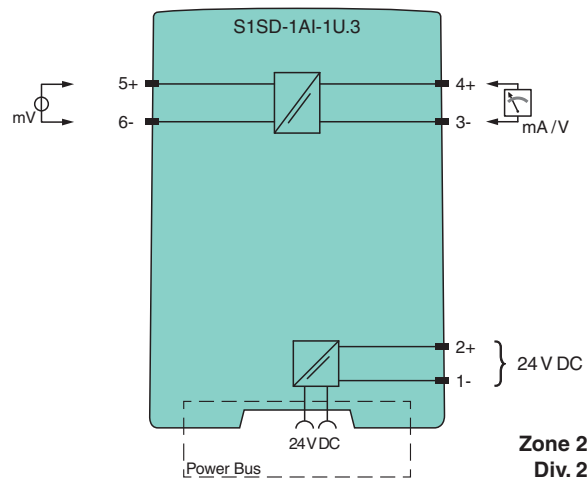
- 1-channel signal conditioner
- 24 V DC supply
- Input bipolar millivolt sources
- Output bipolar current and voltage sources
- Accuracy 0.1 %
- Configurable via DIP switches and potentiometer
- Connection via screw terminals



Function

This signal conditioner provides the galvanic isolation between field circuits and control circuits. The device has an input for bipolar millivolt sources. At the output the signals are available as bipolar current and voltage sources. The device is easily configured by the use of DIP switches and potentiometers. The device can be powered via terminals or Power Bus.

Connection



Technical Data

General specifications

Signal type	Analog input	
Operation time		MTBF: 495 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		0.8 W
Input		
Connection side		field side
Connection		terminals 5+, 6-

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

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Technical Data

Input signal	±60 mV, ±100 mV, ±150 mV, ±250 mV, ±300 mV, ±500 mV	
Input resistance		≥ 100 kΩ
Transmission range	linearity range: unipolar -1 ... 110 % bipolar -110 ... 110 %	
Output		
Connection side	control side	
Connection		terminals 3-, 4+
Analog voltage output	0/1 ... 5 V , 0/2 ... 10 V , ± 5 V, ± 10 V , load ≥ 2 kΩ	
Analog current output		0/4 ... 20 mA, ± 10 mA, ± 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 ... 100 Hz , 0 ... 8 kHz	
Settling time		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 potentiometer	
Configuration		via DIP switches via potentiometer
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) (W x H x D) , 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 certificate	IECEX UL 16.0116X	
IECEX marking		Ex nA IIC T4 Gc

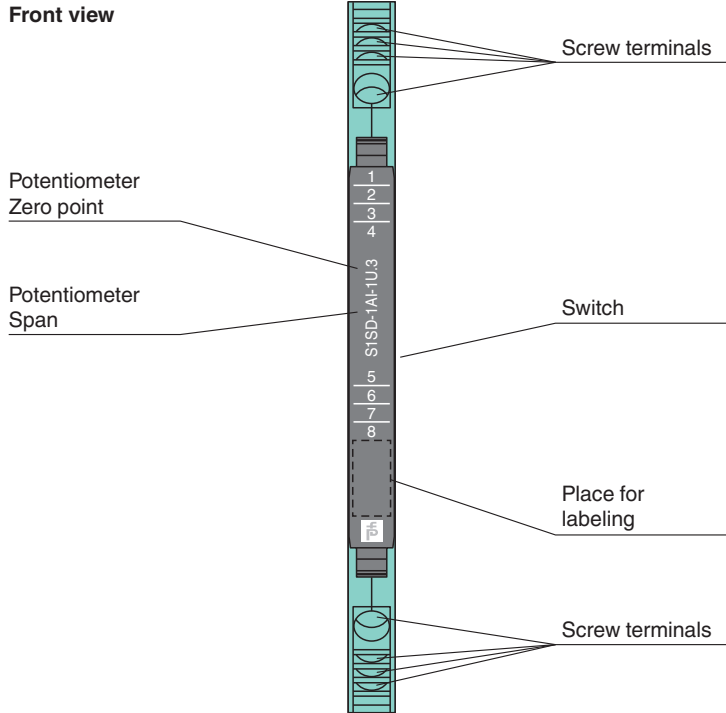
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Technical Data

General information

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



Configuration

Switch settings




Input	Switch S1						Output	Switch S2					
	1	2	3	4	5	6		1	2	3	4	5	6
± 60 mV	ON		ON				± 10 V	ON	ON		ON		
0 ... 60 mV			ON				0 ... 10 V	ON	ON				
± 100 mV	ON		ON	ON			2 ... 10 V	ON	ON			ON	
0 ... 100 mV			ON	ON			± 5 V	ON	ON	ON	ON		
± 150 mV	ON	ON					0 ... 5 V	ON	ON	ON			
0 ... 150 mV		ON					1 ... 5 V	ON	ON	ON		ON	
± 250 mV	ON	ON		ON			± 20 mA				ON		
0 ... 250 mV		ON		ON			0 ... 20 mA						
± 300 mV	ON						4 ... 20 mA					ON	
0 ... 300 mV							± 10 mA			ON	ON		
± 500 mV	ON			ON			0 ... 10 mA			ON			
0 ... 500 mV				ON			2 ... 10 mA			ON		ON	
Zero potentiometer active					ON		Filter 8 kHz						
Span potentiometer active						ON	Filter 100 kHz						ON

Factory settings: all switches in position OFF

Matching System Components

	S1SD-2PF	Power Feed Module
	POWERBUS-SETL5.250	Power bus for 35 mm DIN mounting rail, height: 7.5 mm, length: 250 mm

Matching System Components

	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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