



# Transmitter Power Supply S1SD-1AI-1U

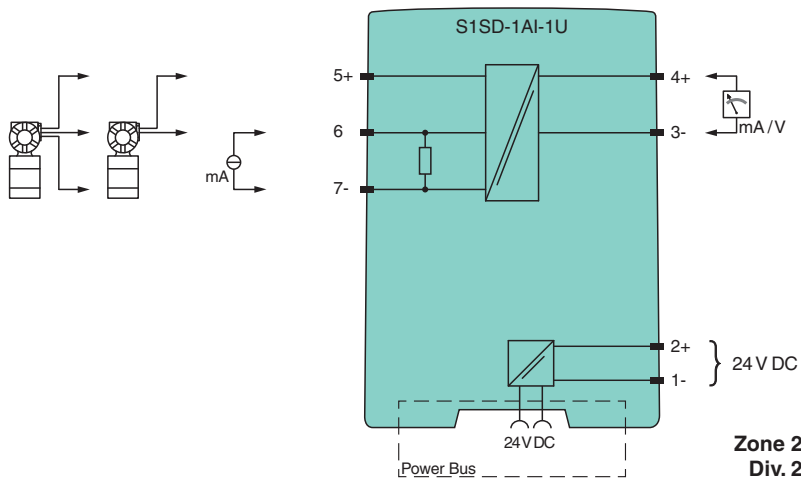
- 1-channel signal conditioner
- 24 V DC supply
- Input 2-wire and 3-wire transmitters and 2-wire current sources
- Current and voltage output
- Accuracy 0.1 %
- Configurable by DIP switches
- Connection via screw terminals



## Function

This signal conditioner provides the galvanic isolation between field circuits and control circuits. The device supplies 2-wire and 3-wire transmitters, and can also be used with current sources. 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



## Technical Data

### General specifications

Signal type		Analog input
Operation time		MTBF: 445 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 <sub>r</sub>	16.8 ... 31.2 V DC
Power dissipation		0.9 W
Power consumption		1.3 W
Input		
Connection side		field side

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

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## Technical Data

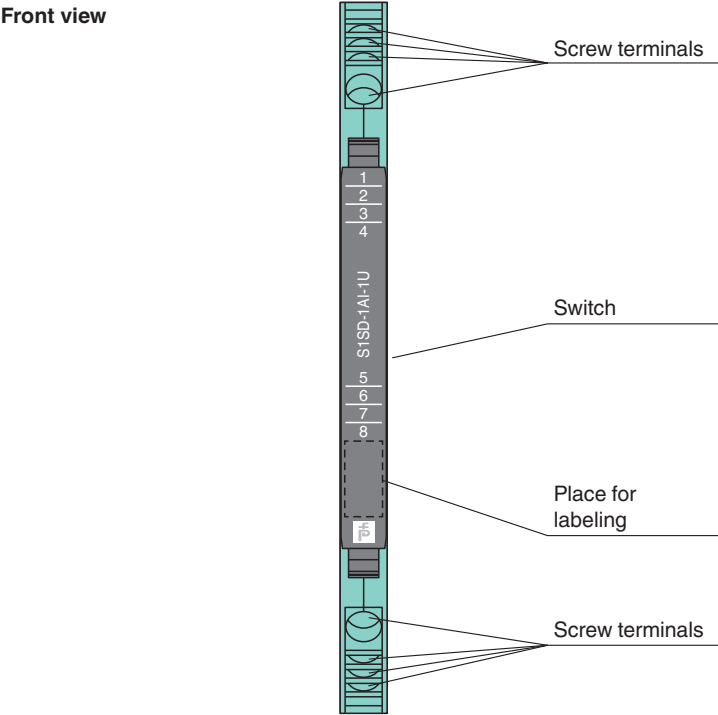
Connection	terminals 5+, 6, 7-
Input signal	0/4 ... 20 mA
Open circuit voltage/short-circuit current	≤ 22 V / 30 mA
Input resistance	25 Ω
Transmission range	linearity range: -1 ... 110 %
Available voltage	16 V at 20 mA
<b>Output</b>	
Connection side	control side
Connection	terminals 3-, 4+
Analog voltage output	0/2 ... 10 V , load ≥ 2 kΩ
Analog current output	0/4 ... 20 mA, load ≤ 600 Ω
Ripple	≤ 10 mV <sub>eff</sub>
<b>Transfer characteristics</b>	
Accuracy	max. 0.1 % of full-scale value
Influence of ambient temperature	< 100 ppm/K of full-scale value
Frequency range	0 ... 100 Hz
Rise time/fall time	≤ 3.5 ms
<b>Galvanic isolation</b>	
Output/power supply	safe electrical isolation by reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub> 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 <sub>eff</sub> test voltage 3 kV, 50 Hz, 1 min
<b>Indicators/settings</b>	
Labeling	space for labeling at the front
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)
<b>Conformity</b>	
Degree of protection	IEC 60529:2001
Protection against electrical shock	EN 61010-1:2010
<b>Ambient conditions</b>	
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
<b>Mechanical specifications</b>	
Degree of protection	IP20
Connection	screw terminals
Core cross section	0.5 ... 2.5 mm <sup>2</sup> (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
<b>Data for application in connection with hazardous areas</b>	
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
<b>International approvals</b>	
UL approval	E106378
IECEX approval	
IECEX certificate	IECEX UL 16.0116X
IECEX marking	Ex nA IIC T4 Gc
<b>General information</b>	

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Technical Data

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> .
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Assembly



Configuration

Switch settings


Input	Output	Switch					
		S1	S2	S3	S4	S5	S6
0 ... 20 mA	0 ... 20 mA						
	4 ... 20 mA				ON		
	0 ... 10 V	ON	ON				
	2 ... 10 V	ON	ON		ON		
4 ... 20 mA	0 ... 20 mA					ON	
	4 ... 20 mA						
	0 ... 10 V	ON	ON			ON	
	2 ... 10 V	ON	ON				

Factory settings: all switches in position OFF

Matching System Components

	<b>S1SD-2PF</b>	Power Feed Module
	<b>POWERBUS-SETL5.250</b>	Power bus for 35 mm DIN mounting rail, height: 7.5 mm, length: 250 mm
	<b>POWERBUS-SETH5.250</b>	Power bus for 35 mm DIN mounting rail, height: 15 mm, length: 250 mm
	<b>POWERBUS-COV.250</b>	Cover for 35 mm DIN mounting rail, length: 250 mm

Matching System Components

	<b>POWERBUS-CAP</b>	End Cap for Power Bus
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