

# 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



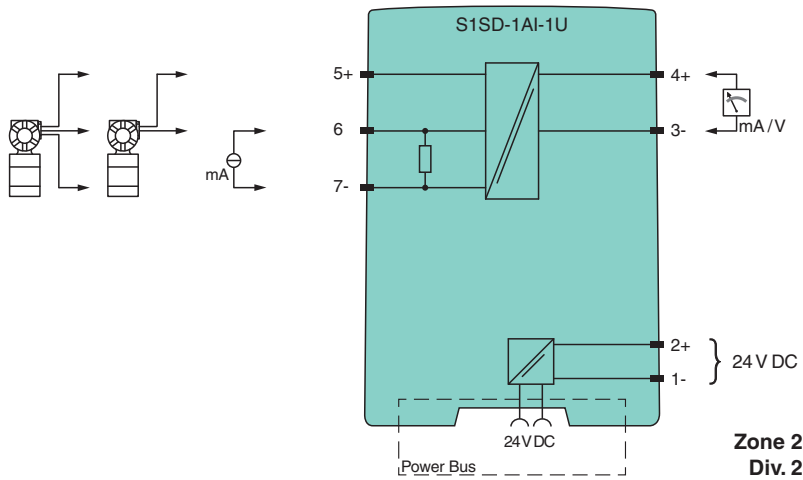
## Function

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



Release date: 2020-09-23 Date of issue: 2020-09-23 Filename: 276396\_eng.pdf

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

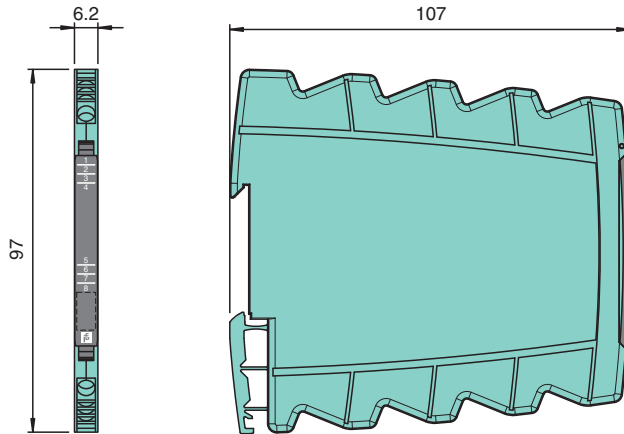
Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

## Dimensions



## 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	$U_r$ 16.8 ... 31.2 V DC
Power dissipation	0.9 W
Power consumption	1.3 W
Input	
Connection side	field side
Connection	terminals 5+, 6, 7-
Input signal	0/4 ... 20 mA
Open circuit voltage/short-circuit current	$\leq 22$ V / 30 mA
Input resistance	25 $\Omega$
Transmission range	linearity range: -1 ... 110 %
Available voltage	16 V at 20 mA
Output	
Connection side	control side
Connection	terminals 3-, 4+
Analog voltage output	0/2 ... 10 V, load $\geq 2$ k $\Omega$
Analog current output	0/4 ... 20 mA, load $\leq 600$ $\Omega$
Ripple	$\leq 10$ mV <sub>eff</sub>
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
Rise time/fall time	$\leq 3.5$ ms
Galvanic isolation	
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
Indicators/settings	
Labeling	space for labeling at the front
Directive conformity	
Electromagnetic compatibility	

Release date: 2020-09-23 Date of issue: 2020-09-23 Filename: 276396\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

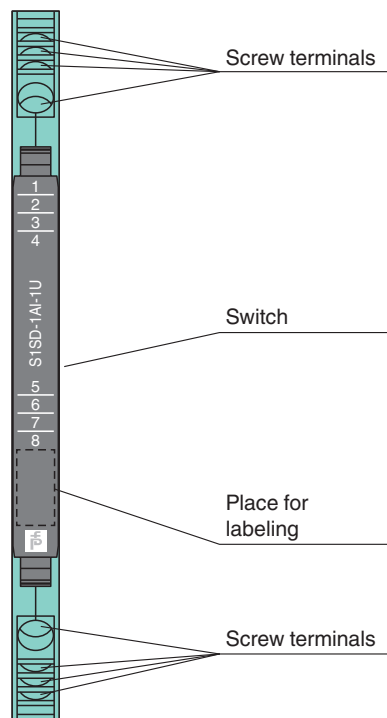
 PEPPERL+FUCHS

**Technical Data**

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) , 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 UL 16.0116X
Approved for	Ex nA IIC T4 Gc
<b>General information</b>	
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> .






**Assembly**

Front view



Release date: 2020-09-23 Date of issue: 2020-09-23 Filename: 276396\_eng.pdf

**Accessories**

	<b>S1SD-2PF</b>	Power feed module with screw terminals
	<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
	<b>POWERBUS-CAP</b>	End Cap for Power Bus

Release date: 2020-09-23 Date of issue: 2020-09-23 Filename: 276396\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

**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	ON	ON				
	2 V ... 10 V	ON	ON		ON		
4 mA ... 20 mA	0 mA ... 20 mA					ON	
	4 mA ... 20 mA						
	0 V... 10 V	ON	ON			ON	
	2 V ... 10 V	ON	ON				

Factory settings: all switches in position OFF

Release date: 2020-09-23 Date of issue: 2020-09-23 Filename: 276396\_eng.pdf