

Trip amplifier

S1SD-1AI-1R

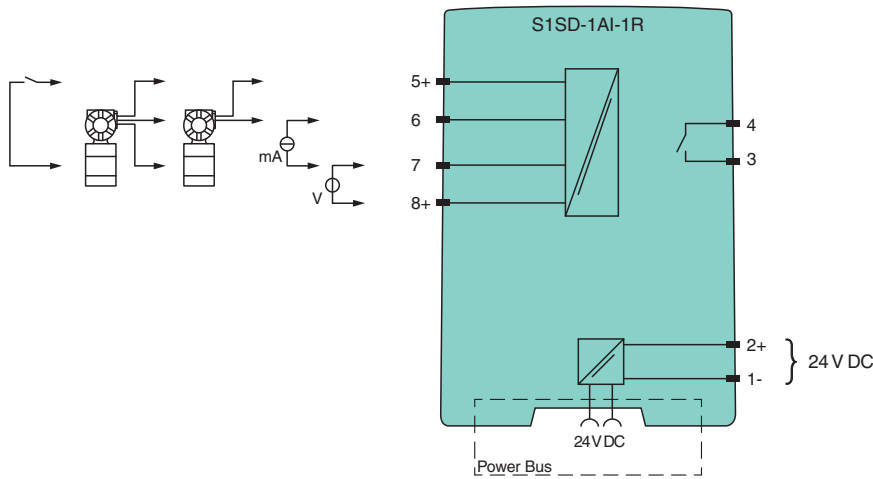
- 1-channel signal conditioner
- 24 V DC supply
- Input bipolar current and voltage sources
- Relay contact output
- Accuracy 0.1 %
- Restart inhibit
- One-shot function
- Configurable by DIP switches and software
- Connection via screw terminals



Function

This signal conditioner provides the galvanic isolation between field circuits and control circuits. The device supplies 2-wire and 3-wire transmitters. The device has an input for bipolar current and voltage sources. The device actuates a relay contact output when it reaches the adjusted limit value. The device is easily configured by the use of DIP switches or software. The device has an adjustable on delay, an off delay, or an one-shot function for the relay contact output. The teach-in function can be used to teach in the limit value. The device can be powered via terminals or Power Bus.

Connection



Technical Data

General specifications

Signal type	Analog input		
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		
Interface			
Programming interface	programming socket		
Input			

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

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Technical Data

Connection side		field side
Transmission range		linearity range: unipolar -1 ... 110 % bipolar -110 ... 110 %
Input I		
Connection		terminals 5, 6, 7-
Input signal		0/4 ... 20 mA , 0/2 ... 10 mA , ± 10 mA , ± 20 mA , max. 50 mA
Input resistance		≤ 25 Ω
Input II		
Connection		terminals 7-, 8+
Input signal		0/1 ... 5 V , 0/2 ... 10 V , ± 5 V , ± 10 V , max. 30 V
Input resistance		> 1 MΩ
Input III		
Connection		terminals 5+, 6-
Input signal		0/4 ... 20 mA
Available voltage		16 V at 20 mA
Open circuit voltage/short-circuit current		≤ 22 V / 30 mA
Input IV		
Connection		terminals 5, 7
Input type		reset restart inhibit
Output		
Connection side		control side
Connection		terminals 3, 4:
Output		signal, relay
Contact loading		253 V AC/2 A/cos φ > 0.7; 126.5 V AC/2 A/cos φ > 0.7; 30 V DC/2 A resistive load
Minimum switch current		2 mA / 24 V DC
Energized/De-energized delay		≤ 20 ms / ≤ 20 ms
Mechanical life		10 ⁷ switching cycles
Transfer characteristics		
Accuracy		max. 0.1 % of full-scale value
Influence of ambient temperature		< 100 ppm/K of full-scale value
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		
Display elements		LEDs
Control elements		DIP switch keys
Configuration		via DIP switches via keys via software
Labeling		space for labeling at the front
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Low voltage		
Directive 2014/35/EU		EN 61010-1:2010
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)

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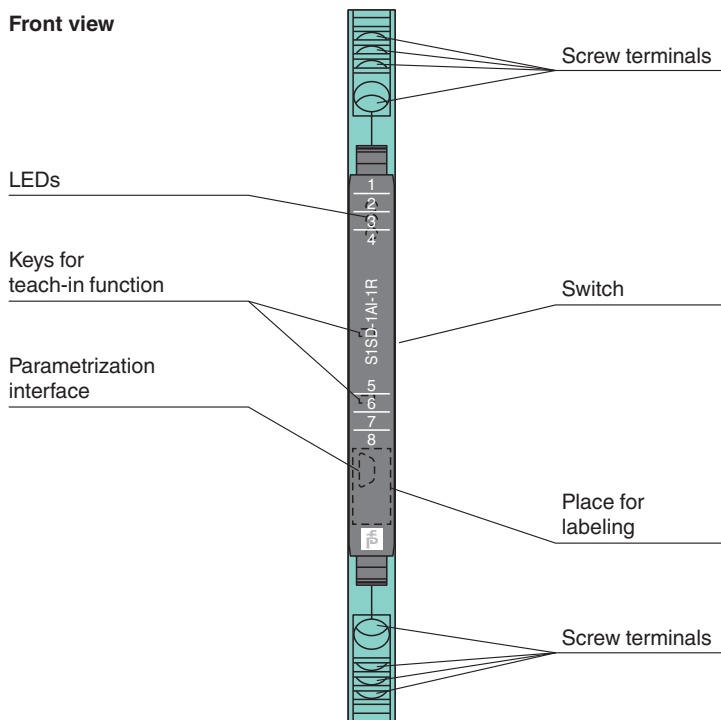
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PEPPERL+FUCHS

Technical Data

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

Assembly



Matching System Components

	S1SD-2PF	Power Feed Module
	S-ADP-USB	Adapter with USB Interface
	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

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Matching System Components



POWERBUS-CAP

End Cap for Power Bus

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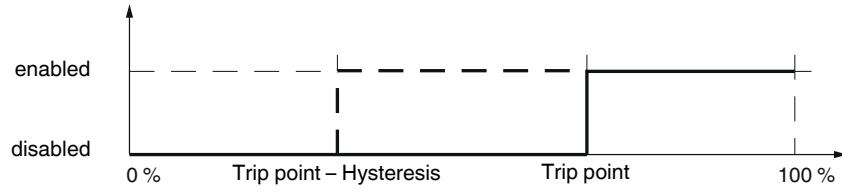
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 **PEPPERL+FUCHS**

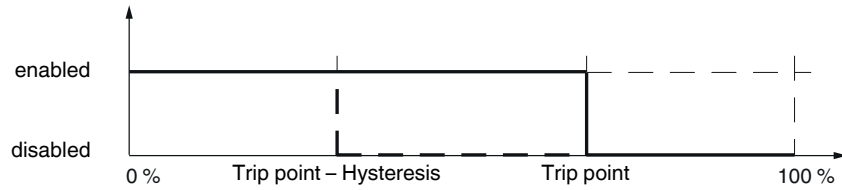
Operation

Modes of operation

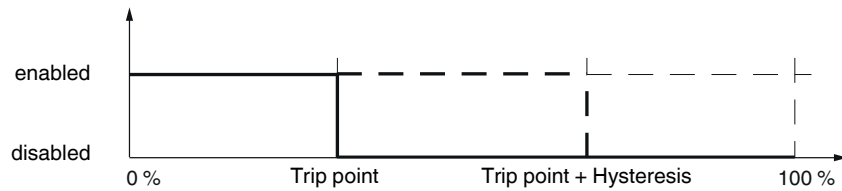
Trip mode MAX alarm, mode of operation active



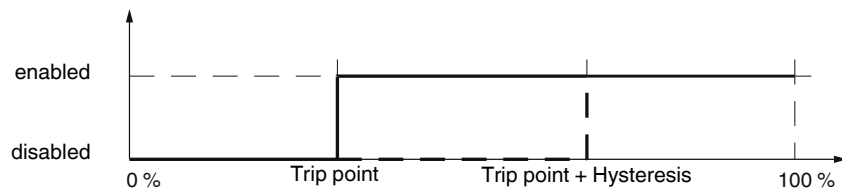
Trip mode MAX alarm, mode of operation passive



Trip mode MIN alarm, mode of operation active



Trip mode MIN alarm, mode of operation passive



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