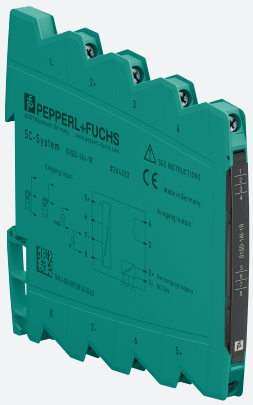


Trip amplifier

S1SD-1AI-1R

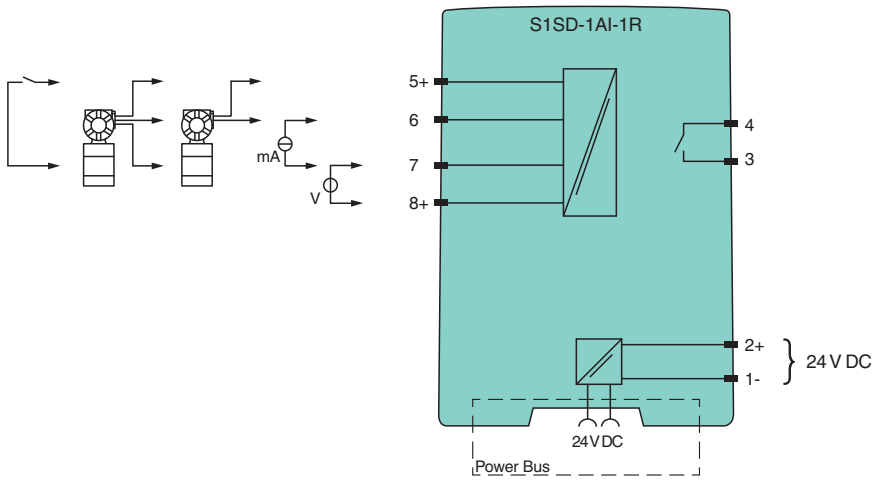
- 1-channel signal conditioner
- 24 V DC supply
- Input bipolar current and voltage sources
- Input 2-wire and 3-wire transmitters
- Relay contact output
- Restart inhibit
- One-shot function
- Configurable by DIP switches and software
- Connection via screw terminals

CE

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		

Release date: 2023-11-30 Date of issue: 2023-11-30 Filename: 305245_eng.pdf

ANKASAN
İVEDİK OSB. MAHALLESİ 1456. CADDE NO:15 YENİMAHALLE / ANKARA
0 312 385 90 72 0 312 385 90 73 info@ankasan.tr
PEPPERL+FUCHS

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)

Release date: 2023-11-30 Date of issue: 2023-11-30 Filename: 305245_eng.pdf

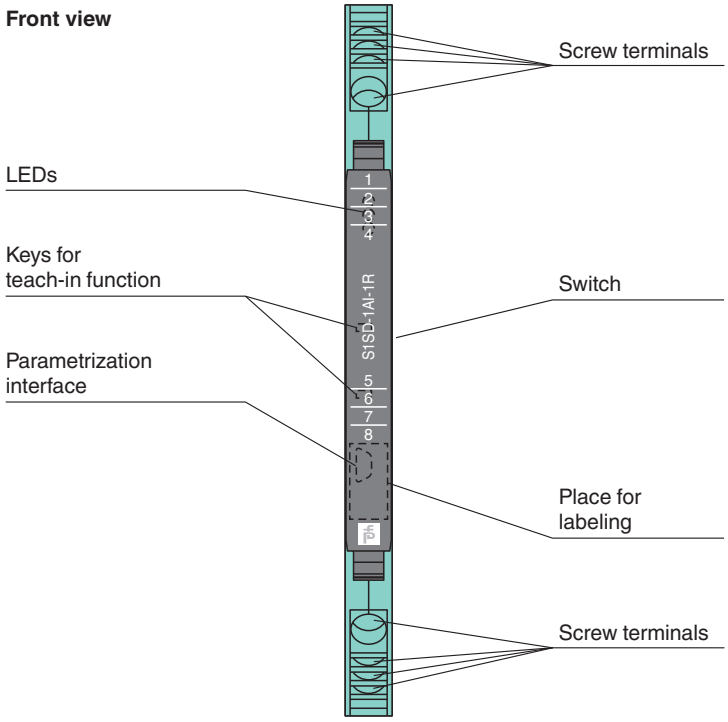
ANKASAN İVEDİK OSB. MAHALLESİ 1456. CADDE NO:15 YENİMAHALLE / ANKARA
0 312 385 90 72 0 312 385 90 73 info@ankasan.tr
PEPPERL+FUCHS

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 mm² (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

Front view



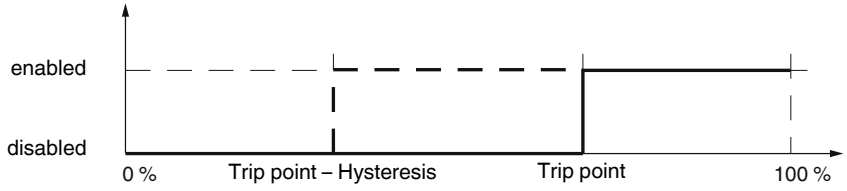
Release date: 2023-11-30 Date of issue: 2023-11-30 Filename: 305245_eng.pdf

ANKASAN İVEDİK OSB. MAHALLESİ 1456. CADDE NO:15 YENİMAHALLE / ANKARA
0 312 385 90 72 0 312 385 90 73 info@ankasan.tr
PEPPERL+FUCHS

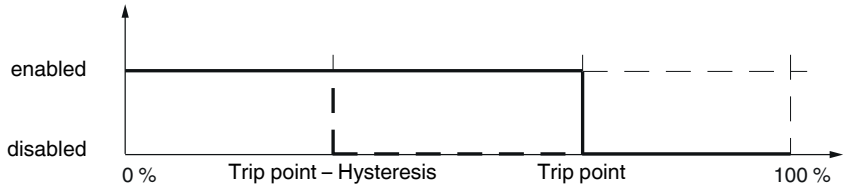
Operation

Modes of operation

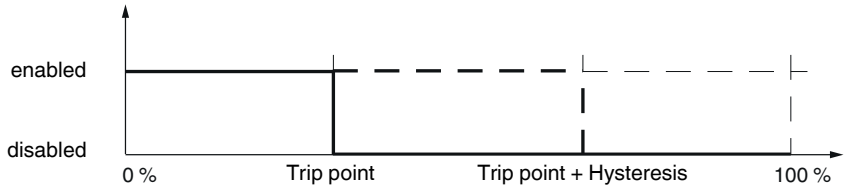
Trip mode MAX alarm, mode of operation active



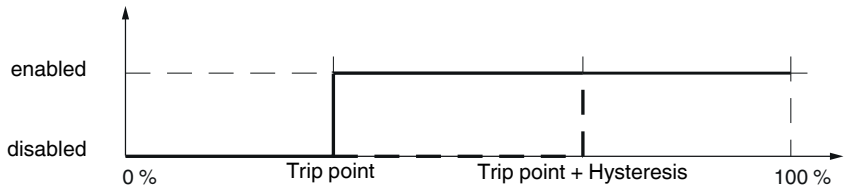
Trip mode MAX alarm, mode of operation passive



Trip mode MIN alarm, mode of operation active



Trip mode MIN alarm, mode of operation passive

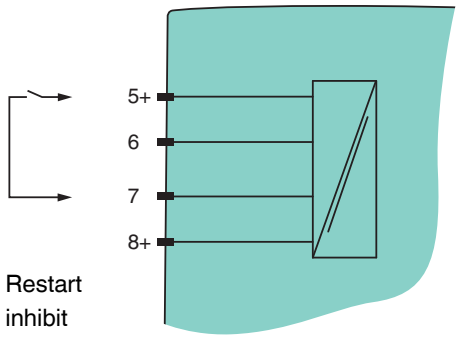


Connection

Function Input

The function input has the following function: resetting the restart inhibit. The restart inhibit only works if you have connected active current and voltage sources. The restart inhibit does not work if transmitters are connected.

Connect the function as shown in the diagram. The input is edge triggered. The signal must be present for a minimum of 100 ms.



Release date: 2023-11-30 Date of issue: 2023-11-30 Filename: 305245_eng.pdf

Restart inhibit

The restart inhibit is used to prevent the momentary exceedance of a switch point or faults from not being noticed by operating personnel. Faults can be caused by a lead breakage, lead short circuit, or insufficient supply voltage.

If the restart inhibit is active, the new status is retained after an output has been switched until one of the following events occurs.

- The device is restarted
- There is a reset signal on terminals 5 and 7

If one of these events occurs, the output is reset. The status is retained only in the following exceptional cases:

- The switch point continues to be exceeded.
- The fault continues to be present.

If you have chosen the restart inhibit for an output with a trip mode MIN alarm, the restart inhibit is inevitably triggered when the device starts, as the device starts with a measured value of 0. This means a MIN alarm is triggered immediately.
Without the start-up override, the output would then be blocked by the restart inhibit.

Release date: 2023-11-30 Date of issue: 2023-11-30 Filename: 305245_eng.pdf

ANKASAN
İVEDİK OSB. MAHALLESİ 1456. CADDE NO:15 YENİMAHALLE / ANKARA
0 312 385 90 72 0 312 385 90 73 info@ankasan.tr
PEPPERL+FUCHS