Universal Isolating Amplifier with Live-Zero Monitor

ST 1.00 SDC

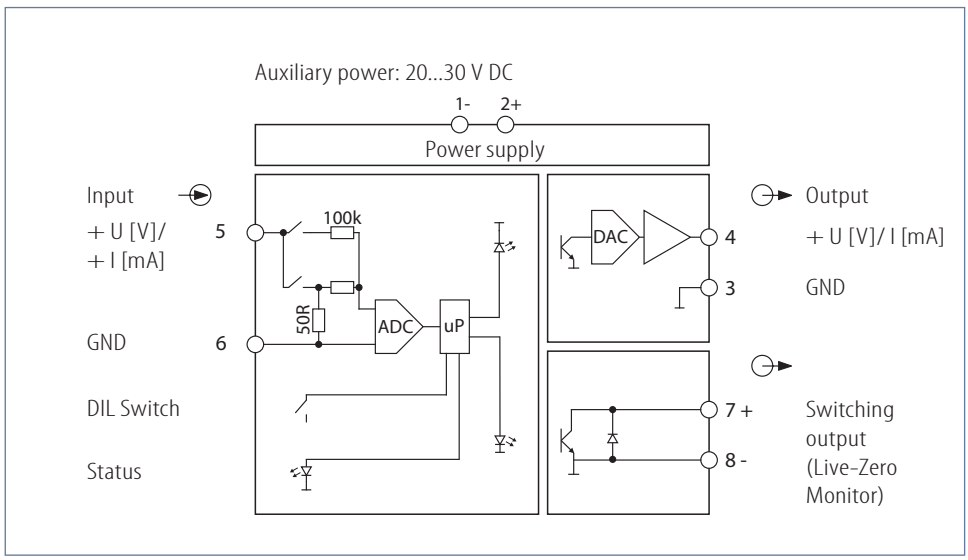
FEATURES

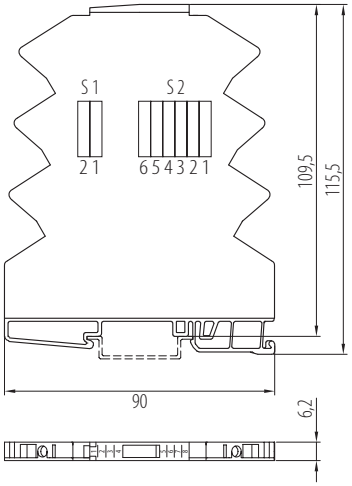
- *Input: Current 0(4)...20 mA or Voltage 0...10 V*
- *Output: Current 0(4)...20 mA or Voltage 0...10 V*
- *Calibrated inputs and outputs for all ranges*
- *Transistor output for Live-Zero Monitor*
- *Galvanic 3-way isolation of 3,75 kV*
- *Low internal consumption*

FUNCTION

Amplifiers are used for the isolation or conversion of analog signals. This guarantees a safe decoupling between the sensor and evaluation circuit and any influence of other sensor circuit among each other is absolutely impossible. Input and output of the ST1.00SDC are equipped with a current- or voltage range.

The range selection is being made by DIL-switch S1 and S2 on the side, the desired adjustment can be chosen from the table on the side. The integrated Live-Zero Monitor is also able to control the input current ranges on error.

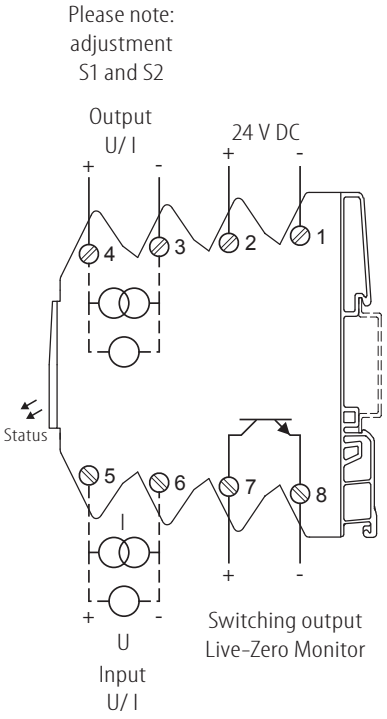




Schuhmann Messtechnik

ST 1.00 SDC

Connection diagram:



Input:

I: load-independent DC current:	0(4)...20 mA	input resistance approx. 50 Ω
connection:	terminal 6 -, 5 +	
U: load-independent DC voltage:	0(2)...10 V	input resistance approx. 100 kΩ
connection:	terminal 6 -, 5 +	

Output:

I: load-independent DC current:	0(4)...20 mA	permissible load max. 580 Ω
connection:	terminal 3 -, 4 +	
U: load-independent DC voltage:	0...10 V	permissible load ≥ 1 kΩ
connection:	terminal 3 -, 4 +	

Switching output (Live-Zero Monitor): transistor max. 50 V/ 50 mA
switchable Live-Zero monitoring (Live-Zero Monitor)
with DIL-switch S2.6 for signal input I.

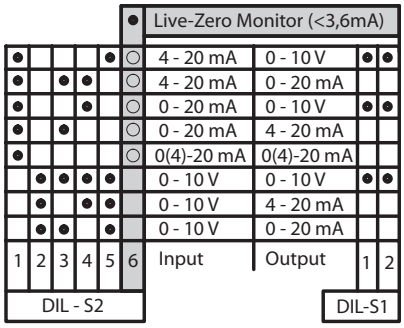
DIL - S2.6 OFF: transistor connected through, acceptable range 0...21,4 mA
switching off at signal input > 21,4 mA

DIL - S2.6 ON: transistor connected through, acceptable range 3,6...21,4 mA
switching off at signal input < 3,6 mA and > 21,4 mA

connection: terminal 8-, 7+

Adjustment:

Adjustment of range for input/ output/ Live-Zero with DIL-Switch S1 and S2 on the side:



≙ Possible current input monitoring (Live-Zero Monitor) by switching output

≙ Switch position ON

≙ Switch position OFF

Measuring range errors at change-over of the individual measuring ranges are typical 0,1 %, max. 0,2 %.

Display:

LED status:	green, active	input signal are in standard range, device ready for use
	green, flashing	input signal out of the acceptable range

Environmental conditions:

Storage temperature:	-40...+70 °C
Operating temperature:	0...55 °C
Isolation voltage:	
	3,75 kV eff. 1 sec. input-output
	3,75 kV eff. 1 sec. auxiliary voltage

Auxiliary power:

24 V DC:	20...30 V DC
	< 1,5 W
Influence of auxiliary power:	< 0,1 %

Characteristics of transmission:

Transmission error:	< 0,12 %
Resolution:	15 bit
Linearity error:	< 0,1 %
Temperature error:	< 100 ppm/ K
Load influence I:	< 50 ppm of final value
Load influence U:	< 0,2 % at 1 kΩ load
Setting time:	< 200 msec.

Directive:

EMC Directive:	2014/30/EU*
Low Voltage Directive:	2014/35/EU

*minimum deviations possible during HF-radiation influence

Mounting details:

Housing for top hat rail	
Type of protection:	IP 20
Mounting rail fixed according to	EN 50022-35 x 6,2 mm
Width:	6,2 mm
Weight:	52 g
Material:	Polyamide PA
Flammability class:	V0 (UL 94)
Approval:	CE
Connection:	screw clamps 0,14...2,5 mm²

For safety reasons we recommend to mount the housing for top hat rail with a distance > 1 mm to each other. Please check switch setting before initial operation!

Ordering information: **Type:** **ST 1.00 SDC** 24 V DC

17.10.2018