

### FEATURES

#### ■ Calculating functions:



- Minimum-/ Maximum selector
- Linearization

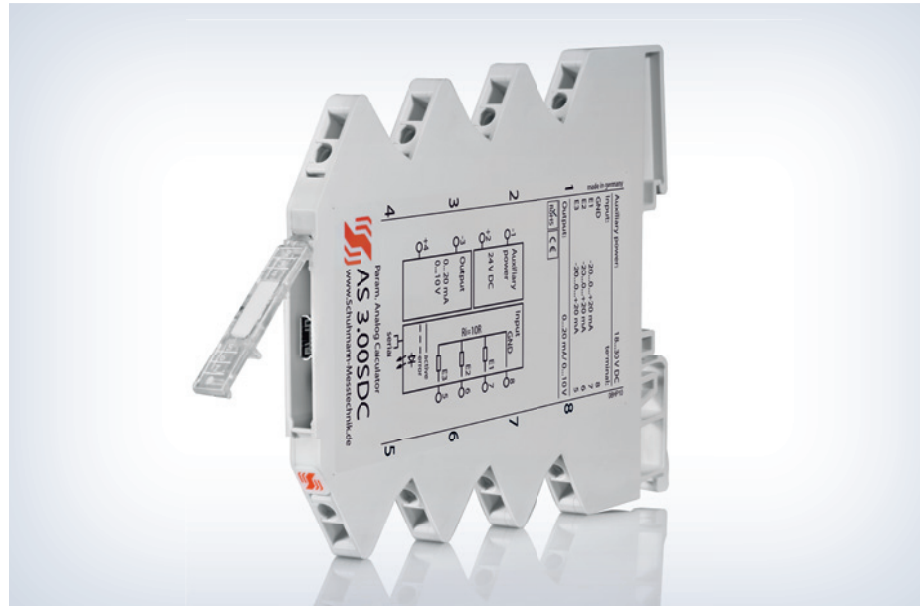
#### ■ Freely configurable:

- 3 inputs  $\pm 20$  mA
- 1 output 0(4)...20 mA/ 0(2)...10 V

#### ■ Parameterization without auxiliary power via PC-interface

#### ■ Galvanic 3-way isolation of 2,5 kV

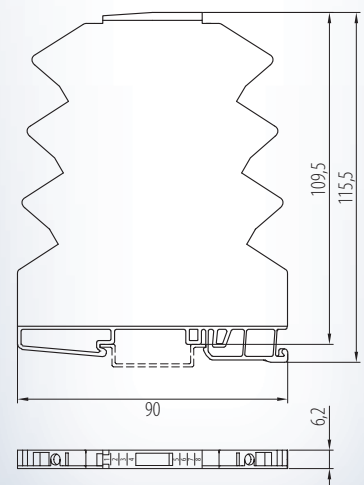
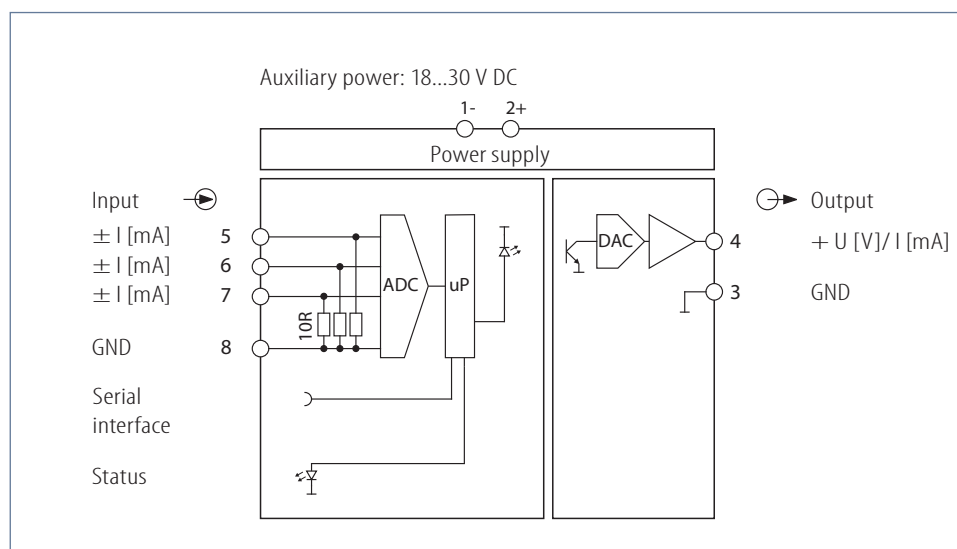
#### ■ Low internal consumption



### FUNCTION

The Analog Calculator is used for calculations such as addition, subtraction and linearization of analog values which as a result have an analog signal in form of a current or a voltage. Due to its customized setting of all individual input signals, the mode of calculation and the output signal the device has a large range of application. It is equipped with bipolar current inputs as well as a current and voltage output.

The AS 3.00 SDC is being parameterized by the USB2 adapter in connection with KALIB-Software. The basic calculation units can be selected directly, linearizations are produced by a table of values and a polynomial calculation with optimization. Actual measured values of input and output can also be visualized.



# AS 3.00 SDC

## Input:

I: DC current (bipolar): -20...0...+20 mA; input resistance approx. 10 Ω  
 connection: E1 = terminal 8 -, 7 + ; E2 = terminal 8 -, 6 + ; E3 = terminal 8 -, 5 +  
 Adjustable per input: Range start, range end: -20,5...0...+20,5 mA  
 Cut-Off-Min: on falling below this value is set  
 Cut-Off-Max: on exceeding this value is set  
 Error limit Min: on falling below a defined fixed value is set  
 Error limit Max: on exceeding a defined fixed value is set  
 Evaluation of input between -100%...0%...+100%  
 (with -100%...0% ⇒ calculated inversion of input)

Basic calculating: Output = E1 + E2 + E3  
 Output = E1 × E2  
 Output = E1 / E2  
 Output = Min/ Max (E1, E2, E3) (minimum-/ maximum selector)  
 Output = (E1 + E2) / E3  
 Output = (E1 + E2) × E3

Functions: Output = f (E1, E2, E3)  
 User-defined functions possible based on pairs of variates (linearization).  
 Other calculation functions on request.

## 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(2)...10 V      permissible load ≥ 1 kΩ  
 connection: terminal 3 -, 4 +

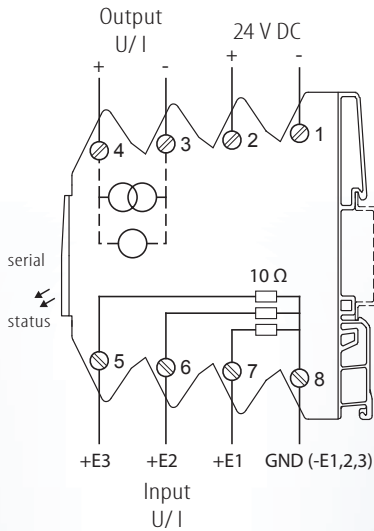
The minimum/ maximum limits for current and voltage output are freely selectable and adjustable in clear text. On exceeding or falling below the error limits at the input, for the output a defined fixed value can be predetermined in case of error.

## Adjustment:

Measuring ranges and parameterization are adjustable in parameter data by KALIB-Software.  
 You need a PC and the interface adapter USB2 with KALIB-Software.

## Display:

LED status: green, active      input signals are in standard range, device ready for use  
 green, flashing      input out of predetermined limits or exceeding of measuring range



## Environmental conditions:

Storage temperature: -40...+70 °C  
 Operating temperature: 0...55 °C  
 Isolation voltage:  
 2,5 kV eff. 1 sec. input-output  
 2,5 kV eff. 1 sec. auxiliary voltage

## Auxiliary power:

24 V DC: 18...30 V DC  
 approx. 9...40 mA  
 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: < 500 msec.

## Directive:

EMC Directive: 2004/108/EC\*  
 Low Voltage Directive: 2006/95/EC  
 \*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 mm<sup>2</sup>

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

## Ordering information:

Type: AS 3.00 SDC 24 V DC  
 Accessories: USB2 with KALIB-Software, manual

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