

Type SDA-2000



Essential features

- 4-digit 14-segment LED indicator
- Input for mA, V, RTD (e.g. Pt100...), TC and poti
- 2 relays and analogue output
- Universal supply voltage
- Front key programmable
- Safety class IP65 (IP67 optional)
- 5 years guarantee



Application

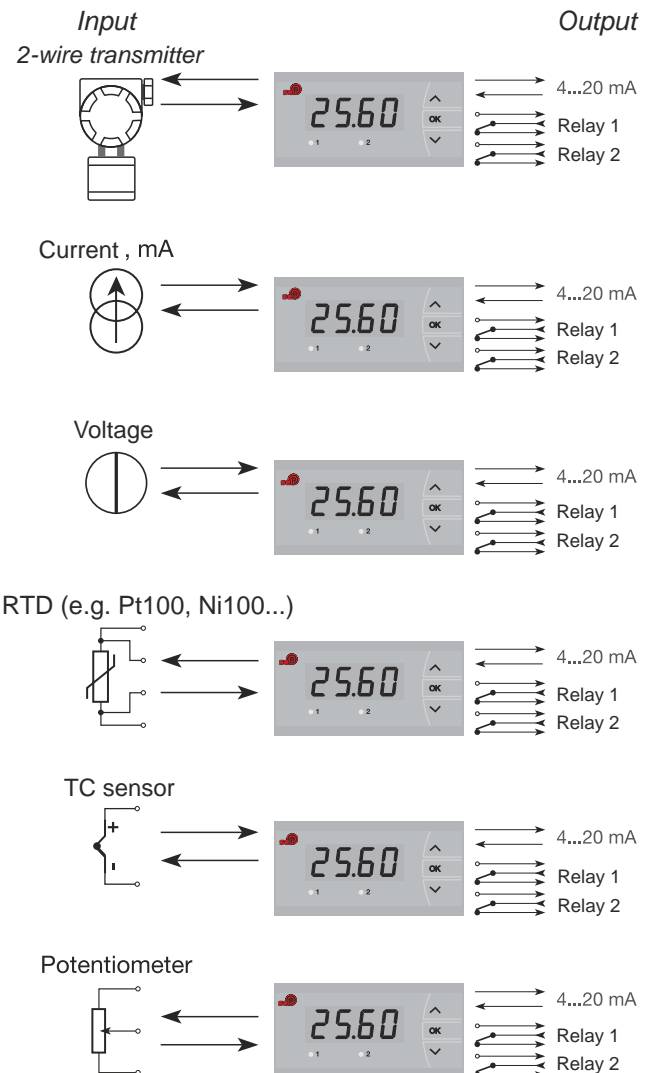
- Display for digital readout of current, voltage, temperature or 3-wire potentiometer signal.
- Process control with 2 potential free relays and / or analogue output
- For local readout in extremely wet atmospheres with a specially designed, splash-proof seal rubber.

Technical characteristics:

- 4-digit LED indicator with 13,8 mm 14-Segment characters. Max. display redout -1999...9999 with programmable decimal point, relay ON / OFF-indication.
- All operational parameters can be adjusted to any application by use of the front keys
- The SDA-2000 is available fully-configured According to specifications ready for process control and visualisation
- In versions with relay outputs the user can minimise the installation test time by activating / deactivating each relay independently of the input signal

Mounting:

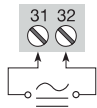
- To be mounted in front panel. The included rubber packing must be mounted between the panel cutout hole and the display front to obtain IP65 (NEMA 4) tightness. For extra protection in extreme environments. To achieve protection class IP67 a rubber hood on the front of the display is available optionally.



Order Code :SDA-2000--

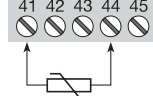
Connections:

Supply:

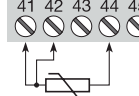


Type	2 Relays	Analogue Output
SDA-2000	No	No
	Yes	Yes

RTD, 2-wire

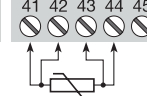


RTD, 3-wire



Input:

RTD, 4-wire



TC

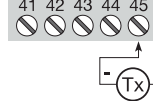


Output:

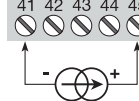
Current



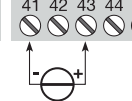
2-wire transmitter



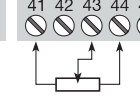
Current



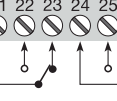
Voltage



Potentiometer



Relay outputs



Electrical Specifications

Specifications range:

-20°C bis +60°C

Common specifications:

Supply voltage, 21,6...253 VAC, 50...60 Hz oder
19,2...300 VDC

Max. Consumption ≤ 3,5 W

Isolation voltage, test/operation 2,3 kVAC / 250 VAC

Signal- / noise ratio min. 60 dB (0...100 kHz)

Response time (0...90%, 100...10%) programmierbar:

Temperature input 1...60 s

Current / voltage input 0,4...60 s

Calibration temperature 20...28°C

Accuracy, the greater of general and basic values:

TC input:

Type	Min. Value	Max. Value	Norm
B	+400°C	+1820°C	IEC 60584-1
E	-100°C	+1000°C	IEC 60584-1
J	-100°C	+1200°C	IEC 60584-1
K	-180°C	+1372°C	IEC 60584-1
L	-200°C	+900°C	DIN 43710
N	-180°C	+1300°C	IEC 60584-1
R	-50°C	+1760°C	IEC 60584-1
S	-50°C	+1760°C	IEC 60584-1
T	-200°C	+400°C	IEC 60584-1
U	-200°C	+600°C	DIN 43710
W3	0°C	+2300°C	ASTM E988-90
W5	0°C	+2300°C	ASTM E988-90
LR	-200°C	+800°C	GOST 3044-84

Cold junction compensation (CJC).

via internal sensor..... < ±1,0 °C

Sensor error detection

all TC-Types Yes < ±1,0 °C

Sensor error current:

When detecting Nom. 2µA

Else 0µA

Current input:

Measuring range -1...25 mA

Programmable measurement ranges 0...20 und 4...20 mA

Input resistance Nom. 20 Ω + PTC 25Ω

Sensor error detection

Loop break 4...20mA Yes

Voltage input:

Measuring range..... -20 mV..12 VDC

Programmable measurement ranges. 0...1, 0,2...1,

0...10 and 2...10 VDC

Input resistance Nom. 10 MΩ

Display:

Display readout..... -1999...9999 (4 Digits)

D ecimal point Programmable

display height 13,8 mm

Display updating 2,2 times / s

Input outside input range is indicated by Explanatory text

Current output:

Signal range (span)..... 0...20 mA

Programmable signal ranges 0...20, 4...20,

20...0 and 20...4 mA

Load max..... 20 mA / 800 Ω / 16 VDC

Load stability..... ≤0,01% d. Messsp. / 100Ω

Sensor error detection 0 / 3,5 / 23 mA or none

NAMUR NE 43 Upscale 23 mA

NAMUR NE 43 Downscale..... 3,5 mA

Current limit ≤28 mA

Relay outputs:

Relay functions Sollwert

Hysteresis, in % / counting unit 0,1...25% / 1...2999

On- / Off-delay 0...3600 s

Max. Voltage 250 VRMS

Max. Current 2 A / AC

Max. AC power 500 VA

Max. current at 24 VDC 1 A

Sensor error detection Make / break / hold

Version change over

Observed authority requirements:

EMC 2004/108/EG

Emission und Immunität EN 61326

LVD 73/23/EWG EN 61010-1

General values		
Input type	Absolute accuracy	Temperature-Coefficient
All	≤ ±0,1% of reading	≤ ±0,01% of reading / °C

General values		
Input type	Basic-accuracy	Temperature-Coeffizient
mA	≤ ±4 µA	≤ ±0,4 µA / °C
Volt	≤ ±20 µV	≤ ±2 µV / °C
Pt100	≤ ±0,2°C	≤ ±0,02°C / °C
Ni100	≤ ±0,3°C	≤ ±0,03°C / °C
Potentiometer	≤ ±0,1Ω	≤ ±0,01Ω / °C
TC-Type: E, J, K, L, N, T, U	≤ ±1°C	≤ ±0,05°C / °C
TC-Type: B, R, S W3, W5, LR	≤ ±2°C	≤ ±0,2°C / °C

EMV immunity influence	< ±0,5% of reading
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Auxiliary supplies:
 2-wire supply 25...15 VDC / 0...20 mA
 Wire size, pin 41-46 (max.) 1 x 1,5 mm² stranded wire
 Wire size others (max.) 1 x 1,5 mm² Stranded wire
 Screw terminal torsion 0,5 Nm
 Relative humidity < 95% RH (nicht kond.)
 Dimensions (HxWxT)..... 48 x 96 x 120 mm
 Cutout dimensions 44,5 x 91,5 mm
 Tightness (mounted in panel) Ip65 (IP67 - seal rubber 8335)
 Weight 230 g

RTD- and potentiometer input:

Input type	Min. Value	Max. Value	Norm
Pt100	-200°C	+850°C	IEC60751
Ni100	-60°C	+200°C	DIN 43760
Potentiometer	10Ω	100 kΩ	-

Input for RTD-types:
 Pt10, Pt20, Pt50, Pt100, Pt200, Pt250, Pt300, Pt400, Pt500, Pt1000
 Ni50, Ni100, Ni120, Ni1000
 Cable resistance per wire, WTH 50 Ω max.
 Sensor current, WTH Norm. 0,2 mA
 Effect of sensor cable resistance
 (3- / 4-wire), WTH < 0,002 Ω/Ω
 Sensor error detection, WTH Yes
 Short circuit detection, WTH..... < 15 Ω