Universal-LED digitaldisplay programmable

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

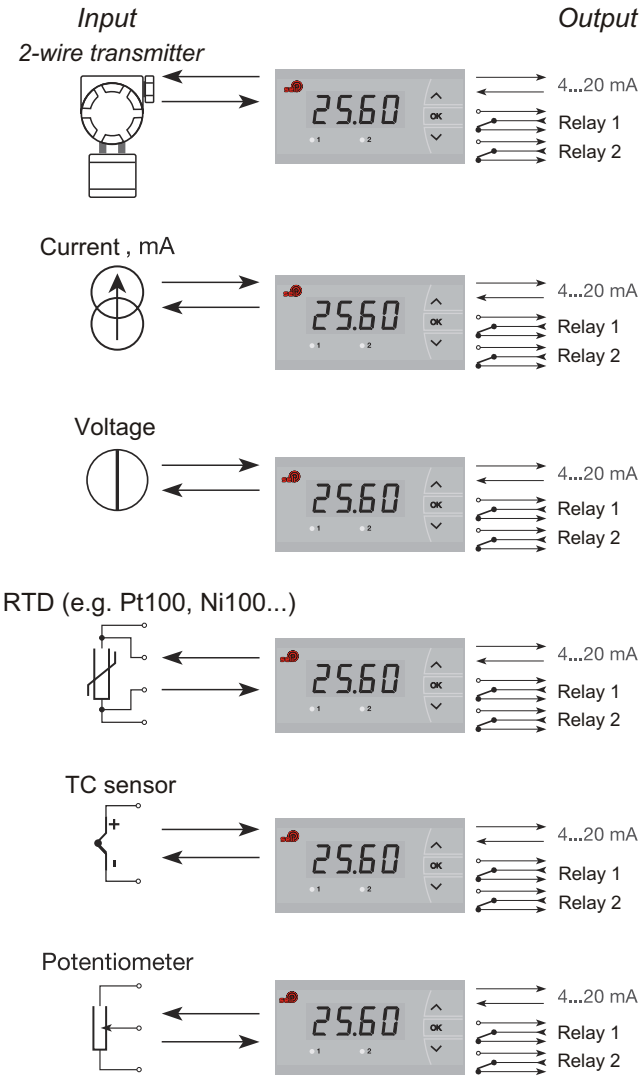
- Display for digital readout of current, voltage, temperature or 3-wire potentiometer signal.
- Process control with 2 potential free relays and / or anlaogue output
- For local readout in extremely wet atmospheres with a specially designed, splash-proof cover.

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 inculuded 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 enviroments. SDA 2000 can be delivered with a specially designed splash-proof cover as accesory.



Stand 10/2006 for units ex SN: 060 137 001

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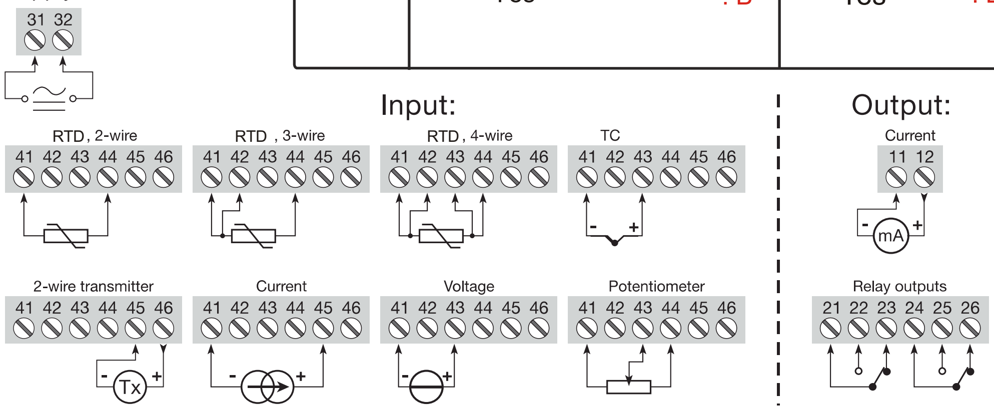
Universal-LED digitaldisplay programmable

Order Code :SDA-2000-☐-☐

Type	2 Relays		Analogue Output	
SDA-2000	No	: A	No	: A
	Yes	: B	Yes	: B

Connections:

Supply:



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:

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-Coefficient
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 im munity influence .... <±0,5% of reading

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 - housing 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 .... Nom. 0,2 mA
Effect of sensor cale resistance
(3- / 4-wire), WTH . ... < 0,002 Ω / Ω
Sensor error detection, WTH .... Yes
Short curcuit detection, WTH.................... < 15 Ω

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 .... Program mable
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

Marine-approval:
Det Norske Veritas, Ships & Offshore ....Standard for certification No. 2.4

Observed authority requirements: **Norm:**
EMC 2004/108/EG
Emission und Immunität.. .... EN 61326
LVD 73/23/EWG .... EN 61010-1
UL , Standard for Safety:. .... UL 508

Stand 05/2004