

TEMPERATURE SENSORS WITH CORRECTION OF THE REQUESTED VALUE SAU 2000

082.10en

DESCRIPTION AND APPLICATION

The SAU 2000 control modules are intended to measure air temperature in water protected rooms. In addition to measuring temperature they enable to adjust (correct) the temperature set point, as well as to utilise the indicating LED and the pulse push button. These sensors are encapsulated in a plastic case, in which two terminal boards are installed: a terminal board with a resistance-type temperature sensing element, and another one to which the potentiometer, the push button and the LED are connected. Based on the measured temperature information an adjustment in the control system can be done, resulting in temperature increase or decrease. Both control module types are enclosed in TANGO boxes made by ABB elektro, and as such they are a suitable supplement to wall switches, sockets, sensors and further elements of this series. The sensors are designed to be operated in a chemically non-aggressive environment.



DECLARATION, CERTIFICATES, CALIBRATION

Manufacturer provides **EU Declaration of Conformity**.

Calibration – The final metrological inspection – comparison with standards or working instruments – is carried out for all the products. Continuity of the standards and working measuring instruments is ensured within the meaning of the Section 5 of Act no.505/1990 on metrology. The manufacturer offers a possibility to supply the sensors calibrated in SENSIT s.r.o.'s laboratory (according to requirements of the EN ISO/IEC 17025 standard, as amended) or in an Accredited laboratory.

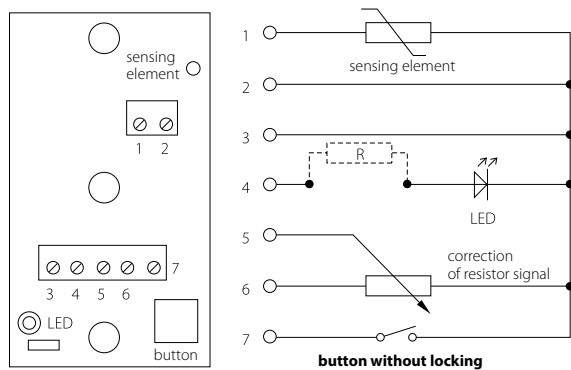
SPECIFICATIONS

Sensor type	SAU 1000
Type of sensing element	Ni 1000/5000, Ni 1000/6180, Ni 891, Ni 10000/5000, Ni 10000/6180, Pt 100, Pt 500, Pt 1000, NTC 20 kΩ etc.
Accuracy class	Ni sensing elements: B class, $t = \pm (0.4 + 0.007t)$, for $t \geq 0$; $t = \pm (0.4 + 0.028 t)$, for $t \leq 0$ in °C; Pt sensing elements: B class according to EN 60751, $t = \pm (0.3 + 0.005 t)$ in °C NTC 20 kΩ: ± 1 °C for the range 0 to 70 °C
Maximum measuring DC current	Pt 100 – 3 mA; Pt 500 – 1.5 mA; Pt 1000, Ni 1000, Ni 891 – 1 mA; T1 = Ni 2226 – 0.7 mA; Ni 10000 – 0.3 mA; NTC 20 kΩ – maximum power dissipation 1 mW
Correction range	Basic version: 0 to 250 Ω Possible option: 0 to 10 Ω 0 to 100 Ω 0 to 22 kΩ/G 0 to 2.5 kΩ
Sensor connection	according to the wiring diagram
Standard value of the resistor R for the signal diode *	1.5 kΩ for the power supply 12 V**
Button version	SAU 2000A without locking SAU 2000B with locking
Time response	$\tau_{0.5} < 15$ s (in flowing air at 1m.s ⁻¹)
Type of terminal board	MEB 02001, ARK 500/3 – wire cross section 0.35 to 1.5 mm ²
Ingress protection	IP 30 in accordance with EN 60529, as amended
Temperature range	-30 to 70 °C
Dimensions of the box	81 x 81 x 28 mm
Material of the box	ABS
Working conditons	ambient temperature: -30 to 70 °C relative humidity: max. 85 % (at the ambient temperature 25 °C) atmospheric pressure: 87 to 107 kPa
Weight approximately	0.15 kg

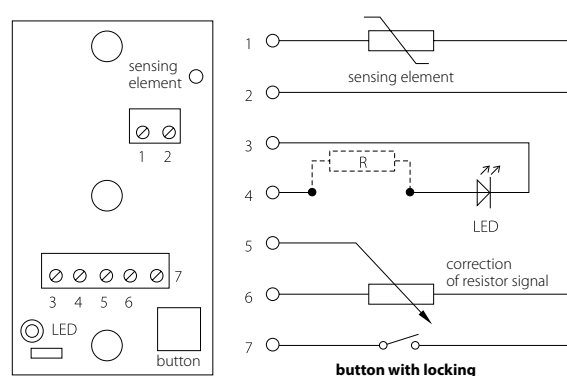
* Power dissipation of the signal diode and resistor must not be more than 150 mW. ** 3.9 kΩ for the power supply 24 V.

WIRING DIAGRAM

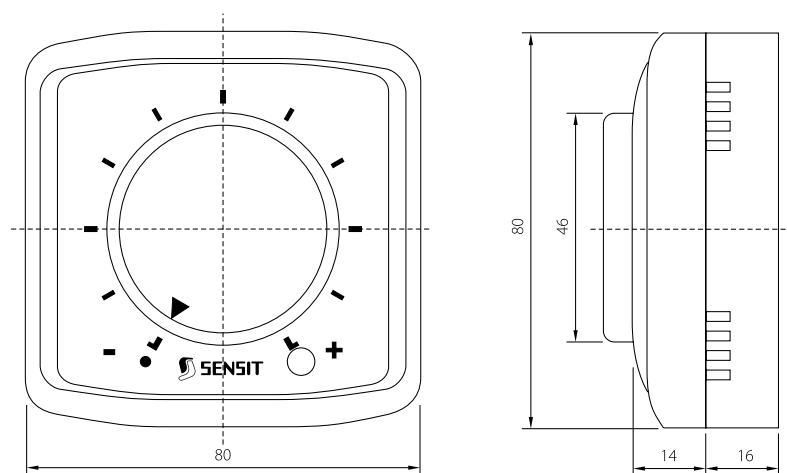
SAU 2000A



SAU 2000B



DIMENSIONAL DRAFT



MODIFICATION AND CUSTOMIZATION

- A class precision (with the exception of sensors Ni 10000/5000, Ni 10000/6180, T1 = Ni 2226, termistor NTC 20 kΩ)
- other resistance type elements for temperature measurement, like the KTY or the NTC thermistors etc. can be encapsulated
- another correction (temperature set point) value can be implemented

