



DESCRIPTION AND APPLICATION

The SAU 1000, SAU 1500 control modules are intended to measure air temperature in water protected rooms. In addition to measuring temperature they enable to correct the requested value. These sensors are encapsulated in a plastic case, in which the temperature sensing element and a potentiometer are situated. 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

Declaration of Conformity – in accordance with EN ISO/IEC 17050-1 standard as amended for sensors with resistance output.

Calibration – we perform standard calibration of resistance temperature sensors in accordance with EN ISO/IEC 17025 standard in the temperature range of the stated type of sensor.



SPECIFICATIONS

SAU 1000

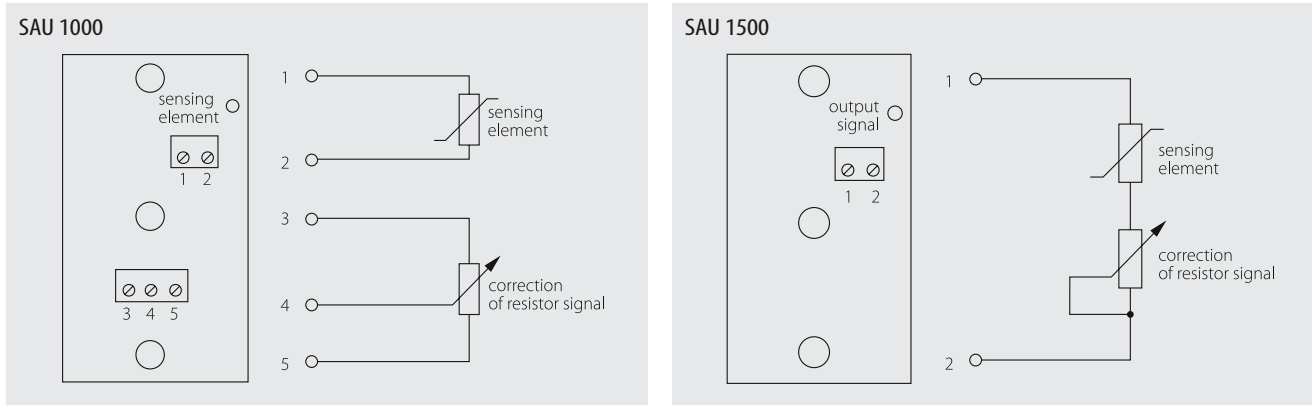
Type of sensing element	Ni 1000/5000, Ni 1000/6180, Ni 891, Ni 10000/5000, Ni 10000/6180, Pt 100, Pt 500, Pt 1000, NTC 20 kΩ etc.
Accuracy class	Ni sensing elements: B class, $\Delta t = \pm (0.4 + 0.007t)$, for $t \geq 0$; $\Delta t = \pm (0.4 + 0.028 t)$, for $t \leq 0$ in °C; Pt sensing elements: B class according to IEC 751, $\Delta t = \pm (0.3 + 0.005 t)$ 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 options: 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
Response time	$t_{0.5} < 15$ s (in streaming air at $1\text{m}\cdot\text{s}^{-1}$)
Type of terminal board	MEB 02001, ARK 500/3 – wire cross section 0.35 to 1.5 mm ²
Ingress protection	IP 30 according to EN 60 529
Temperature range	–30 to 70 °C
Dimensions of the box	81 x 81 x 28 mm
Material of the box	ABS
Working conditions	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

SAU 1500

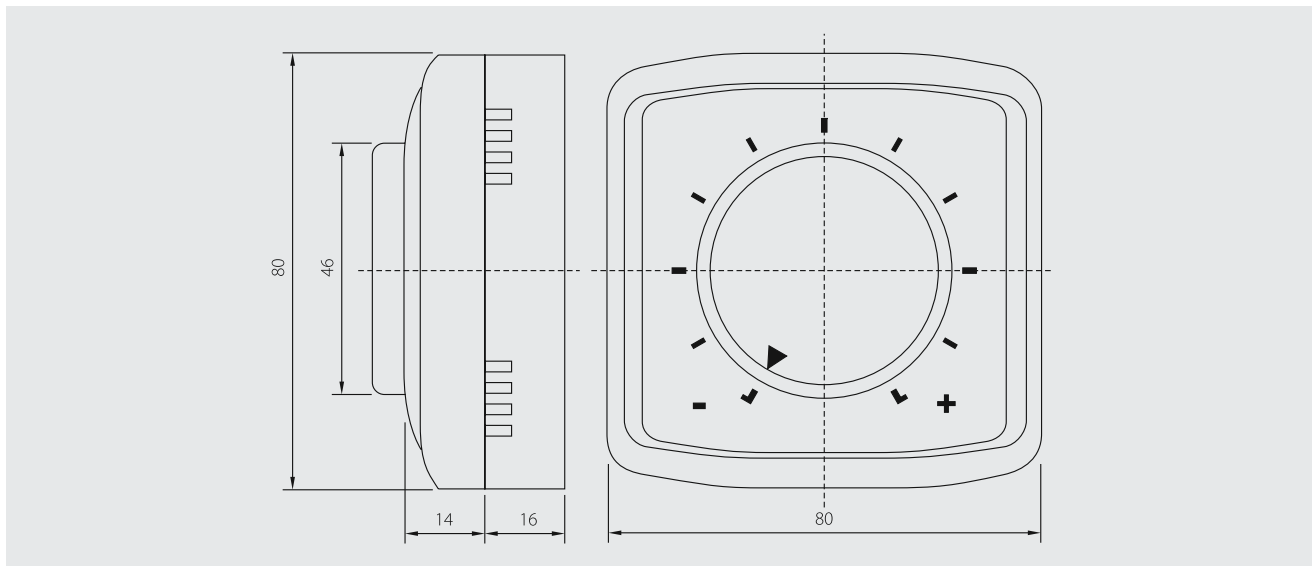
Type of sensing element	Ni 1000/5000, Ni 1000/6180, Pt 1000			
Accuracy class	Ni sensing elements: B class, $\Delta t = \pm (0.4 + 0.007t)$, for $t \geq 0$; $\Delta t = \pm (0.4 + 0.028 t)$, for $t \leq 0$ in °C; Pt sensing elements: B class according to IEC 751, $\Delta t = \pm (0.3 + 0.005 t)$ in °C			
Maximum measuring DC current	Pt 1000, Ni 1000 – 1 mA			
Correction potentiometer	0 to 10 Ω	0 to 25 Ω	0 to 50 Ω	
Correction range	Ni 1000/5000	0 to 2.2 °C	0 to 5.5 °C	0 to 11 °C
	Ni 1000/6180	0 to 1.8 °C	0 to 4.5 °C	0 to 10 °C
	Pt 1000/3850	0 to 2.6 °C	0 to 6.5 °C	0 to 13 °C
Sensor connection	according to the wiring diagram			
Response time	$t_{0.5} < 15$ s (in streaming air at $1\text{m}\cdot\text{s}^{-1}$)			
Type of terminal board	MEB 02001 – wire cross section 0.35 to 1.5 mm ²			
Ingress protection	IP 30 according to EN 60 529			
Temperature range	–30 to 70 °C			
Dimensions of the box	81 x 81 x 28 mm			
Material of the box	ABS			
Working conditions	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			

TEMPERATURE SENSORS WITH CORRECTION
OF THE REQUESTED VALUE SAU 1000 AND SAU 1500

WIRING DIAGRAM



DIMENSIONAL DRAFT



SENSOR INSTALLATION AND SERVICING

Before connecting the lead-in cable the control wheel with an arrow and the case lid carrying a dial have to be removed. **Be careful when opening the lid to avoid mechanical damage to these parts.** The control module is fixed to the wall by means of two screws, for which two openings are provided in the case bottom. The case construction makes it possible to screw the case by means of an accumulator driven screwdriver to the wall without the necessity of taking off the peripheral frame carrying vent holes.

Another two openings are intended for the lead-in cable. The recommended wire cross section is 0.35 to 1.5 mm². In case the lead-in cable is laid in the vicinity of high voltage conductors or those supplying equipment creating disturbing electromagnetic field (e.g. inductive load equipment), a shielded cable should be used.

After installation and connection to the cooperating electric measuring device the sensors is ready for operation. The sensor does not require any special service or maintenance.

CUSTOMER SPECIFIC MODIFICATIONS

REGARDING TO SENSORS MANUFACTURED IN A STANDARD VERSION THE FOLLOWING PARAMETERS CAN BE MODIFIED:

- class A precision type of temperature element (with the exception of sensors Ni 10000/5000, Ni 10000/6180, T1 = Ni 2226, thermistor 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