

INTERIOR TEMPERATURE SENSORS IN ABB DESIGN

102.10en

DESCRIPTION AND APPLICATION

These resistance-type sensors are intended for temperature measurements in interiors and that is why they meet high aesthetic demands. Standard temperature operating range is between 5 and 55 °C (-20 to 75 °C for a short time).

The sensor design is based on the standard design of household wiring material of ABB - ALPHA EXCLUSIVE, IMPULS, SOLO, TANGO, TIME and ELEMENT. The standard colour for the ALPHA EXCLUSIVE line is alabaster. For SOLO, TANGO, ELEMENT and TIME – white, and alpine white for the IMPULS line.

The sensors can be utilised for any control systems that are compatible with sensing element output signals or output signals quoted in the table of sensing element types.

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.



According to customer's requirements, sensors can be supplied in the designs of the following companies: SCHNEIDER, LEGRAND, UNICA.

SPECIFICATIONS

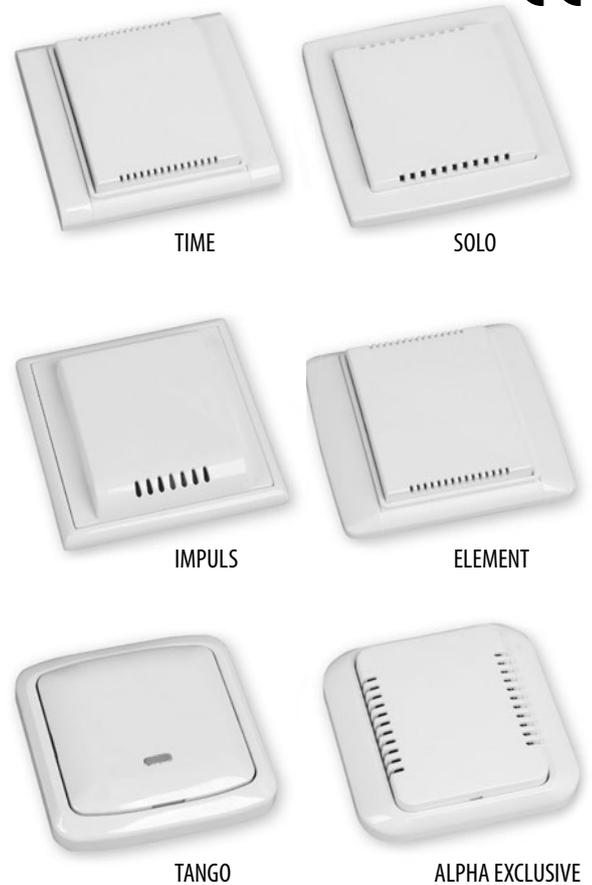
Sensor type	NS 100 xxxx	S 101 xxxx	NS 102 xxxx	NS 300 xxxx	NS 301 xxxx
Type of sensing element	Ni 1000/5000	Ni 1000/6180	Ni 891	Ni 10000/5000	Ni 10000/6180
Measuring range	5 to 55 °C (for short period -20 to 75 °C)				
Maximum measuring DC current	1 mA	1 mA	1 mA	0.3 mA	0.3 mA

Sensor type	NS 103 xxxx	PTS 100 xxxx	PTS 200 xxxx	PTS 300 xxxx	HS 100 xxxx
Type of sensing element	T1 = Ni 2226	Pt 100/3850	Pt 500/3850	Pt 1000/3850	thermistor NTC 20 kΩ
Measuring range	5 to 55 °C (for short period -20 to 75 °C)				
Maximum measuring DC current	0.7 mA	3 mA	1.5 mA	1 mA	1 mW *)

*) maximum power consumption

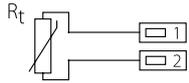
OTHER PARAMETERS

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
Sensor connection	according to the wiring diagram
Recommended wire cross section	0.35 to 1.5 mm ²
Ingress protection	IMPULS – IP20; ALPHA EXCLUSIVE, SOLO, ELEMENT, TIME – IP30; TANGO – IP50 in accordance with EN 60529, as amended
Material of the connection head	ABS
Operating conditions	ambient temperature: 5 to 55 °C (for a short period -20 to 75 °C) relative humidity: max 85 % (at the ambient temperature 25 °C) atmospheric pressure: 87 to 107 kPa
Weight approximately	0.1 kg



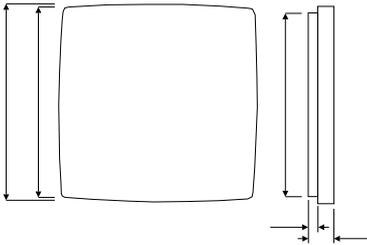
WIRING DIAGRAM

Sensors with resistance-type output

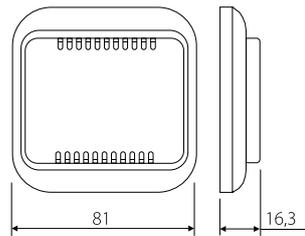


DIMENSIONAL DRAFT

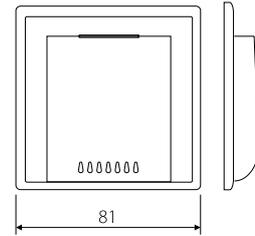
Design: **SOLO**
Sensor series: NS x0x SOLO
PTS x00 SOLO
HS 100 SOLO



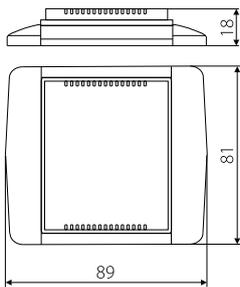
Design: **ALPHA EXCLUSIVE**
Sensor series: NS x0x ALPHA
PTS x00 ALPHA
HS 100 ALPHA



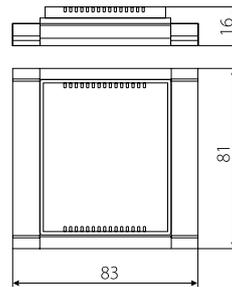
Design: **IMPULS**
Sensor series: NS x0x IMPULS
PTS x00 IMPULS
HS 100 IMPULS



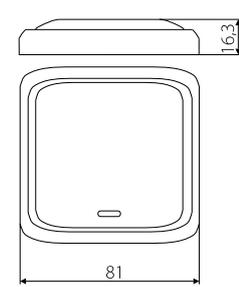
Design: **ELEMENT**
Sensor series: NS x0x ELEMENT
PTS x00 ELEMENT
HS 100 ELEMENT



Design: **TIME**
Sensor series: NS x0x TIME
PTS x00 TIME
HS 100 TIME



Design: **TANGO**
Sensor series: NS x0x TANGO
PTS x00 TANGO
HS 100 TANGO



MODIFICATION AND CUSTOMIZATION

- option of encasing two sensing elements
- option of encasing non-standard temperature sensors (DALLAS, TSic, KTY, SMT, etc.)
- Accuracy class A (with the exception of sensors Ni 10000/5000, Ni 10000/6180, T1 = Ni 2226, termistor NTC 20 kΩ)
- option of three- or four-wire connection
- the colour of plastic sensor parts – according to the manufacturer's sampler