

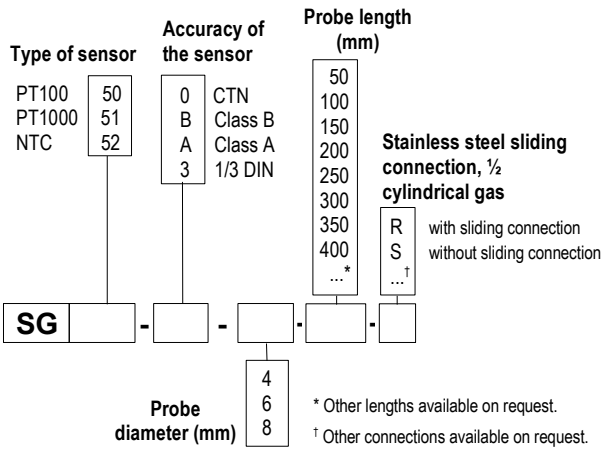


**Temperature sensor
with ABS head housing
SG 50**

- Temperature sensor with stainless steel probe.
- Measuring ranges from -50°C to +100°C (PT100 and PT1000).
from -20°C to +100°C (NTC).
- Terminal block connection, output 2, 3 or 4 wires.
- ABS IP65 housing.
- With or without stainless steel compression fitting, 1/2" cylindrical gas (other available on request).
- Quick and easy mounting 1/4" turn system with wall-mount plate.
- For other resistor types PT25, PT50, PT500, PT200 or NI, please contact us.

Part numbers

To order, just add the codes to complete the part number :

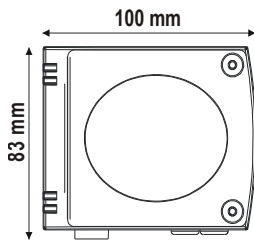


Example : SG51-B-4-100-R

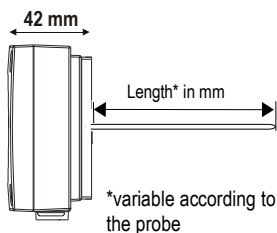
Model : Temperature sensor PT1000 Class B. Stainless steel probe Ø 4 mm, length 100 mm, with stainless steel sliding connection 1/2 cylindrical gas on IP65 ABS housing. Measuring range from -50 à +100°C.

Housing dimensions

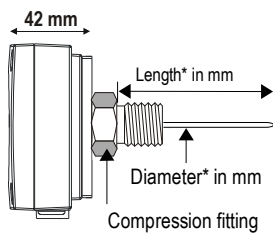
(including wall-mount plate)



Without compression fitting



With compression fitting



For thermowell using
Thread model : add 20 mm to probe length.
Fixing screw model : add 10 mm to probe length.

Transmitter features

Measuring ranges.....	from -50°C to +100°C (PT100 and PT1000) from -20°C to +100°C (NTC)
Accuracy *.....	PT100 or PT1000 : see "Tolerances" table NTC : see "Tolerances" table
Type of sensor.....	PT100 or PT1000 : Class B, Class A, 1/3 DIN, 1/5 DIN, and 1/10 DIN as per DIN IEC751 NTC : resistance at 25°C, R ₂₅ = 10KΩ Nominal Beta B25/85 value = 3.695K ±1%
Probe.....	316 L stainless steel, 3/4 to 4/4 hard, no welding
Compression fitting.....	316 L stainless steel, 1/2" G male
Environment.....	air and neutral gases

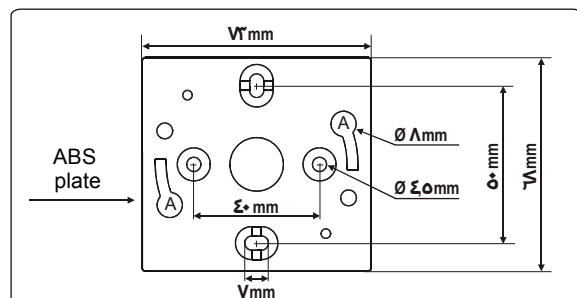
*all accuracies indicated in this technical datasheet were stated in laboratory conditions, and can be garanted for measurements carried out in the same conditions, or carried out with calibration compensation.

Housing features

Housing.....	ABS
Fire-proof classification.....	H-B as per UL94
Dimensions.....	See drawings beside
Protection.....	IP 65
Cable grid.....	for cables Ø 7mm maxi
Weight.....	110g
Working temperature.....	from -20°C to +80°C

Mounting

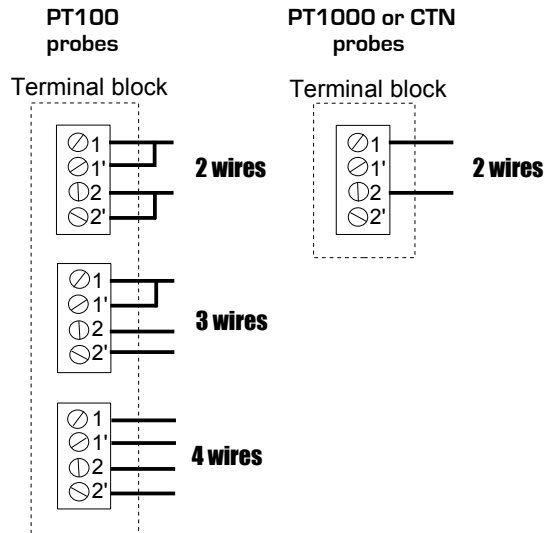
Installation : mount the ABS plate on the wall (this plate is supplied with the transmitter). Drilling : Ø 6 mm (with the screws and pins supplied with the transmitter). Insert the transmitter on the plate (see A on the drawing below) and rotate its housing in clockwise direction until you hear a "click" which confirms that the transmitter is correctly installed. For models with duct mount, an additional drilling of Ø14mm must be made before mounting the ABS plate.



■ **Electrical connection – as per NFC15-100 norm**

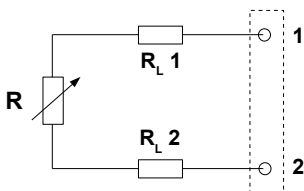


Cable connection on terminal block



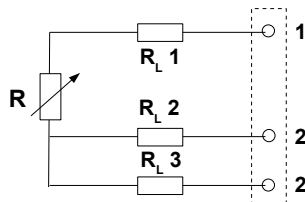
■ **Useful information on thermometry with platinum resistor PT100, PT1000 or NTC .**

• **2-wire connection**



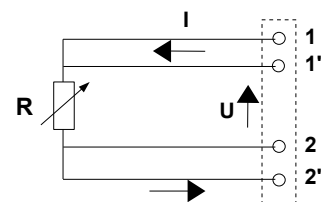
This is the simplest way, but line resistors (RL1 and RL2) are connected to the sensor in a series circuit. The addition of RL1 + RL2, leads to an off-set between measured temperature and real temperature. This connection must be avoided.

• **3-wire connection**



This connection involves identical line resistors (RL1-RL2-RL3), RL2 + RL3 allow you to measure the line resistance that will be subtracted from the measured resistance between 1 and 2' terminals. This is the most common connection.

• **4-wire connection**



Regulated current is going through 1' and 2' terminals and the measurement is made at the sensor terminals, so none of the line resistors are taken into account. This is the most accurate connection.

■ **Tolerance of PT100 and PT1000 probes.**

Norms as per IEC 751 (1993), BS 1904 (1984) and DIN 43760 (1980).

Temp °C	Tolerances									
	Class B		Class A		1/3 DIN		1/5 DIN		1/10 DIN	
-50	± °C ± Ohms	± °C ± Ohms	± °C ± Ohms	± °C ± Ohms	± °C ± Ohms	± °C ± Ohms	± °C ± Ohms	± °C ± Ohms	± °C ± Ohms	± °C ± Ohms
0	0,55 0,22	0,25 0,1	0,19 0,08	0,11 0,04	0,06 0,02					
100	0,3 0,12	0,15 0,06	0,1 0,04	0,06 0,02	0,03 0,01					
	0,8 0,3	0,35 0,13	0,27 0,1	0,16 0,05	0,08 0,03					

Resistance values for PT1000 (Ω) must be multiplied by 10 for the same corresponding temperature value (°C). I.e : at 0°C for Class B PT1000 ± 0.3°C → ± 1.2 Ω

■ **Tolerances of NTC probes**

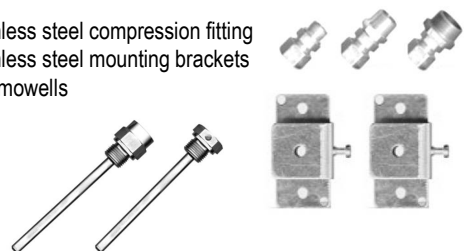
Measuring range °C	Tolerances °C
from -20°C to 0°C	± 0.5°C
from 0°C to +70°C	± 0.2 °C
from +70°C to +100°C	± 0.5 °C

■ **Maintenance**

Clean the housing and probe only with cloth dampened with soapy water. Please avoid any of the following solvents at any concentration : petrol, petroleum, acetone, trichloroethylene, ammonia, acid, bicarbonate soap or bleach.

■ **Accessories (See Datasheet)**

- Stainless steel compression fitting
- Stainless steel mounting brackets
- Thermowells



Ref. FTang - SG50 - 03/08 B – We reserve the right to modify the characteristics of our products without notice.

Händlerkontakt:



MDUA GmbH & Co. KG · Mess- und Datentechnik für Umweltschutz und Arbeitssicherheit
 Otto-Hahn-Str. 43 · 48161 Münster · Tel.: 02534 / 9775806 · Fax: 02534 / 9775807 · mail@mdua.de · www.mdua.de