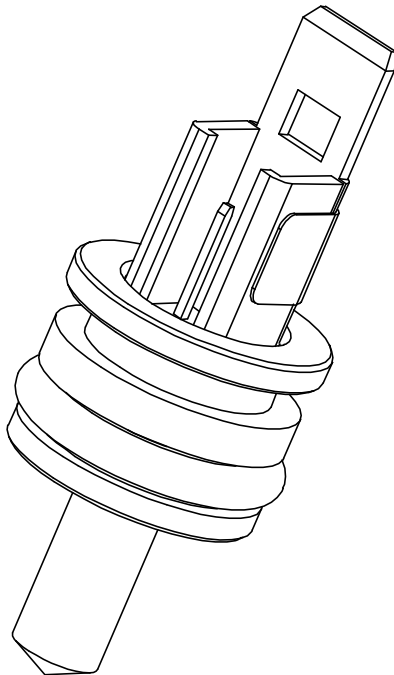


**IMMERSION
TEMPERATURE PROBE
TYPE ST10**



APPLICATION

Unlike common temperature probes with threaded body, this type of temperature probe is installed using a fixing clip. Sealing is ensured by means of a rubber O-ring, therefore the resulting fixing system enables an easier installation and replacement.

The temperature probe type ST10 is called "immersion probe", because once it is installed, it is in direct contact with the fluid to be controlled, ensuring the shortest reaction time to temperature variations, with the consequent advantage of a precise temperature adjustment.

MECHANICAL FEATURES

Probe body	brass
Fixing	with sealing O-ring 11,91x2,62 mm strength 83 ± 5 (EPDM : EP 856)

Connector

ST10	
Connector	Lumberg MSF p.2,5
Operating temperature	-10°C ÷ +100°C

ELECTRICAL FEATURES

Sensor	NTC thermistor
Resistance value at 25°C	10 kΩ ± 1%
β coefficient (25°C – 85°C) (**)	3435°K ±1% 3977°K ±1% option Z
Reaction time	< 3 s
Insulation voltage	>2000 Vac for 2 seconds

(**) Possible versions with different NTC upon request.

The following formula enables to calculate the resistance value of the NTC sensor at a T temperature expressed in Kelvin degrees:

$$R_T = R_{25} \exp\left[b\left(\frac{1}{T} - \frac{1}{T_{25}}\right)\right]$$

Example: calculation of the resistance value of a probe having an NTC with β 3435 at a temperature of 60°C:

$$R_{60} = 10k \exp\left[3435\left(\frac{1}{(60+273.15)} - \frac{1}{(25+273.15)}\right)\right] = 2981\Omega$$

CONSTRUCTION

These probes consist of a brass metal body. The sensor is incorporated in the metal body, immersed in epoxy resin with high thermal conductivity and connected to two terminals from which the resistance value is sensed (this value is inversely proportional to the measured temperature according to the formula appearing in the paragraph "Electrical features").

OVERALL DIMENSIONS

Figure 1 and 2 show the overall dimensions of the probes in mm.

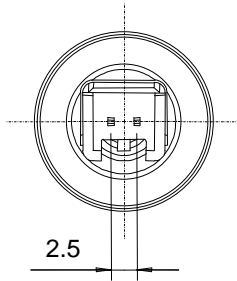


Figure 1

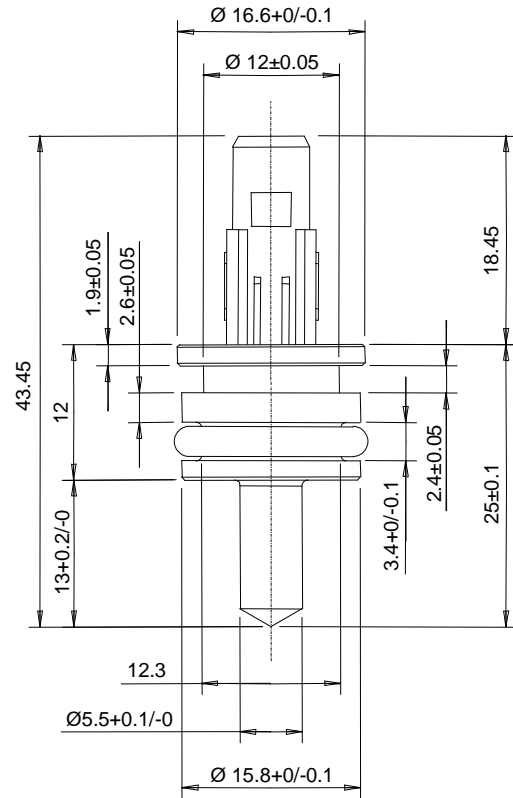


Figure 2

PART REFERENCES

SONDA TEMP. TIPO ST10

X₁

→ No letter : NTC 10K B3435
Z : NTC 10K B3977

Example:

- SONDA TEMP.ST10 Z

SONDA TEMP.ST10 Temperature probe type ST10
Z with 10K NTC having B3977

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