

TEMPERATURE SENSOR CT1B-146 FOR PT-401

The temperature sensor type **CT1B-146** is designed for temperature measurements in liquid and semi-solid substances and also for air and gases measurements. It may be used during the laboratory, field and industrial measurements. The measuring element is a platinum resistor Pt-100B. This sensor has a wider measuring range but lower accuracy than CT1U-146 sensor. The sensor has an acid-resistant stainless steel body which in most cases protects the measuring element against mechanical damage and against damage caused by aggressive solutions. As standard the sensor is equipped with a 1m silicone cable and 8-pin connector. The silicone cable is resistant to temperatures up to 250 °C, it may also be placed in a steel braid to protect it against mechanical damage. The end of the sensor may be flat or sharp, depending on the customer's needs. In case of measurements in higher temperatures change of the pipe length is possible.

The error of the Pt-100B sensor is changing together with the temperature change. In 0°C are the lowest .

The maximal error of the B class sensor is calculated from the formula:

$dt_{max} = \pm(0.3 \text{ }^{\circ}\text{C} + 0.005t)$, where: t – displayed temperature in °C.

The total error of the measurement is a sum of the sensors and the meters errors.



TECHNICAL DATA

Measuring Range	-200 to 400 °C
Measuring element	Pt-100B
Error in 0°C	0.3 °C
Error in the 0 ÷ 100°C	< 0.8 °C
Error in ± 200 °C	1.3°C
Body diameter	4,0mm ± 0,5 mm
Body length	140 mm
Minimal depth of immersing	10 mm
Reaction time t_{99} 20 to 100°C	11 seconds
Body material	stainless steel type 0H18N9
Cable length	about 1 m
Cable material	silicone (resistant to 250 °C)
Handle material	polyamide (resistant to 200 °C)
Connector	8-pin

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