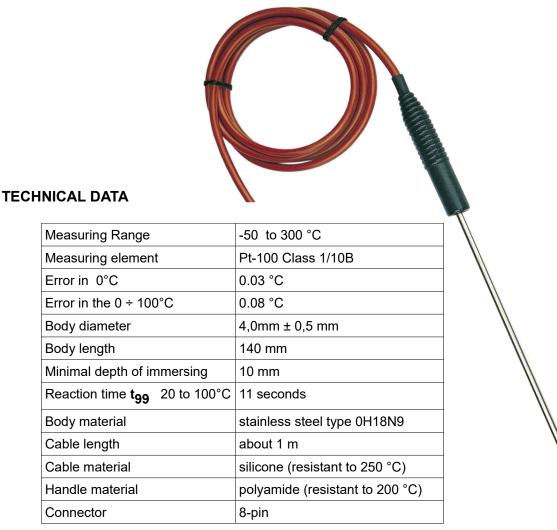# TEMPERATURE SENSOR CT1U-146 FOR PT-401

The temperature sensor type **CT1U-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-100 Class 1/10B made by Heraeus. 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.

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

The maximal error of the 1/10 B class sensor is calculated from the formula:

dtmax = ±(0.03 ºC + 0.0005t) , where: t – displayed temperature in ºC.

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

TECHNICAL DATA

Measuring Range	-50 to 300 °C
Measuring element	Pt-100 Class 1/10B
Error in 0°C	0.03 °C
Error in the 0 ÷ 100°C	0.08 °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