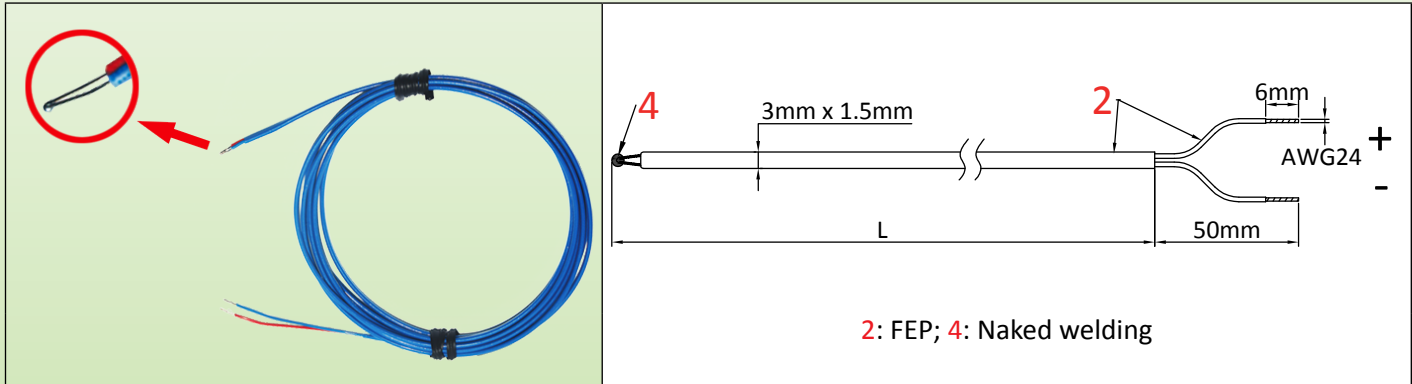


# Usual temperature sensors for applications with electronic temperature controls and control boxes

## K thermocouple, naked welding

Temperature range	Cable insulation	Probe protection	Temperature sensing device	Signal type	Type
20- 200°C (120- 390°F)	FEP	Without	K thermocouple	Millivolts	<b>TPRO</b>



### Main applications

The main advantage of these thermocouples in the temperature measurement is their small size and fast response. The welding of the thermocouple takes up little space and has a very low mass. They are resistant to shocks and vibrations.

### Main Features

A thermocouple consists of two different metal wires soldered at one end. When heated, the solder generates a thermoelectric potential proportional to the temperature. This signal is used by electronic temperature controllers. Thermocouples are simple, but they need special connecting cables and a cold junction compensation system. Consequently, the electronic regulators using them are more complicated to produce than those using platinum thermistor or thermistor sensors.

**Construction:** The two conductors of the thermocouple are welded under a controlled atmosphere, in order to form a spheroidal weld, of small dimension (about 0.6mm of diameter). It is this weld, which remains bare in this version, which measures the temperature.

**Temperature range:** Use temperature limited to 200°C due to FEP insulated cable.

**Accuracy and tolerances:**  $\pm 2.5^\circ\text{C}$  between  $-40^\circ\text{C}$  and  $333^\circ\text{C}$  (According to EN 60584-1 and 2 and IEC 584-1 and 2, for accuracy class 2)

**Color code** (according to DIN 43714): Red = positive, blue = negative, blue cable sleeving.

**Cable composition:** 2 rigid conductors, dia 0.3mm, 200°C FEP insulation

### Main part numbers

Part numbers	Wire length (mm)
TPR00060W02002F4	200
TPR00060W05002F4	500
TPR00060W10002F4	1000
TPR00060W20002F4	2000
TPR00060W30002F4	3000

Note: These temperature sensors are not manufactured by Ultimheat, and the information given is that of our suppliers.

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