

T1528

Straight Thermocouple Temperature Sensors with Ceramic Protective Tubes C610 without/with Transmitters 4 to 20 mA

- Thermocouple K (wire \varnothing 2 or 3 mm)
- Measuring range -40 to +1200 °C
- Accuracy class 2 according to EN 60584-2
- Spherical head form A according to DIN
- One protective tube of C610 ceramics
- Selectable protective tube lengths
- Thermometer is fixed with shift weld-on flange or shift pipe union
- Housing IP 55
- Optional headmounted programmable transmitter with output 4 to 20 mA, including circuit isolation version and II 1G EEx d IIC T1 ... T6 (ATEX)

Application

Straight thermocouple temperature sensors T1526 are designed for remote measuring of temperature in furnaces, incinerating plants and the like. They are designed for mounting into furnace walls and other technologic plants. They can be supplied with or without 4 to 20 mA headmounted transmitter.

Description

Single or double wire thermocouple of „K“ type is placed in insulating beads and in one protective tube of ceramics C610 and connected to a terminal block inside the spherical head form A according to DIN. There is made use of rise of thermoelectric voltage. Its size depends on a temperature difference between a measuring junction and a cold junction of the thermocouple. With a version with a transmitter the thermoelectric voltage is converted to a unified linear current signal of 4 to 20 mA. The thermometer should be mounted by a fixing shift pipe union or by a flange.

Technical Specifications

Thermocouple:

type K (NiCr-NiAl) accuracy class 2 according to EN 60584-2

Measuring Range: -40 to +1200 °C

Output signal: linearized 4 to 20 mA ¹⁾

Dielectric Strength: 500 V eff

Diameters of Wires:

- \varnothing 3 mm (single thermocouples)
- \varnothing 2 mm (double thermocouple K)

Materials:

- Head - Varnished Aluminium alloy
- Support tube \varnothing 22x2 - Varnished carbon steel
- Protective tube \varnothing 15x2.5 - C610 ceramics
- Insulation tube of T/C \varnothing 8.5x1.5 - C610 ceramics

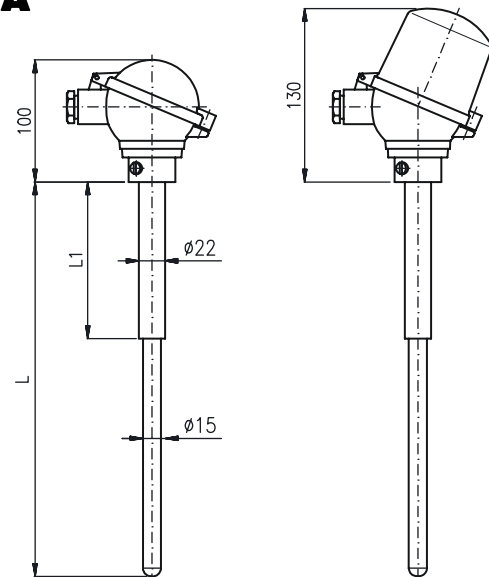
Typical Composition of C610 Ceramics:

60 % Al_2O_3

Porosity of C610 Ceramics:

no porosity

Housing: IP 55



Operation Conditions

Maximal Temperature of Head:

150 °C (without transmitter)

80 °C (with transmitter PT-031 and P3301)

85 °C (with transmitter P5102, P5201 and P5310)

Other specifications

EMC (Electromagnetic Compatibility):

According to EN 61326-1:98 / A1:99

Weight:

a) without transmitters with head H1:

Nominal length L:	500 ... 0.90 kg
	710 ... 1.00 kg
	800 ... 1.10 kg
	1000 ... 1.30 kg
	1400 ... 1.60 kg
	1600 ... 1.70 kg

b) with head H2 plus 0.03 kg

c) with transmitter PT-031 plus 0.02 kg
 with transmitter P5102 plus 0.04 kg
 with transmitter P5201 plus 0.05 kg
 with transmitter P3301 plus 0.04 kg
 with transmitter P5310 plus 0.04 kg

Caution!

If the temperature sensor is being installed or replaced in operation it is necessary to insert it into a furnace tube gradually (20 cm per minute) so as to prevent the ceramic protective tubes from cracking because of the heat stress caused by a rapid temperature change.

¹⁾... Only for sensor with transmitter

