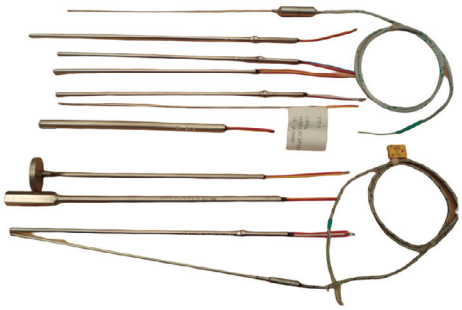
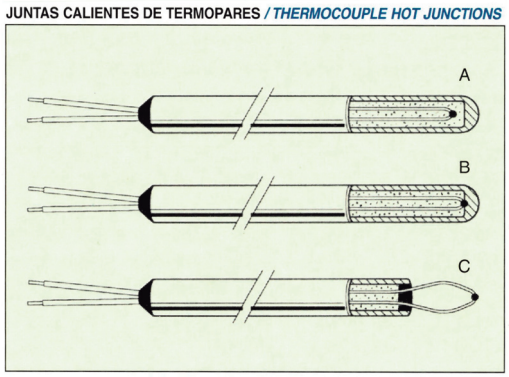
EIPSA
ESPAÑOLA DE INSTRUMENTACIÓN PRIMARIA, S.A.

TEMPERATURE

Thermocouples

DESCRIPTION: The thermocouple is a simple, reliable and precise element consisting of a pair of conductors of dissimilar materials that together generate an electromotive force proportional to the temperature. The characteristic of electromotive force/temperature of a thermocouple depends both on the construction materials of its conductors and on the temperature to which the element is subjected.





DENOMINATION

Temperature sensor element by electromotive force.

CHARACTERISTICS

Elements with mineral insulation in magnesium oxide (MgO) extruded together with its sheath, in different stainless steels and special alloys.

- Rules of design:	IEC 60584, ANSI MC96.1 or DIN-43710, ASTM E230, ASTM E235, ATEX, IECEx.
- Materials:	Demand.
- Sizes of manufacturing:	-Ø Sheath: 0.5 - 12.7mm. - Standard and special sheath thickness. - Conductive wire gauges according to AWG. - Isolated, mass or exposed (Grounded/Ungrounded). - Other sizes to consult.

APPLICATIONS

- Nuclear industry.
- Chemical and petrochemical industry.
- Aeronautical and aerospace industry.
- Explosion-proof zones.

NOTES

- Calibrations carried out by both external and internal laboratories.

- ATEX 2014/34/EU and IECEx certification for the complete set consisting of connection head with ceramic terminal block or temperature transmitter, sensor element (Thermocouple / RTD), joint accessories and thermowell for process connection (with or without flange).

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Depending on the temperature range:

Type	Range (ºF)	Range (ºC)	Standard Tolerances (ºC)	Special Tolerances (ºC)
T	32 – 700	0 – 370	±1,0 o ±0,75%	±0,5 o ±0,4%
J	32 – 1400	0 – 760	±2,2 o ±0,75%	±1,1 o ±0,4%
E	32 – 1600	0 – 870	±1,7 o ±0,5%	±1,0 o ±0,4%
K o N	32 – 2300	0 – 1260	±2,2 o ±0,75%	±1,1 o ±0,4%
R o S	32 – 2700	0 – 1480	±1,5 o ±0,25%	±0,6 o ±0,1%
B	1600 – 3100	870 – 1700	±0,5%	±0,25%

Depending on the type of junction of the conductors:

Type	Description
A	Ungrounded
B	Grounded
C	Exposed

*Not including applicable notes to this tolerance table please refer to notes in applicable international standards.