A thermocouple is a device consisting of two different conductors, usually metal alloys. When two dissimilar metals are joined together, a hot junction is formed, and the other end will be cold. When these two ends are subjected to different temperatures, an EMF (electromotive force) will be induced inside the conductor which is measured in millivolts (mv). However, if both junctions are at the same temperature, no EMF is generated.

There are various types of thermocouples of which K, J, and S are most commonly used. The S type thermocouple is used for higher temperature. The maximum temperature it can withstand depends on the diameter of the wire, the environment, and expected durability.

**Special Features**
- Compliance to IEC 60584
- Temperature range -200 to 1250 °C
- Mineral insulated construction with K type thermocouple
- Available in a variety of sheath materials
- High sheath ductility and dielectric strength of conductors
- Quick response time

**Industrial Applications**
- Chemical and fertiliser industries
- Petrochemical industry
- Thermal, nuclear and hydroelectric power stations
- Pharmaceutical industry
- Food processing industry
- Water treatment plants
- Iron and steel industry
- Rubber molding / processing plants
- Sugar industry
- Refineries
## Standard Product Specifications

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<td>IEC-60584</td>
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<td>Connection</td>
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<tr>
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<td>200 mm</td>
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<td>Class 1 as per IEC -60584</td>
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<tr>
<td>Terminal head</td>
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<td>Head extension type</td>
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<tr>
<td>Cable gland</td>
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<td>Cable gland MOC</td>
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<td>-200 to +1250°C</td>
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</table>

### MI Cable Thermocouple Assembly

![MI Cable Thermocouple Assembly Diagram]
## Ordering Information

**Model**
- Thermocouple (duplex)  TD
- Thermocouple (simplex)  TS

**Type**
- K-type (range -200 to +1250°C)  K
- J-type (range 0 to +750°C)  J
- S-type (range 0 to +1450°C)  S

**Wire Configuration**
- 2 wire  2
- 4 wire  4

**Head Extension Type**
- Adjustable connection  A
- Nipple connection  B
- Nipple union connection  D
- Fixed connection (standard)  F
- Flanged connection  E

**Connection Size**
- M18 X 1P  0
- M20 X 1.5P  1
- 1/4"  A
- 3/8"  B
- 1/2"  C
- 3/4"  D
- Not required  N

**Connection Type**
- NPT(M)  A
- BSP(M)  B
- BSPT(M)  C
- Metric thread(M)  M
- #150-RF  4
- #300-RF  5
- Without connection  N

**Cable Gland**
- 1/2" NPT, double compression (1 No)  A
- 3/4" ET, double compression (1 No)  C
- 3/4" ET, Single compression (1 No) (standard)  D
- 1/2" NPT, double compression (2 No)  E
- 3/4" ET, double compression (2 No)  G
- 3/4" ET, single compression (2 No)  H

**Tests and Certificates**
- Five point calibration certificate
- Material test certificate
- Third party inspection
- Special requirement – please specify

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## Configuration Generation Code

**Sheath Diameter**
- 6 mm (standard)
- 8 mm
- 10 mm
- 3 mm
- 4.5 mm

**Sheath Length**
- As per requirement

**Sheath - Material of Construction**
- SS 316 (standard)
- Inconel 600
- Inconel 625
- SS 321
- SS 446
- SS 310

**Head Extension - Material of Construction**
- SS 316 (standard)
- SS 304
- SS 316L

**Cable Gland - Material of Construction**
- Brass nickle plated with rubber

**Optional Features**
- Accuracy class 2 as per IEC 60584
- Head protection
  - IP 67 protected head
  - Ex. proof GR II C
  - Flame proof GR II A
  - Flame proof GR II B
  - Flame proof GR II A, II B
- Lead wire extension
  - PTFE braided
  - SS braided
- Lead wire length
  - 1 mtr to 15 mtrs
- Flange type
  - Blind
  - Slip on
  - Weld neck
- Flange Finish
  - 125 AARH
  - 63 AARH
  - 250 AARH

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Ordering example: TSK2FNND-XXXX (with standard selection)