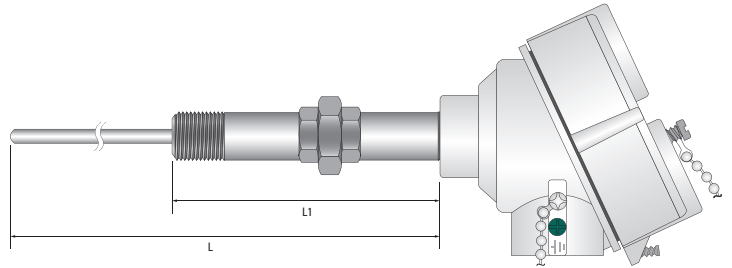


# ATEX / IECEx Spring Loaded Thermocouples

## Mineral Insulated Thermocouples 4.5mm to 8.0mm dia.

These semi rigid spring loaded thermocouples are supplied with an IP68 terminal head and threaded flameproof extension and are ideal for installation in thermowell pockets and where good contact with the process is required. They can be used with service temperatures up to 1250°C (minimum stand-off lengths shown on page 20 must be observed).

- Approved to II 2 GD Ex d IIC Gb (Gas) and Ex tb IIIC Db (Dust)
- Also suitable for use in intrinsically safe areas to Ex II 1 G Ex ia IIC Ga, see page 19 for details
- Temperature classification T6-T1, see page 20 for stand-off requirements
- Available in thermocouple types K, T, J, N, E, R, S and B
- Sheath diameters from 4.5mm to 8.0mm in a wide choice of materials
- Insulated measuring junction gives a floating output with high insulation resistance
- Spring loaded thermocouple insert with wide choice of process connections
- UKAS calibration available



| SECTION 1 | Thermocouple Type                               | Temperature Range (continuous) |
|-----------|---|--------------------------------|
| <b>K</b>  | Nickel Chromium vs Nickel Aluminium             | 0°C to +1100°C                 |
| <b>T</b>  | Copper vs Constantan                            | -185°C to +400°C               |
| <b>J</b>  | Iron vs Constantan                              | +50°C to +800°C                |
| <b>N</b>  | Nicrosil vs Nisil                               | 0°C to +1200°C                 |
| <b>E</b>  | Nickel Chromium vs Constantan                   | 0°C to +800°C                  |
| <b>R</b>  | Platinum - 13% Rhodium vs Platinum              | 0°C to +1600°C                 |
| <b>S</b>  | Platinum - 10% Rhodium vs Platinum              | 0°C to +1550°C                 |
| <b>B</b>  | Platinum - 30% Rhodium vs Platinum - 6% Rhodium | +100°C to +1600°C              |

| SECTION 2  | Sheath Material                         | Maximum Temperature |
|------------|---|---------------------|
| <b>321</b> | 321 Stainless Steel (Types K, J, T & E) | 800°C               |
| <b>310</b> | 310 Stainless Steel (Type K)            | 1100°C              |
| <b>600</b> | Inconel 600 (Types K, N, R, S & B)      | 1100°C              |
| <b>114</b> | Nicrobell D (Types K & N)               | 1250°C              |
| <b>156</b> | Hastelloy X (Type K)                    | 1220°C              |
| <b>446</b> | AISI 446 (Type K)                       | 1150°C              |
| <b>800</b> | Incoloy 800 (Type K)                    | 1100°C              |

| SECTION 3      | Sheath Diameter (mm) | Sheath Diameter (inches) |
|----------------|----------------------|--------------------------|
| Standard Sizes | 4.5mm                | 0.177"                   |
|                | 6.0mm                | 0.236"                   |
|                | 8.0mm                | 0.315"                   |

| SECTION 4  | Type of Sensing Junction |  |
|------------|--------------------------|--|
| <b>2I</b>  |                          | <b>INSULATED</b><br>The hot (measuring) junction is insulated from the sheath and this gives a floating output with a typical insulation resistance in excess of 100 megohms. Enter <b>2I</b> for simplex, <b>2ID</b> for duplex or <b>2IT</b> if a triplex element is required. |
| <b>2ID</b> |                          |  |
| <b>2IT</b> |                          |  |

## SECTION 5 Type of Terminal Head (supplied with an M20 cable entry as standard. Other sizes are available - see page 15 for details)

|             |   |              |  |             |   |
|-------------|---|--------------|--|-------------|---|
| <b>3P22</b> |   | <b>3P22B</b> |  | <b>3P23</b> |   |
|             | <b>Standard Die Cast Alloy Head</b><br>Weatherproof and explosion proof die cast alloy terminal head with tube and cable entry at right angles to each other and ceramic terminal block. Suitable for simplex, duplex and triplex assemblies. |              | <b>Standard Die Cast Alloy Head (Blue)</b><br>Weatherproof and explosion proof die cast alloy terminal head with tube and cable entry at right angles to each other and ceramic terminal block. Suitable for simplex, duplex and triplex assemblies. |             | <b>Standard Stainless Steel Head</b><br>Weatherproof and explosion proof stainless steel terminal head with tube and cable entry at right angles to each other and ceramic terminal block. Suitable for simplex, duplex and triplex assemblies. |

| SECTION 6  | Process Connection Thread |
|------------|---------------------------|
| Code       | Thread Size               |
| <b>12T</b> | 1/2" BSPT                 |
| <b>12P</b> | 1/2" BSPP                 |
| <b>12N</b> | 1/2" NPT                  |
| <b>M20</b> | M20 x 1.5mm               |

| SECTION 7   | Optional (Rotating Union) Fitting   |
|-------------|---|
| <b>RUSS</b> | <br>Stainless steel rotating union to allow positioning of the terminal head. |

| SECTION 8         | Optional 4 to 20mA ATEX Approved Head Mounted Transmitter (please specify range in °C)   |
|-------------------|--|
| <b>TXISO/ATEX</b> | <br>Fully Linearised<br>Microprocessor based head mounted transmitter ATEX rated to Ex ia IIC T6. Fully scalable and fully linearised for thermocouple input. The transmitter is pre-programmed to the required temperature range or, alternatively, it can be re-programmed easily by your PC using our software which should be ordered separately. Other types of transmitter are available on page 19. |

| Order Code - Example |   |                                   |                          |                                 |                                 |                                  |                             |                           |                                |  |                                       |
|----------------------|---|-----------------------------------|--------------------------|---------------------------------|---------------------------------|----------------------------------|-----------------------------|---------------------------|--------------------------------|--|---------------------------------------|
| Type No              | I.S. Version (Optional, please see page 19 for details) | Thermocouple Type (See section 1) | Length 'L' (See diagram) | Sheath Material (See section 2) | Sheath Diameter (See section 3) | Sensing Junction (See section 4) | Termination (See section 5) | Length 'L1' (See diagram) | Process Thread (See section 6) | Rotating Union Fitting (Optional, see section 7) | Transmitter (Optional, see section 8) |
| <b>53</b>            | <b>- IS</b>   | <b>- K</b>                        | <b>- 300</b>             | <b>- 321</b>                    | <b>- 6.0</b>                    | <b>- 2I</b>                      | <b>- 3P22</b>               | <b>- 150</b>              | <b>- 12P</b>                   | <b>- RUSS</b>                                    | <b>- TXISO/ATEX(0/100°C)</b>          |