

Mineral Insulated Thermocouple Sensor With Plain Pot Seal & Lead

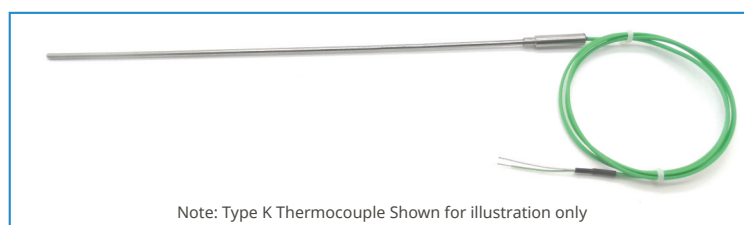
Product Code **TMIPPS**

Mineral Insulated Thermocouple

Mineral Insulated Thermocouple Sensors With Plain Pot Seal and Lead available in Types K, J, T, N and E.

These semi rigid thermocouple sensors are ideal for many applications from simple temperature measurement to the more robust of environments and are available with various sheath materials. The thermocouple junction is

located at the tip and is generally insulated from the sheath to eliminate earth loops. The metal sheaths are impervious to liquids and gases and can withstand high pressure, high vacuum, high vibration and harsh environments in general. Smaller diameter sensors respond to temperature changes more rapidly than larger diameters where as larger diameter sensors are mechanically stronger and have a longer operational life when used at high temperatures. The diameters range between 0.5mm up to 8.0mm and can be formed to shape particular applications without impairing performance. The typical bending radius is 10 x probe diameter but can be reduced to 4 x if required. The stainless steel pot is crimped and resin sealed to prevent ingress of moisture and additionally allows for various cable styles to be utilised. All leads are typically of 7/0.2mm conductor strands however other alternatives are available.

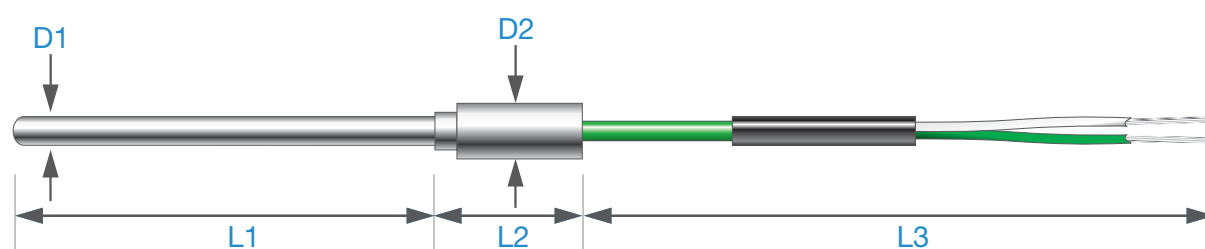


Note: Type K Thermocouple Shown for illustration only

A wide range of instrumentation or accessories including extension cables, connectors, pockets, thermowells and adjustable compression fittings are available for this product.

- Accuracy to IEC 60584.1 2013 Class 2 (Class 1 also available) • IEC 60584.3 2008 colour coded extension cables and connectors
- In House Calibration Service is also available • Bespoke designs available upon request • Stocked versions available to order

Sensor Specifications



Sheath Materials Versus Application Type

316 Stainless Steel	Excellent corrosion resistance often specified for food and medical applications
321 Stainless Steel	Good corrosion resistance and high ductility and widely used in industry
310 Stainless Steel	Good corrosion resistance at high temperatures and recommended for use in sulphurous atmospheres
600 Inconel Alloy	Good resistance to oxidation and extremely corrosive atmospheres at high temperatures. Not recommended for use in sulphurous atmospheres
Nicrobell® Alloy	Recommended for use with type K & N conductors, Nicrobell is a Ni/Ch/Si alloy that is suitable for use in reducing, oxidising and vacuum atmospheres

Sensor Style	Mineral Insulated Thermocouple Sensor With Plain Pot & Lead	
Conductor/Thermocouple Type	Type K, Nickel – Chromium (+ Conductor) & Nickel – Aluminium (- Conductor)	
	Type J, Iron (+ Conductor) & Constantan (- Conductor)	
	Type T, Copper (+ Conductor) & Constantan (- Conductor)	
	Type N, Nicrosil (+ Conductor) & Nisil (- Conductor)	
	Type E, Nickel Chromium (+ Conductor) & Constantan (- Conductor)	
	Type E, Nickel Chromium (+ Conductor) & Constantan (- Conductor)	
Maximum Temperature Of Probe	Type K (1100°C), Type J (800°C), Type T (350°C), Type N (1250°C), Type E (800°C)	
Materials & Temperature	Type K, T, J & E	(321 Stainless Steel, 800°C)
	Type K & T	(316 Stainless Steel, 800°C)
	Type K & N	(Inc 600, 1100°C)
	Type K & N	(Nicrobell®, (1250°C)
Maximum Temperature Of Pot	200°C (Standard)	
Probe Diameters (D1)	0.5mm, 1.0mm, 1.5mm, 2.0mm, 3.0mm, 4.5mm, 6.0mm & 8.0mm Ø	
Pot Diameter (D2)	6.35mm (1/4") Ø (0.5mm to 3.0mm Probe Diameters)	
	9.50mm (3/8") Ø (4.5mm to 6.0mm Probe Diameters)	
	12.00mm Ø (8.0mm Probe Diameters)	
Sensing Junction	Insulated (isolated) or Grounded (non-insulated) & Exposed	
Number of Elements	Simplex or Duplex (Duplex above 1.5mm Ø only)	
Probe Length (L1)	As required in millimetres	
Pot Length (L2)	32mm Including Crimp Ring (0.5mm to 3.0mm Probe Diameters) 44mm including Crimp Ring (4.5mm to 8.0mm Probe Diameters)	
Extension Cable Length (L3)	As required in meters	
Extension Cable Insulation	PFA, Twisted Singles, 7/0.2mm Ø (-75°C to +260°C)	
	PVC, 7/0.2mm Ø (-10°C to +105°C)	
	PFA, 7/0.2mm Ø (-75°C to +260°C)	
	Glassfibre, 7/0.2mm Ø (-60°C to +400°C)	
	Glassfibre, 7/0.2mm Ø (With Stainless Steel Conduit), (-60°C to +400°C)	
	Glassfibre, 7/0.2mm Ø c/w (Stainless Steel Over Braid), (-60°C to +400°C)	
	Glassfibre, 7/0.2mm Ø c/w (Stainless Steel Over Braid and Stainless Steel Conduit) (-60°C to +400°C)	
	Glassfibre, 7/0.2mm Ø High Temperature, (-60°C to +600°C)	
	Glassfibre, 7/0.2mm Ø High Temperature c/w (St/Steel Over braid), (-60°C to +400°C)	
	PFA /PTFE /Silicone Rubber, 7/0.2mm Ø (-60°C to +200°C)	
Termination	Tails, Spade Terminals, Miniature, Standard Plug Or Socket, Connector Block	
Installation Compression Fittings	• 1/8" BSPT, 1/8" BSP • 1/4" BSPT, 1/4" BSP • 1/2" BSPT, 1/2" BSP	