

General Purpose Thermocouple Temperature Sensors



These thermocouples are suitable for surface monitoring of many applications including platens, pipes and vessels up to a maximum operating temperature of 750°C. These probes can be used as stand-alone sensors, or they can be configured with a variety of termination options, and combined with controllers, indicators, or precision thermometers to create complete measurement systems.

Specification

Sensing Elements: K, J or T to IEC 60 584-2:1995
Accuracy : Class 1 Type
Operating Temperature: from -200 to + 75°C selection dependant
Output: Thermocouple (mV)
Cable Type: Selection – PFA-PVC-Fibreglass with Braid
Washer: Selectable M4, M5, M6, M8

Accessories



Enclosures



4/20mA Transmitters



Fittings



Connectors



Controllers

Sensor Configuration/Assembly

Termination Heads

Type: 5333A



2-wire programmable transmitter
5333A

- RTD or Ohm input
- High measurement accuracy
- 3-wire connection
- Programmable sensor error value
- For DIN form B sensor head mounting

Type: 5333D



2-wire programmable transmitter
5333D

- RTD or Ohm input
- High measurement accuracy
- 3-wire connection
- Programmable sensor error value
- For DIN form B sensor head mounting

Type: 5331A3B



2-wire programmable transmitter
5331A

- RTD, TC, Ohm, or mV input
- Extremely high measurement accuracy
- 1.5 kVAC galvanic isolation
- Programmable sensor error value
- For DIN form B sensor head mounting

Type: 5331D



2-wire programmable transmitter
5331D

- RTD, TC, Ohm, or mV input
- Extremely high measurement accuracy
- 1.5 kVAC galvanic isolation
- Programmable sensor error value
- For DIN form B sensor head mounting

Type: 5337D



2-wire transmitter with HART protocol
5337A

- RTD, TC, Ohm, and bipolar mV input
- 2 analog inputs and 5 device variables with status available
- HART protocol revision selectable from HART 5 or HART 7
- Hardware assessed for use in SIL applications
- Mounting in Safe area or Zone 2/22

Type: 7501

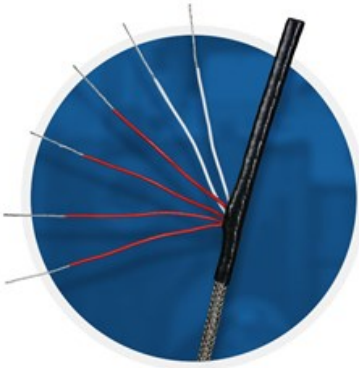


Field mounted HART temperature transmitter
7501

- RTD, TC, Ohm, and bipolar mV input and analog output
- High definition local operator interface (LOI) with 3 optical buttons
- Selectable red or white backlight
- Ex d explosion proof / flame proof
- HART 7 functionality with HART 5 compatibility

Full Transmitter Specification Can Be Viewed Via Transmitter Datasheet

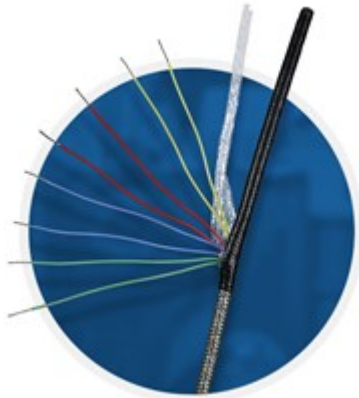
Termination Heads



PVC

-10C to 105C

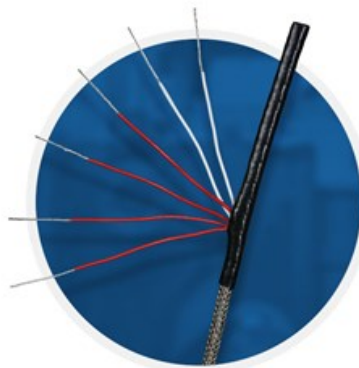
Good general purpose insulation for medium temperature environments. Waterproof and very flexible.



PTFE

-260C to +260C

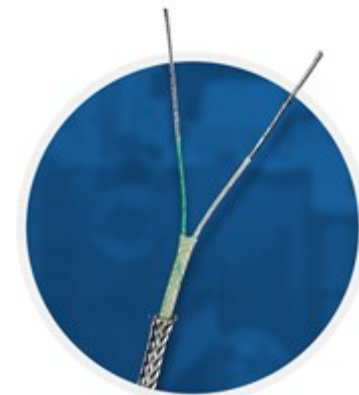
Resistant to oils, acids, other adverse agents and fluids. Good mechanical strength and flexibility.



Silicone Rubber

-50 to +200

Offers excellent dielectric strength and flexibility. Operation over a wide temperature range and ease of silastic bonding are other outstanding characteristics of silicone rubber cable.



Glass fibre

(Varnished)

-60C to 350C

Good temperature range but will not prevent ingress of fluids. Fairly flexible but does not provide good mechanical protection.



Stainless Steel Flexible Conduit

withstands high temperatures

- Durable crush-proof construction
- Corrosion and rust resistant

Color Codes for Thermocouples

International IEC 584-3	International IEC 584-3 Intrinsically Safe	USA Canada ANSI	Czech British BS 1843	German Netherlands DIN 43710	Japanese JIS C 1610-1981	French NFC 42-324	Type	Comments Environment - Bare Wire	Alloy Combination		Maximum Temperature Useful Range	EMF (mV) Over Max. Temperature Range	Limits of Error (Whichever is Greater)			
									+ Lead	- Lead			Standard	Special		
							K	Clean Oxidising and Inert. Limited use in Vacuum or Reducing. Wide Temperature range most popular calibration	Nickel - Chromium	Nickel-Aluminium Ni-Al (magnetic)	-200 to 1250°C Therm. Grade 0 to 200°C Ext. Grade	-6.458 to 54.886	-200 to 1250°C 2.2°C or 0.75% above 0°C 2.0% below 0°C			
									J	Reducing, Vacuum, Inert. Limited Use in Oxidising at high Temperatures not recommended for low Temperatures	± Fe (magnetic)	Copper-Nickel Cu-Ni	0 to 750°C Therm. Grade 0 to 200°C Ext. Grade	-8.095 to 69.553	0 to 750°C 2.2°C or 0.75% 1.1°C or 0.4%	
											S	Oxidising or Inert. Do not insert in metal tubes. Beware of Contamination. High Temperature	Platinum 10% Rhodium Pt-10% Rh	Platinum Pt	0 to 1450°C Therm. Grade 0 to 150°C Ext. Grade	-0.236 to 18.693
									T	Mild Oxidising, Reducing Vacuum or Inert. Good where moisture is present, low Temperature and cryogenic applications			Copper Cu	Copper-Nickel Cu-Ni	-200 to 350°C Therm. Grade -60 to 100°C Ext. Grade	-6.528 to 20.872
				No standard Use IEC 584-3 Color Codes							N	Alternative to Type K. More stable at high Temperatures	Omega-P Nicrosil Ni-Cr-Si	Omega-N Nisil Ni-Si-Mg	-270 to 1300°C Therm. Grade 0 to 200°C Ext. Grade	-4.345 to 47.513
									R	Oxidising or Inert. Do not insert in metal tubes. Beware of contamination. High Temperature			Platinum 13% Rhodium Pt-13% Rh	Platinum Pt	0 to 1450°C Therm. Grade 0 to 150°C Ext. Grade	-0.226 to 21.101
											E	Oxidising or Inert. Limited use in Vacuum or Reducing. Highest EMF change per degree.	Chromega Nickel-Chromium Ni-Cr	Copper-Nickel Cu-Ni	-200 to 900°C Therm. Grade 0 to 200°C Ext. Grade	-9.835 to 76.373
			No Standard. Use Copper Wire			No Standard. Use Copper Wire	B	Oxidising or Inert. Do not insert in metal tubes. Beware of contamination. High Temperature. Common use in glass industry.	Platinum 30% Rhodium Pt-30% Rh	Platinum 6% Rhodium Pt-6% Rh			0 to 1700°C Therm. Grade 0 to 100°C Ext. Grade	0 to 13.820	0 to 1700°C 0.5% above 800°C None established	