

ITS TCM12 High Temperature Thermocouple



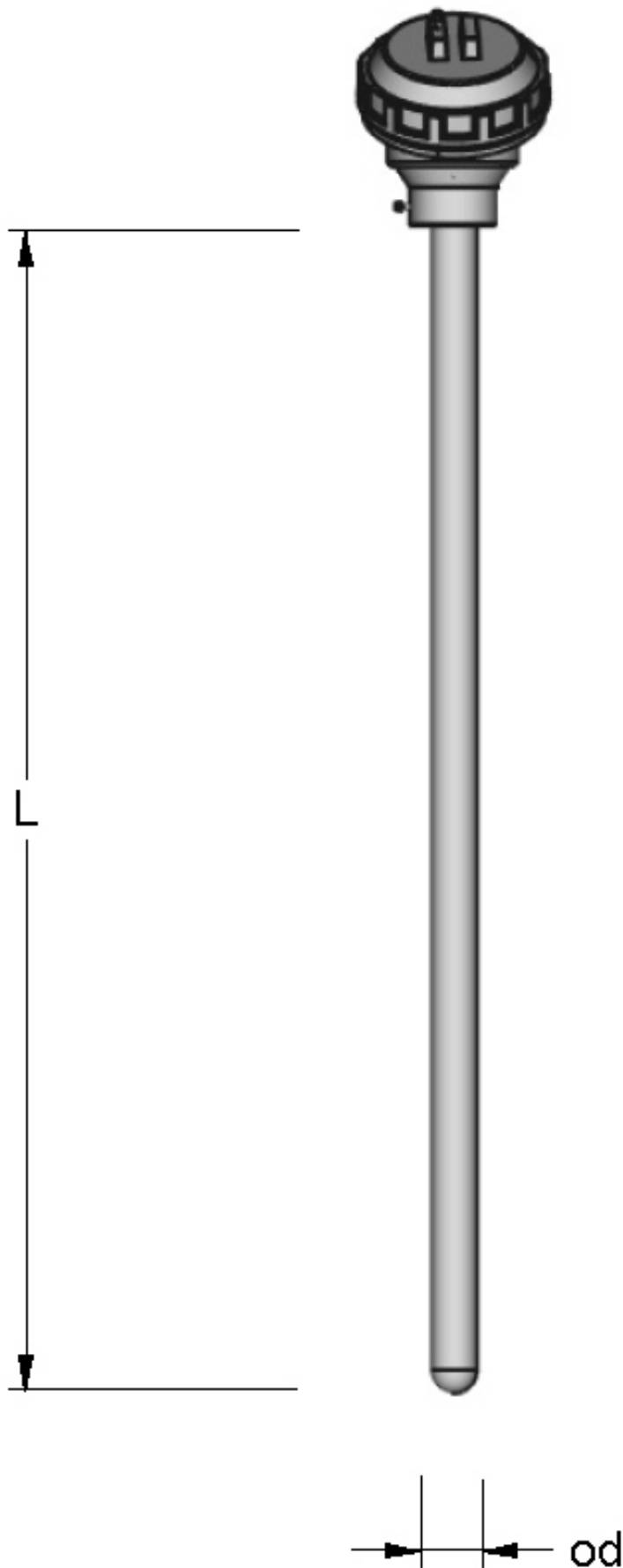
ITS is one of the leading manufacturers of thermocouples, RTDs, PT100s and thermowells in Ireland. ITS produces a variety of temperature sensors and assemblies in both standard and custom designs, which can be found on equipment and in process applications in the chemical, petrochemical, power generation, food & beverage, dairy, plastics, heat-treating, oil & gas, pharmaceutical, aerospace, biomass, metal processing, rubber, mining, HVAC, water & wastewater, incineration, and many other industries.

- RTDs and thermocouples available to meet any process requirement
- Integrated temperature assembly with transmitters available
- Temperature range of -196 to 650 °C for RTD, -196 to 1450 °C for thermocouple
- Industry-standard sensor types, including RTD and thermocouple varieties
- Variety of enclosure and connection head options
- Calibration services available

ITS TCM12 High Temperature Thermocouple



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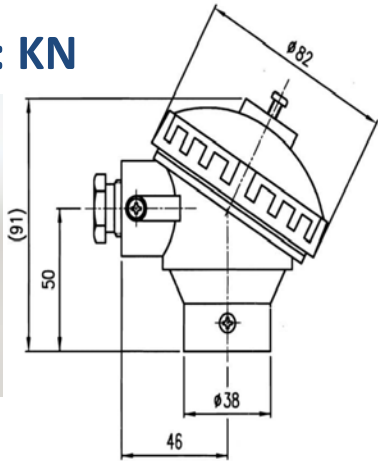


Model	Product Description		
TCM12	Industrial Thermocouple		
Code	Maximum Operating Temperature °C		
1600C	1600°C		
Code	Element/Tolerance		
SK	Single Type K Class 1		
SJ	Single Type J Class 1		
ST	Single Type T Class 1		
DK	Duplex Type K Class 1		
DJ	Duplex Type J Class 1		
DT	Duplex Type T Class 1		
Code	Sheath Diameter in mm		
21	21mm		
Code	Sheath Length in mm		
XXX	Specify in mm		
Code	Material Type		
316L	Stainless Steel 1.4404 (316L)		
310	Stainless Steel 1.485 (310)		
INC	Inconel		
KAN	Kanthal		
Code	Termination Head	IP Rating	Cable Entry
KN	Aluminium Screw Cap Style	IP68	M20 x 1.5mm
DinB	Aluminium Removable Cap Style	IP68	M20 x 1.5mm
BUZ	Aluminium Flip Cap Style	IP68	M20 x 1.5mm
KNH	Dual Aluminium Screw Cap Style	IP68	M20 x 1.5mm
SCH50	Exd Aluminium Screw Cap Style	IP68	M20 x 1.5mm
XDA	Exd Aluminium Screw Cap Style	IP68	M20 x 1.5mm
7501	Exd Aluminium Screw Cap Style	IP68	M20 x 1.5mm
7501SS	Exd Stainless Steel 316 Screw Cap Style	IP68	M20 x 1.5mm
KNSS	Steel 316 Screw Cap Style	IP68	M20 x 1.5mm
316L	Steel 316 Screw Cap Style	IP68	M20 x 1.5mm
SCH50SS	Steel 316 Exd Screw Cap Style	IP68	M20 x 1.5mm
KNB	Bakelite Screw Cap Style	IP68	M20 x 1.5mm
KNW	Polypropylene Screw Cap Style	IP68	M20 x 1.5mm
Code	Termination		
FL	Flying Leads		
TB	Ceramic Din Style Termination Block		
5333A	2-wire programmable transmitter PT100 Input 4/20ma Output		
5331A	2-wire programmable transmitter Universal Input 4/20ma Output		
5333D	 Ex Rated 2-wire programmable transmitter PT100 Input 4/20ma Output		
5331D	 Ex Rated 2-wire programmable transmitter Universal Input 4/20ma Output		
5337D	 Ex Rated 2-wire programmable transmitter Universal Input 4/20ma Output	HART 5 or HART 7	
Code	Process Fitting		Material
34UN	3/4" Union Fitting		Stainless Steel 300
1UN	1" Union Fitting		Stainless Steel 300
DF	Duct Flange		Stainless Steel 300

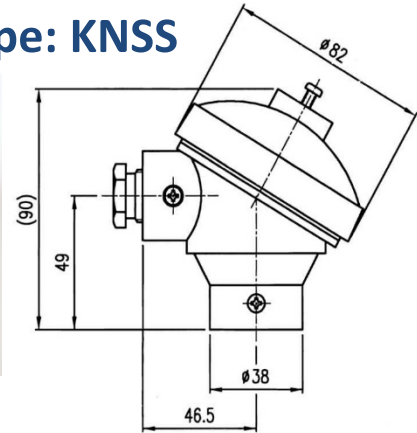


Termination Heads

Type: KN

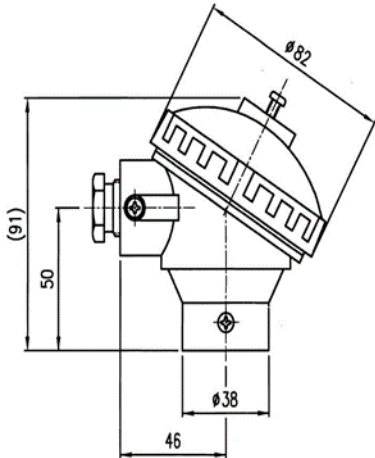


Type: KNSS



Material: Epoxy Coated Aluminium	Material: Stainless Steel 316
Cover Locking: Screw Cap & Chain	Cover Locking: Screw Cap & Chain
IP Rating: IP68	IP Rating: IP68

Type: KNB

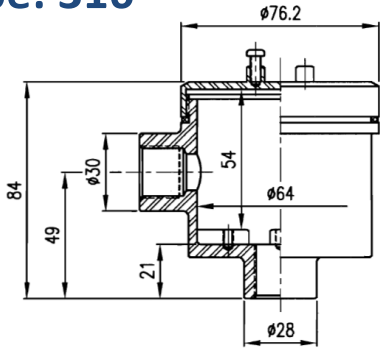


Type: KNW

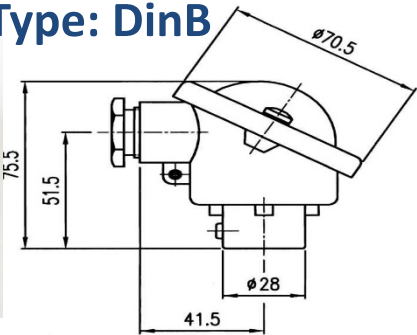


Material: Bakelite	Material: Polypropylene
Cover Locking: Screw Cap & Chain	Cover Locking: Screw Cap & Chain
IP Rating: IP65	IP Rating: IP65

Type: 316



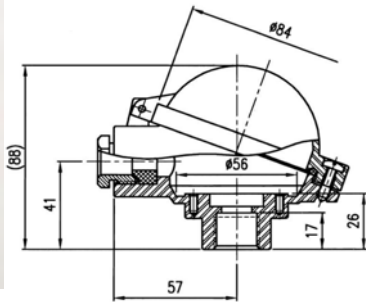
Type: DinB



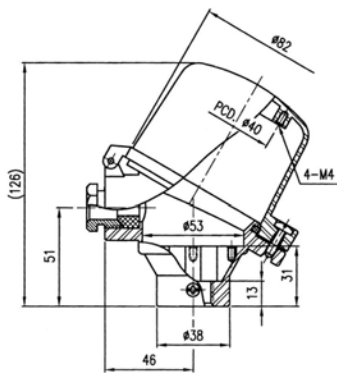
Material: Stainless Steel 316	Material: Epoxy Coated Aluminium
Cover Locking: Screw Cap & Chain	Cover Locking: Screws
IP Rating: IP68	IP Rating: IP68

Termination Heads

Type: BUZ

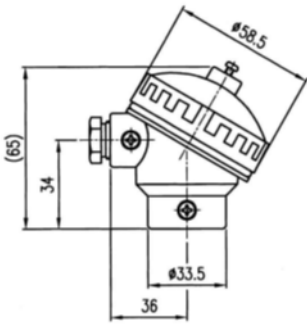
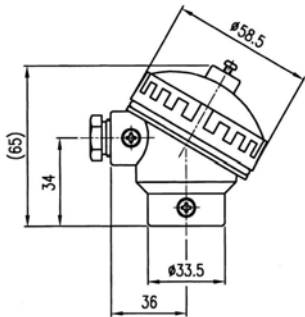


Type: KNH



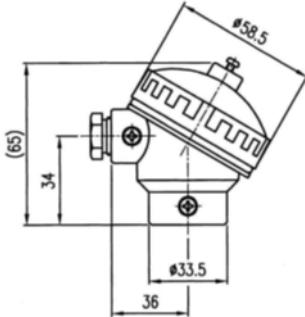
Material: Epoxy Coated Aluminium	Material: Epoxy Coated Aluminium
Cover Locking: Screw Flip Top	Cover Locking: Screw Flip Top
IP Rating: IP66	IP Rating: IP68

Type: KSE

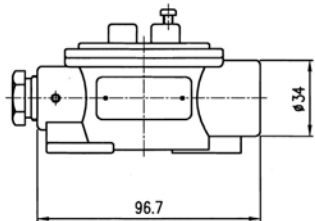


Material: Epoxy Coated Aluminium	Material: Polypropylene
Cover Locking: Screw Cap	Cover Locking: Screw Cap & Chain
IP Rating: IP67	IP Rating: IP65

Type: KSEB



Type: KF



Material: Epoxy Coated Aluminium	Material: Epoxy Coated Aluminium
Cover Locking: Screw Cap & Chain	Cover Locking: Screws
IP Rating: IP68	IP Rating: IP68

Termination Heads

Type: SCH15



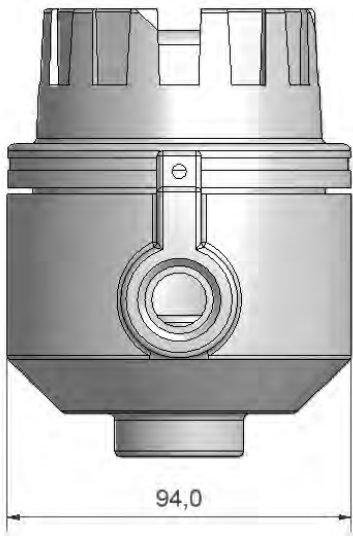
Type: SCH4



Material: Stainless Steel 316L	Material: ABS Plastic
Cover Locking: Screw Cap	Cover Locking: Screw Cap
IP Rating: IP68	IP Rating: IP68



Type: SCH50



Material: Epoxy Coated Aluminium	Ex d flame Proof Connection Head Ex d Atex & IECEx APPROVED Base 1 or 2 side entries Aluminium Epoxy Painted or Stainless Steel Construction
Cover Locking: Screw Cap	
IP Rating: IP68	

Type: XDA



Type: XDS



EEx d IIC T6 IP68

Material: Epoxy Coated Aluminium	Material: Stainless Steel 316
Cover Locking: Screw Cap & Chain	Cover Locking: Screw Cap & Chain
IP Rating: IP68	IP Rating: IP68

Transmitters

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
5337D

- 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 hazardous gas and dust area

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

ITS Thermocouples

Thermocouple Accessories

Thermocouple sensors are available with termination options Flying Leads, Terminal Block or Transmitter to customer specific specification.



Thermocouple Plugs



Fittings



Controllers



Cable



Transmitter

Various instruments available to suit. Optional certification includes customer specific temperature calibration on Thermocouple sensor or Thermocouple sensor with Instrument as a system calibration.

Color Codes for Thermocouples

Inter- national IEC 584-3	Inter- national IEC 584-3 Intrin- sically Safe	USA Canada ANSI	Czech British BS 1843	German Nether- lands 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. Tempera- ture 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 Ni-Cr	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°C below 0°C 1.1°C or 0.4%	
							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	0 to 1450°C 1.5°C or 0.25% 0.6°C or 0.1%	
							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	-200 to 1250°C 2.2°C or 0.75% above 0°C 2.0°C below 0°C 0.5°C or 0.4%	
				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	-200 to 1250°C 2.2°C or 0.75% above 0°C 2.0°C below 0°C 1.1°C or 0.4%	
							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	0 to 1450°C 1.5°C or 0.25% 0.6°C or 0.1%	
							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	-200 to 900°C 1.7°C or 0.5% above 0°C 1.0°C or 0.4%	
				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	