



Temperature and Humidity Sensors

Thermoresistances

Thermocouples

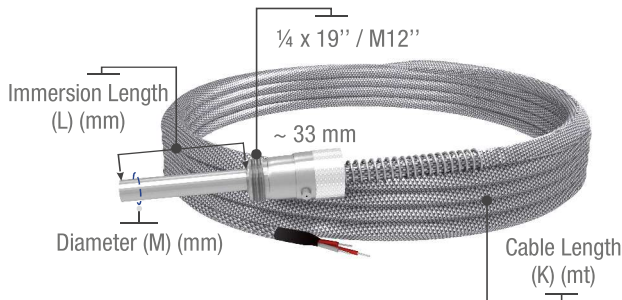
Relative Humidity Sensors

Compensation Cable

Temperature Sensors

Thermoresistances

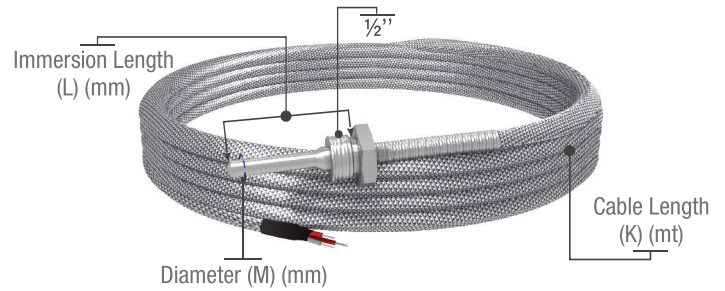
► (RT) Bayonet Type



RT - M [] [] - L [] [] [] - K [] []

Diameter : Min: 3mm Max: 8mm

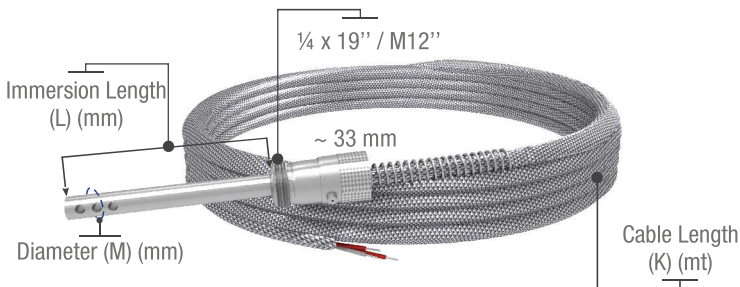
► (RTR) Bayonet Type with Fittingnut



RTR - M [] [] - L [] [] [] - K [] [] .E

Diameter : Min:4mm Max: 16mm

► (RTH) Bayonet Air Type



RTH - M [] [] - L [] [] [] - K [] []

Dimensions : Standard 6mm

► (RTH-PMD-D) Box Air Type ► (RTHT-PMD-D) Box Transmitter Air Type



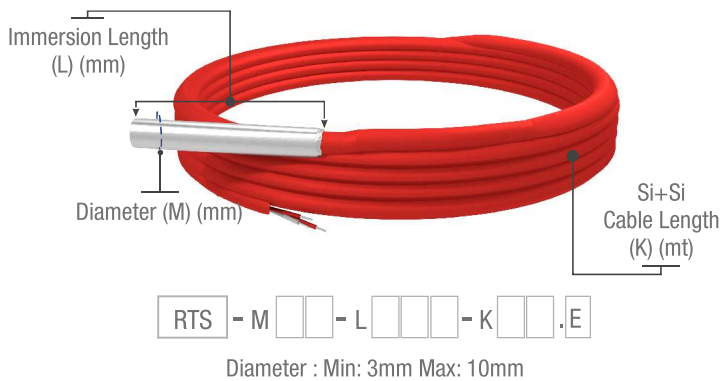
RTH - PMD - D [] []
RTHT - PMD - D [] [] .F

Dimensions : Standard D1: 59 mm

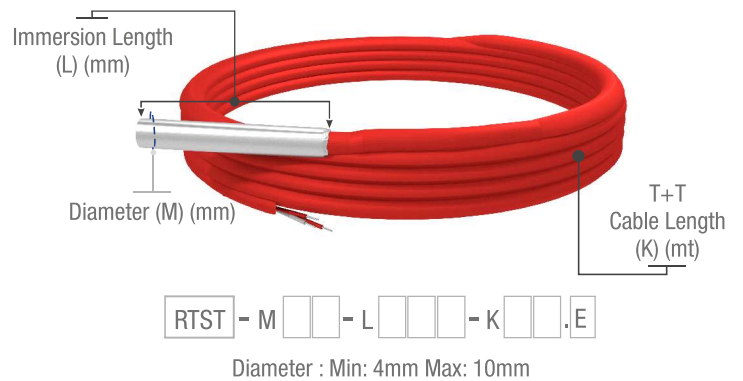
Dimensions : Standard D2: 159 mm

- Max. operating temperature** : 400°C for Braided wire, 200°C for Silicone, 260°C for Teflon
- Standard cable types** : Fiber glass + Fiber glass + Braided wire, 3x0,22 mm² / Silicone + Silicone, 3x0,22 mm² / Teflon + Teflon, 3x0,22 mm² ("Si+Si" is added to order code) / ("T+T" is added to order code)
- Standard cable length (K)** : K01 = 1mt, K02 = 2mt, K03 = 3 mt, K04 = 4mt, K05 = 5 mt.
- Sensor type** : DIN/EN60751 Class "B" 1xPt-100 for E=1 or 2xPt-100 for E=2 (RTR)
- Protection tube material** : Nickel coated brass (RT) or AISI304 (DIN1.4301), "316" is added to order code for AISI316 (RTR)
- Connector** : 1/4 x 19'' (selectable as M12'' or M12 x 1,5'' on ordering)
- Fittingnut (RTR)** : 1/2'' fittingnut is used for standard production

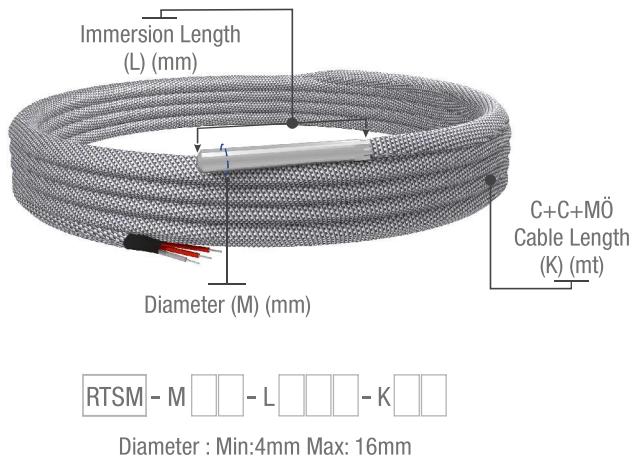
► (RTS) Bayonet Bore Type with Silicone Cable



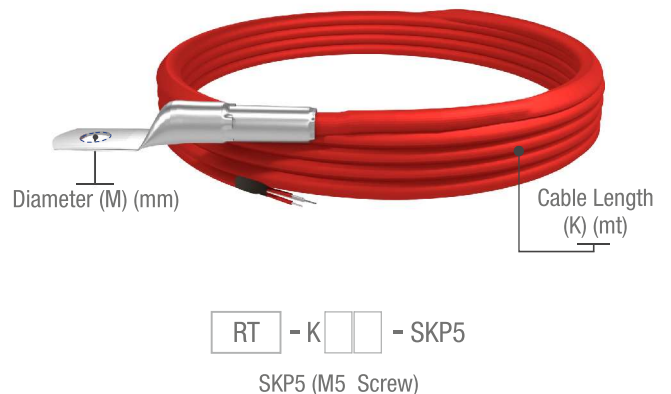
► (RTST) Bayonet Bore Type with Teflon Cable



► (RTSM) Bayonet Bore Type with Braided Wire Cable



► (RTSKP5) Bayonet Type with Cable Lug

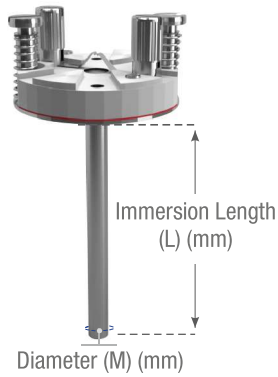


- Max. operating temperature : **400°C** for Braided wire, **200°C** for Silicone, **260°C** for Teflon
- Standard cable types : Fiber glass + Fiber glass + Braided wire, 3x0,22 mm² / Silicone + Silicone, 3x0,22 mm² / Teflon + Teflon, 3x0,22 mm²
- Standard cable length (K) : K01 = 1mt, K02 = 2mt, K03 = 3 mt, K04 = 4mt, K05 = 5 mt.
- Sensor type : DIN/EN60751 Class "B" 1xPt-100 for **E=1** or 2xPt-100 for **E=2**
- Protection tube material : AISI304 (DIN1.4301), AISI316 Order Code "316"

Temperature Sensors

Thermoresistances

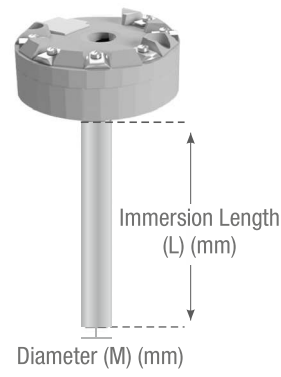
► (RTI) Inset Type



RTI - M [] [] - L [] [] [] . E

Diameter: Min: 5mm Max: 10 mm

► (RTIT) Inset Type with Transmitter



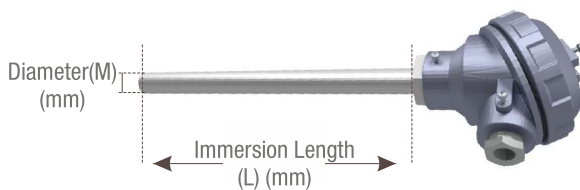
RTIT - M [] [] - L [] [] [] . 1 . F

Diameter: Min: 5mm Max: 10 mm

- Max. operating temperature : 500°C
- Protection tube material : AISI304 (DIN1.4301) "316" is added to order code for AIS316
- Sensor type : DIN/EN60751 Class "A" 1xPt-100 E=1 (RTIT) DIN/EN60751 Class "B" 2xPt-100 E=2
- Transmitter (RTIT) : 4...20mA current output, serial connection (Loop Powered) transmitter.
F=Calibration scale must be described on ordering

► (RTK) Terminal Block Type ► (RTKT) Terminal Block with Fittingnut Type

► (RTKI) Terminal Block Inset Type ► (RTKIT) Terminal Block, Inset Transmitter Type



RTK - M [] [] - L [] [] [] . E

RTK T - M [] [] - L [] [] [] . E . F

Diameter: Min: 5mm Max: 16 mm

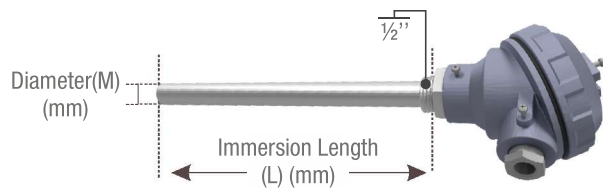
RTK I - M [] [] - L [] [] [] . E

RTKI T - M [] [] - L [] [] [] . E . F

Diameter: Min: 8mm Max: 16 mm

► (RTKR) Terminal Block, Fittingnut Type ► (RTKRT) Terminal Block, Fittingnut, Transmitter Type

► (RTKRI) Terminal Block, Fittingnut Inset Type ► (RTKRIT) Terminal Block, Fittingnut, Inset Transmitter Type



RTKR - M [] [] - L [] [] [] . E

RTKR T - M [] [] - L [] [] [] . E . F

Diameter: Min: 5mm Max: 16 mm

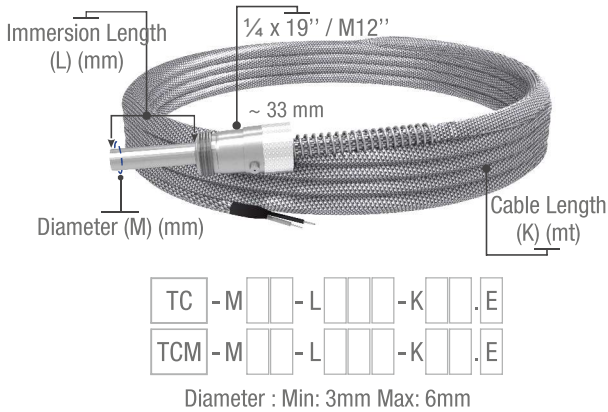
RTKR I - M [] [] - L [] [] [] . E

RTKRI T - M [] [] - L [] [] [] . E . F

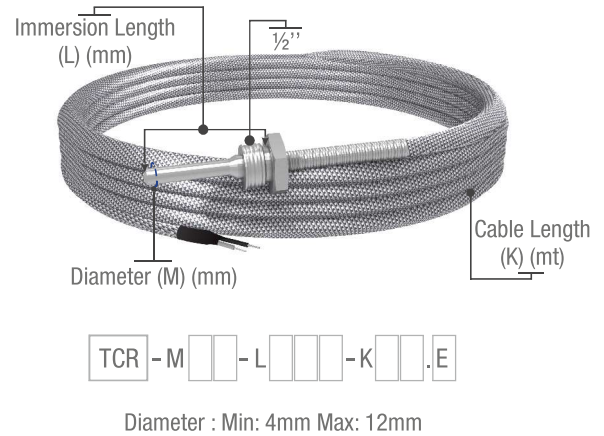
Diameter: Min: 8mm Max: 16 mm

- Max. operating temperature : 500°C
- Protection tube material : AISI304 (DIN1.4301) "316" is added to order code for AISI316
- Sensor type : DIN/EN60751 Class "A" 1xPt-100 for E=1 (RTKT, RTKRT) / DIN/EN60751 Class "B" 2xPt-100 for E=2
- Transmitter (RTIT) : 4...20mA current output, serial connection (Loop Powered) transmitter.
F=Calibration scale must be described on ordering

► (TC) Bayonet Type
(TCM) Mineral Isolated Bayonet Type

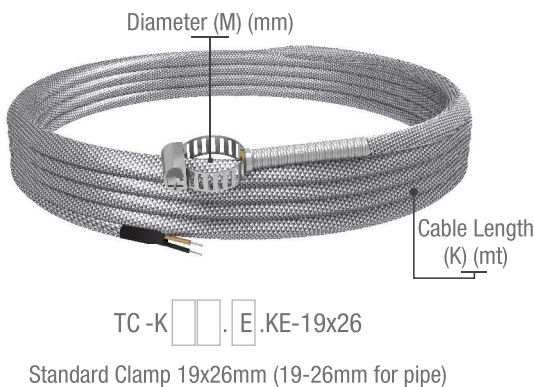


► (TCR) Bayonet Type with Fittingnut

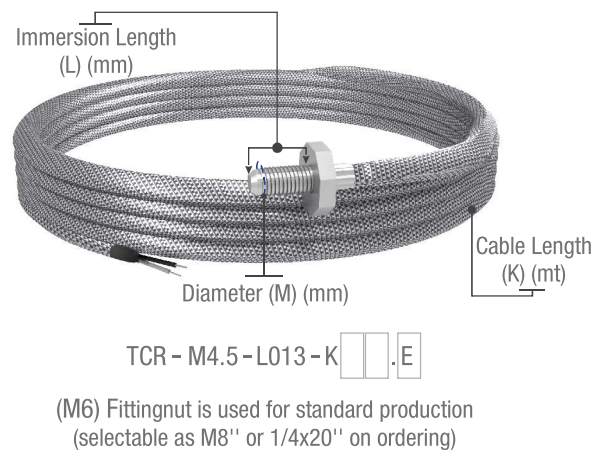


- Max. operating temperature** : (TC)-(TCR) 400°C for Braided wire, 200°C for Silicone
(TCM) "J" Type 800°C / "K" Type 1200°C
- Standard cable types** : Fiber glass + Fiber glass + Braided Wire, 2x0,22 mm²
Silicone + Silicone, 2x0,22 mm² ("Si+Si" is added to order code)
- Standard cable length (K)** : K01 = 1mt, K02 = 2mt, K03 = 3 mt, K04 = 4mt, K05 = 5 mt.
- Sensor type** : DIN/IEC-584 "J" FeCu-Ni E=J, DIN/IEC-584 "K" NiCr-Ni E=K
- Protection tube material** : Nickel coated brass (TC) or AISI304 (DIN1.4301)
- Connector** : 1/4 x 19" (selectable as M12")
- Fittingnut (RTR)** : 1/2" fittingnut is used for standard production

► (TC) Bayonet Type Clamp



► (TCR) Adjustable Fittingnut Type

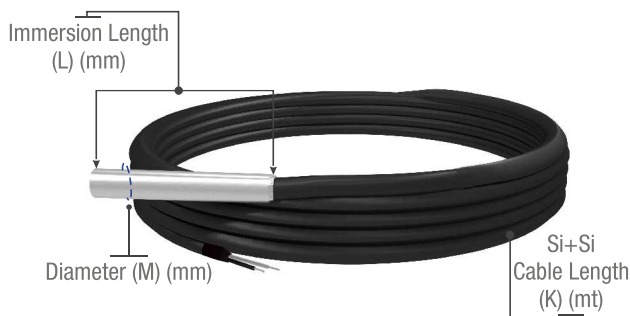


- Max. operating temperature** : 400°C for Braided wire, 200°C for Silicone
- Standard cable types** : Fiber glass + Fiber glass + Braided wire, 2x0,22 mm²
Silicone + Silicone, 2x0,22 mm² ("Si+Si" is added to order code)
- Standard cable length (K)** : K01 = 1mt, K02 = 2mt, K03 = 3 mt, K04 = 4mt, K05 = 5 mt.
- Sensor type** : DIN/IEC-584 "J" FeCu-Ni E=J, DIN/IEC-584 "K" NiCr-Ni E=K
- Protection tube material** : Nickel coated brass (TC) or AISI304 (DIN1.4301)
- Connector** : 1/4 x 19" (selectable as M12" or M12 x 1,5" on ordering)
- Fittingnut (RTR)** : 1/2" fittingnut is used for standard production

Temperature Sensors

Thermocouples

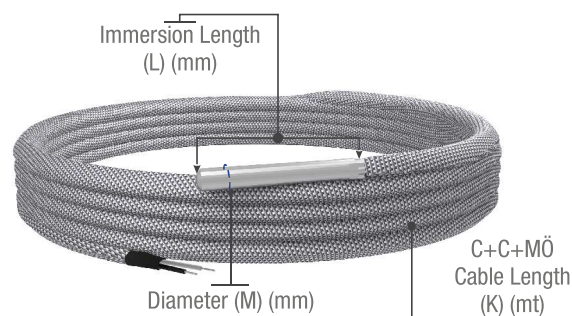
► (TCS) Bayonet Sonda Type



TCS - M [] [] - L [] [] [] - K [] [] [] . E

Diameter : Min: 5mm Max: 8mm

► (TCSM) Bayonet Sonda Type with Braided Wire

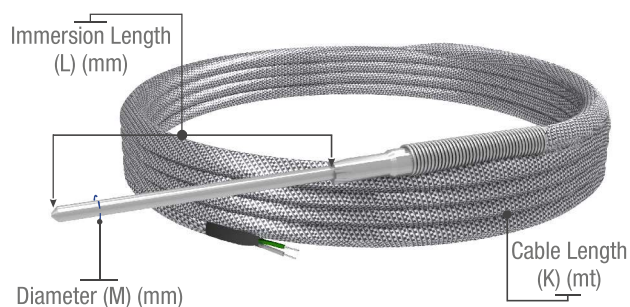


TCSM - M [] [] - L [] [] [] - K [] [] [] . E

Diameter : Min: 3mm Max: 12mm

- Max. operating temperature** : 400°C for Braided wire, 200°C for Silicone
- Standard cable types** : fiber glass + fiber glass + braided wire, 2x0,22 mm²
Silicone + Silicone, 2x0,22 mm²
- Standard cable length (K)** : K01 = 1mt, K02 = 2mt, K03 = 3 mt, K04 = 4mt, K05 = 5 mt.
- Sensor type** : DIN/IEC-584 "J" FeCu-Ni E=J, DIN/IEC-584 "K" NiCr-Ni E=K
- Protection tube material** AISI304 (DIN1.4301), AISI316 Order Code "316"

► (TCMS) Mineral Isolated Bayonet Sonda Type



TCMS - M [] [] - L [] [] [] . E . F

Diameter : Min: 1mm Max: 6mm

► (TC-SKP) Bayonet Type Cable Lug

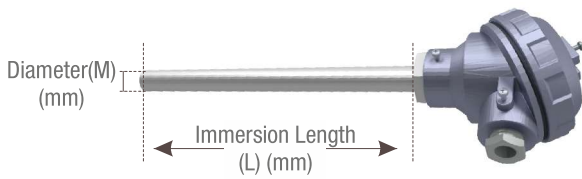


TC-K [] [] .E.SKP5

Standard SKP5 (M5 for Screw)
TC - SKP - 400°C

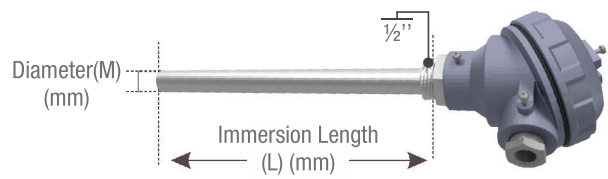
- Max. operating temperature** : TCMS "K" Type 1200 °C "J" Type 800 °C
- Protection tube material** : "K" Type AISI310 (DIN1.4845), "J" Type AISI316
- Sensor type** : DIN/IC-584 "J" FeCu-Ni E=1.J,
DIN/IC-584 "K" NiCr-Ni E=1.K,

- ▶ TCK (Terminal Block Type)
- ▶ TCKT (Terminal Block Type, Transmitter Type)



TCK -M [] [] -L [] [] .E
 TCKT -M [] [] -L [] [] .E . F
 Diameter : Min: 6mm Max: 22mm

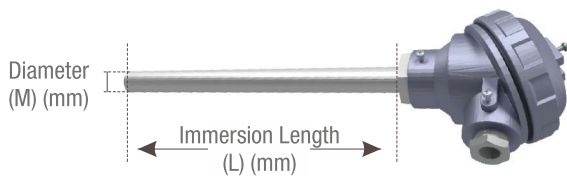
- ▶ TCKR (Terminal Block, Fittingnut Type)
- ▶ TCKRT (Terminal Block with Fittingnut and Transmitter Type)



TCKR -M [] [] -L [] [] .E
 TCKRT -M [] [] -L [] [] .E . F
 Diameter : Min: 6mm Max: 22mm

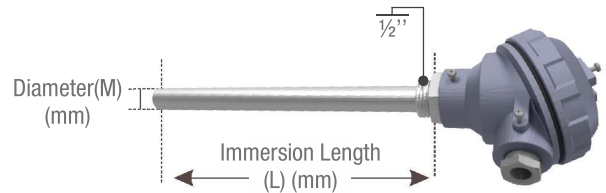
- Max. operating temperature : "K" Type 1200°C (M22), 900°C (M16), 800°C (M10) "K" and J Type" 600°C (M06, M08, M10)
- Protection tube material : (M22) AISI310 (DIN1.4845) AISI316 is added to order code for AISI316 (M16)-(M10) AISI304 (DIN1.4306)
- Sensor type : DIN/IC-584 "J" FeCu-Ni E=1.J,
 DIN/IC-584 "K" NiCr-Ni E=1.K,
 DIN/IC-584 2x"J" FeCu-Ni E=2.J, (TCK, TCKR)
 DIN/IC-584 2x"K" NiCr-Ni E=2.K, (TCK, TCKR)
- Transmitter (RTIT) : 4...20mA current output, serial connection (Loop Powered) transmitter.
 F=Calibration scale must be described on ordering

- ▶ (TCKM) Terminal Block Type
- ▶ (TCKMT) Terminal Block with Transmitter Type



TCKM -M [] [] -L [] [] .1.K
 TCKMT -M [] [] -L [] [] .1.K . F
 Diameter : Standard: 3 / 6mm

- ▶ (TCKRM) Terminal Block with Fittingnut Type
- ▶ (TCKRMT) Terminal Block with Fittingnut and Transmitter Type



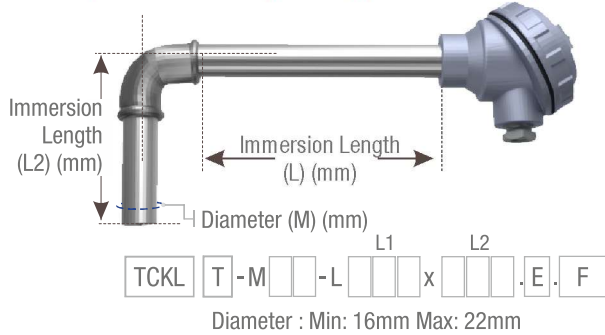
TCKRM -M [] [] -L [] [] .1.K
 TCKRMT -M [] [] -L [] [] .1.K . F
 Diameter : Standard: 3 / 6mm

- Max. operating temperature : 1200°C
- Protection tube material : AISI310 (DIN1.4845) INCONEL600 "inconel" is added to order code for INCONEL600
- Sensor type : DIN/IEC-584 "K" NiCr-Ni E=1.K,
- Transmitter : 4...20mA current output, serial connection (Loop Powered) transmitter.
- (TCKMT ve TCKRMT) F=Calibration scale must be described on ordering

Temperature Sensors

Thermocouples

- ▶ (TCKL) Terminal Block Type "L" Type
- ▶ (TCKLT) Terminal Block Type "L" Type Transmitter Type



TCKL T-M -L L1 L2 x .E. F

Diameter : Min: 16mm Max: 22mm

Max. operating temperature : "K" type M16 for 900° / "J" type M16 for 600°
"K" type M22 for 1200° / "J" type M22 for 600°

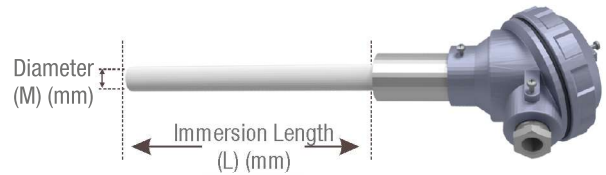
Protection tube material : AISI304 Stainless steel

Sensor type : DIN/IEC-584 "J" NiCr-Ni E=1.J,
DIN/IEC-584 "K" NiCr-Ni E=1.K,
2x "J" FeCu-Ni E=2.J
2x "K" NiCr-Ni E=2.K

Transmitter (TCKLT) : 4...20mA current output, serial connection
(Loop Powered) transmitter.

F=Calibration scale must be described on ordering

- ▶ (TCKK) Terminal Block with Ceramic Protection Tube
- ▶ (TCKKT) Head Inside Transmitter with Ceramic Protection Tube



TCKK T-M -L .E. F

Diameter : Min: 15mm Max: 24mm

Max. operating temperature : 1200°C for "K" NiCr-Ni
1600°C for "S" Pt10%Rh-Pt
1600°C for "R" Pt13%Rh-Pt

Wire Diameter : 3,00mm for "K" type 0,35mm for
"S" and "R" type

Protection tube material : KER610 Ceramic

Sensor type : DIN/IEC-584 "K" NiCr-Ni E=1.K,
DIN/IEC-584 "S" Pt10%Rh-Pt E=1.S,
DIN/IEC-584 "R" Pt13%Rh-Pt E=1.R,
2x "K" NiCr-Ni E=2.K (TCKK),
2x "S" Pt10%Rh-Pt E=2.S (TCKK),
2x "R" Pt10%Rh-Pt E=2.R (TCKK)

Transmitter (TCKKT) : 4...20mA current output, serial connection
(Loop Powered) transmitter.

F=Calibration scale must be described on ordering

Compensation Cables



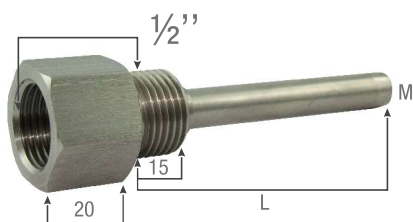
Silicone + fiber glass + braided wire, 2 x 0,75 mm2 IEC584 "J" FeCu-Ni
Silicone + fiber glass + braided wire, 2 x 0,75 mm2 IEC584 "K" NiCr-Ni
Silicone + fiber glass + braided wire, 2 x 1,50 mm2 IEC584 "J" FeCu-Ni
Silicone + fiber glass + braided wire, 2 x 1,50 mm2 IEC584 "K" NiCr-Ni
Silicone + fiber glass + braided wire, 2 x 1,50 mm2 IEC584 "S" Pt10%Rh-Pt

Transmitter



Sensor Type	Measurement Range Scale	Minimum Measurement Range
Thermocouple K	-150 to 1370°C	100°C
Thermocouple J	-100 to 760°C	100°C
Thermocouple R	-50 to 1760°C	400°C
Thermocouple S	-50 to 1760°C	400°C
Thermocouple T	-160 to 400°C	100°C
Pt100	-220 to 650°C	40°C
Pt1000	-200 to 650°C	40°C

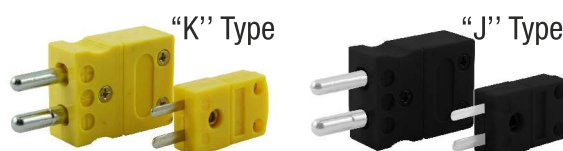
Termowell



Termowell-M -L 1/2

Standard Diameter: 10/12 mm Fittingnut 1/2

Connectors (K and J Type)



Fittingnut



Diameter 6, 8, 10 mm for pipe



Relative Humidity Sensors

Pronem
mini / midi / midi-LCD



Standard Features

2 analogue outputs for temperature and humidity
High output accuracy
Small and useful design

Long-term stability
Low thermal drift
Current or voltage output signal selection for temperature and humidity analogue output type

Technical Specifications

Measuring range (RH)	: %0...100
Measuring range (T) (°C)	: -20°C...+80°C
Measuring range (T) (°F)	: -4°F...+176°F (for Pronem Midi LCD type)
Accuracy (RH)	: ±2 %RH (Typ)@23°C %0...100
Accuracy (T)	: ±0,3°C (Typ)@23°C
Stability (RH)	: <0,5 %RH/year (Typ)
Stability (T)	: <0,04°C/year (Typ)
Analogue Out. Sign. Accuracy (Voltage)	: ±%0,1
Analogue Out. Sign. Accuracy (Current)	: ±%0,5

Working Conditions

Operating Temperature	: -40°C...+85°C
Height	: Up to 2000 m.

Pronem
midi-LCD



Pronem
midi-LCD



Relative Humidity Sensors

Standard Product Order Codes

Pronem

Pronem

mini



Standard Product Order Codes

PMI-P-0/0.1.2

RS-485 Communication Humidity + Temperature Sensor

PMI-P-H1/T1.1.0

2 x Analog 0-10V, Humidity + Temperature Sensor

PMI-P-H0/T0.1.0

2 x Analog 4-20mA, Humidity + Temperature Sensor

Pronem

midi



Standard Product Order Codes

PMD-W-H2/T2.1.0.0

Wall mount type, Analog 2-10Vdc, 16...32Vdc, Humidity + Temperature Sensor

PMD-W-H1/T1.1.0.0

Wall mount type, Analog 0-10Vdc, 16...32Vdc, Humidity + Temperature Sensor

PMD-W-0/0.1.1.0

Wall mount type, with digital signal RS-485 Communication, 16...32Vdc, Humidity + Temperature Sensor

PMD-W-H0/T0.1.0.0

Wall mount type, Analog 4-20mA, 16...32Vdc, Humidity + Temperature Sensor

Pronem

midi-LCD



Standard Product Order Codes

PMDL-W-H2/T2.1.0.0

Wall mount, Analog 2-10Vdc, 16 ... 32Vdc, Humidity + Temperature Sensor

PMDL-W-H1/T1.1.0.0

Wall mount type, Analog 0-10Vdc, 16...32Vdc, Humidity + Temperature Sensor

PMDL-W-0/0.1.1.0

Wall mount type, with digital signal RS-485 Communication, 16...32Vdc, Humidity + Temperature Sensor

PMDL-W-H0/T0.1.0.0

Wall mount type, Analog 4-20mA, 16...32Vdc, Humidity + Temperature Sensor

Pronem

midi-LCD backlight

PMDLB-W-H2/T2.1.0.0

Wall mount, Analog 2-10Vdc, 16 ... 32Vdc, Humidity + Temperature Sensor

PMDLB-W-H1/T1.1.0.0

Wall mount type, Analog 0-10Vdc, 16...32Vdc, Humidity + Temperature Sensor

PMDLB-W-0/0.1.1.0

Wall mount type, with digital signal RS-485 Communication, 16...32Vdc, Humidity + Temperature Sensor

Relative Humidity Sensors

Standard Product Order Codes

Pronem midi



Standard Product Order Codes

PMD-D-H2/T2.1.0.1

Duct mount type, Analog 2-10Vdc, 16...32Vdc, Immersion Length : 59mm, Humidity + Temperature Sensor

PMD-D-H1/T1.1.0.1

Duct mount type, Analog 0-10Vdc, 16...32Vdc, Immersion Length : 59mm, Humidity + Temperature Sensor

PMD-D-0/0.1.1.1

Duct mount type, with digital signal RS-485 comm., 16...32Vdc, Immersion Length : 59mm, Hum.+Temp. Sensor

PMD-D-H0/T0.1.0.1

Duct mount type, Analog 4-20mA, 16...32Vdc, Immersion Length : 59mm, Humidity + Temperature Sensor

PMD-D-H2/T2.1.0.2

Duct mount type, Analog 2-10Vdc, 16...32Vdc, Immersion Length : 159mm, Humidity + Temperature Sensor

PMD-D-H1/T1.1.0.2

Duct mount type, Analog 0-10Vdc, 16...32Vdc, Immersion Length : 159mm, Humidity + Temperature Sensor

PMD-D-0/0.1.1.2

Duct mount type, with digital signal RS-485 Comm., 16...32Vdc, Immersion Length : 159mm, Hum.+Temp. Sensor

PMD-D-H0/T0.1.0.2

Duct mount type, Analog 4-20mA, 16...32Vdc, Immersion Length : 159mm, Humidity + Temperature Sensor

Pronem midi-LCD



Standard Product Order Codes

PMDL-D-H2/T2.1.0.1

Analog 2-10Vdc, Immersion Length : 59 mm Humidity + Temperature Sensor

PMDL-D-H1/T1.1.0.1

Analog 0-10Vdc, Immersion Length : 59 mm Humidity + Temperature Sensor

PMDL-D-0/0.1.1.1

RS-485 Communication, Immersion Length : 59 mm Humidity + Temperature Sensor

PMDL-D-H0/T0.1.0.1

Analog 4-20Vdc, Immersion Length : 59 mm Humidity + Temperature Sensor

PMDL-D-H2/T2.1.0.2

Analog 2-10Vdc, Immersion Length : 159 mm Humidity + Temperature Sensor

PMDL-D-H1/T1.1.0.2

Analog 0-10Vdc, Immersion Length : 159 mm Humidity + Temperature Sensor

PMDL-D-0/0.1.1.2

RS-485 Communication, Immersion Length : 159 mm Humidity + Temperature Sensor

PMDL-D-H0/T0.1.0.2

Analog 4-20Vdc, Immersion Length : 159 mm Humidity + Temperature Sensor

Pronem midi-lcd backlight

PMDLB-D-H2/T2.1.0.1

Analog 2-10Vdc, Immersion Length : 59 mm Humidity + Temperature Sensor

PMDLB-D-H1/T1.1.0.1

Analog 0-10Vdc, Immersion Length : 59 mm Humidity + Temperature Sensor

PMDLB-D-0/0.1.1.1

RS-485 Communication, Immersion Length : 59 mm Humidity + Temperature Sensor

PMDLB-D-H2/T2.1.0.2

Analog 2-10Vdc, Immersion Length : 159 mm Humidity + Temperature Sensor

PMDLB-D-H1/T1.1.0.2

Analog 0-10Vdc, Immersion Length : 159 mm Humidity + Temperature Sensor

PMDLB-D-0/0.1.1.2

RS-485 Communication, Immersion Length : 159 mm Humidity + Temperature Sensor



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