

Industrial Temperature Sensor Assembly (TE.20 Series)

RTD sensor, thermocouple assemblies are used in a variety of industries and manufacture accordingly to your requirements based on application/process condition.

All assemblies come with connection head and the lead wire will end at terminal block inside the connection head. Other designs and calibration services are available upon request.

General Specifications

Connection head	Weather proof, Die cast aluminium
Cable entry	1/2" PF
Sensor element	RTD and thermocouple
Sensor sheath diameter	ø1.6 to 12.7 mm
Sensor sheath material	SS 316/L, Inconel 600.

RTD Specifications

Resistance at 0°C	100/1000 Ω
Standard	IEC 60751
Tolerance	Class A , B

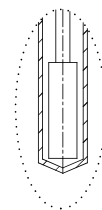
Thermocouple Specifications

Sensor type	K (NiCr-Ni) J (Fe-CuNi) T (Cu/Cu-Ni) E (NiCr-CuNi)
Standard	IEC 60584
Tolerance	Class 1

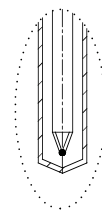
Note: Other sensor type will be available upon request.

Environment

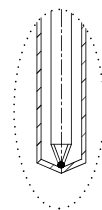
Ambient temperature	with terminal block	-40...160°C
	With transmitter	-40...85°C
Protection class	IP 68	



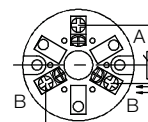
RTD



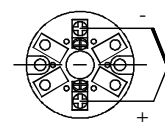
Thermocouple
ungrounded
junction



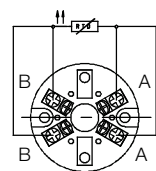
Thermocouple
grounded
junction



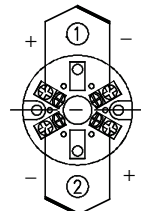
RTD
Single, 3 wires



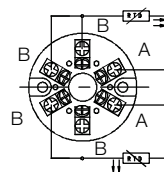
Thermocouple
Single, 2 wires



RTD
Single, 4 wires



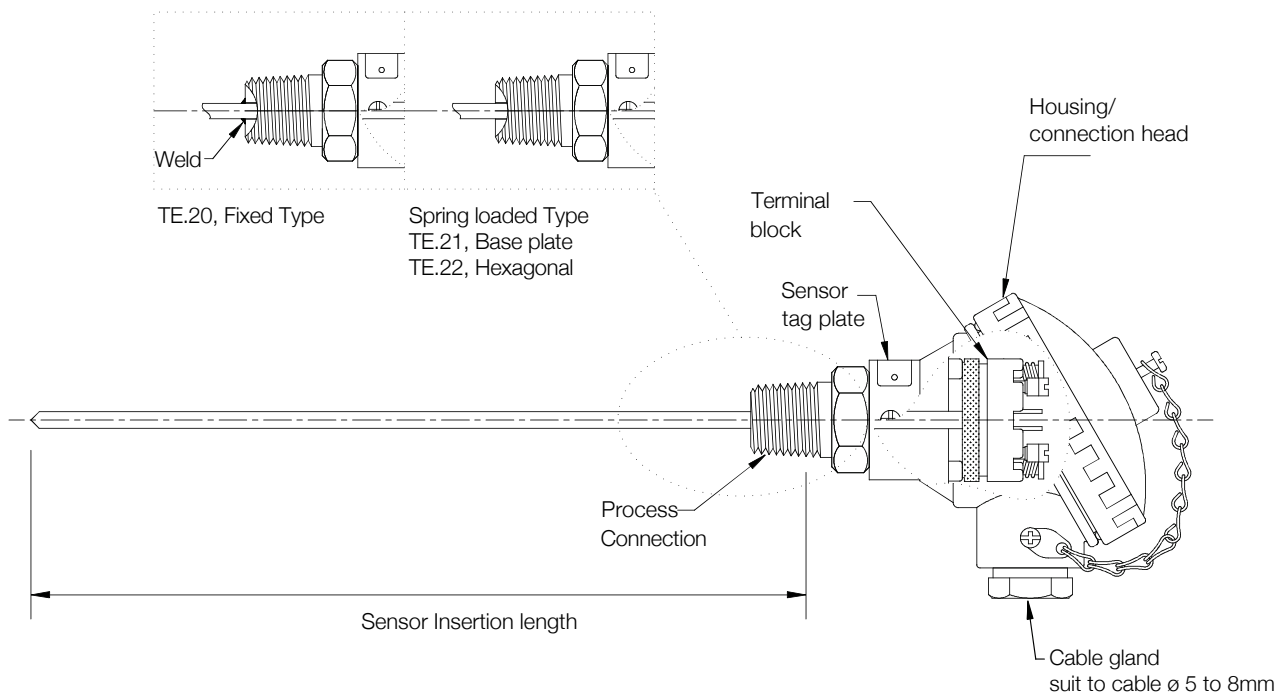
Thermocouple
Dual, 4 wires



RTD
Dual, 6 wires

General Assembly Drawings

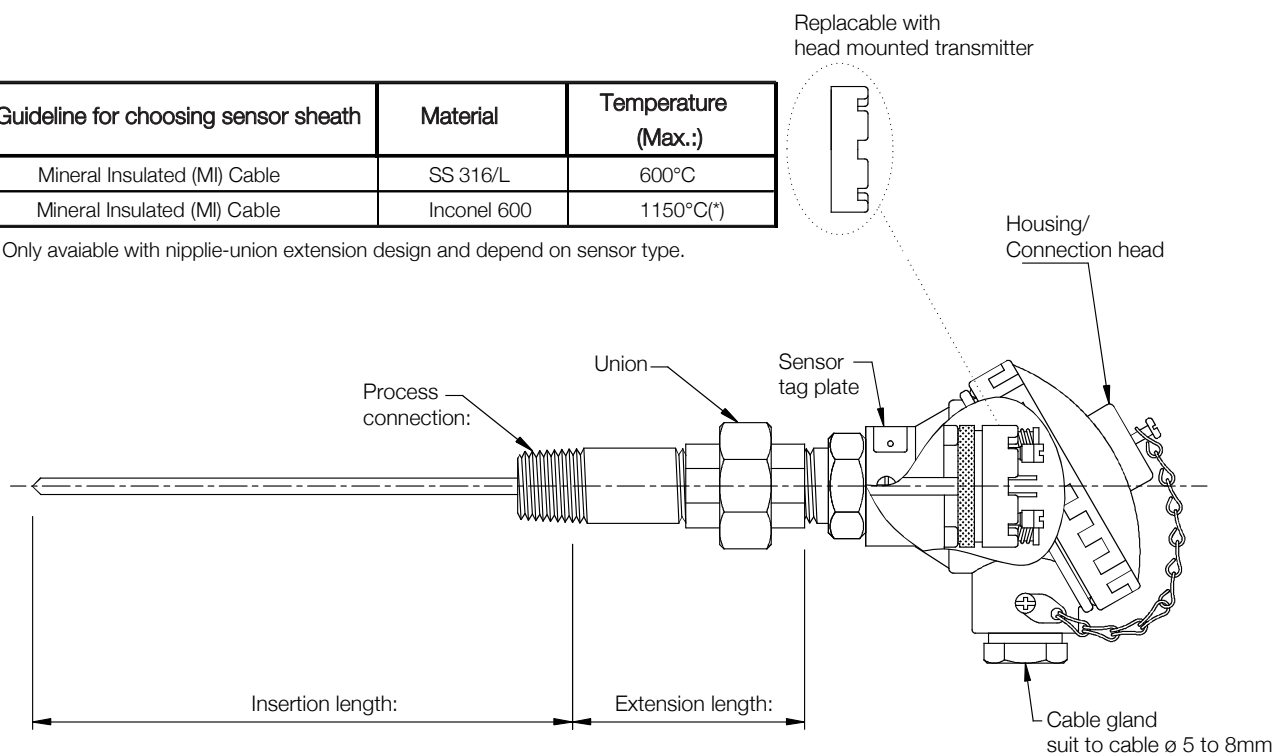
Sensor Assembly with Hexagonal Fitting



Sensor Assembly with Nipple-Union-Nipple

Guideline for choosing sensor sheath	Material	Temperature (Max.)
Mineral Insulated (MI) Cable	SS 316/L	600°C
Mineral Insulated (MI) Cable	Inconel 600	1150°C(*)

(*) Only available with nipple-union extension design and depend on sensor type.



Features

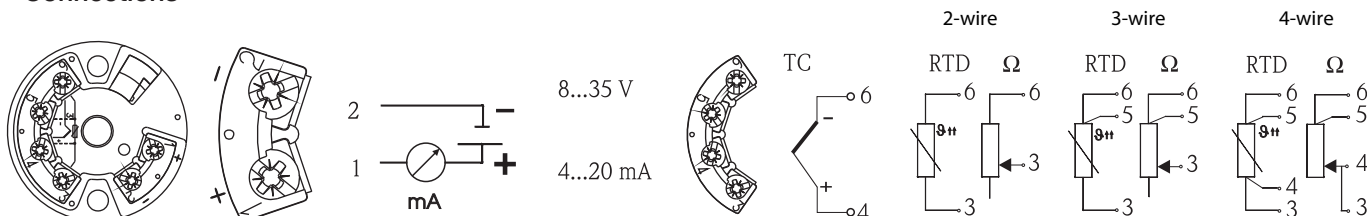
- Multi-Input Transmitter
- Selectable Inputs: Pt100, Ni100 & TCs, etc
- Galvanic Isolation
- Head Mounting: Form B Standard

Application

- PC programmable (PCP) temperature head transmitter for converting various input signals into a scalable 4 to 20 mA analog output signal
- Input:
 - Resistance thermometer (RTD)
 - Thermocouple (TC)
 - Resistance Transmitter (Ω)
- Online configuration using PC with TXU10-AA configuration kit (optional accessory)



Connections



SPECIFICATIONS

Input signal	Resistance thermometer (RTD)	Resistance transmitter (Ω)	Thermocouple (TC)	Voltage transmitter (mV)
	IEC 751 Pt100 Pt1000	Range 10 up to 400 Ω 10 up to 2000 Ω	B (PtRh30-PtRh6) E (NiCr-CuNi) J (Fe-CuNi) K (NiCr-Ni) N (NiCrSi-NiSi) R (PtRh13-Pt) S (PtRh10-Pt) T (Cu-CuNi)	-10 up to 100 mV
Output signal	4 up to 20 mA, 20 to 4 mA (general specification)			
Load	Max. load: $(V_{supply} - 8 V) / 0.025 A$			
Galvanic isolation	I/O: $U = 2 kV AC$			
Filter	1st degree digital filter: 0 up to 8 s			
Current limit	$\leq 25 mA$			
Supply voltage	8 up to 35 V DC, polarity protected			
Residual ripple	Permissible residual ripple $U_{SS} \leq 5 V$ at $U_b \geq 13 V$, $f_{max} = 1 kHz$			
Response time	1 s			
Ambient temperature range	-40 up to +85°C			
Weight	40 g (1.41 oz)			
Materials	Housing: PC Potting: PUR			
Terminals	Cable up to max. 1.75mm ² (16 AWG)			

MODEL

DESCRIPTION

AI 500	Head Mount Universal Input Transmitter (please advice input & range required)
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Industrial Temperature Sensor Assembly (TE.20 Series ,Ordering Guideline)

Please refer to below data sheet for choosing right model number of your sensor and do let us know about your need.

TE.20 Fixed Type (No Spring Movement)

TE.21 Base Plate Spring Loaded Type

TE.22 Hexagonal Spring Loaded Type

Sensor Type									
K	Type K Thermocouple								
J	Type J Thermocouple								
T	Type T Thermocouple								
E	Type E Thermocouple								
R	RTD (Resistance Temperature Detector)								
Y1	Special version, to be specified								
Tolerance Type									
A	Class A, IEC 751, Thin Film (RTD) (Note: shown data for reference only, it may varies based on sensor type)								
Sensor Sheath									
A	MI-RTD-ø6mm-Single-3 Wire-SS 316 (Note: shown data for reference only, it may varies based on sensor type)								
Wire junction									
U	Ungrounded (Std for RTD)								
G	Grounded								
E	Exposed								
Sheath length/Insertion length									
XXXX	To be specified (e.g 0125 for 125 mm long)								
Housing / Enclosure									
KN1	Weather Proof, Material : Die Cast Aluminum, Colour: Blue								
KN2	Weather Proof, Material : SS 316, Colour: Stainless Steel								
KS	Weather Proof (Small) , Material : Die Cast Aluminum, Colour: Silver								
KD	Weather proof/DIN Form B, Material: Die Cast Aluminum, Colour: Silver								
T	Transmitters (Note: Mounting Thread to be specified by customer)								
Z	None								
Y4	Special version, to be specified								
Mounting Thread (if it do not require the enclosure head)									
P	1/2" NPT c/w 6" teflon lead wire (TE/TE, AWG 24)								
Q	M20 x 1.5 P c/w 6" teflon lead wire (TE/TE, AWG 24)								
R	1/2" BSP c/w 6" teflon lead wire (TE/TE, AWG 24)								
Y5	Special version, to be specified								
Extension nipple type									
1	30 mm, SS316, 1/2" NPT Hexagonal Nipple								
2	75 mm, SS316, 1/2" NPT Plain Nipple								
3	150 mm, SS316, 1/2" NPT Plain Nipple and Union								
Z	None								
Y6	Special version, to be specified								
Additional Options									
Z	None								
X1	Compression fitting								
Y7	Special version, to be specified								
Documents (Optional)									
In-house calibration certificate {RTD,PT100 (@Class A, B,...), Thermocouple}									
	Three points (-25 to 500°C)								
	Five points (-25 to 500°C)								
	None								
	(Note: Singlas/Non-Singlas calibration report is available upon request)								
TE.XX									
	1	2	3	4	5	6	7	8	9 10
									← Order Code