

TEMPERATURE INSTRUMENTS

Sr#	Description	Qty
1	T-Type (Ungrounded) Thermocouple with Head Mount Temperature Transmitter (with cold junction temperature compensation) and Thermowell Please refer to the attached technical specifications document for further details.	30
2	Differential Temperature Transmitter (with cold junction temperature compensation) with Display Unit Please refer to the attached technical specifications document for further details.	6
3	T-Type Ungrounded Thermocouple (Dual Element with Thermo well & Extension cable Please refer to the attached technical specifications document for further details.	8
4	T-Type Ungrounded Thermocouple (Dual Element) with Lead Wire Transition Please refer to the attached technical specifications document for further details.	8
5	Temperature Switch with Display Unit and Thermowell Please refer to the attached technical specifications document for further details.	2
6	RTDs with Thermowell Please refer to the attached technical specifications document for further details.	12
<u>Notes:</u> a. Technical literature of the offered items must be provided with the quotation. b. Make and country of origin of the offered items should be mentioned in the quotation.		

Instrument Type	T-Type (ungrounded) Thermocouple with head mount Temperature Transmitter (with cold junction temperature compensation) & Thermowell
Total Quantity	30

No	Instrument Range	Thermowell Overall Length	Description	Qty
1	0~100 °C	7- ¾" for 7- ½" thermocouple probes	7- ¾" (6" insertion length) with 0.26" bore diameter for use with 7- ½" long 1/4"diameter thermocouple probes with 1/2" NPT thread fitting	20
2	0~100 °C	9- ¾" for 9- ½" thermocouple probes	9- ¾" (8" insertion length) with 0.26" bore diameter for use with 9- ½" long 1/4"diameter thermocouple probes with 1/2" NPT thread fitting	10

Output Signal	4~20mA (loop powered) with HART®
Supply Voltage	9~30 VDC
Electrical Connection Conduit	M20x1.5
Thermocouple Type	T-Type (ungrounded)
Thermocouple Probe Length	7- ½"
Accuracy	0.1% of FS; Class-1 per IEC-60584
Stability (10 years)	0.1 % of FS
Sensors provision (for Transmitter)	T/C (T-type ungrounded)/RTD/mV
Thermowell Material	Standard SS316 heavy duty tapered
Thermocouple Probe Sheath Material	SS304
Process Temperature	-20 to 120 °C
Humidity	5 to 100% RH, non-condensing
Process Material	Liquid (Water)
Process Connection	Welded (3/4 inch)
Others	Calibration Certificates/ Technical Datasheets/User Manuals

Instrument Type	Differential Temperature Transmitter (with cold junction temperature compensation)
Total Quantity	06

No	Instrument Range	Qty
1	0~15 °C	06

Output Signal	4~20mA (Loop Powered) with HART®
Supply Voltage	9~30 VDC
Input Signal	Dual Input (T/C T-type)
Mounting	Field Mounted
Mounting Bracket	2" Horizontal pipe (SS304L)
Temperature Range	-50~150 °C
Electrical Connection Conduit	M20x1.5
Ambient Temperature	-30~80 °C
Accuracy	0.1 % of FS; Class-1 per IEC-60584
Stability (10 years)	0.1 % of FS
Sensors provision (for Transmitter)	T/C (T-type ungrounded)/RTD/mV
Sensor Diagnostic	Yes
Transmitter Housing	Aluminum
Housing Protection	IP67
Others	Calibration Certificates/ Technical Datasheets/User Manuals

Instrument Type	T-Type ungrounded Thermocouple (Dual Element) with Thermowell and Extension Cable
Total Quantity	08

No	Instrument Range	Thermowell Overall Length	Qty
1	0~100 °C	7- ¾" for 7- ½" thermocouple probes	08

Thermocouple Type	T-Type (ungrounded) dual element
Accuracy	0.1% of FS; Class-1 per IEC-60584
Stability (10 years)	0.1 % of FS
Thermocouple Probe Length	7- ½"
Thermowell Material	Standard SS316 heavy duty tapered
Thermowell Length	7- ¾" (6"insertion length) with 0.26" bore diameter for use with 7- ½" long 1/4" diameter probes with 1/2" NPT thread fitting
T-Type Thermocouple Extension Cable	4-pair; 200 m; 20 AWG; Stranded; fire retardant (Qty:01)
Process Material	Liquid (Water)
Thermocouple Probe Sheath Material	SS304
Process Connection	welded (3/4 inch)
Accessories	T-Type Thermocouple connectors (for each thermocouple) with terminal blocks for connection with thermocouple extension wires.
Others	Calibration Certificates/ Technical Datasheets/User Manuals

Instrument Type	T-Type ungrounded Thermocouple (Dual Element) with Lead Wire Transition
Total Quantity	08

Thermocouple Type	T-Type (ungrounded) dual element
Temperature Sensing Range	-200 to 371 °C
Accuracy	0.1% of FS; Class-1 per IEC-60584
Stability (10 years)	0.1 % of FS
Response time	2.9 S, 63 % of a 25 to 77 °C step change
Thermocouple Probe Length	6"
Thermocouple Probe Diameter	1/8"
Thermocouple Probe sheath Material	Standard SS316
Process Material	Liquid (Water)
Lead Wire	15 m heavy duty stranded conductor lead wire transition with stainless steel overbraid and fiberglass insulation
Accessories	T-Type Thermocouple connectors (for each thermocouple) with terminal blocks for connection with thermocouple extension wires.
Others	Calibration Certificates/ Technical Datasheets/User Manuals

Instrument Type	Temperature Switch with Display Unit and RTD
Total Quantity	02

No	Instrument Range	Thermowell Insertion Length	Qty
1	0~100 °C	7- ¾" for 7 ½" thermocouple probes	02

Thermocouple Type	RTD (PT 100) 3-Wire
Output	Contact at adjustable Temperature
Accuracy	Class A ±0.15 C
Stability (10 Years)	0.1 % of FS
Electrical Connection Conduit	M20x1.5
Thermowell	Yes (Welded)
Thermowell Length	7- ¾" (6" insertion length) with 0.26" bore diameter for use with 7- ½" long 1/4" diameter probes with 1/2" NPT thread fitting
Dial	White (Aluminum), Black Letters, Black Pointer
Dial Diameter	160 mm
Range	0~100 °C
Window	Laminated Safety Glass
Sensor & Wetted Parts Material	SS316L
Enclosure Material	Aluminum
Process Temperature	-40 to 120 °C
Humidity	5 to 100% RH, non-condensing
Static Pressure	25 mbar to 100 bar
Mounting	Line
Connection Body Material	SS316L
Process Material	Liquid (Water)
Process Connection	¾" Welded
Display	Centigrade
Protection	IP67, Intrinsically Safe
Others	Calibration Certificates/ Technical Datasheets/User Manuals

Instrument Type	RTDs with Thermowell
Total Quantity	12

No	Instrument Range	Thermowell Insertion Length	Qty
1	0~100 °C	7- ¾" for 7- ½" RTD probes	12

RTD Type	PT100 (Three wire)
Sensing Element	Single 100 ohm platinum (PT 100) 3-wire
Temperature Sensing Range	-50 ~ 300 °C
TCR	0.00385 ohm/ohm/°C
Accuracy	Class A ±0.15 C
Response time	2.9 sec (63% of a 25 to 77 °C step change)
Probe Length	7- ½"
Probe size	1/4"
Probe sheath material	SS316
Connection head	Die-cast Aluminum Screw cover with stainless steel chain
Mounting	Integral 1/2" x 1/2" NPT HEX Nipple, 316 SS, Mounting in Thermowell
Conduit opening	M20 x1.5
Wiring	Ceramic terminal base with brass terminals and SS screws
Thermowell	Heavy Duty tapered thermowell
Thermowell Material	SS304
process connection	Welded
Thermowell Length	7- ¾" (6" Insertion length) with 0.26" bore diameter for use with 7- ½" long 1/4" diameter probes with 1/2" NPT thread fitting
Thread Insertion Length	2.5" Insertion Length
Process Material	Liquid (Water)
Protection	IP67
Others	Calibration Certificates/ Technical Datasheets/User Manuals