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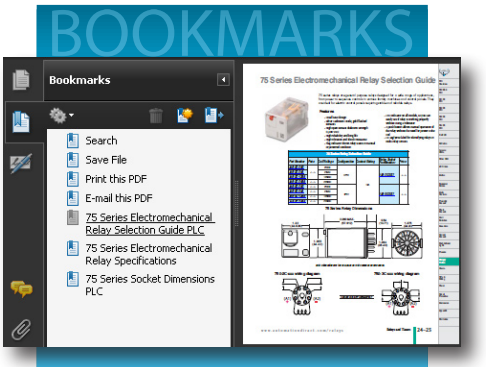
# ProSense® Temperature Sensors

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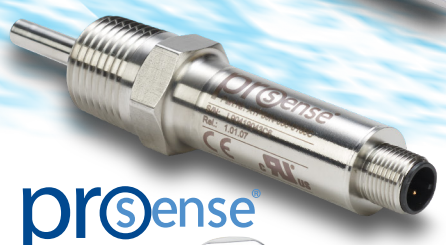
# Reliable process measurement for less -
## Temperature Sensors, Switches, Transmitters and Thermometers

## TSDA25 Series Temperature Switches **all models $89**

- Compact temperature switch with simple setup using mechanical adjustment dials
- Temperature setting ranges: -4 to 284°F (-20 to 140°C) for TSDA25N-0P-0284-H -13 to 284 deg F (-25 to 140 deg C) for TSDA25N-AP-0284-H
- Extremely durable housing with 316 stainless steel wetted parts
- LEDs indicate power and function status
- Two DC switching outputs
- cULus, CE, RoHS



## XTP Series Temperature Transmitter Probes **starting at $120**

- RTD and transmitter electronics combined in a single stainless steel probe
- Ready to use with preconfigured temperature measuring ranges
- 30, 50, 100, or 150mm probe lengths
- cULus, CE, RoHS
- Free ProSense XT-SOFT software can be used to program custom measuring ranges and change other parameters
- 1/4" or 1/2" male NPT threads for direct mounting or in thermowells
- IP66/67 or IP69K with appropriate cable

## ETS Series Digital Temperature Sensors
**starting at $146.00**

- RTD, measuring electronics, and process fitting combined in a single stainless steel probe
- Two solid-state switch outputs
- One output configurable as a scalable analog 4-20 mA signal (on select models)
- Wide measuring range of -58 to 302°F
- Easily configured with pushbuttons or free ProSense XT-SOFT
- 30, 50, 100 or 150mm probe lengths
- 1/4" or 1/2" male NPT threads for direct mounting or in thermowells
- Built-in digital display with 2 yellow status LEDs
- Housing rotates up to 310° and display flips for inverted installations
- IP65/IP66 ingress protection rating


## XTD Series DIN Rail Mounted Temperature Transmitters
**starting at $89.00**

**Non-programmable models**

- Models for thermocouple Types J, K, or T
- Models for RTD Type Pt100 3-wire
- Select from a variety of pre-configured measuring ranges
- 4-20mA analog output signal
- 2 kVAC isolation
- cULus, CE, RoHS

**Programmable models**

- Thermocouple Types J, K, T, E, N, R, S, U, B, C, D, L
- RTD Types Pt100, Pt500, Pt1000, Pt50, Ni100, Ni500, Ni1000, Cu50, Cu100 (2, 3 or 4-wire)
- 4-20mA analog output signal
- 2 kVAC isolation

## XTH Series Head Mounted Temperature Transmitters
**starting at $89.00**

**Non-programmable models**

- Models for thermocouple Types J, K, or T
- Models for RTD Type Pt100 3-wire
- Select from a variety of pre-configured measuring ranges
- 4-20mA analog output signal
- 2 kVAC isolation
- cULus, CE, RoHS

**Programmable models**

- Thermocouple Types J, K, T, E, N, R, S, U, B, C, D, L
- RTD Types Pt100, Pt500, Pt1000, Pt50, Ni100, Ni500, Ni1000, Cu50, Cu100 (2, 3 or 4-wire)
- 4-20mA analog output signal
- 2 kVAC isolation
- cULus, CE, RoHS

## TTD-20 Series Temperature Transmitters
**starting at $65.00**

- Converts temperature probe outputs to 4-20mA signals
- High accuracy 2-wire or 3-wire 4-20mA temperature transmitter
- M12 Quick-disconnect for fast mounting
- 2 available temperature ranges
- LED indication of loop current
- 3-year warranty
- cULus, CE, RoHS


## RTD sensors **starting at $26.00**

Most RTD sensors are pre-built stock items. RTD sensors and probes are 100 ohm platinum in 3- or 4-wire styles. Models available include:

- Probes with connection head
- Spring-loaded probes -with connection head
- Probes with hex nipple
- Spring-loaded probes with hex nipple
- Probes with attached plug
- Probes with lead wire transition
- Adjustable immersion sensors
- Bolt-on ring sensors
- Probes with M12 cable connector
- Sanitary clean-in-place (CIP) probes
- Room temperature sensors
- Class A accuracy (most models)

## Thermocouples **starting at $16.00**

All thermocouples are pre-built stock items. Probes are available with type J, K or T thermocouple elements to meet many temperature sensing applications. Models available include:

- Probes with connection head up to 2,100 F
- Probes spring-loaded with connection head
- Probes with hex nipple
- Probes spring-loaded with hex nipple
- Probes with attached plug
- Probes with lead wire transition
- Adjustable immersion sensors
- Bolt-on ring sensors
- Room temperature sensors
- Made in the USA
- RoHS

## Thermowells **starting at $24.00**

All thermowells are pre-built stock items. Models available include:

- Thermowells for RTD probes with M12 cable connector
- NEW! Thermowells for spring-loaded thermocouple and RTD probes or thermometers

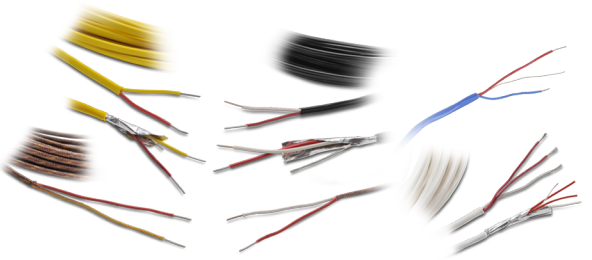
## Bi-Metal Thermometers

- Bi-metallic sensing element for reliable readings
- 3 and 5-inch dials
- Back or adjustable angle connection
- 304 stainless steel
- ±1% accuracy
- 5 year warranty

## Extension Wire

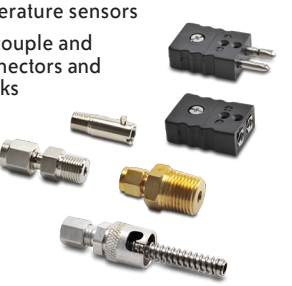
Extension wire is available in 50, 100 and 200 ft. lengths.

- Thermocouple extension wire for Types J, K and T with standard ASTM/ ANSI color coding
- RTD extension wire specially constructed to offer superior performance compared to “off-the-shelf” cable



## Accessories

- Compression mounting fittings for temperature probes
- Bayonet mounting adapter for temperature sensors
- Thermocouple and RTD connectors and panel Jacks



# ProSense® TSDA25 Series Temperature Switches

*Part No.*
*TSDA25N-AP-0284-H*

*Part No.*
*TSDA25N-0P-0284-H*

## Features

- Compact temperature switch with simple setup using mechanical adjustment dials
- Extremely durable housing with 316 stainless steel wetted parts
- No internal moving parts ensure long-term stability without setpoint drift
- LEDs indicate switching and operating status
- Two normally open or complementary normally open/normally closed PNP DC switching outputs
- Optional plastic protective cover: PSD-CV
- Use with compatible liquid or gas media
- 3-year warranty


*See www.AutomationDirect.com for a wide variety of cable options*

| ProSense Series Temperature Sensors | | | | | |
|---|---|---|---|---|---|
| ***Part Number*** | ***Description*** | ***Pcs/Pkg*** | ***Wt(lb)*** | ***Price*** | ***Optional Cover*** |
| ***TSDA25N-AP-0284-H*** | ProSense temperature switch, integral Pt1000 RTD, -13 to 284 deg F, 50mm insertion length, 6mm probe diameter, 1/4in male NPT process connection, output 1: switch PNP, N.O., output 2: switch PNP, N.O. | 1 | 0.25 | $89.00 | PSD-CV |
| ***TSDA25N-0P-0284-H*** | ProSense temperature switch, integral Pt1000 RTD, -4 to 284 deg F, 50mm insertion length, 6mm probe diameter, 1/4in male NPT process connection, output: switch PNP, N.O./N.C. complementary. | 1 | 0.25 | $89.00 | PSD-CV |
| ***Note: Purchase cable separately*** | | | | | |

| ProSense TSDA25 Series Technical Specifications | | |
|---|---|---|
| | ***TSDA25N-AP-0284-H*** | ***TSDA25N-0P-0284-H*** |
| ***Operating Voltage*** | 9.6 to 32 VDC** | |
| ***Process Connection*** | 1/4" MNPT | |
| ***Electrical Connection*** | M12 connector; gold-plated contacts | |
| ***Outputs*** | Two PNP N.O. switching DC outputs | Two complementary PNP (1-N.O./1-N.C.) switching DC outputs |
| ***Current Rating*** | 500 mA each output | |
| ***Current Consumption*** | < 30 mA | |
| ***Short-Circuit Protection*** | Yes (pulsed) | |
| ***Reverse Polarity Protection*** | Yes | |
| ***Overload Protection*** | Yes | |
| ***Voltage Drop*** | < 2 VDC | |
| ***Pressure Rating*** | 5802 psi (400 bar) | |
| ***Temperature Sensing Range*** | -13 to 284°F (-25 to 140°C) | -4 to 284°F (-20 to 140°C) |
| ***Setpoint scale*** | -4 to 284°F (-20 to 140°C) | 3 to 284°F (-16 to 140°C) |
| ***Reset point scale*** | Fixed 9°F (5°C) below setpoint | -4 to 277°F (-20 to 136°C) |
| ***Adjustment of the Switch Point*** | Setting dials | |
| ***Setting Accuracy*** | ± 5.4°F (3°C) | |
| ***Repeatability*** | ± 0.1% of full range in °C | |
| ***Temperature Drift*** | ± 0.1%, of full temperature range/10°C; 32 to 176°F (0 to 80°C). | |
| ***Power-on Delay Time*** | 0.5 seconds | |
| ***Measuring Element*** | 1 x Pt 1000, to DIN EN 60751, class A | |
| ***Dynamic Response (DIN EN 60751)*** | *$t_{0.5}$ = 1 sec/ $t_{0.9}$ = 3 sec | |

**** $t_{0.5}$ = a 50% of full scale change in output when immersed in water at 0.4m/s, $t_{0.9}$ = a 90% FS change.***

***** Class 2 power supply must be used in order to comply with UL requirements***

# ProSense® TSDA25 Series Temperature Switches

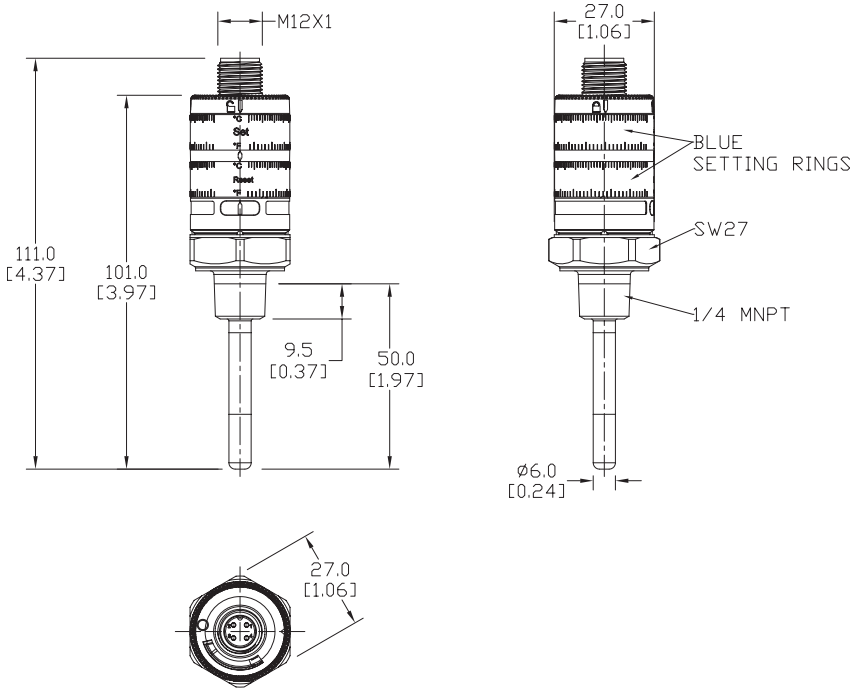
| ProSense TSDA25 Series Technical Specifications Continued | | |
|---|---|---|
| | ***TSDA25N-AP-0284-H*** | ***TSDA25N-0P-0284-H*** |
| ***Minimum Installation Depth*** | 0.6 in (15 mm) | |
| ***Housing Material*** | PBT (Pocan); PC (Makrolon); FPM (Viton); stainless steel (316L) | |
| ***Materials (wetted parts)*** | Stainless steel (316L) | |
| ***Indication/Switch Status*** | Switching Status: 2 LEDs: yellow | Power: LED - green - Switching Status: LED - yellow |
| ***Ambient Temperature*** | -40 to 176°F (-40 to 80°C) at max. 176°F (80°C) medium temp.<br>-40 to 122°F (-40 to 50°C) at max. 293°F (145°C) medium temp. | |
| ***Medium Temperature*** | -40 to 293°F (-40 to 145°C) | |
| ***Storage Temperature*** | -40 to 212°F (-40 to 100°C) | |
| ***Protection*** | IP67 | |
| ***Protection Class*** | III | |
| ***Insulation Resistance*** | > 100 MΩ (500 VDC) | |
| ***Shock Resistance*** | 50g (DIN / IEC 68-2-27, 11ms) | |
| ***Vibration Resistance*** | 20g (DIN / EN 68-2-6, (10 to 2000 Hz) | |
| ***EMC*** | | |
| ***EN 61000-4-2 ESD*** | 4 kV CD/8 kV AD | |
| ***EN 61000-4-3 HF Radiated*** | 10 V/m | |
| ***EN 61000-4-4 Burst*** | 2 kV | |
| ***EN 61000-4-6 HF Conducted*** | 10 V | |
| ***Approvals*** | cULus File # E324411, CE | |

***To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page***

*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

## Dimensions

**mm [inches]**

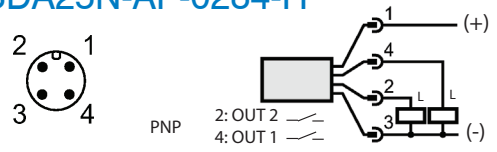



***See our Web site www.AutomationDirect.com for complete Engineering drawings.***

# ProSense® TSDA25 Series Temperature Switches

## Wiring

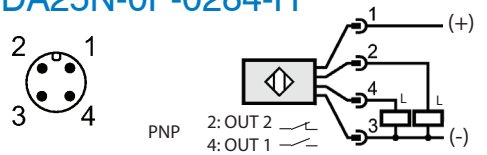
### TSDA25N-AP-0284-H




*Note: wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.*

**Cable Assembly Wiring Colors:**
**Pin 1 - Brown**
**Pin 2 - White**
**Pin 3 - Blue**
**Pin 4 - Black**

### TSDA25N-0P-0284-H

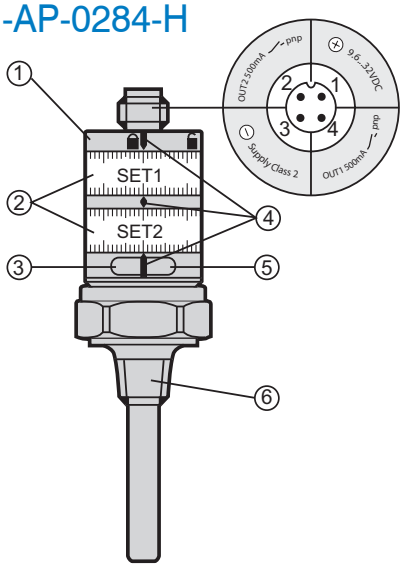



*Note: wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.*

**Cable Assembly Wiring Colors:**
**Pin 1 - Brown**
**Pin 2 - White**
**Pin 3 - Blue**
**Pin 4 - Black**

## Setting and Operation

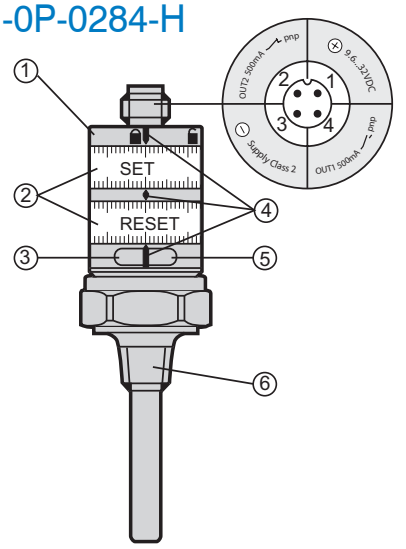
### TSDA25N-AP-0284-H




1: locking ring
2: setting rings (manually adjustable after unlocking)
3: LED yellow: lights if OUT1 = ON, temperature ≥ [SET1]
4: setting marks
5: LED yellow: lights if OUT2 = ON, temperature ≥ [SET2]
6: process connection ¼" NPT
Pin 4 = OUT1 / Pin 2 = OUT2

To obtain the setting accuracy: Set both rings to the minimum value, then set the requested values.

### TSDA25N-0P-0284-H




1: locking ring
2: setting rings (manually adjustable after unlocking)
3: LED green: supply voltage O.K.
4: setting marks
5: LED yellow: value [SET] reached, OUT1 = ON / OUT2 = OFF
6: process connection ¼" NPT
pin 4 = OUT1 / pin 2 = OUT2

Minimum distance between [SET] and [RESET] = 3°C.

To obtain the setting accuracy: Set both rings to the minimum value, then set the requested values.

# ProSense® TTD25 Series Temperature Transmitter

TTD25N

TTD25C

## Features

- High accuracy 2-wire temperature transmitter
- 1000 ohm, Class A platinum RTD sensing element
- 4-20mA analog output signal
- Probes made of durable 316 stainless steel
- Temperature ranges of 0-100°C or 0-300°F

## Agency Approvals

- cULus File number E 324411
- CE
- RoHS

| ProSense Temperature Transmitter Series | | | | | | |
|---|---|---|---|---|---|---|
| **Part Number** | **Description** | **Pcs/Pkg** | **Wt(lb)** | **Price** | **Use With** | **Cable Assemblies** |
| TTD25N-20-0100C-H | 4-20 mA output, 8.3 mm (0.3") dia. probe, 1/4" NPT male port, 4-pin micro M12 plug. Temperature range: 0 to 100°C. | 1 | 0.30 | $126.00 | N/A | CD12L-0B-020-A0 CD12L-0B-020-C0<br>CD12M-0B-070-A1 CD12M-0B-070-C1<br>CDP12-0B-010-AA CDP12-0B-030-AA<br>CDP12-0B-010-BB CDP12-0B-030-BB<br>(order separately - See Proximity Sensor section for cable specs) |
| TTD25N-20-0300F-H | 4-20 mA output, 8.3 mm (0.3") dia. probe, 1/4" NPT male port, 4-pin micro M12 plug. Temperature range: 0 to 300°F . | 1 | 0.30 | $126.00 | N/A | |
| TTD25C-20-0100C-H | 4-20 mA output, 6 mm (0.24") dia. probe, 4-pin micro M12 plug. Temperature range: 0 to 100°C. | 1 | 0.30 | $126.00 | CF06-25N | |
| TTD25C-20-0300F-H | 4-20 mA output, 6 mm (0.24") dia. probe, 4-pin micro M12 plug. Temperature range: 0 to 300°F. | 1 | 0.32 | $126.00 | CF06-25N | |

| ProSense TTD25 Series Technical Specifications | | | | |
|---|---|---|---|---|
| | **TTD25N-20-0100C-H** | **TTD25N-20-0300F-H** | **TTD25C-20-0100C-H** | **TTD25C-20-0300F-H** |
| **Operating Voltage** | 10 to 30 VDC | | | |
| **Electrical Connection** | M12 connector; gold-plated contacts | | | |
| **Process connection** | 1/4" MNPT | | Use CF06-25N | |
| **Short-Circuit Protection** | Yes (non-latching) | | | |
| **Overload Protection** | Yes | | | |
| **Reverse Polarity Protection** | Yes | | | |
| **Analog Output** | 4 to 20 mA (min/max 3.85 to 22 mA) | | | |
| **Maximum Load** | 720Ω at 24 VDC; Rmax = (Supply voltage - 9.6)*50 | | | |
| **Pressure Rating** | 4350 psi (300 bar) | | 725 psi (50 bar) (This value applies to the sensor only. For installation in adapters, use the adapter data sheet indications) | |
| **Accuracy** | ± 0.3°C | ± 0.4°C | ± 0.3°C | ± 0.4°C |
| **Resolution** | <0.02°C | | | |
| **Measuring Element** | 1 x Pt 1000, to DIN EN 60751, class A | | | |
| **Measuring Range** | 32 to 212°F (0 to 100°C) | 0 to 300°F (-17.8 to 148.9°C) | 32 to 212°F (0 to 100°C) | 0 to 300°F (-17.8 to 148.9°C) |
| **Dynamic Response (DIN EN 60751)** | *$t_{0.5}$ = 1 sec/ $t_{0.9}$ = 3 sec | | *$t_{0.5}$ = 1 sec/ $t_{0.9}$ = 3 sec | |
| **Minimum Installation Depth** | N/A | | 0.6 in (15 mm) | |
| **Housing Material** | Stainless steel (316S12); stainless steel (304S15); stainless steel (303S22); PA | | | |
| **Materials (wetted parts)** | Stainless steel (316S12) | | | |
| **Ambient Temperature** | –13 to 158°F (–25 to 70°C) | | | |
| **Storage Temperature** | –40 to 212°F (–40 to 100°C) | | | |
| **Protection** | IP 68 / IP 69K, Class III | | | |
| **Insulation Resistance** | > 100 MΩ (500 VDC) | | | |
| **Shock Resistance** | 50g (DIN / IEC 68-2-27, 11ms) | | | |
| **Vibration Resistance** | 20g (DIN / EN 68-2-6, (10 to 2000 Hz) | | | |
| **EMC** | | | | |
| **EN 61000-4-2 ESD** | 4 kV CD/8 kV AD | | | |
| **EN 61000-4-3 HF Radiated** | 10 V/m | | | |
| **EN 61000-4-4 Burst** | 2 kV | | | |
| **EN 61000-4-5 Surge** | 1 kV | | | |
| **EN 61000-4-6 HF Conducted** | 10 V | | | |

** $t_{0.5}$ = a 50% of full scale change in output when immersed in water at 0.4m/s, $t_{0.9}$ = a 90% FS change.*

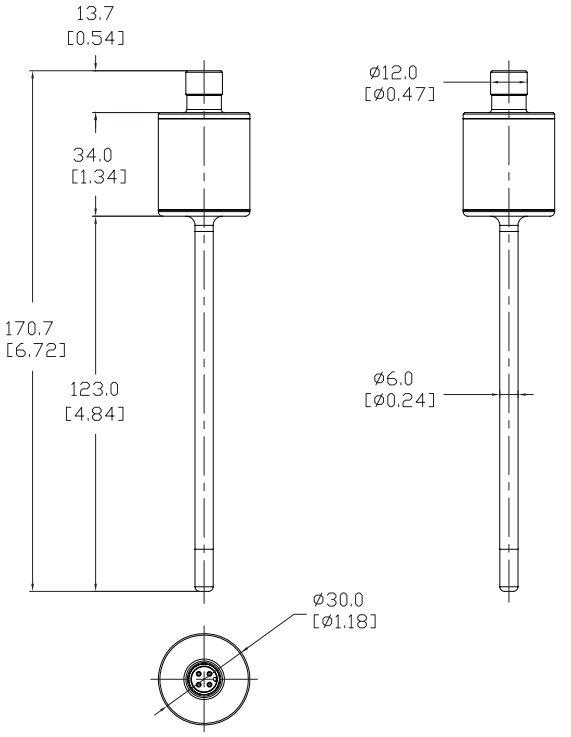
*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*
*www.automationdirect.com/static/specs/prosensechemresistance.pdf*

***TTD25C series may be used with RTDTW-10-010-50N Thermowell & CF06-25N fitting when isolation is required. Please refer to "Thermowells for RTD Probes with M12 Cable Connector" pages for further information.***

# ProSense® TTD25 Temperature Transmitters

## TTD25C Series Dimensions

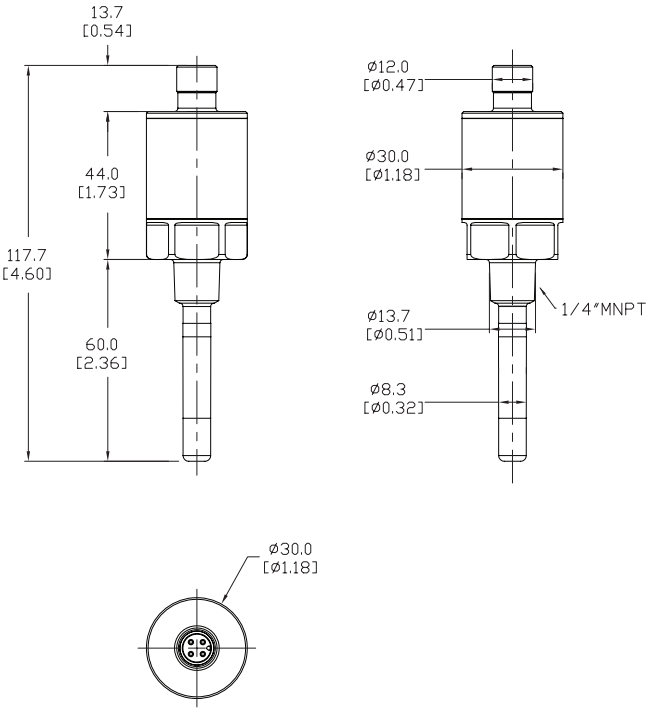
**mm [inches]**



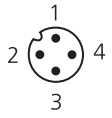

*NOTE: USE PROSENSE COMPRESSION FITTING CF06-25N TO MOUNT TTD25C SERIES TEMPERATURE TRANSMITTER.*

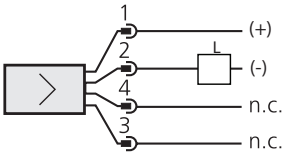
## TTD25N Series Dimensions

**mm [inches]**




## Wiring Diagram




n.c. = not connected

**Cable Assembly Wiring Colors:**
**Pin 1 - Brown**
**Pin 2 - White**
**Pin 3 - Blue**
**Pin 4 - Black**

***Note: wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.***

# ProSense XTP Series Temperature Transmitter Probes

**XTP Series Units**

The ProSense XTP series conveniently combines a precision RTD sensing element and transmitter electronics in a single stainless steel temperature transmitter probe. Offered in three preconfigured temperature measuring ranges, XTP series transmitter probes are ready to use right out of the box. Or, use our free ProSense XT-SOFT software to program the XTP transmitter probe with a custom measuring range and change other configuration parameters. Choose from four standard probe insertion lengths and two integral male NPT threads that allow direct mounting to the process or thermowells, eliminating the need for separate probe mounting or adapter fittings. An M12 quick-disconnect provides connection to the loop powered 4-20 mA output signal that provides a linear representation of measured temperature and is compatible with PLCs, SCADA systems, and digital panel meters.

## Features

- RTD and transmitter electronics combined in a single stainless steel probe
- Ready to use with preconfigured temperature measuring ranges
- Free ProSense XT-SOFT software can be used to program custom measuring ranges and change other configuration parameters
- 30, 50, 100, or 150mm probe insertion lengths
- 1/4" or 1/2" male NPT threads for direct mounting or in thermowells
- 4-20 mA output
- M12 quick-disconnect electrical connection

| ProSense XTP Series Temperature Transmitter Probes | | | | | | |
|---|---|---|---|---|---|---|
| ***Part Number*** | ***Preconfigured Measuring Range**** | ***Thread Size*** | ***Length*** | ***Pcs/Pkg*** | ***Wt(lb)*** | ***Price*** |
| ***XTP25N-030-N40140F*** | -40 to 140°F (-40 to 60°C) | 1/4" MNPT | 30mm | 1 | 0.2 | $120.00 |
| ***XTP25N-050-N40140F*** | | | 50mm | 1 | 0.2 | $121.00 |
| ***XTP25N-100-N40140F*** | | | 100mm | 1 | 0.3 | $123.00 |
| ***XTP25N-150-N40140F*** | | | 150mm | 1 | 0.3 | $125.00 |
| ***XTP50N-030-N40140F*** | | 1/2" MNPT | 30mm | 1 | 0.3 | $120.00 |
| ***XTP50N-050-N40140F*** | | | 50mm | 1 | 0.3 | $121.00 |
| ***XTP50N-100-N40140F**** | | | 100mm | 1 | 0.4 | $123.00 |
| ***XTP50N-150-N40140F**** | | | 150mm | 1 | 0.4 | $125.00 |
| ***XTP25N-030-0300F*** | 0 to 300°F (-17.8 to 148.9°C) | 1/4" MNPT | 30mm | 1 | 0.2 | $120.00 |
| ***XTP25N-050-0300F*** | | | 50mm | 1 | 0.2 | $121.00 |
| ***XTP25N-100-0300F*** | | | 100mm | 1 | 0.3 | $123.00 |
| ***XTP25N-150-0300F*** | | | 150mm | 1 | 0.3 | $125.00 |
| ***XTP50N-030-0300F*** | | 1/2" MNPT | 30mm | 1 | 0.3 | $120.00 |
| ***XTP50N-050-0300F*** | | | 50mm | 1 | 0.3 | $121.00 |
| ***XTP50N-100-0300F**** | | | 100mm | 1 | 0.4 | $123.00 |
| ***XTP50N-150-0300F**** | | | 150mm | 1 | 0.4 | $125.00 |
| ***XTP25N-030-0100C*** | 0 to 100°C (32 to 212°F) | 1/4" MNPT | 30mm | 1 | 0.2 | $120.00 |
| ***XTP25N-050-0100C*** | | | 50mm | 1 | 0.2 | $121.00 |
| ***XTP25N-100-0100C*** | | | 100mm | 1 | 0.3 | $123.00 |
| ***XTP25N-150-0100C*** | | | 150mm | 1 | 0.3 | $125.00 |
| ***XTP50N-030-0100C*** | | 1/2" MNPT | 30mm | 1 | 0.3 | $120.00 |
| ***XTP50N-050-0100C*** | | | 50mm | 1 | 0.3 | $121.00 |
| ***XTP50N-100-0100C**** | | | 100mm | 1 | 0.4 | $123.00 |
| ***XTP50N-150-0100C**** | | | 150mm | 1 | 0.4 | $125.00 |

**** Free ProSense XT-SOFT software can be used to program custom measuring ranges and change other configuration parameters. An XT-USB programming cable and XT-M12 adapter are also required and purchased separately.***

***** Thermowells available (see XTP Series Temperature Transmitter Probe Accessories listed just below unit dimensions)***

# ProSense XTP Series Temperature Transmitter Probes

| ProSense XTP Series Temperature Transmitter Probes Specifications | |
|---|---|
| ***Operating Voltage*** | 10 to 35 VDC |
| ***Electrical Connection*** | M12 connector |
| ***Process connection*** | 1/4" NPT male (XTP25 series) or 1/2" NPT male (XTP50 series) |
| ***Short-Circuit Protection*** | Yes |
| ***Electrical Protection*** | Protection Class III, Overvoltage category II, Pollution degree 2 |
| ***Reverse Polarity Protection*** | Yes |
| ***Analog Output*** | 4 to 20 mA (configurable for 20 to 4 mA) |
| ***Maximum Load*** | 608Ω @ 24VDC<br>($U_{powersupply}$ - 10V) / 0.023 A |
| ***Signal on Alarm (per NAMUR NE43)*** | Underranging: Linear drop to 3.8 mA<br>Overranging: Linear rise to 20.5 mA<br>Sensor break; Sensor short-circuit:<br>≥ 21.0 mA (21.5 mA output is guaranteed) or configurable for ≤ 3.6 mA |
| ***Minimum Current Consumption*** | ≤ 3.5 mA |
| ***Current Limit*** | ≤ 23mA |
| ***Switch-on Delay*** | 2s |
| ***Sensor Response Time*** | t50 < 1.0 s, t90 < 2.0 s** |
| ***Transmitter Response Time*** | ≤ 1s** |
| ***Pressure Rating*** | Threaded process connection max. 1450psi (100bar) |
| ***Altitude*** | Up to 6600ft (2000m) |
| ***Accuracy*** | 0.25K + 0.002* \|T\|, \|T\| = Numerical value of the temperature in °C without regard to the leading sign |
| ***Long-term Stability of Electronics*** | ≤ 0.1 K / year or 0.05 % / year |
| ***Measuring Element*** | Pt100 class A as per IEC 60751 |
| ***Measuring Range*** | -58 to 302°F (-50 to 150°C) |
| ***Minimum Span*** | 10K (18°F) |
| ***Minimum Installation Depth*** | 30mm |
| ***Housing Material*** | Stainless steel (304) |
| ***Materials (wetted parts)*** | Stainless steel (316L) |
| ***Ambient Temperature*** | –40 to 185°F (–40 to 85°C) |
| ***Process Temperature*** | –58 to 302°F (–50 to 150°C) |
| ***Storage Temperature*** | –40 to 185°F (–40 to 85°C) |
| ***Shock Resistance and Vibration Resistance*** | 4g / 2 to 150Hz as per IEC 60068-2-6 |
| ***Climate Class*** | Per IEC 60654-1, Class C |
| ***EMC (Electromagnetic Compatibility)**** | |
| ***IEC/EN 61000-4-2*** | ESD (electrostatic discharge) 6kV cont., 8kV air |
| ***IEC/EN 61000-4-3*** | Electromagnetic fields 0.08 to 2GHz, 10 V/m |
| ***IEC/EN 61000-4-4*** | Burst (fast transient) 2kV |
| ***IEC/EN 61000-4-5*** | Surge 0.5 kV sym. |
| ***IEC/EN 61000-4-6*** | Conducted RF 0.01 to 80MHz, 10V |
| ***Protection*** | IP66/67 or IP69K with appropriately rated cable |
| ***Agency Approvals*** | UL # E311366, CE |

**** All EMC measurements were performed with a turn down (TD) = 2:1. Maximum fluctuations during EMC - tests: < 1% of measuring span.***
***Interference immunity to IEC/EN 61326 - series, requirements for industrial areas***
***Interference emission to IEC/EN 61326 - series, electrical equipment Class B.***

***** Measured per IEC 60751, in flowing water at 1.3 ft/s (0.4 m/s)***

*NOTE: RESPONSE TIME IS REDUCED WHEN INSTALLED IN A THERMOWELL. THERMAL COMPOUND MAY BE USED DEPENDING ON APPLICATION.*

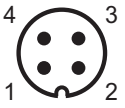
*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

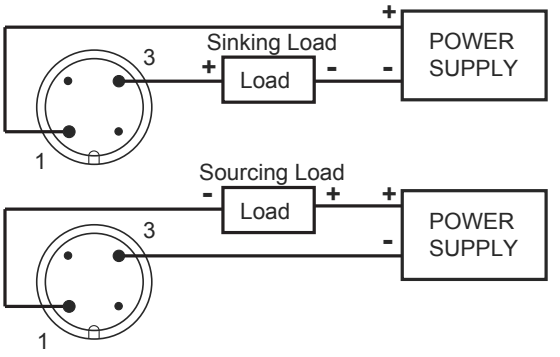
# ProSense® XTP Series Temperature Transmitter Probes

## Wiring

**Cable Assembly Wiring Colors:**
**Pin 1 - Brown**
**Pin 2 - White**
**Pin 3 - Blue**
**Pin 4 - Black**

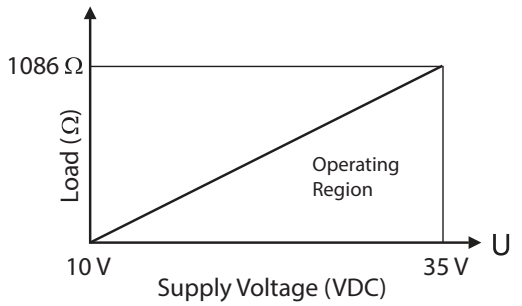
***Note: wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.***



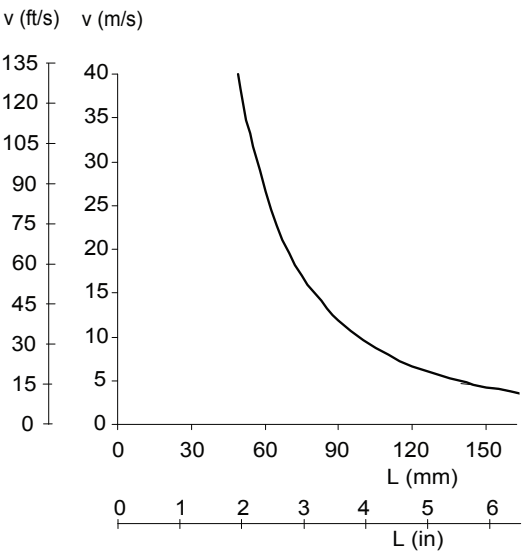


## Load Impedance




**RLmax = ($V_{powersupply}$-10V) / 0.023 A (current output)**
**e.g. (24V - 10V) / 0.023A = 608Ω**

## Maximum Flow Velocity Per Insertion Length




L Insertion length, during flow
v Flow velocity
Medium water at T = 50 °C (122 °F)

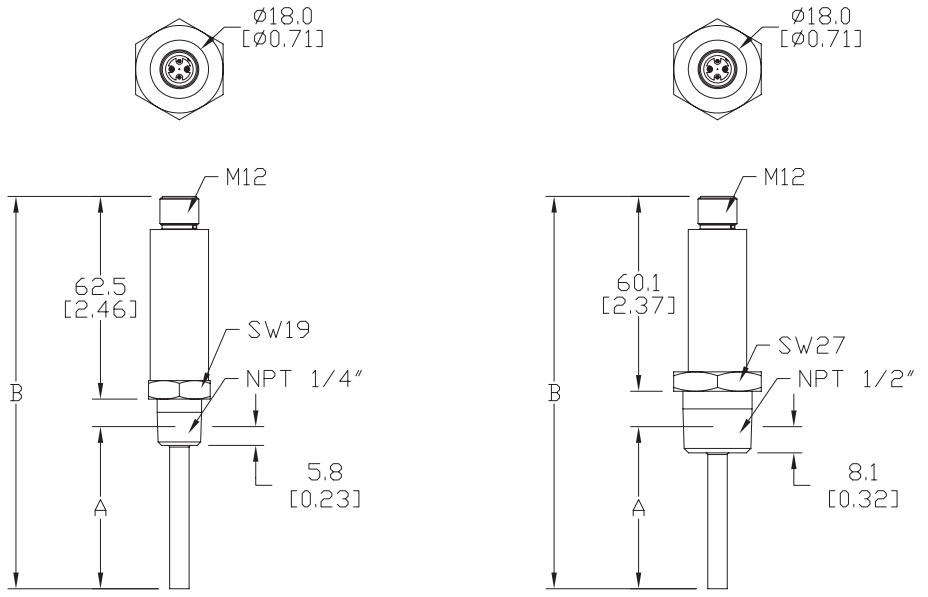
## Temperature Limits

| *Max. Ambient Temperature* | *Max. Process Temperature* |
|---|---|
| Up to 25°C (77°F) | 150°C (302°F) |
| Up to 40°C (104°F) | 135°C (275°F) |
| Up to 60°C (140°F) | 120°C (248°F) |
| Up to 85°C (185°F) | 100°C (212°F) |

# ProSense® XTP Series Temperature Transmitter Probes

## Dimensions

**mm [inches]**




**XTP25 Series Units** **XTP50 Series Units**

| Dimensions | |
|---|---|
| ***A*** | ***B*** |
| 1.18 in [30mm] | $89.00 |
| 1.97 in [50mm] | $89.00 |
| 3.94 in [100mm] | $89.00 |
| 5.91 in [150mm] | $9.00 |

***See our website www.AutomationDirect.com for complete Engineering drawings.***

## XTP Series Temperature Transmitter Probe Accessories

***TW06-01***

***TW06-02***

| *Part No.* | *Description* | *Use with Transmitter Probe* | *Pcs/Pkg* | *Price* |
|---|---|---|---|---|
| ***TW04-01*** | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 304 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter, 2-1/2 inch insertion length | XTP50N-100-XXXX | 1 | $24.00 |
| ***TW04-02*** | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 304 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter, 2-1/2 inch insertion length | | 1 | $24.00 |
| ***TW04-03*** | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 316 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter, 2-1/2 inch insertion length | | 1 | $31.00 |
| ***TW04-04*** | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 316 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter, 2-1/2 inch insertion length | | 1 | $31.00 |
| ***TW06-01*** | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 304 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter, 4-1/2 inch insertion length | XTP50N-150-XXXX | 1 | $32.00 |
| ***TW06-02*** | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 304 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter, 4-1/2 inch insertion length | | 1 | $32.00 |
| ***TW06-03*** | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 316 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter, 4-1/2 inch insertion length | | 1 | $41.00 |
| ***TW06-04*** | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 316 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter, 4-1/2 inch insertion length | | 1 | $41.00 |

# ProSense® ETS Series Digital Temperature Sensors

## Overview

AutomationDirect's ProSense ETS Series of Digital Temperature Sensors is ideal for industrial temperature measurement and indication in a wide variety of applications. The ETS series conveniently combines a precision RTD sensing element, measuring electronics, and process fitting all in a single stainless steel temperature transmitter probe. They have a wide measuring range of -58 to 302°F. Choose from four standard probe insertion lengths and two integral male NPT process threads that allow direct mounting to the process or thermowells, eliminating the need for separate probe mounting or adapter fittings. With no moving parts the two solid state switch outputs provide a reliable alternative to mechanical temperature switches. Available models allow an output to be configured as a scalable analog signal, turning the unit into a combination temperature switch and transmitter. The built-in digital display provides indication of the measured temperature. Two yellow LEDs indicate output switch status. For optimum visibility the sensor housing can be rotated up to 310° after installation and the digital display can be electronically flipped 180° for inverted installations. Simple pushbutton setup allows the ETS to be easily and quickly configured prior to installation without the need for a separate temperature reference. Or, use our free ProSense XT-SOFT software to program the ETS parameters. Electrical connection is made with a 4-pin M12 quick-disconnect cable. The compact and robust design and construction of the ProSense ETS series withstands shock and vibration, and provides high accuracy and reliability required to excel in industrial temperature sensing applications.

**ProSense ETS Digital Temperature Sensors Selection Guide**

| Part Number | Price | Measuring Range* | Thread Size | Length | Outputs |
|---|---|---|---|---|---|
| ETS50N-30-1001 | $166.00 | -58 to 302°F (-50 to 150°C) | 1/2" MNPT | 30mm | Output 1: switch PNP, N.O./N.C. selectable or 4-20 mA[1] Output 2: switch PNP, N.O./N.C. selectable or 4-20 mA[1] |
| ETS50N-50-1001 | $167.00 | | | 50mm | |
| ETS50N-100-1001** | $168.00 | | | 100mm | |
| ETS50N-150-1001** | $169.00 | | | 150mm | |
| ETS25N-30-1001 | $164.00 | | 1/4" MNPT | 30mm | |
| ETS25N-50-1001 | $165.00 | | | 50mm | |
| ETS50N-30-1003 | $148.00 | -58 to 302°F (-50 to 150°C) | 1/2" MNPT | 30mm | Output 1: switch PNP, N.O./N.C. selectable Output 2: switch PNP, N.O./N.C. selectable |
| ETS50N-50-1003 | $149.00 | | | 50mm | |
| ETS50N-100-1003** | $150.00 | | | 100mm | |
| ETS50N-150-1003** | $151.00 | | | 150mm | |
| ETS25N-30-1003 | $146.00 | | 1/4" MNPT | 30mm | |
| ETS25N-50-1003 | $147.00 | | | 50mm | |

** Pushbuttons or free ProSense XT-SOFT software can be used to program custom measuring ranges and change other configuration parameters. An XT-USB programming cable may be required and purchased separately.*

*** Thermowells available (see ETS Series Digital Temperature Sensor Accessories)*

*[1] Only one output can be configured as analog.*

# ProSense® ETS Series (-1001) Digital Temperature Sensors

## Features

- **Outputs:**
  - **2 solid-state switch outputs provide a reliable alternative to mechanical temperature switches**
  - **One output can be configured as a scalable analog 4-20 mA signal, turning the unit into a combination temperature switch and transmitter**
- Ideal for industrial temperature measurement and indication in many applications
- RTD, measuring electronics, and process fitting combined in a single stainless steel probe
- Wide measuring range of -58 to 302°F
- Easily configured with pushbuttons or free ProSense XT-SOFT
- 30, 50, 100 or 150mm probe insertion lengths
- Integral 1/4" NPT or 1/2" NPT male process connection allows for direct installation without requiring extra fittings
- Built-in digital display provides indication of measured temperature and 2 yellow LEDs indicate output status
- The sensor housing can be rotated up to 310° and the digital display can be flipped 180° for installation flexibility
- Stainless steel housing provides a high IP65/IP66 ingress protection rating
- 4-pin M12 quick-disconnect electrical connection


*For a variety of cable options see our website www.AutomationDirect.com*

| ETS Series (-1001) Digital Temperature Sensors | | | | |
|---|---|---|---|---|
| ***Part Number*** | ***Description*** | ***Pcs/Pkg*** | ***Wt (lb)*** | ***Price*** |
| ***ETS50N-30-1001*** | ProSense digital temperature sensor, 1/2in male NPT process connection, 30mm insertion length, -58 to 302 deg F, output 1: switch PNP, N.O./N.C. selectable or 4-20 mA, output 2: switch PNP, N.O./N.C. selectable or 4-20 mA, 4-digit display. | 1 | 0.9 | $166.00 |
| ***ETS50N-50-1001*** | ProSense digital temperature sensor, 1/2in male NPT process connection, 50mm insertion length, -58 to 302 deg F, output 1: switch PNP, N.O./N.C. selectable or 4-20 mA, output 2: switch PNP, N.O./N.C. selectable or 4-20 mA, 4-digit display. | 1 | 0.9 | $167.00 |
| ***ETS50N-100-1001**** | ProSense digital temperature sensor, 1/2in male NPT process connection, 100mm insertion length, -58 to 302 deg F, output 1: switch PNP, N.O./N.C. selectable or 4-20 mA, output 2: switch PNP, N.O./N.C. selectable or 4-20 mA, 4-digit display. | 1 | 0.9 | $168.00 |
| ***ETS50N-150-1001**** | ProSense digital temperature sensor, 1/2in male NPT process connection, 150mm insertion length, -58 to 302 deg F, output 1: switch PNP, N.O./N.C. selectable or 4-20 mA, output 2: switch PNP, N.O./N.C. selectable or 4-20 mA, 4-digit display. | 1 | 0.9 | $169.00 |
| ***ETS25N-30-1001*** | ProSense digital temperature sensor, 1/4in male NPT process connection, 30mm insertion length, -58 to 302 deg F, output 1: switch PNP, N.O./N.C. selectable or 4-20 mA, output 2: switch PNP, N.O./N.C. selectable or 4-20 mA, 4-digit display. | 1 | 0.8 | $164.00 |
| ***ETS25N-50-1001*** | ProSense digital temperature sensor, 1/4in male NPT process connection, 50mm insertion length, -58 to 302 deg F, output 1: switch PNP, N.O./N.C. selectable or 4-20 mA, output 2: switch PNP, N.O./N.C. selectable or 4-20 mA, 4-digit display. | 1 | 0.8 | $165.00 |

**** Thermowells available (see ETS Series Digital Temperature Sensor Accessories)***

*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED*

# ProSense® ETS Series (-1001) Digital Temperature Sensors

| ProSense ETS (-1001) Series Specifications | | |
|---|---|---|
| **Input** | | |
| **Measuring Element** | Pt100 as per IEC 60751 | |
| **Measuring Range** | -50 to 150°C (-58 to +302°F) | |
| **Min. Span** | 20K/20°C (36°F) | |
| **Output** | | |
| **Output Signal** | 2 x PNP switch outputs or one PNP switch output and 1 x 4 to 20mA output (sourcing) | |
| **Range of Adjustment** | Switch output | Switch point (SP) and Switch-back point (RSP) in increments of 0.1°C (0.18°F) Min. distance between SP and RSP: 0.5°C (0.8°F) |
| | Analog output | Lower range value (LRV) and upper range value (URV) can be set anywhere within the sensor range (min. measuring range 20K (36°F)<br>LRV Factory Setting: 32°F (0°C)<br>URV Factory Setting: 302°F (150°C) |
| | Damping | 0 (no damping) or 9 to 40s in increments of 1 second |
| | Unit | °C, K, °F |
| **Analog Outputs** | Output on Fault | MIN = ≤ 3.6 mA<br>MAX = ≥ 21.0 mA<br>HOLD = last value |
| | Load | Max. ($V_{power\ supply}$ - 6.5 V) / 0.022A (current output) , 795Ω @ 24VDC |
| **Switch Outputs** | Switch status ON | $I_a \leq 250mA$ |
| | Switch status OFF | $I_a \leq 1mA$ |
| | Switching cycles | > 10,000,000 |
| | Voltage drop PNP | ≤ 2V |
| | Overload protection | Automatic testing of switching current; output is switched off in case of overcurrent, the switching current is tested again every 0.5 s;<br>Max. capacitance load: 14µF for max. supply voltage (without resistive load);<br>Periodic disconnection from a protective circuit in event of overcurrent (f = 2Hz) and indication of "Warning" |
| | Output on Fault | Switch opens |
| **Inductive Load** | Requires transient voltage suppression | |
| **Display** | Backlit LCD (7mm) | |
| **Power Supply** | | |
| **Device Connection** | M12 connector | |
| **Supply Voltage** | 12 to 30VDC (reverse polarity protection) | |
| **Current Consumption** | Without load < 60mA, with reverse polarity protection | |
| **Power Supply Failure** | Overvoltage | The device works continuously up to 34VDC without damage. No damage is caused to the device from a short-term overvoltage up to 1kV (as per EN 31000-4-5). The specific properties are no longer guaranteed if the supply voltage is exceeded |
| | Undervoltage | If the supply voltage drops below the minimum value, the device switches off (status as if note supply with power = switch open) |
| **Performance** | | |
| **Reference conditions** | As per DIN IEC 60770or DIN 61003<br>T = 25°C (77°F), relative humidity 45 to 75%, ambient air pressure 860 to 1060kPa (12.47 to 15.37 psi) | |
| | Supply voltage U | 24VDC |
| **Max. Measured Error Switch Point and Display** | Electronics | ± 0.2 K (0.36°F) |
| | Sensor | Total class A as per IEC 60751, -50 to +200°C (-58 to 392°F)<br>Maximum measure error in °C = ± 0.15 + 0.002 · \| T \|<br>( \| T \| = Process temperature in °C without taking sign into account.) |
| | Total error | Electronics error + sensor error, e.g. for process temperature:<br>-50 to +75°C (-58 to +167°F) ≤ 0.5 K (0.9°F)<br>+75 to +200°C (+167 to 392°F) ≤ 0.75 K (1.35°F) |
| **Non-Repeatability Switch Point** | 0.1 K (0.18°F) as per EN 61298-2 (without ambient temperature influence) | |
| **Long-Term Drift** | ≤ 0.1 K (0.18°F) per year under reference operating conditions | |

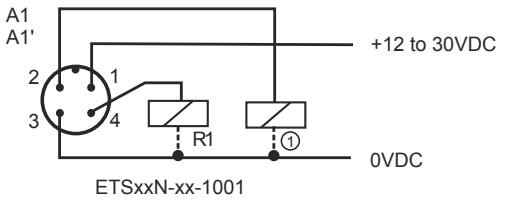
# ETS Series (-1001) Digital Temperature Sensors

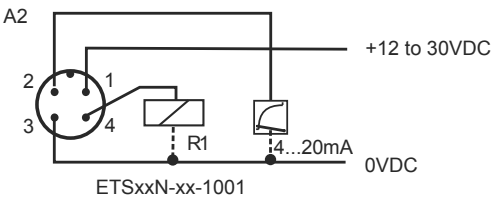
| ProSense ETS (-1001) Series Specifications | | |
|---|---|---|
| ***Performance Continued*** | | |
| ***Sensor Response Time*** | Measured as per IEC 60751, in water flowing at 0.4 m/s (1.3 ft/s)<br>$t_{50} < 1.0$ s<br>$t_{90} < 2.8$ s | |
| ***Influence of Ambient Temperature*** | Switch output and display | 0.00003/K |
| | Analog output | 0.00005/K + influence of switch output and display |
| ***Switch Output Response Time*** | 100ms | |
| ***Analog Output*** | Maximum measured error | Switch point error and display error + 0.1% |
| | Rise time $t_{90}$ | ≤ 200ms |
| | Settling time $t_{99}$ | ≤ 500ms |
| ***Operating Conditions: Installation*** | | |
| ***Installation Instructions*** | Any orientation<br>Housing can be rotated up to 310° | |
| ***Orientation*** | No restrictions | |
| ***Operating Conditions: Environment*** | | |
| ***Ambient Temperature Range*** | -40 to +85°C (-40 to +185°F) | |
| ***Storage Temperature*** | -40 to +85°C (-40 to +185°F) | |
| ***Degree of Protection*** | IP65 | |
| ***Shock Resistance*** | 50g as per DIN IEC 68-2-27 (11ms) | |
| ***Vibration Resistance*** | 4g as per German Lloyd GL Guidelines | |
| ***Electromagnetic Compatiblity*** | Interference emission as per IEC 61326 Series, class B electrical equipment<br>Interference immunity as per IEC 61326 Series, appendix A (industrial use) and NAMUR Recommendation NE 21<br>EMC influence ≤ 0.5% | |
| ***Process Temperature Limits*** | -50 to +150°C (-58 to 302°F), Restrictions depending on process connection and ambient temperature | |
| | Max. ambient temperature | Max. process temperature |
| | Up to 25°C (77°F) | No restriction |
| | Up to 40°C (104°F) | 135°C (275°F) |
| | Up to 60°C (140°F) | 120°C (248°F) |
| | Up to 85°C (185°F) | 100°C (212°F) |
| ***Process Pressure*** | 100 bar (1450 psig) max. | |
| ***Approvals*** | CURus, File # E311366, CE | |

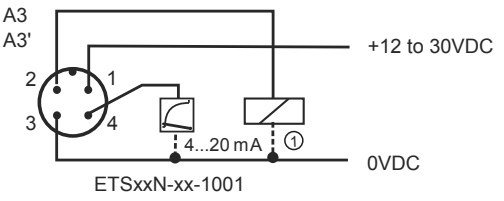
**** To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.***

# ETS Series (-1001) Digital Temperature Sensors

## ETS Wiring Diagram




**Cable Assembly Wiring Colors:**
**Pin 1 - Brown**
**Pin 2 - White**
**Pin 3 - Blue**
**Pin 4 - Black**

***Note: Wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.***

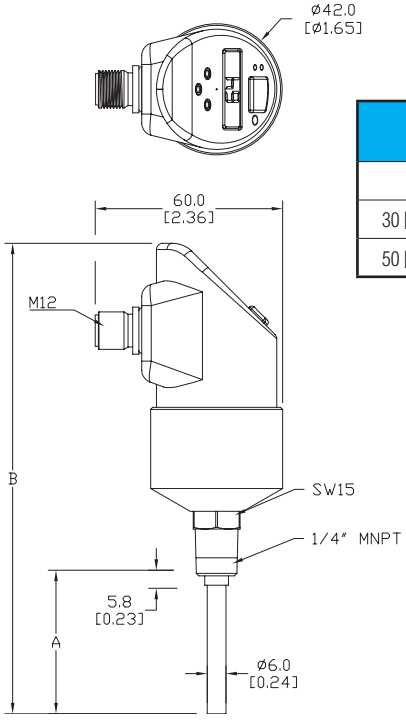
***Wiring diagram is based on user selected configuration***

*A1: 2x PNP switch outputs R1 and ① (R2)*
*A1': 2x PNP switch outputs R1 and ① (diagnosis/NC contact with "DESINA" setting)*
*A2: 1x PNP switch output and 1x analog output (4 to 20 mA)*
*A3: 1x analog output (4 to 20 mA) and 1x PNP switch output ① (R2)*
*A3': 1x analog output (4 to 20 mA) and 1x PNP switch output ① (diagnosis / NC contact with "DESINA" setting)*

***For more information about DESINA, see www.desina.de***

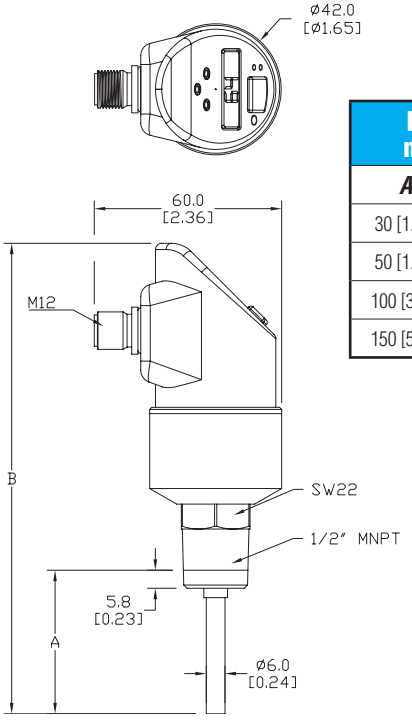
## Dimensions

**mm [inches]**




| Dimensions mm [inches] | |
|---|---|
| ***A*** | ***B*** |
| 30 [1.18] | 131 [5.16] |
| 50 [1.97] | 151 [5.94] |

***ETS25***



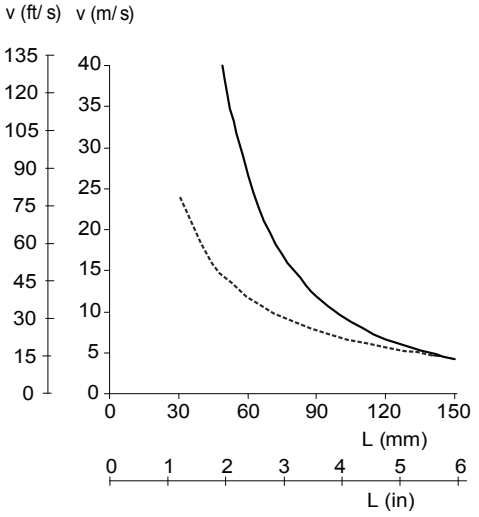

| Dimensions mm [inches] | |
|---|---|
| ***A*** | ***B*** |
| 30 [1.18] | 131 [5.16] |
| 50 [1.97] | 151 [5.94] |
| 100 [3.94] | 204 [8.03] |
| 150 [5.91] | 254 [10.00] |

***ETS50***

***See our website www.AutomationDirect.com for complete Engineering drawings.***

# ETS Series (-1001) Digital Temperature Sensors

## Maximum Flow Velocity




L = insertion length, during flow
v = flow velocity
Medium: ----- air; - - - - - water

# ProSense® ETS Series (-1003) Digital Temperature Sensors

## Features

- **Outputs:**
  - **2 solid-state switch outputs provide a reliable alternative to mechanical temperature switches**
- Ideal for industrial temperature measurement and indication in many applications
- RTD, measuring electronics, and process fitting combined in a single stainless steel probe
- Wide measuring range of -58 to 302°F
- Easily configured with pushbuttons or free ProSense XT-SOFT
- 30, 50, 100 or 150mm probe insertion lengths
- Integral 1/4" NPT or 1/2" NPT male process connection allows for direct installation without requiring extra fittings
- Built-in digital display provides indication of measured temperature and 2 yellow LEDs indicate output status
- The sensor housing can be rotated up to 310° and the digital display can be flipped 180° for installation flexibility
- Stainless steel housing provides a high IP65/IP66 ingress protection rating
- 4-pin M12 quick-disconnect electrical connection


*For a variety of cable options see our website www.AutomationDirect.com*

| EPS Series (-1003) Digital Temperature Sensors | | | | |
|---|---|---|---|---|
| ***Part Number*** | ***Description*** | ***Pcs/Pkg*** | ***Wt (lb)*** | ***Price*** |
| ***ETS50N-30-1003*** | ProSense digital temperature sensor, 1/2in male NPT process connection, 30mm insertion length, -58 to 302 deg F, output 1: switch PNP, N.O./N.C. selectable, output 2: switch PNP, N.O./N.C. selectable, 4-digit display. | 1 | 0.9 | $148.00 |
| ***ETS50N-50-1003*** | ProSense digital temperature sensor, 1/2in male NPT process connection, 50mm insertion length, -58 to 302 deg F, output 1: switch PNP, N.O./N.C. selectable, output 2: switch PNP, N.O./N.C. selectable, 4-digit display. | 1 | 0.9 | $149.00 |
| ***ETS50N-100-1003**** | ProSense digital temperature sensor, 1/2in male NPT process connection, 100mm insertion length, -58 to 302 deg F, output 1: switch PNP, N.O./N.C. selectable, output 2: switch PNP, N.O./N.C. selectable, 4-digit display. | 1 | 0.9 | $150.00 |
| ***ETS50N-150-1003**** | ProSense digital temperature sensor, 1/2in male NPT process connection, 150mm insertion length, -58 to 302 deg F, output 1: switch PNP, N.O./N.C. selectable, output 2: switch PNP, N.O./N.C. selectable, 4-digit display. | 1 | 0.9 | $151.00 |
| ***ETS25N-30-1003*** | ProSense digital temperature sensor, 1/4in male NPT process connection, 30mm insertion length, -58 to 302 deg F, output 1: switch PNP, N.O./N.C. selectable, output 2: switch PNP, N.O./N.C. selectable, 4-digit display. | 1 | 0.8 | $146.00 |
| ***ETS25N-50-1003*** | ProSense digital temperature sensor, 1/4in male NPT process connection, 50mm insertion length, -58 to 302 deg F, output 1: switch PNP, N.O./N.C. selectable, output 2: switch PNP, N.O./N.C. selectable, 4-digit display. | 1 | 0.8 | $147.00 |

**** Thermowells available (see ETS Series Digital Temperature Sensor Accessories)***

*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED*

# ProSense® ETS Series (-1003) Digital Temperature Sensors

| ProSense ETS (-1003) Series Specifications | | |
|---|---|---|
| ***Input*** | | |
| ***Measuring Element*** | Pt100 as per IEC 60751 | |
| ***Measuring Range*** | -50 to 150°C (-58 to +302°F) | |
| ***Min. Span*** | 20K/20°C (36°F) | |
| ***Output*** | | |
| ***Output Signal*** | 2 x PNP switch outputs | |
| ***Range of Adjustment*** | Switch output | Switch point (SP) and Switch-back point (RSP) in increments of 0.1°C (0.18°F) Min. distance between SP and RSP: 0.5°C (0.8°F) |
| | Damping | 0 (no damping) or 9 to 40s in increments of 1 second |
| | Unit | °C, K, °F |
| ***Load*** | Max. ($V_{power\ supply}$ - 6.5 V) / 0.022A (current output) , 795Ω @ 24VDC | |
| ***Switch Outputs*** | Switch status ON | $I_a \leq 250mA$ |
| | Switch status OFF | $I_a \leq 1mA$ |
| | Switching cycles | > 10,000,000 |
| | Voltage drop PNP | ≤ 2V |
| | Overload protection | Automatic testing of switching current; output is switched off in case of overcurrent, the switching current is tested again every 0.5 s;<br>Max. capacitance load: 14µF for max. supply voltage (without resistive load);<br>Periodic disconnection from a protective circuit in event of overcurrent (f = 2Hz) and indication of "Warning" |
| | Output on Fault | Switch opens |
| ***Inductive Load*** | Requires transient voltage suppression | |
| ***Display*** | Backlit LCD (7mm) | |
| ***Power Supply*** | | |
| ***Device Connection*** | M12 connector | |
| ***Supply Voltage*** | 12 to 30VDC (reverse polarity protection) | |
| ***Current Consumption*** | Without load < 60mA, with reverse polarity protection | |
| ***Power Supply Failure*** | Overvoltage | The device works continuously up to 34VDC without damage. No damage is caused to the device from a short-term overvoltage up to 1kV (as per EN 31000-4-5). The specific properties are no longer guaranteed if the supply voltage is exceeded |
| | Undervoltage | If the supply voltage drops below the minimum value, the device switches off (status as if note supply with power = switch open) |
| ***Performance*** | | |
| ***Reference conditions*** | As per DIN IEC 60770or DIN 61003<br>T = 25°C (77°F), relative humidity 45 to 75%, ambient air pressure 860 to 1060kPa (12.47 to 15.37 psi) | |
| | Supply voltage U | 24VDC |
| ***Max. Measured Error Switch Point and Display*** | Electronics | ± 0.2 K (0.36°F) |
| | Sensor | Total class A as per IEC 60751, -50 to +200°C (-58 to 392°F)<br>Maximum measure error in °C = ± 0.15 + 0.002 · \| T \|<br>( \| T \| = Process temperature in °C without taking sign into account.) |
| | Total error | Electronics error + sensor error, e.g. for process temperature:<br>-50 to +75°C (-58 to +167°F) ≤ 0.5 K (0.9°F)<br>+75 to +200°C (+167 to 392°F) ≤ 0.75 K (1.35°F) |
| ***Non-Repeatability Switch Point*** | 0.1 K (0.18°F) as per EN 61298-2 (without ambient temperature influence) | |
| ***Long-Term Drift*** | ≤ 0.1 K (0.18°F) per year under reference operating conditions | |

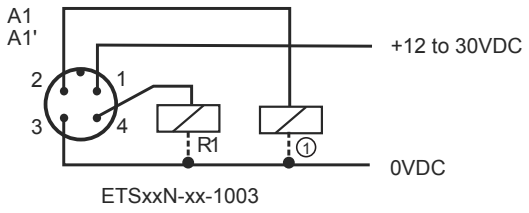
# ProSense® ETS Series (-1003) Digital Temperature Sensors

| ProSense ETS (-1003) Series Specifications | | |
|---|---|---|
| ***Performance Continued*** | | |
| ***Sensor Response Time*** | Measured as per IEC 60751, in water flowing at 0.4 m/s (1.3 ft/s)<br>$t_{50} < 1.0$ s<br>$t_{90} < 2.8$ s | |
| ***Influence of Ambient Temperature*** | Switch output and display | 0.00003/K |
| ***Switch Output Response Time*** | 100ms | |
| ***Operating Conditions: Installation*** | | |
| ***Installation Instructions*** | Any orientation<br>Housing can be rotated up to 310° | |
| ***Orientation*** | No restrictions | |
| ***Operating Conditions: Environment*** | | |
| ***Ambient Temperature Range*** | -40 to +85°C (-40 to +185°F) | |
| ***Storage Temperature*** | -40 to +85°C (-40 to +185°F) | |
| ***Degree of Protection*** | IP65 | |
| ***Shock Resistance*** | 50g as per DIN IEC 68-2-27 (11ms) | |
| ***Vibration Resistance*** | 4g as per German Lloyd GL Guidelines | |
| ***Electromagnetic Compatiblity*** | Interference emission as per IEC 61326 Series, class B electrical equipment<br>Interference immunity as per IEC 61326 Series, appendix A (industrial use) and NAMUR Recommendation NE 21<br>EMC influence ≤ 0.5% | |
| ***Process Temperature Limits*** | -50 to +150°C (-58 to 302°F), Restrictions depending on process connection and ambient temperature | |
| | Max. ambient temperature | Max. process temperature |
| | Up to 25°C (77°F) | No restriction |
| | Up to 40°C (104°F) | 135°C (275°F) |
| | Up to 60°C (140°F) | 120°C (248°F) |
| | Up to 85°C (185°F) | 100°C (212°F) |
| ***Process Pressure*** | 100 bar (1450 psig) max. | |
| ***Approvals*** | CURus, File # E311366, CE | |

**** To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.***

# ETS Series (-1003) Digital Temperature Sensors

## ETS Wiring Diagram




**Cable Assembly Wiring Colors:**
**Pin 1 - Brown**
**Pin 2 - White**
**Pin 3 - Blue**
**Pin 4 - Black**

***Note: Wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.***

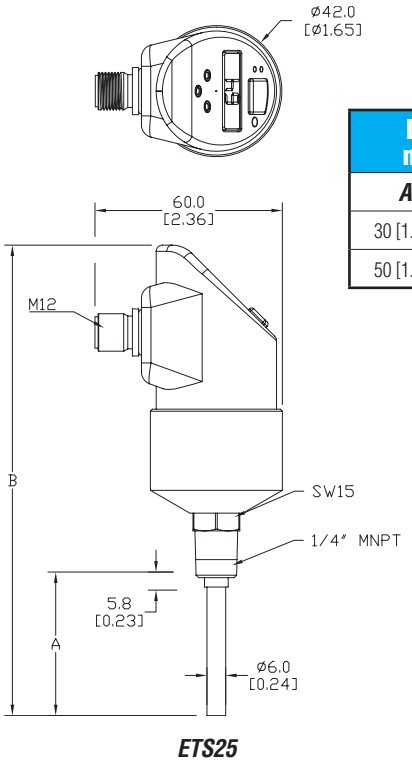
***Wiring diagram is based on user selected configuration***

*A1: 2x PNP switch outputs R1 and ① (R2)*
*A1': 2x PNP switch outputs R1 and ① (diagnosis/NC contact with "DESINA" setting)*

***For more information about DESINA, see www.desina.de***

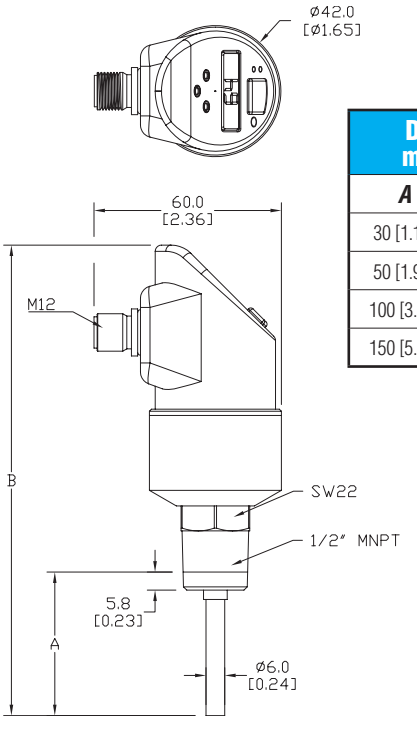
## Dimensions

**mm [inches]**




| Dimensions mm [inches] | |
|---|---|
| ***A*** | ***B*** |
| 30 [1.18] | 131 [5.16] |
| 50 [1.97] | 151 [5.94] |

***ETS25***



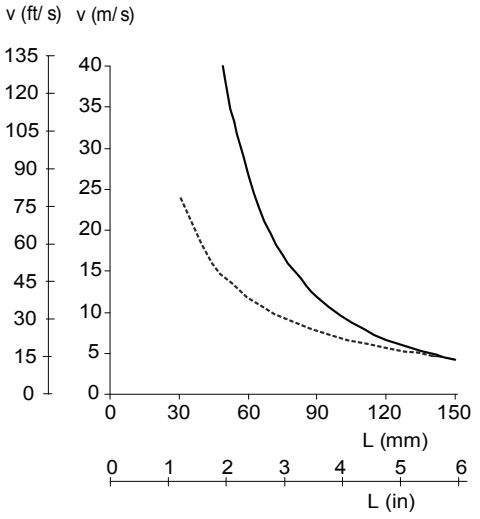

| Dimensions mm [inches] | |
|---|---|
| ***A*** | ***B*** |
| 30 [1.18] | 131 [5.16] |
| 50 [1.97] | 151 [5.94] |
| 100 [3.94] | 204 [8.03] |
| 150 [5.91] | 254 [10.00] |

***ETS50***

***See our website www.AutomationDirect.com for complete Engineering drawings.***

# ETS Series (-1003) Digital Temperature Sensors

## Maximum Flow Velocity




L = insertion length, during flow
v = flow velocity
Medium: ----- air; - - - - - water

# ETS Series Digital Temperature Sensor Accessories

## ETS Series Digital Temperature Sensor Accessories

*TW06-01*

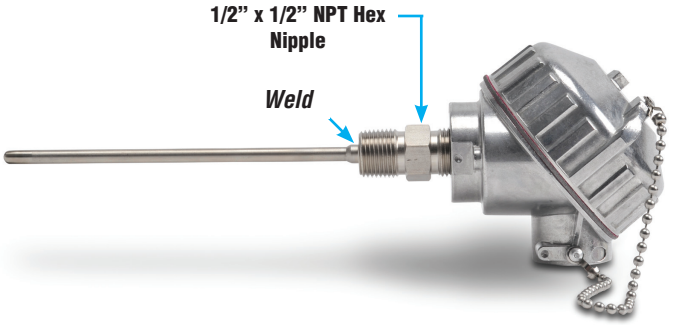
*TW06-02*

| Part No. | Description | Use with Transmitter Probe | Pcs/Pkg | Price |
|---|---|---|---|---|
| TW04-01 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 304 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter, 2-1/2 inch insertion length | ETS50N-100-XXXX | 1 | $24.00 |
| TW04-02 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 304 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter, 2-1/2 inch insertion length | | 1 | $24.00 |
| TW04-03 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 316 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter, 2-1/2 inch insertion length | | 1 | $31.00 |
| TW04-04 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 316 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter, 2-1/2 inch insertion length | | 1 | $31.00 |
| TW06-01 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 304 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter, 4-1/2 inch insertion length | ETS50N-150-XXXX | 1 | $32.00 |
| TW06-02 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 304 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter, 4-1/2 inch insertion length | | 1 | $32.00 |
| TW06-03 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 316 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter, 4-1/2 inch insertion length | | 1 | $41.00 |
| TW06-04 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 316 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter, 4-1/2 inch insertion length | | 1 | $41.00 |

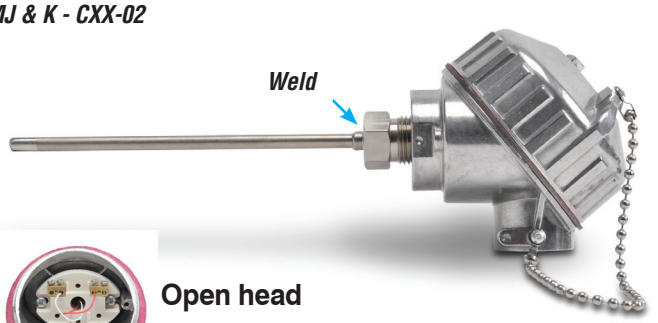
# ProSense® Thermocouple Probes with Connection Head

## Overview

***THMJ & K - CXX-01 & 04***




***THMJ & K - CXX-02***




**Open head**

***THMJ & K - CXX-02 use ProSense Compression Fittings for Mounting***

- All temperature sensors are pre-built stock items
- Probe
  - Type J or K thermocouple elements to meet many temperature sensing applications
  - 1/4" diameter, 316 SS or Inconel Alloy 600 sealed sheath to protect against harsh environments
  - Magnesium Oxide (MgO) insulation provides vibration dampening and protection against thermal shock
  - Bendable to adapt to installation requirements
  - 6", 12" or 18" proble length
- Connection Head
  - Cast aluminum NEMA 4X, IP66 screw cover head with captive gasket
  - One turn cover removal & installation elimi-nates cross threading and saves time
  - 3/4" NPT conduit opening with internal stop to prevent overtightening and installation damage
  - Gripping ribs on cover edge
  - Stainless steel cover chain
- Wiring
  - Ceramic terminal base
  - Brass terminals with stainless steel screws eliminate the need to wrap connections around screws
  - Elevated terminal block for easy wire termination
- Made in the USA

RoHS

**Thermocouple Probes with Connnection Head - Types J and K**

| Part Number | Pcs/Pkg | Wt (lb) | Price | Type | Probe Diameter (O.D.) | Probe Length | Probe Material | Temperature Sensing Range | Mounting |
|---|---|---|---|---|---|---|---|---|---|
| THMJ-C06-01 | 1 | 1.3 | $49.00 | J | 1/4" | 6" | 316 stainless steel | 0 to 720°C (32 to 1330°F) | Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS |
| THMJ-C12-01 | | | $52.00 | J | | 12" | | | |
| THMJ-C18-01 | | | $55.00 | J | | 18" | | | |
| THMK-C06-01 | | | $49.00 | K | | 6" | | 0 to 927°C (32 to 1700°F) | |
| THMK-C12-01 | | | $52.00 | K | | 12 | | | |
| THMK-C18-01 | | | $55.00 | K | | 18" | | | |
| THMJ-C06-02 | | | $47.00 | J | | 6" | | 0 to 720°C (32 to 1330°F) | ProSense compression fitting (see accessories - purchased separately) |
| THMJ-C12-02 | | | $47.00 | J | | 12" | | | |
| THMJ-C18-02 | | | $48.00 | J | | 18" | | | |
| THMK-C06-02 | | | $44.00 | K | | 6" | | 0 to 927°C (32 to 1700°F) | |
| THMK-C12-02 | | | $47.00 | K | | 12" | | | |
| THMK-C18-02 | | | $48.00 | K | | 18" | | | |
| THMK-C06-04 | | | $53.00 | K | | 6" | Inconel Alloy 600 | 0 to 1149°C (32 to 2100°F) | Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS |
| THMK-C12-04 | | | $60.00 | K | | 12" | | | |
| THMK-C18-04 | | | $67.00 | K | | 18" | | | |

**Technical Specifications**

| | |
|---|---|
| Junction Type | Ungrounded |
| ASTM E230 Standard Limits of Error | ±2.2°C (±4.0°F) or 0.75%, whichever is greater |
| Probe | ø1/4", 316 stainless steel or Inconel Alloy 600 sheath, single thermocouple element is embedded in MgO powder |
| Probe Minimum Bend Radius | 2 x sheath diameter |
| Minimum Installation Depth | 3" (76 mm) |
| Connection Head | Die-cast aluminum, screw cover with stainless steel chain, compressed graphite gasket, NEMA 4X, IP66, 3/4" NPT conduit opening, max temp. 400°F (204°C) |
| Response Time | 2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839 |
| Wiring | Ceramic terminal base with brass terminals and stainless steel screws (Recommended tightening torque 3-4 lb-in) |

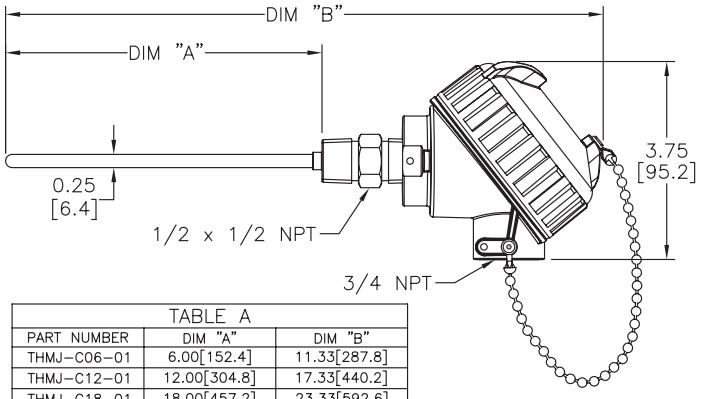
*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*
***Not designed for use in a thermowell. Use spring-loaded probe when installing in a thermowell.***

# ProSense® Thermocouple Probes with Connection Head

## Dimensions

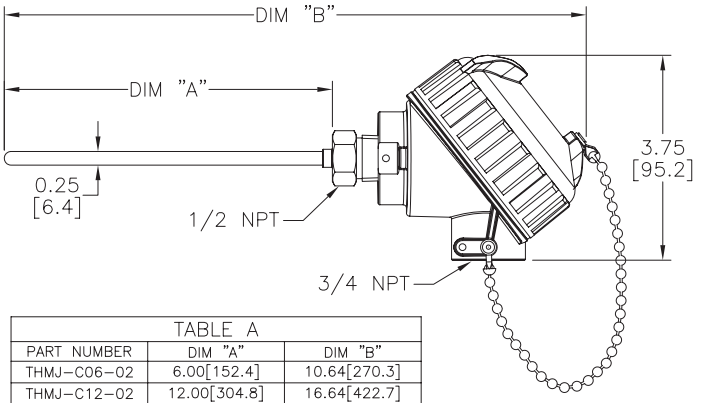
**inches [mm]**

***THMJ & K - CXX-01 & 04***



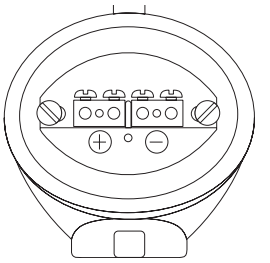

| TABLE A | | |
|---|---|---|
| PART NUMBER | DIM "A" | DIM "B" |
| THMJ-C06-01 | 6.00[152.4] | 11.33[287.8] |
| THMJ-C12-01 | 12.00[304.8] | 17.33[440.2] |
| THMJ-C18-01 | 18.00[457.2] | 23.33[592.6] |
| THMK-C06-01 | 6.00[152.4] | 11.33[287.8] |
| THMK-C12-01 | 12.00[304.8] | 17.33[440.2] |
| THMK-C18-01 | 18.00[457.2] | 23.33[592.6] |
| THMK-C06-04 | 6.00[152.4] | 11.33[287.8] |
| THMK-C12-04 | 12.00[304.8] | 17.33[440.2] |
| THMK-C18-04 | 18.00[457.2] | 23.33[592.6] |

***THMJ & K - CXX-02***



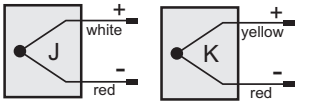

| TABLE A | | |
|---|---|---|
| PART NUMBER | DIM "A" | DIM "B" |
| THMJ-C06-02 | 6.00[152.4] | 10.64[270.3] |
| THMJ-C12-02 | 12.00[304.8] | 16.64[422.7] |
| THMJ-C18-02 | 18.00[457.2] | 22.64[575.1] |
| THMK-C06-02 | 6.00[152.4] | 10.64[270.3] |
| THMK-C12-02 | 12.00[304.8] | 16.64[422.7] |
| THMK-C18-02 | 18.00[457.2] | 22.64[575.1] |

## Wiring Information



**Type J: (+) white (-) red**
**Type K: (+) yellow (-) red**

- Must use thermocouple extension lead wire, see end of this section
- Observe polarity when making connections
- Do not use standard wire nuts
- Recommended screw terminal tightening torque 3-4 lb-in



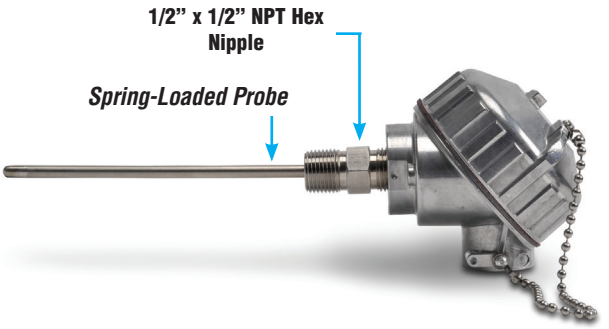

## Accessories

| Part No. | Description | Pcs/Pkg | Price |
|---|---|---|---|
| BCF14-125N | Compression fitting, brass, for 1/4 inch diameter temperature probes, 1/8 inch male thread | 1 | $2.50 |
| BCF14-25N | Compression fitting, brass, for 1/4 inch diameter temperature probes, 1/4 inch male thread | 1 | $3.00 |
| BCF14-50N | Compression fitting, brass, for 1/4 inch diameter temperature probes, 1/2 inch male thread | 1 | $4.50 |
| CF14-125N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes, 1/8 inch male thread | 1 | $6.25 |
| CF14-25N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes, 1/4 inch male thread | 1 | $7.25 |
| CF14-50N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes, 1/2 inch male thread | 1 | $10.75 |
| CFTF-14 | Teflon ferrule for brass or stainless steel compression fittings and 1/4 inch diameter temperature probes | 5 | $6.50 |

***Note: Thermocouple extension lead wire and full listing of accessories available at the end of this section.***

# ProSense® Thermocouple Spring-Loaded Probes with Connection Head

***THMJ & K - CXX-03***




***THMJ & K - CXXR-03 Replacement Probe***

**Open head**

## Overview

- All temperature sensors are pre-built stock items
- Probe
  - Spring-loaded for positive tip contact in thermowells
  - Type J or K thermocouple elements to meet many temperature sensing applications
  - 1/4" diameter, 316 SS sheath to protect against harsh environments
  - Magnesium Oxide (MgO) insulation provides vibration dampening and protection against thermal shock
  - 4", 6" or 12" probe length
- Connection Head
  - Cast aluminum NEMA 4X, IP66 screw cover head with captive gasket
  - One turn cover removal & installation eliminates cross threading and saves time
  - 3/4 NPT conduit opening with internal stop to prevent overtightening and installation damage
  - Gripping ribs on cover edge
  - Stainless steel cover chain
- Wiring
  - Ceramic terminal base
  - Brass terminals with stainless steel screws eliminate the need to wrap connections around screws
  - Elevated terminal block for easy wire termination
- Made in the USA

RoHS 2002/95/EC

**Thermocouple Spring-Loaded Probes with Connection Head - Types J and K**

| Part Number | Pcs/Pkg | Wt (lb) | Price | Type | Probe Diameter (O.D.) | Probe Length | Temperature Sensing Range | Mounting |
|---|---|---|---|---|---|---|---|---|
| THMJ-C04-03 | 1 | 1.3 | $52.00 | J | 1/4" | 4" | 0 to 720°C (32 to 1330°F) | Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS, Mount in thermowell (see accessories, puchased separately) |
| THMJ-C06-03 | | | $56.00 | J | | 6" | | |
| THMJ-C12-03 | | | $59.00 | J | | 12" | | |
| THMK-C04-03 | | | $53.00 | K | | 4" | 0 to 927°C (32 to 1700°F) | |
| THMK-C06-03 | | | $56.00 | K | | 6" | | |
| THMK-C12-03 | | | $59.00 | K | | 12" | | |

**Thermocouple Spring-Loaded Replacement Probes - Types J and K**

| Part Number | Pcs/Pkg | Wt (lb) | Price | Type | Probe Diameter (O.D.) | Fits Probe Length | Temperature Sensing Range | For Use With |
|---|---|---|---|---|---|---|---|---|
| THMJ-C04R-03 | 1 | 0.2 | $26.00 | J | 1/4" | 4" | 0 to 720°C (32 to 1330°F) | THMJ-C04-03 |
| THMJ-C06R-03 | | | $28.00 | J | | 6" | | THMJ-C06-03 |
| THMJ-C12R-03 | | | $30.00 | J | | 12" | | THMJ-C12-03 |
| THMK-C04R-03 | | | $26.00 | K | | 4" | 0 to 927°C (32 to 1700°F) | THMK-C04-03 |
| THMK-C06R-03 | | | $28.00 | K | | 6" | | THMK-C06-03 |
| THMK-C12R-03 | | | $30.00 | K | | 12" | | THMK-C12-03 |

# ProSense® Thermocouple Spring-Loaded Probes with Connection Head

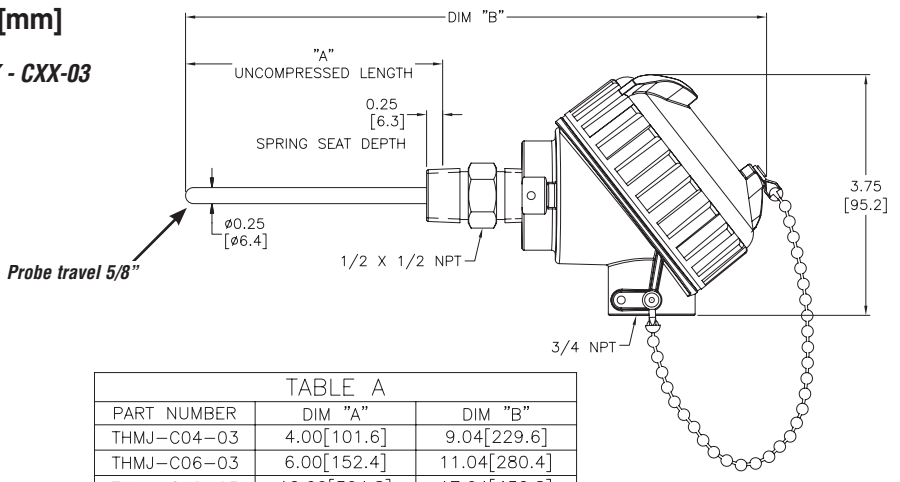
| Technical Specifications | |
|---|---|
| ***Junction Type*** | Ungrounded |
| ***ASTM E230 Standard Limits of Error*** | ±2.2°C (±4.0°F) or 0.75%, whichever is greater |
| ***Probe*** | ø1/4", 316 stainless steel sheath, single thermocouple element is embedded in MgO powder |
| ***Connection Head*** | Die-cast aluminum, screw cover with stainless steel chain, compressed graphite gasket, NEMA 4X, IP66, 3/4" NPT conduit opening, max temp. 400°F (204°C) |
| ***Response Time*** | 2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839 |
| ***Wiring*** | Ceramic terminal base with brass terminals and stainless steel screws (Recommended tightening torque 3-4 lb-in) |

*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

## Dimensions

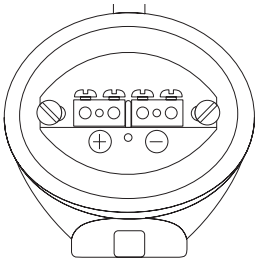
**inches [mm]**

***THMJ & K - CXX-03***



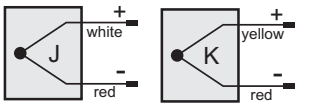

| TABLE A | | |
|---|---|---|
| PART NUMBER | DIM "A" | DIM "B" |
| THMJ-C04-03 | 4.00[101.6] | 9.04[229.6] |
| THMJ-C06-03 | 6.00[152.4] | 11.04[280.4] |
| THMJ-C12-03 | 12.00[304.8] | 17.04[432.8] |
| THMK-C04-03 | 4.00[101.6] | 9.04[229.6] |
| THMK-C06-03 | 6.00[152.4] | 11.04[280.4] |
| THMK-C12-03 | 12.00[304.8] | 17.04[432.8] |

## Wiring Information

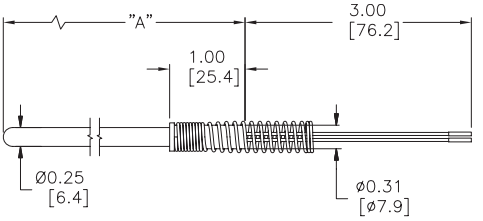


**Type J: (+) white (-) red**
**Type K: (+) yellow (-) red**

- Must use thermocouple extension lead wire, see end of this section
- Observe polarity when making connections
- Do not use standard wire nuts
- Recommended screw terminal tightening torque 3-4 lb-in




***THMJ & K - CXXR-03 (Replacement Probes)***




| TABLE A | |
|---|---|
| PART NUMBER | DIM "A" |
| THMJ-C04R-03 | 5.00[127.0] |
| THMJ-C06R-03 | 7.00[177.8] |
| THMJ-C12R-03 | 13.00[330.2] |
| THMK-C04R-03 | 5.00[127.0] |
| THMK-C06R-03 | 7.00[177.8] |
| THMK-C12R-03 | 13.00[330.2] |

## Probe Replacement

1. Open top cover.
2. Disconnect wires and remove terminal block.
3. Remove snap ring at bottom of head (snap ring pliers recommended).
4. Slide out old probe and slide new probe in place.
5. While compressing spring, replace snap ring.
6. Replace terminal block and connect probe wires.

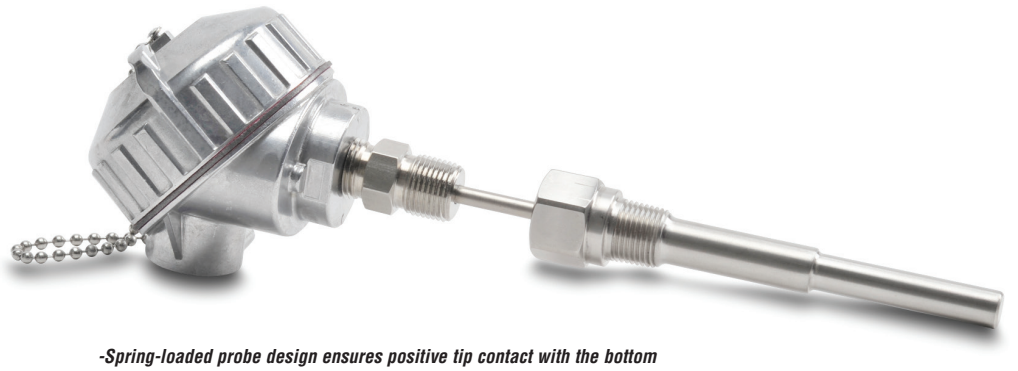
# ProSense® Thermocouple Spring-Loaded Probes with Connection Head - Accessories

## Accessories

| Part No. | Description | Pcs/Pkg | Price |
|---|---|---|---|
| TW04-01 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 304 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter, for use with 4-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 2-1/2 inch insertion length | 1 | $24.00 |
| TW04-02 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 304 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter for use with 4-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 2-1/2 inch insertion length | 1 | $24.00 |
| TW04-03 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 316 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter for use with 4-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 2-1/2 inch insertion length | 1 | $31.00 |
| TW04-04 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 316 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter for use with 4-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 2-1/2 inch insertion length | 1 | $31.00 |
| TW06-01 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 304 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter for use with 6-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 4-1/2 inch insertion length | 1 | $32.00 |
| TW06-02 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 304 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter for use with 6-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 4-1/2 inch insertion length | 1 | $32.00 |
| TW06-03 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 316 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter for use with 6-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 4-1/2 inch insertion length | 1 | $41.00 |
| TW06-04 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 316 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter for use with 6-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 4-1/2 inch insertion length | 1 | $41.00 |
| TW12-01 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 304 stainless steel, 12-1/4 inch overall length with 0.260 inch bore diameter for use with 12-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 10-1/2 inch insertion length | 1 | $55.00 |
| TW12-02 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 304 stainless steel, 12-1/4 inch overall length with 0.260 inch bore diameter for use with 12-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 10-1/2 inch insertion length | 1 | $55.00 |
| TW12-03 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 316 stainless steel, 12-1/4 inch overall length with 0.260 inch bore diameter for use with 12-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 10-1/2 inch insertion length | 1 | $69.00 |
| TW12-04 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 316 stainless steel, 12-1/4 inch overall length with 0.260 inch bore diameter for use with 12-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 10-1/2 inch insertion length | 1 | $69.00 |

***Note: Thermocouple extension lead wire and full listing of accessories and dimension information available at the end of this section.***

## Spring-Loaded Thermocouple Probe and Thermowell Assembly Example

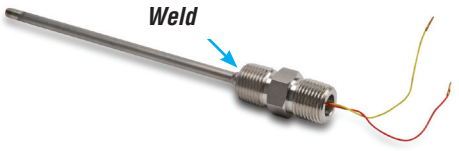


***-Spring-loaded probe design ensures positive tip contact with the bottom of the thermowell.***

***-Integral probe hex nipple threads directly into thermowell. No additional probe mounting fittings are required.***

# ProSense® Thermocouple Probes with Hex Nipple

***THMJ & K - HXXL01-01 & 03***




***CHSC-AL-1***

***CHTB-2***

***Accessories***

## Overview

- All temperature sensors are pre-built stock items
- Type J or K thermocouple elements to meet many temperature sensing applications
- 1/4" diameter, 316 SS or Inconel Alloy 600 sealed sheath to protect from harsh sensing applications
- Magnesium Oxide (MgO) insulation provides vibration dampening and protection against thermal shock
- 6", 12" or 18" probe length
- Bendable probe to adapt to installation requirements
- 316SS, 1/2 x 1/2 NPT hex nipple allows easy replacement of existing probes and connection to a wiring junction box
- Made in the USA

RoHS 2002/95/EC

**Thermocouple Probes with Hex Nipple - Types J and K**

| Part Number | Pcs/Pkg | Wt (lb) | Price | Type | Probe Diameter (O.D.) | Probe Length | Probe Material | Temperature Sensing Range | Mounting |
|---|---|---|---|---|---|---|---|---|---|
| THMJ-H06L01-01 | 1 | 0.5 | $35.00 | J | 1/4" | 6" | 316 stainless steel | 0 to 720°C (32 to 1330°F) | Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS |
| THMJ-H12L01-01 | | | $37.00 | J | | 12" | | | |
| THMJ-H18L01-01 | | | $41.00 | J | | 18" | | | |
| THMK-H06L01-01 | | | $35.00 | K | | 6" | | 0 to 927°C (32 to 1700°F) | |
| THMK-H12L01-01 | | | $37.00 | K | | 12" | | | |
| THMK-H18L01-01 | | | $41.00 | K | | 18" | | | |
| THMK-H06L01-03 | | | $36.00 | K | | 6" | Inconel Alloy 600 | 0 to 1149°C (32 to 2100°F) | |
| THMK-H12L01-03 | | | $43.00 | K | | 12" | | | |
| THMK-H18L01-03 | | | $49.00 | K | | 18" | | | |

**Technical Specifications**

| | |
|---|---|
| Junction Type | Ungrounded |
| ASTM E230 Standard Limits of Error | ±2.2°C (±4.0°F) or 0.75%, whichever is greater |
| Probe | ø1/4", 316 stainless steel or Inconel Alloy 600 sheath, single thermocouple element is embedded in MgO powder |
| Probe Minimum Bend Radius | 2 x sheath diameter |
| Minimum Installation Depth | 3" (76 mm) |
| Response Time | 2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839 |
| Wiring | 3 inch Teflon insulation wire leads with terminal pins |

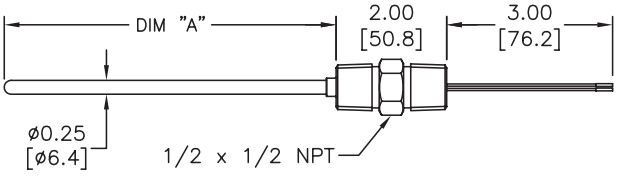
*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*
*Not designed for use in a thermowell. Use spring-loaded probe when installing in a thermowell.*

# ProSense® Thermocouple Probes with Hex Nipple

## Dimensions

**inches [mm]**

***THMJ & K - HXXL01-01 & 03***

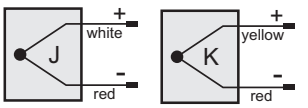



| TABLE A | |
|---|---|
| PART NUMBER | DIM "A" |
| THMJ-H06L01-01 | 6.00[152.4] |
| THMJ-H12L01-01 | 12.00[304.8] |
| THMJ-H18L01-01 | 18.00[457.2] |
| THMK-H06L01-01 | 6.00[152.4] |
| THMK-H12L01-01 | 12.00[304.8] |
| THMK-H18L01-01 | 18.00[457.2] |
| THMK-H06L01-03 | 6.00[152.4] |
| THMK-H12L01-03 | 12.00[304.8] |
| THMK-H18L01-03 | 18.00[457.2] |

## Wiring Information

**Type J: (+) white (-) red**
**Type K: (+) yellow (-) red**

- Must use thermocouple extension lead wire, see end of this section
- Observe polarity when making connections
- Do not use standard wire nuts




## Accessories

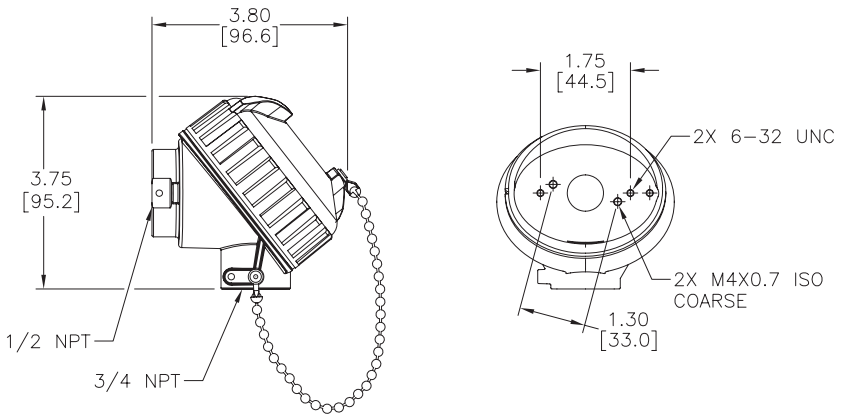
| Part No. | Description | Pcs/Pkg | Price |
|---|---|---|---|
| CHSC-AL-1 | ProSense general purpose screw cover connection head for temperature probes, die-cast aluminum, 1/2 inch NPT process opening, 3/4 inch NPT conduit opening, NEMA 4X, IP66 rated, graphite gasket, maximum temperature rating of 825°F (440°C). Order probe and terminal base separately. | 1 | $15.00 |
| CHTB-2 | ProSense ceramic terminal base, two brass terminals with stainless steel screws, for use with ProSense temperature probe connection heads, two mounting screws included. | 1 | $4.00 |

***Note: Thermocouple extension lead wire and full listing of accessories available at the end of this section.***

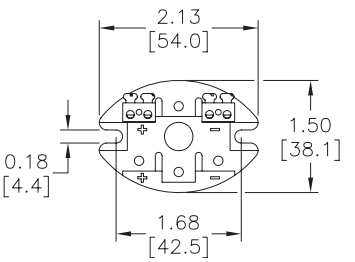
## Dimensions

**inches [mm]**

***CHSC-AL-1***

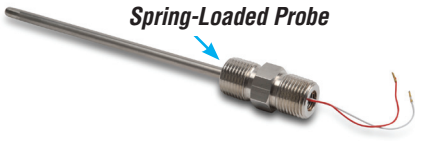



***CHTB-2***



# ProSense® Thermocouple Spring-Loaded Probes with Hex Nipple

***THMJ & K - HXXL01-02***




***CHSC-AL-1***

***CHTB-2***

***Accessories***

## Overview

- All temperature sensors are pre-built stock items
- Spring-loaded for positive tip contact in thermowells
- Type J or K thermocouple elements to meet many temperature sensing applications
- 1/4" diameter, 316 SS sheath to protect against harsh environments
- Magnesium Oxide (MgO) insulation provides vibration dampening and protection against thermal shock
- 4" , 6" or 12" probe length
- 316 SS, 1/2 x 1/2 NPT hex nipple allows easy replacement of existing probes and connection to a wiring junction box
- Made in the USA

RoHS 2002/95/EC

| Thermocouple Spring-Loaded Probes with Hex Nipple - Types J and K | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ***Part Number*** | ***Pcs/Pkg*** | ***Wt (lb)*** | ***Price*** | ***Type*** | ***Probe Diameter (O.D.)*** | ***Probe Length*** | ***Temperature Sensing Range*** | ***Mounting*** |
| ***THMJ-H04L01-02*** | 1 | 0.5 | $39.00 | J | 1/4" | 4" | 0 to 720°C (32 to 1330°F) | Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS |
| ***THMJ-H06L01-02*** | | | $42.00 | J | | 6" | | |
| ***THMJ-H12L01-02*** | | | $45.00 | J | | 12" | | |
| ***THMK-H04L01-02*** | | | $39.00 | K | | 4" | 0 to 927°C (32 to 1700°F) | |
| ***THMK-H06L01-02*** | | | $42.00 | K | | 6" | | |
| ***THMK-H12L01-02*** | | | $45.00 | K | | 12" | | |

| Technical Specifications | |
|---|---|
| ***Junction Type*** | Ungrounded |
| ***ASTM E230 Standard Limits of Error*** | ±2.2°C (±4.0°F) or 0.75%, whichever is greater |
| ***Probe*** | ø1/4", 316 stainless steel sheath, single thermocouple element is embedded in MgO powder |
| ***Response Time*** | 2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839 |
| ***Wiring*** | 3 inch Teflon insulation wire leads with terminal pins |

***Note: See end of section for thermowells to fit these units.***

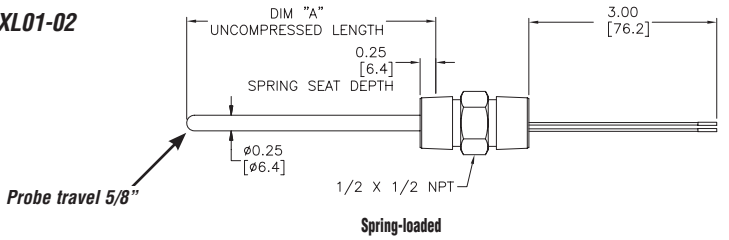
*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

# ProSense® Thermocouple Spring-Loaded Probes with Hex Nipple

## Dimensions

**inches [mm]**

***THMJ & K - HXXL01-02***

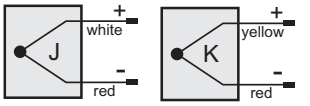



| TABLE A | |
|---|---|
| PART NUMBER | DIM "A" |
| THMJ–H04L01–02 | 4.00[101.6] |
| THMJ–H06L01–02 | 6.00[152.4] |
| THMJ–H12L01–02 | 12.00[304.8] |
| THMK–H04L01–02 | 4.00[101.6] |
| THMK–H06L01–02 | 6.00[152.4] |
| THMK–H12L01–02 | 12.00[304.8] |

## Wiring Information

**Type J: (+) white (-) red**
**Type K: (+) yellow (-) red**

- Must use thermocouple extension lead wire, see end of this section
- Observe polarity when making connections
- Do not use standard wire nuts




## Accessories

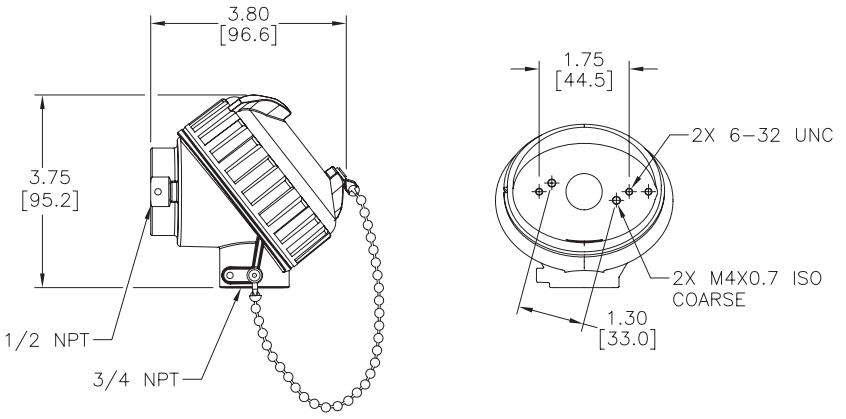
| Part No. | Description | Pcs/Pkg | Price |
|---|---|---|---|
| CHSC-AL-1 | ProSense general purpose screw cover connection head for temperature probes, die-cast aluminum, 1/2 inch NPT process opening, 3/4 inch NPT conduit opening, NEMA 4X, IP66 rated, graphite gasket, maximum temperature rating of 825°F (440°C). Order probe and terminal base separately. | 1 | $15.00 |
| CHTB-2 | ProSense ceramic terminal base, two brass terminals with stainless steel screws, for use with ProSense temperature probe connection heads, two mounting screws included. | 1 | $4.00 |

***Note: Thermocouple extension lead wire and full listing of accessories available at the end of this section.***

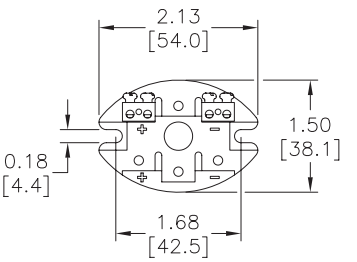
## Dimensions

**inches [mm]**

***CHSC-AL-1***




***CHTB-2***



# ProSense® Thermocouple Probes with Attached Plug

THMJ-PXX-01

THMK-PXX-01

THMT-PXX-01

THMJ-PXX-02

THMK-PXX-02

## Overview

- All temperature sensors are pre-built stock items
- Type J, K, or T thermocouple elements to meet many temperature sensing applications
- 1/8" or 1/4" diameter, 316 SS sheath to protect against harsh environments
- Magnesium Oxide (MgO) insulation provides vibration dampening and protection against thermal shock
- 6" , 12" or 18" probe length
- Bendable probe to adapt to installation requirements
- Attached plug for quick and easy wiring connections
- Made in the USA

RoHS 2002/95/EC

*Probe shown with optional CF18-BC adjustable bayonet cap compression mounting fitting*

**Thermocouple Probes with Attached Plug - Types J, K & T**

| Part Number | Pcs/Pkg | Wt (lb) | Price | Type | Probe Diameter (O.D.) | Probe Length | Temperature Sensing Range | Mounting | Attached Plug Size | Mating Jack (see accessories- purchased separately) |
|---|---|---|---|---|---|---|---|---|---|---|
| THMJ-P06-01 | 1 | 0.2 | $18.00 | J | 1/8" | 6" | 0 to 521°C (32 to 970°F), plug rated to 400 °F (204 °C) | ProSense compression fitting (see accessories purchased separately) | Miniature | THMJ-MJ |
| THMJ-P12-01 | | | $19.00 | J | | 12" | | | | |
| THMJ-P18-01 | | | $22.00 | J | | 18" | | | | |
| THMK-P06-01 | | | $18.00 | K | | 6" | 0 to 927°C (32 to 1700°F) plug rated to 400 °F (204 °C) | | | THMK-MJ |
| THMK-P12-01 | | | $19.00 | K | | 12" | | | | |
| THMK-P18-01 | | | $22.00 | K | | 18" | | | | |
| THMT-P06-01 | | | $18.00 | T | | 6" | -200 to 371°C (-328 to 700°F) plug rated to 400 °F (204 °C) | | | THMT-MJ |
| THMT-P12-01 | | | $19.00 | T | | 12" | | | | |
| THMT-P18-01 | | | $22.00 | T | | 18" | | | | |
| THMJ-P06-02 | | | $22.00 | J | 1/4" | 6" | 0 to 720°C (32 to 1330°F) plug rated to 400 °F (204 °C) | | Standard | THMJ-SJ |
| THMJ-P12-02 | | | $24.00 | J | | 12" | | | | |
| THMJ-P18-02 | | | $28.00 | J | | 18" | | | | |
| THMK-P06-02 | | | $22.00 | K | | 6" | 0 to 927°C (32 to 1700°F) plug rated to 400 °F (204 °C) | | | THMK-SJ |
| THMK-P12-02 | | | $24.00 | K | | 12" | | | | |
| THMK-P18-02 | | | $28.00 | K | | 18" | | | | |

| Technical Specifications | |
|---|---|
| Junction Type | Ungrounded |
| ASTM E230 Standard Limits of Error | ±2.2°C (±4.0°F) or 0.75% whichever is greater |
| Probe | ø1/8" or ø1/4", 316 stainless steel sheath, single thermocouple element is embedded in MgO powder |
| Probe Minimum Bend Radius | 2 x sheath diameter |
| Minimum Installation Depth | 1/8" O.D.: 1.75" (44.5 mm), 1/4" O.D.: 3" (76 mm) |
| Response Time | 2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839 |
| Wiring | Attached plug, mating jack sold separately. See accessories. |

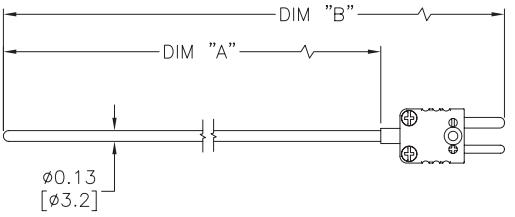
*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

# ProSense® Thermocouple Probes with Attached Plug

## Dimensions

**inches [mm]**

***THMJ, K & T - PXX-01***




| TABLE A | | |
|---|---|---|
| PART NUMBER | DIM "A" | DIM "B" |
| THMJ-P06-01 | 6.00[152.4] | 7.61[193.3] |
| THMJ-P12-01 | 12.00[304.8] | 13.61[345.7] |
| THMJ-P18-01 | 18.00[457.2] | 19.61[498.1] |
| THMK-P06-01 | 6.00[152.4] | 7.61[193.3] |
| THMK-P12-01 | 12.00[304.8] | 13.61[345.7] |
| THMK-P18-01 | 18.00[457.2] | 19.61[498.1] |
| THMT-P06-01 | 6.00[152.4] | 7.61[193.3] |
| THMT-P12-01 | 12.00[304.8] | 13.61[345.7] |
| THMT-P18-01 | 18.00[457.2] | 19.61[498.1] |

## Wiring Information

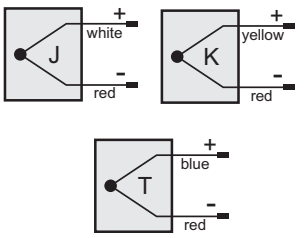
**Type J: black plug**

**Type K: yellow plug**

**Type T: blue plug**

**Pins labeled + and -**

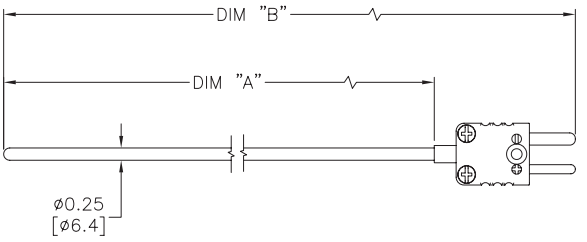
- Must use with mating jack and thermocouple extension lead wire, see end of this section
- Observe polarity when making connections
- Do not use standard wire nuts




## Dimensions

**inches [mm]**

***THMJ & K - PXX-02***




| TABLE A | | |
|---|---|---|
| PART NUMBER | DIM "A" | DIM "B" |
| THMJ-P06-02 | 6.00[152.4] | 8.36[212.3] |
| THMJ-P12-02 | 12.00[304.8] | 14.36[364.7] |
| THMJ-P18-02 | 18.00[457.2] | 20.39[517.14] |
| THMK-P06-02 | 6.00[152.4] | 8.36[212.3] |
| THMK-P12-02 | 12.00[304.8] | 14.36[364.7] |
| THMK-P18-02 | 18.00[457.2] | 20.39[517.14] |

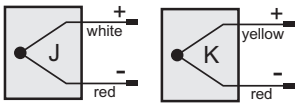
## Wiring Information

**Type J: black plug**

**Type K: yellow plug**

**Pins labeled + and -**

- Must use with mating jack and thermocouple extension lead wire, see end of this section
- Observe polarity when making connections
- Do not use standard wire nuts



# ProSense® Thermocouple Probes with Attached Plug - Accessories

## Accessories

| Part No. | Description | Pcs/Pkg | Price |
|---|---|---|---|
| BCF18-125N | Compression fitting, brass, for 1/8 inch diameter temperature probes,1/8 inch NPT male thread | 1 | $2.50 |
| BCF14-125N | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread | 1 | $2.50 |
| BCF18-25N | Compression fitting, brass, for 1/8 inch diameter temperature probes,1/4 inch NPT male thread | 1 | $3.00 |
| BCF14-25N | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread | 1 | $3.00 |
| BCF18-50N | Compression fitting, brass, for 1/8 inch diameter temperature probes,1/2 inch NPT male thread | 1 | $4.50 |
| BCF14-50N | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread | 1 | $4.50 |
| CF18-125N | Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/8 inch NPT male thread | 1 | $6.25 |
| CF14-125N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread | 1 | $6.25 |
| CF18-25N | Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/4 inch NPT male thread | 1 | $7.25 |
| CF14-25N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread | 1 | $7.25 |
| CF18-50N | Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/2 inch NPT male thread | 1 | $10.75 |
| CF14-50N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread | 1 | $10.75 |
| CFTF-18 | Teflon ferrule for brass or stainless steel compression fittings and 1/8 inch diameter temperature probes | 5 | $6.00 |
| CFTF-14 | Teflon ferrule for brass or stainless steel compression fittings and 1/4 inch diameter temperature probes | 5 | $6.50 |
| CF18-BC | Adjustable bayonet cap compression fitting for 1/8 inch diameter probe sheaths | 1 | $8.00 |
| THMJ-SJ | Thermocouple connector, Type J, standard round pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 14 AWG maximum (2.0 mm) wire size | 1 | $4.25 |
| THMK-SJ | Thermocouple connector, Type K, standard round pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 14 AWG maximum (2.0 mm) wire size | 1 | $4.50 |
| THMT-SJ | Thermocouple connector, Type T, standard round pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic blue body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $4.75 |
| THMJ-MJ | Thermocouple connector, Type J, miniature flat pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 20 AWG maximum (0.8 mm) wire size | 1 | $3.50 |
| THMK-MJ | Thermocouple connector, Type K, miniature flat pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 20 AWG maximum (0.8 mm) wire size | 1 | $3.50 |
| THMT-MJ | Thermocouple connector, Type T, miniature flat pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic blue body, thermocouple material pins, 20 AWG (0.8 mm) maximum wire size | 1 | $3.75 |
| THMJ-SPJ | Thermocouple connector, Type J, standard round pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $7.75 |
| THMK-SPJ | Thermocouple connector, Type K, standard round pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $7.50 |
| THMT-SPJ | Thermocouple connector, Type T, standard round pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic blue body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $7.50 |
| THMJ-MPJ | Thermocouple connector, Type J, miniature flat pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $5.00 |
| THMK-MPJ | Thermocouple connector, Type K, miniature flat pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $5.50 |
| THMT-MPJ | Thermocouple connector, Type T, miniature flat pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic blue body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $5.75 |
| WCB-S | Wire / cable clamp bracket for use with standard thermocouple and RTD connectors. | 4 | $5.00 |
| WCB-M | Wire / cable clamp bracket for use with miniature thermocouple connectors. | 4 | $5.00 |

***Note: Thermocouple extension lead wire available at the end of this section.***
***See end of section for full listing of accessories and dimension information.***

### Thermocouple Connectors

**THMJ-SJ**

**THMJ-SP**

**THMJ-SPJ**

### S.S. Compression Fittings

**CF18-125N**

**CF14-125N**

**CF14-25N**

**CFTF-14**

### Brass Compression Fittings

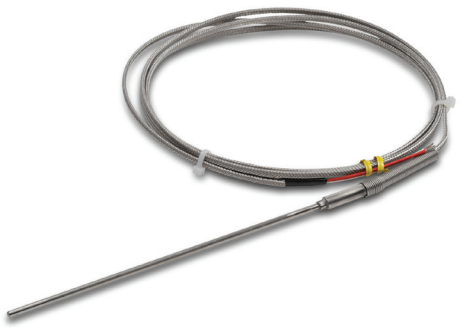
**BCF14-125N**

**BCF14-25N**

**BCF18-125N**

# ProSense® Thermocouple Probes with Lead Wire Transition

***THMJ, K & T - TXXL06-01, 02 & 03***



***Probe shown with optional CF18-BC adjustable bayonet cap compression mounting fitting***

## Overview

- All temperature sensors are pre-built stock items
- Type J, K or T thermocouple elements to meet many temperature sensing applications
- 1/8" or 1/4" Diameter, 316 stainless steel or Inconel Alloy 600 sheath to protect against harsh environments
- Magnesium Oxide (MgO) insulation provides vibration dampening and protection against thermal shock
- 6" , 12" or 18" probe length
- Bendable probe to adapt to installation requirements
- Heavy duty lead wire transition with relief spring
- 6-foot lead wires with stainless steel overbraid
- Made in the USA

RoHS

**Thermocouple Probes with Lead Wire Transition - Types J, K and T**

| Part Number | Pcs/Pkg | Wt (lb) | Price | Type | Probe Diameter (O.D) | Probe Length | Probe Material | Temperature Sensing Range | Mounting |
|---|---|---|---|---|---|---|---|---|---|
| THMJ-T06L06-01 | 1 | 0.4 | $30.00 | J | 1/8" | 6" | 316 stainless steel | 0 to 521°C (32 to 970°F), lead wire transition rated to 400 °F (204 °C) | ProSense compression fitting (see accessories purchased separately) |
| THMJ-T12L06-01 | | 0.6 | $31.00 | J | | 12" | | | |
| THMJ-T18L06-01 | | | $32.00 | J | | 18" | | | |
| THMK-T06L06-01 | | 0.4 | $30.00 | K | | 6" | | 0 to 927°C (32 to 1700°F), lead wire transition rated to 400 °F (204 °C) | |
| THMK-T12L06-01 | | 0.6 | $31.00 | K | | 12" | | | |
| THMK-T18L06-01 | | | $32.00 | K | | 18" | | | |
| THMT-T06L06-01 | | 0.4 | $29.00 | T | | 6" | | -200 to 371°C (-328 to 700°F), lead wire transition rated to 400 °F (204 °C) | |
| THMT-T12L06-01 | | 0.6 | $30.00 | T | | 12" | | | |
| THMT-T18L06-01 | | | $32.00 | T | | 18" | | | |
| THMJ-T06L06-02 | | 0.4 | $32.00 | J | 1/4" | 6" | 316 stainless steel | 0 to 720°C (32 to 1330°F), lead wire transition rated to 400 °F (204 °C) | |
| THMJ-T12L06-02 | | 0.6 | $34.00 | J | | 12" | | | |
| THMJ-T18L06-02 | | | $37.00 | J | | 18" | | | |
| THMK-T06L06-02 | | 0.4 | $32.00 | K | | 6" | | 0 to 927°C (32 to 1700°F), lead wire transition rated to 400 °F (204 °C) | |
| THMK-T12L06-02 | | 0.6 | $34.00 | K | | 12" | | | |
| THMK-T18L06-02 | | | $37.00 | K | | 18" | | | |
| THMK-T06L06-03 | | 0.4 | $35.00 | K | | 6" | Inconel Alloy 600 | 0 to 1149°C (32 to 2100°F), lead wire transition rated to 400 °F (204 °C) | |
| THMK-T12L06-03 | | 0.6 | $41.00 | K | | 12" | | | |
| THMK-T18L06-03 | | | $48.00 | K | | 18" | | | |

# ProSense® Thermocouple Probes with Lead Wire Transition

| Technical Specifications | |
|---|---|
| ***Junction Type*** | Ungrounded |
| ***ASTM E230 Standard Limits of Error*** | ±2.2°C (±4.0°F) or 0.75%, whichever is greater |
| ***Probe*** | ø1/8" or ø1/4", 316 stainless steel or Inconel Alloy 600 sheath, single thermocouple element is embedded in MgO powder |
| ***Probe Minimum Bend Radius*** | 2 x sheath diameter |
| ***Minimum Installation Depth*** | 1/8" O.D.: 1.75" (44.5 mm), 1/4" O.D.: 3" (76 mm) |
| ***Response Time*** | 2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839 |
| ***Wiring*** | 6 foot stranded conductor lead wires with stripped ends, fiberglass insulation and stainless steel overbraid |

*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

## Dimensions

**inches [mm]**

***THMJ, K & T - TXXL06-01, 02 & 03***

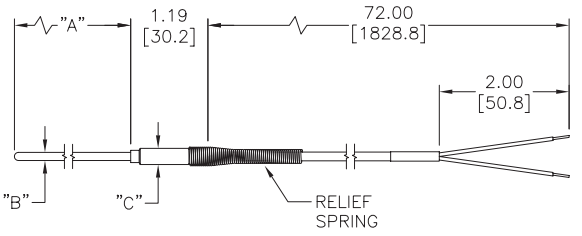


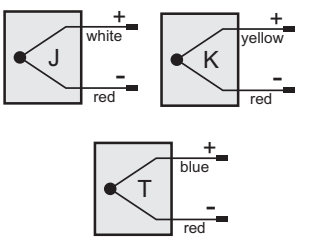

TABLE A

| PART NUMBER | DIM "A" | DIM "B" | DIM "C" |
|---|---|---|---|
| THMJ–T06L06–01 | 6.00[152.4] | 0.13[3.3] | 0.25[6.35] |
| THMJ–T12L06–01 | 12.00[304.8] | 0.13[3.3] | 0.25[6.35] |
| THMJ–T18L06–01 | 18.00[457.2] | 0.13[3.3] | 0.25[6.35] |
| THMT–T06L06–01 | 6.00[152.4] | 0.13[3.3] | 0.25[6.35] |
| THMT–T12L06–01 | 12.00[304.8] | 0.13[3.3] | 0.25[6.35] |
| THMT–T18L06–01 | 18.00[457.2] | 0.13[3.3] | 0.25[6.35] |
| THMK–T06L06–01 | 6.00[152.4] | 0.13[3.3] | 0.25[6.35] |
| THMK–T12L06–01 | 12.00[304.8] | 0.13[3.3] | 0.25[6.35] |
| THMK–T18L06–01 | 18.00[457.2] | 0.13[3.3] | 0.25[6.35] |
| THMJ–T06L06–02 | 6.00[152.4] | 0.25[6.35] | 0.38[9.67] |
| THMJ–T12L06–02 | 12.00[304.8] | 0.25[6.35] | 0.38[9.67] |
| THMJ–T18L06–02 | 18.00[457.2] | 0.25[6.35] | 0.38[9.67] |
| THMK–T06L06–02 | 6.00[152.4] | 0.25[6.35] | 0.38[9.67] |
| THMK–T12L06–02 | 12.00[304.8] | 0.25[6.35] | 0.38[9.67] |
| THMK–T18L06–02 | 18.00[457.2] | 0.25[6.35] | 0.38[9.67] |
| THMK–T06L06–03 | 6.00[152.4] | 0.25[6.35] | 0.38[9.67] |
| THMK–T12L06–03 | 12.00[304.8] | 0.25[6.35] | 0.38[9.67] |
| THMK–T18L06–03 | 18.00[457.2] | 0.25[6.35] | 0.38[9.67] |

## Wiring Information

**Type J: (+) white (-) red**
**Type K: (+) yellow (-) red**
**Type T: (+) blue (-) red**

- Must use thermocouple extension lead wire, see end of this section
- Observe polarity when making connections
- Do not use standard wire nuts



# ProSense® Thermocouple Probes with Lead Wire Transition

## Accessories

| Part No. | Description | Pcs/Pkg | Price |
|---|---|---|---|
| BCF18-125N | Compression fitting, brass, for 1/8 inch diameter temperature probes,1/8 inch NPT male thread | 1 | $2.50 |
| BCF14-125N | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread | 1 | $2.50 |
| BCF18-25N | Compression fitting, brass, for 1/8 inch diameter temperature probes,1/4 inch NPT male thread | 1 | $3.00 |
| BCF14-25N | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread | 1 | $3.00 |
| BCF18-50N | Compression fitting, brass, for 1/8 inch diameter temperature probes,1/2 inch NPT male thread | 1 | $4.50 |
| BCF14-50N | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread | 1 | $4.50 |
| CF18-125N | Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/8 inch NPT male thread | 1 | $6.25 |
| CF14-125N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread | 1 | $6.25 |
| CF18-25N | Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/4 inch NPT male thread | 1 | $7.25 |
| CF14-25N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread | 1 | $7.25 |
| CF18-50N | Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/2 inch NPT male thread | 1 | $10.75 |
| CF14-50N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread | 1 | $10.75 |
| CFTF-18 | Teflon ferrule for brass or stainless steel compression fittings and 1/8 diameter temperature probes | 5 | $6.00 |
| CFTF-14 | Teflon ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes | 5 | $6.50 |
| CF18-BC | Bayonet adapter, 7/8 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | $8.00 |
| THMJ-SP | Thermocouple connector, Type J, standard round pin plug, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 14 AWG maximum (2.0 mm) wire size | 1 | $3.25 |
| THMJ-SJ | Thermocouple connector, Type J, standard round pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 14 AWG maximum (2.0 mm) wire size | 1 | $4.25 |
| THMK-SP | Thermocouple connector, Type K, standard round pin plug, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 14 AWG maximum (2.0 mm) wire size | 1 | $3.75 |
| THMK-SJ | Thermocouple connector, Type K, standard round pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 14 AWG maximum (2.0 mm) wire size | 1 | $4.50 |
| THMK-HSP | Thermocouple connector, Type K, high-temperature standard round pin plug, maximum continuous temperature 662 F (350 C), thermoset brown body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $8.50 |
| THMK-HSJ | Thermocouple connector, Type K, high-temperature standard round pin jack, maximum continuous temperature 662 F (350 C), thermoset brown body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $10.00 |
| THMT-SP | Thermocouple connector, Type T, standard round pin plug, maximum continuous temperature 400 F (200 C), glass filled thermoplastic blue body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $3.50 |
| THMT-SJ | Thermocouple connector, Type T, standard round pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic blue body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $4.75 |
| THMJ-MP | Thermocouple connector, Type J, miniature flat pin plug, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 20 AWG maximum (0.8 mm) wire size | 1 | $3.00 |
| THMJ-MJ | Thermocouple connector, Type J, miniature flat pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 20 AWG maximum (0.8 mm) wire size | 1 | $3.50 |
| THMK-MP | Thermocouple connector, Type K, miniature flat pin plug, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 20 AWG maximum (0.8 mm) wire size | 1 | $3.25 |
| THMK-MJ | Thermocouple connector, Type K, miniature flat pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 20 AWG maximum (0.8 mm) wire size | 1 | $3.50 |
| THMT-MP | Thermocouple connector, Type T, miniature flat pin plug, maximum continuous temperature 400 F (200 C), glass filled thermoplastic blue body, thermocouple material pins, 20 AWG (0.8 mm) maximum wire size | 1 | $3.25 |
| THMT-MJ | Thermocouple connector, Type T, miniature flat pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic blue body, thermocouple material pins, 20 AWG (0.8 mm) maximum wire size | 1 | $3.75 |
| WCB-S | Wire / cable clamp bracket for use with standard thermocouple and RTD connectors. | 4 | $5.00 |
| WCB-M | Wire / cable clamp bracket for use with miniature thermocouple connectors. | 4 | $5.00 |
| THMJ-SPJ | Thermocouple connector, Type J, standard round pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $7.75 |
| THMK-SPJ | Thermocouple connector, Type K, standard round pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $7.50 |
| THMT-SPJ | Thermocouple connector, Type T, standard round pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic blue body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $7.50 |
| THMJ-MPJ | Thermocouple connector, Type J, miniature flat pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $5.00 |
| THMK-MPJ | Thermocouple connector, Type K, miniature flat pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $5.50 |
| THMT-MPJ | Thermocouple connector, Type T, miniature flat pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic blue body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $5.75 |

***Note: Thermocouple extension lead wire available at the end of this section.***
***See end of section for full listing of accessories and dimension information.***

****Working pressure of compression fitting should not exceed 500 psi. However we recommend any pressure application use a thermowell***

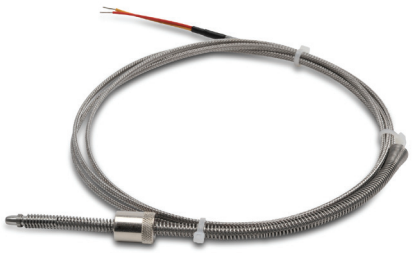
***THMJ-SPJ***

***CF14-25N***

***BCF18-125N***

# ProSense® Thermocouple Adjustable Immersion Sensors

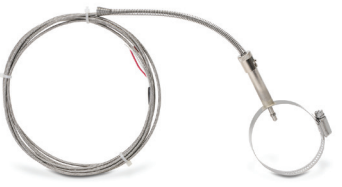
*THMJ & K - D08LXX-01 & 02*



*Spring Adjustable*

*THMJ & K - A01LXX-01 & 02*

*Armor Adjustable*



*Shown with optional PCA pipe clamp adapter*

## Overview

- All temperature sensors are pre-built stock items
- Ideal thermocouple sensors for the plastics processing industry
- Type J or K thermocouple elements to meet many temperature sensing applications
- Spring adjustable and armor adjustable styles allow for variable immersion depths
- Integral bayonet cap makes installation and removal quick and easy when used with a bayonet adaptor or pipe clamp adapter
- Made in the USA

RoHS 2002/95/EC

**Thermocouple Spring Adjustable Immersion Sensors - Types J and K**

| Part Number | Pcs/Pkg | Wt (lb) | Price | Type | Junction Type | Sensor Dimensions | Lead Wire Length (ft) | Temperature Sensing Range | Mounting |
|---|---|---|---|---|---|---|---|---|---|
| THMJ-D08L04-01 | 1 | 0.6 | $17.00 | J | Grounded | 1/4" length x 3/16" O.D. sensing tip 8" length x 0.263" diameter spring. | 4 | 0 to 482°C (32 to 900°F) | Bayonet fitting cap 7/16" inside diameter, single slot. Mount with ProSense bayonet fitting adapter or pipe clamp adapter (purchased separately - see accessories) |
| THMJ-D08L06-01 | | | $19.00 | J | | | 6 | | |
| THMJ-D08L10-01 | | | $23.00 | J | | | 10 | | |
| THMK-D08L04-01 | | | $17.00 | K | | | 4 | | |
| THMK-D08L06-01 | | | $19.00 | K | | | 6 | | |
| THMK-D08L10-01 | | | $23.00 | K | | | 10 | | |
| THMJ-D08L10-02 | | | $23.00 | J | Ungrounded | | 10 | | |
| THMK-D08L10-02 | | | $23.00 | K | | | 10 | | |

**Thermocouple Armor Adjustable Immersion Sensors - Types J and K**

| Part Number | Pcs/Pkg | Wt (lb) | Price | Type | Junction Type | Sensor Dimensions | Lead Wire Length (ft) | Temperature Sensing Range | Mounting |
|---|---|---|---|---|---|---|---|---|---|
| THMJ-A01L04-01 | 1 | 0.6 | $18.00 | J | Grounded | 1/4" length x 3/16" O.D. sensing tip 0.275" O.D. flexible armor | 4 | 0 to 482°C (32 to 900°F) | Bayonet fitting cap 7/16" inside diameter, single slot. Mount with ProSense bayonet fitting adapter or pipe clamp adapter (purchased separately - see accessories) |
| THMJ-A01L06-01 | | | $21.00 | J | | | 6 | | |
| THMJ-A01L10-01 | | | $27.00 | J | | | 10 | | |
| THMK-A01L04-01 | | | $18.00 | K | | | 4 | | |
| THMK-A01L06-01 | | | $21.00 | K | | | 6 | | |
| THMK-A01L10-01 | | | $27.00 | K | | | 10 | | |
| THMJ-A01L10-02 | | | $27.00 | J | Ungrounded | | 10 | | |
| THMK-A01L10-02 | | | $28.00 | K | | | 10 | | |

**Technical Specifications**

| | |
|---|---|
| ASTM E320 Standard Limits of Error | ±2.2°C (±4.0°F) or 0.75%, whichever is greater |
| Probe | 1/4" length x 3/16" O.D. sensing tip, 316 stainless steel sheath, single thermocouple element |
| Response Time | 2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839 |
| Wiring | Spring adjustable: stranded conductor lead wires with stripped ends, fiberglass insulation and stainless steel overbraid<br>Armor adjustable: stranded conductor lead wires with stripped ends, fiberglass insulation and flexible armor<br>This probe is not sealed and cannot be immersed in liquids. |

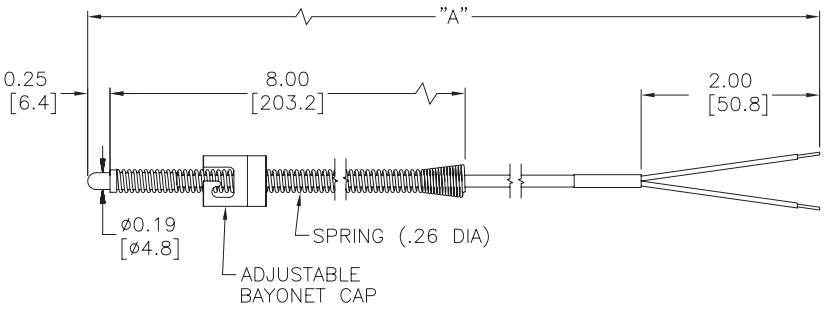
*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

# ProSense® Thermocouple Adjustable Immersion Sensors

## Dimensions

**inches [mm]**

***THMJ & K - D08LXX-01 & 02***

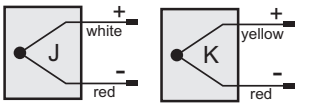



| TABLE A | |
|---|---|
| PART NUMBER | DIM "A" |
| THMJ–D08L04–01 | 48.00[1219.2] |
| THMJ–D08L06–01 | 72.00[1828.8] |
| THMJ–D08L10–01 | 120.00[3048.0] |
| THMK–D08L04–01 | 48.00[1219.2] |
| THMK–D08L06–01 | 72.00[1828.8] |
| THMK–D08L10–01 | 120.00[3048.0] |
| THMJ–D08L10–02 | 120.00[3048.0] |
| THMK–D08L10–02 | 120.00[3048.0] |

## Wiring Information

**Type J: (+) white (-) red**
**Type K: (+) yellow (-) red**

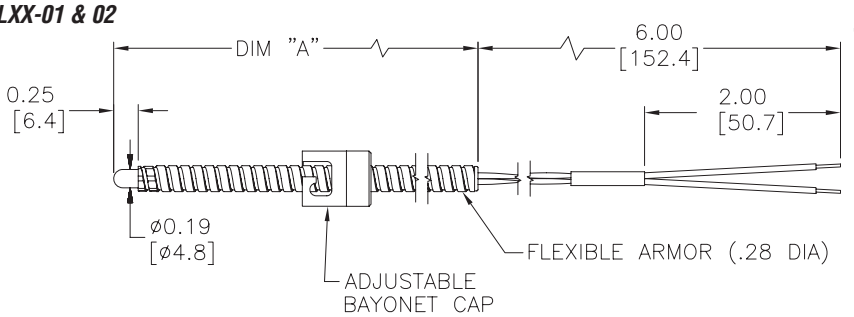
- Must use thermocouple extension lead wire, see end of this section
- Observe polarity when making connections
- Do not use standard wire nuts




## Dimensions

**inches [mm]**

***THMJ & K - A01LXX-01 & 02***

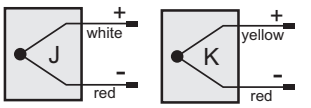



| TABLE A | |
|---|---|
| PART NUMBER | DIM "A" |
| THMJ–A01L04–01 | 48.00[1219.2] |
| THMJ–A01L06–01 | 72.00[1828.8] |
| THMJ–A01L10–01 | 120.00[3048.0] |
| THMK–A01L04–01 | 48.00[1219.2] |
| THMK–A01L06–01 | 72.00[1828.8] |
| THMK–A01L10–01 | 120.00[3048.0] |
| THMJ–A01L10–02 | 120.00[3048.0] |
| THMK–A01L10–02 | 120.00[3048.0] |

## Wiring Information

**Type J: (+) white (-) red**
**Type K: (+) yellow (-) red**

- Must use thermocouple extension lead wire, see end of this section.
- Observe polarity when making connections.
- Do not use standard wire nuts



# ProSense® Thermocouple Adjustable Immersion Sensors - Accessories

## Accessories

| Part No. | Description | Pcs/Pkg | Price |
|---|---|---|---|
| BA-078 | Bayonet adapter, 7/8 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | $1.25 |
| BA-100 | Bayonet adapter, 1 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | $1.25 |
| BA-114 | Bayonet adapter, 1-1/4 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | $1.50 |
| BA-112 | Bayonet adapter, 1-1/2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter,1/8 inch MNPT | 1 | $1.75 |
| BA-200 | Bayonet adapter, 2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | $2.00 |
| BA-212 | Bayonet adapter, 2-1/2 long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | $2.25 |
| BA-300 | Bayonet adapter, 3 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | $2.50 |
| BA-312 | Bayonet adapter, 3-1/2 long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | $2.75 |
| PCA-125 | Pipe clamp adapter, 1-1/16 to 1-1/4 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors. | 1 | $14.00 |
| PCA-200 | Pipe clamp adapter with 1-1/16 to 2 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors. | 1 | $12.00 |
| PCA-300 | Pipe clamp adapter with 2-1/16 to 3 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors. | 1 | $16.00 |
| PCA-425 | Pipe clamp adapter with 3-5/16 to 4-1/4 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors. | 1 | $17.00 |
| PCA-500 | Pipe clamp adapter with 4-1/8 to 7 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors. | 1 | $17.00 |
| THMJ-SP | Thermocouple connector, Type J, standard round pin plug, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 14 AWG maximum (2.0 mm) wire size | 1 | $3.25 |
| THMJ-SJ | Thermocouple connector, Type J, standard round pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 14 AWG maximum (2.0 mm) wire size | 1 | $4.25 |
| THMK-SP | Thermocouple connector, Type K, standard round pin plug, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 14 AWG maximum (2.0 mm) wire size | 1 | $3.75 |
| THMK-SJ | Thermocouple connector, Type K, standard round pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 14 AWG maximum (2.0 mm) wire size | 1 | $4.50 |
| THMJ-SPJ | Thermocouple connector, Type J, standard round pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $7.75 |
| THMK-SPJ | Thermocouple connector, Type K, standard round pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $7.50 |
| WCB-S | Wire / cable clamp bracket for use with standard thermocouple and RTD connectors. | 4 | $5.00 |

***Note: Thermocouple extension lead wire available at the end of this section.***
***See end of section for full listing of accessories and dimension information.***

***BA-078***

***BA-114***

***BA-300***

***Bayonet Mounting Adapters***

***THMJ-SJ***

***THMJ-SP***

***THMJ-SPJ***

***Thermocouple Connectors***

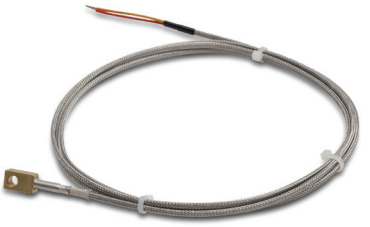
***PCA-XXX***

***Pipe Clamp Adapter***

# ProSense® Thermocouple Bolt-On Ring Sensors

***THMJ & K - B01L06-01***

***THMJ & K - B01L06-02***



## Overview

- All temperature sensors are pre-built stock items
- Ideal thermocouple sensor for nozzles, extruder barrels, die heads, molds and many other surface sensing applications
- Type J or K thermocouple elements to meet many temperature sensing applications
- 316 SS or brass construction
- Grounded or ungrounded junctions
- 6 foot lead wires with stainless steel overbraid
- Made in the USA

RoHS

| Thermocouple Bolt-On Ring Sensors - Types J and K | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ***Part Number*** | ***Pcs/Pkg*** | ***Wt (lb)*** | ***Price*** | ***Type*** | ***Junction Type*** | ***Ring Material*** | ***Temperature Sensing Range*** | ***Mounting*** |
| ***THMJ-B01L06-01*** | 1 | 0.4 | $16.00 | J | Grounded | 316 SS | 0° to 482°C (32° to 900°F) | #6-#10 (4mm-5mm) screw or bolt size |
| ***THMK-B01L06-01*** | | | $16.00 | K | | | | |
| ***THMJ-B01L06-02*** | | | $25.00 | J | Ungrounded | Brass | | |
| ***THMK-B01L06-02*** | | | $27.00 | K | | | | |
| ***THMJ-B02L06-01*** | | | $17.00 | J | Grounded | 316 SS | | #12, 1/4 to 5/16 inch (5mm - 8mm) screw or bolt size |
| ***THMK-B02L06-01*** | | | $17.00 | K | | | | |
| ***THMJ-B02L06-02*** | | | $25.00 | J | Ungrounded | Brass | | |
| ***THMK-B02L06-02*** | | | $27.00 | K | | | | |

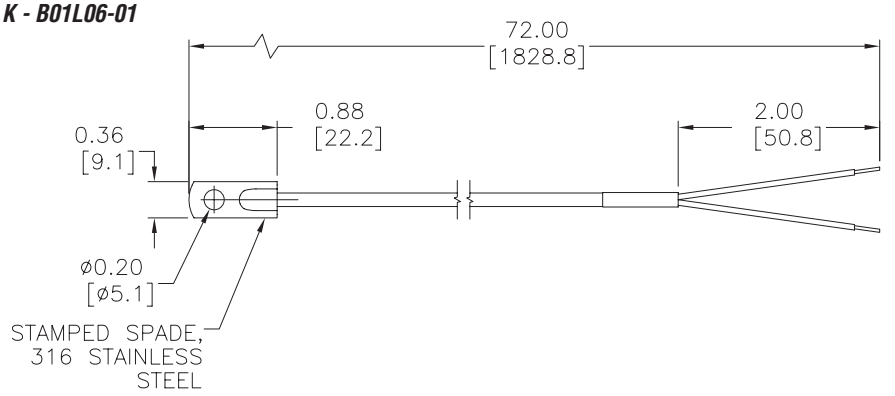
| Technical Specifications | |
|---|---|
| ***ASTM E230 Standard limits of Error*** | ±2.2°C (±4.0°F) or 0.75%, whichever is greater |
| ***Response Time*** | 2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839 |
| ***Wiring*** | 6 foot stranded conductor lead wires with stripped ends, fiberglass insulation and stainless steel overbraid |

*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

## Dimensions

**inches [mm]**

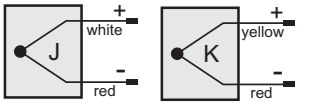
***THMJ & K - B01L06-01***




## Wiring Information

**Type J: (+) white (-) red**
**Type K: (+) yellow (-) red**

- Must use thermocouple extension lead wire, see end of this section
- Observe polarity when making connections
- Do not use standard wire nuts

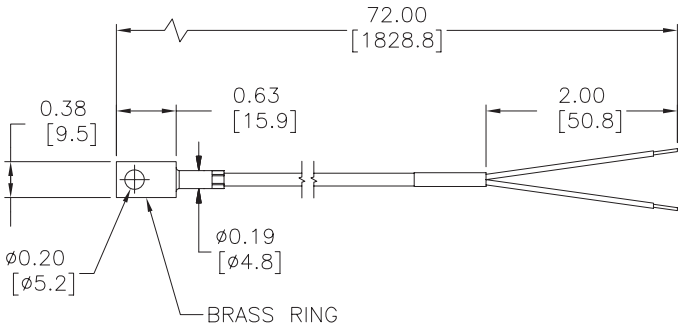


# ProSense® Thermocouple Bolt-On Ring Sensors

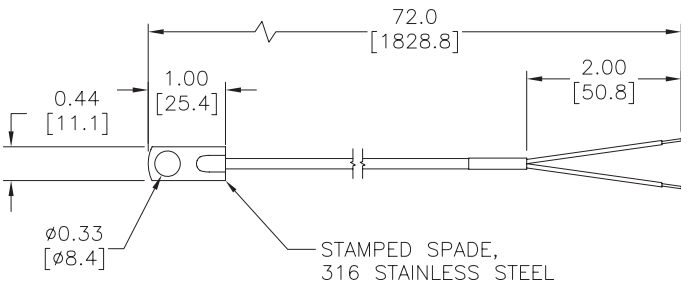
## Dimensions

**inches [mm]**

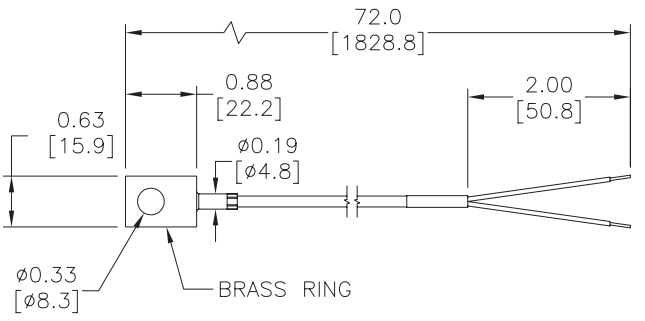
***THMJ & K - B01L06-02***




***THMJ & K - B02L06-01***



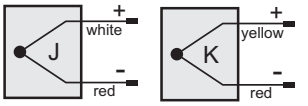

***THMJ & K - B02L06-02***




## Wiring Information

**Type J: (+) white (-) red**
**Type K: (+) yellow (-) red**

- Must use thermocouple extension lead wire, see end of this section
- Observe polarity when making connections
- Do not use standard wire nuts




## Accessories

| Part No. | Description | Pcs/Pkg | Price |
|---|---|---|---|
| THMJ-SP | Thermocouple connector, Type J, standard round pin plug, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 14 AWG maximum (2.0 mm) wire size | 1 | $3.25 |
| THMJ-SJ | Thermocouple connector, Type J, standard round pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 14 AWG maximum (2.0 mm) wire size | 1 | $4.25 |
| THMK-SP | Thermocouple connector, Type K, standard round pin plug, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 14 AWG maximum (2.0 mm) wire size | 1 | $3.75 |
| THMK-SJ | Thermocouple connector, Type K, standard round pin jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 14 AWG maximum (2.0 mm) wire size | 1 | $4.50 |
| THMJ-SPJ | Thermocouple connector, Type J, standard round pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic black body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $7.75 |
| THMK-SPJ | Thermocouple connector, Type K, standard round pin panel jack, maximum continuous temperature 400 F (200 C), glass filled thermoplastic yellow body, thermocouple material pins, 14 AWG (2.0 mm) maximum wire size | 1 | $7.50 |
| WCB-S | Wire / cable clamp bracket for use with standard thermocouple and RTD connectors. | 4 | $5.00 |

***Note: Thermocouple extension lead wire available at the end of this section.***
***See end of section for full listing of accessories and dimension information.***

***THMJ-SJ*** ***THMJ-SP*** ***THMJ-SPJ***

***Thermocouple Connectors***

# ProSense® Room Temperature Sensors - Thermocouple and RTD Types

*RTD1-R01-01*

## Overview

- ABS Plastic ventilated cover with metal wall mounting subplate
- Available in thermocouple or RTD versions
- Internal terminal strip for wiring connections
- Can be mounted horizontally or vertically

| ProSense Thermocouple Room Temperature Sensor | | | | | | |
|---|---|---|---|---|---|---|
| ***Part Number*** | ***Pcs/Pkg*** | ***Wt (lb)*** | ***Price*** | ***Type*** | ***Temperature Sensing Range*** | ***Mounting*** |
| ***THMJ-R01-01*** | 1 | 0.3 | $26.00 | J | 32 to 185°F (0 to 85°C) | Single element, ungrounded junction, plastic ventilated housing with metal wall mounting subplate, internal terminal strip for wiring connections |

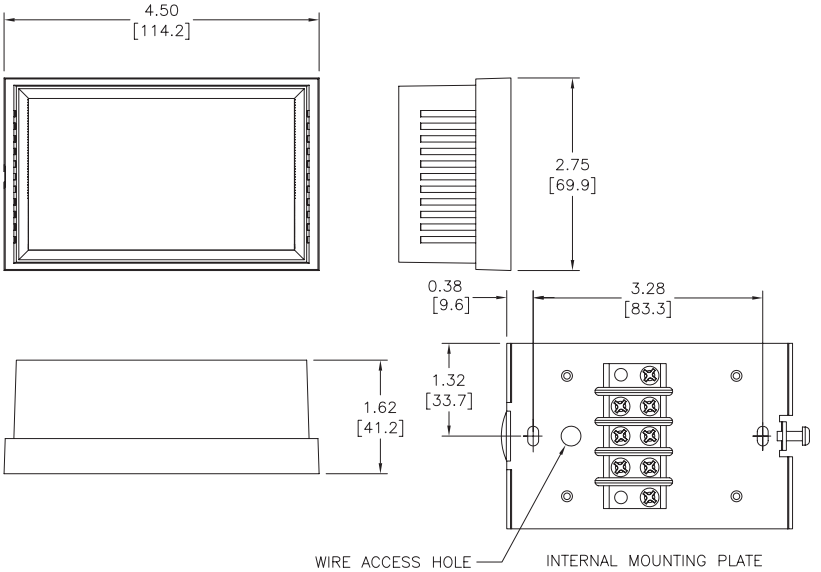
| ProSense RTD Room Temperature Sensor | | | | | | |
|---|---|---|---|---|---|---|
| ***Part Number*** | ***Pcs/Pkg*** | ***Wt (lb)*** | ***Price*** | ***Type*** | ***Temperature Sensing Range*** | ***Mounting*** |
| ***RTD1-R01-01*** | 1 | 0.3 | $26.00 | PT 100, Class B, 3-wire | -40 to 185°F (-40 to 85°C) | Plastic ventilated housing with metal wall mounting subplate, internal terminal strip for wiring connections |

| ProSense Thermocouple Room Sensor Technical Specifications | | | | | | |
|---|---|---|---|---|---|---|
| ***Part Number*** | ***Sensing Element*** | ***Limits of Error*** | ***Initial Accuracy*** | ***Housing*** | ***Response Time*** | ***Wiring*** |
| ***THMJ-R01-01*** | Type J thermocouple | ±2.2°C (±4.0°F) or 0.75%, whichever is greater | N/A | ABS | 2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839 | Screw terminal strip |
| ***RTD1-R01-01*** | PT 100, Class B, 3-wire | N/A | Class A ±[0.15 +0.002 \|t\|] °C | ABS | 7 seconds, 63% of a 25 to 77°C step change (ASTM E1137) | |

## Dimensions

**inches [mm]**

***THMJ-R01-01 & RTD1-R01-01***

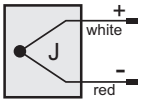



## Wiring Information

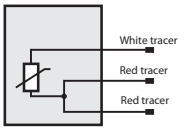
***THMJ-R01-01***

**Type J: (+) white (-) red**

- Must use thermocouple extension lead wire, see end of this section
- Observe polarity when making connections
- Do not use standard wire nuts

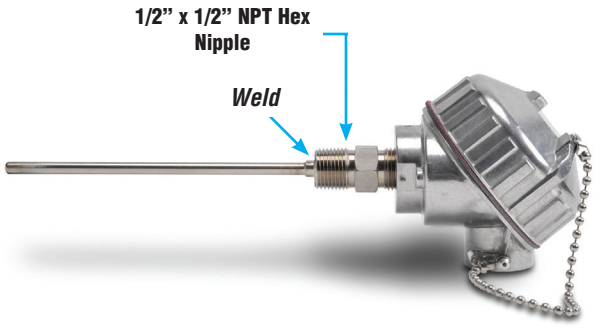



***RTD1-01-01***

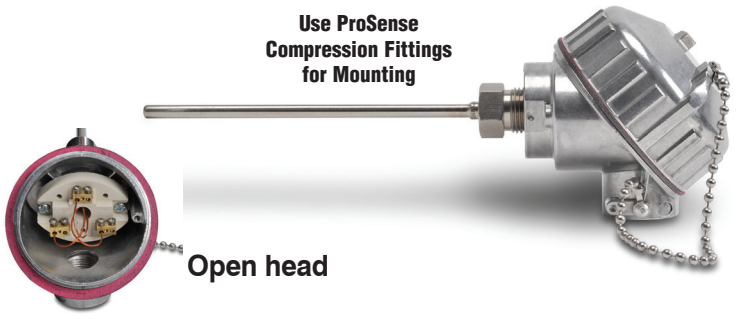


# ProSense® RTD Probes with Connection Head

***RTD1-CXX-01***




***RTD1-CXX-02***




## Overview

- All temperature sensors are pre-built stock items
  - 100 ohm platinum RTD 3-wire element
  - Class A accuracy
  - 1/4" diameter, 316 SS sealed sheath to protect against harsh environments
  - RTD element encased in alumina powder insulation provides excellent vibration dampening and heat transfer
  - 6", 12" or 18" probe length
- Connection Head
  - Cast aluminum NEMA 4X, IP66 screw cover head with gasket
  - One turn cover removal & installation eliminates cross threading and saves time
  - 3/4 NPT conduit opening with internal stop to prevent overtightening and installation damage
  - Gripping ribs on cover edge
  - Stainless steel cover chain
- Wiring
  - Ceramic terminal base
  - Brass terminals with stainless steel screws eliminate the need to wrap connections around screws
  - Elevated terminal block for easy wire termination
- Made in the USA

RoHS

**RTD Probes with Connection Head**

| Part Number | Pcs/Pkg | Wt (lb) | Price | RTD Type | Probe Diameter (O.D.) | Probe Length | Temperature Sensing Range | Mounting |
|---|---|---|---|---|---|---|---|---|
| RTD1-C06-01 | 1 | 1.3 | $71.00 | PT 100, 3-wire | 1/4" | 6" | -50 to 300°C (-58 to 572°F) | Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS |
| RTD1-C12-01 | | | $73.00 | | | 12" | | |
| RTD1-C18-01 | | | $76.00 | | | 18" | | |
| RTD1-C06-02 | | | $66.00 | | | 6" | | ProSense compression fitting (see accessories - purchased separately) |
| RTD1-C12-02 | | | $68.00 | | | 12" | | |
| RTD1-C18-02 | | | $71.00 | | | 18" | | |

**Technical Specifications**

| | |
|---|---|
| Sensing Element | Single 100 ohm platinum (Pt 100), 3-wire; TCR = 0.00385 ohm/ohm/°C |
| Initial Accuracy | Class A ±[0.15 +0.002 \|t\|] °C |
| Probe | ø1/4", 316 stainless steel sheath, single RTD is embedded in alumina powder |
| Minimum Installation Depth | 3" (76 mm) |
| Connection Head | Die-cast aluminum, screw cover with stainless steel chain, compressed graphite gasket, NEMA 4X, IP66, 3/4" NPT conduit opening, max temp. 400°F (204°C) |
| Response Time | 7 seconds, 63% of a 25 to 77°C step change (ASTM E1137) |
| Wiring | Ceramic terminal base with brass terminals and stainless steel screws (recommended tightening torque 3-4 lb-in) |

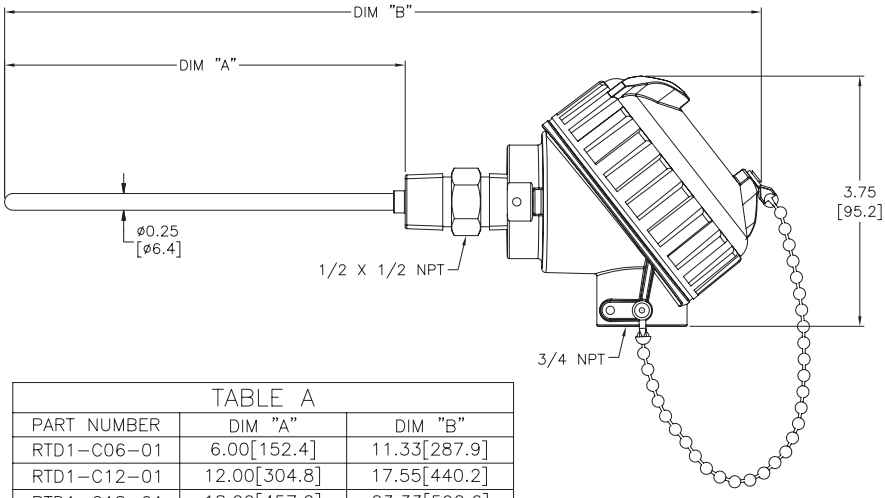
*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

# ProSense® RTD Probes with Connection Head

## Dimensions

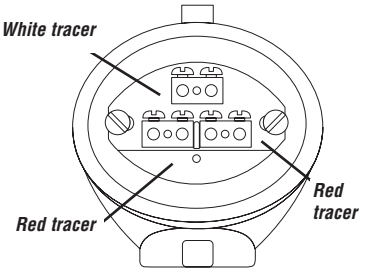
**inches [mm]**

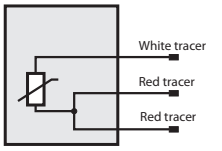
***RTD1-CXX-01***




| TABLE A | | |
|---|---|---|
| PART NUMBER | DIM "A" | DIM "B" |
| RTD1-C06-01 | 6.00[152.4] | 11.33[287.9] |
| RTD1-C12-01 | 12.00[304.8] | 17.55[440.2] |
| RTD1-C18-01 | 18.00[457.2] | 23.33[592.6] |

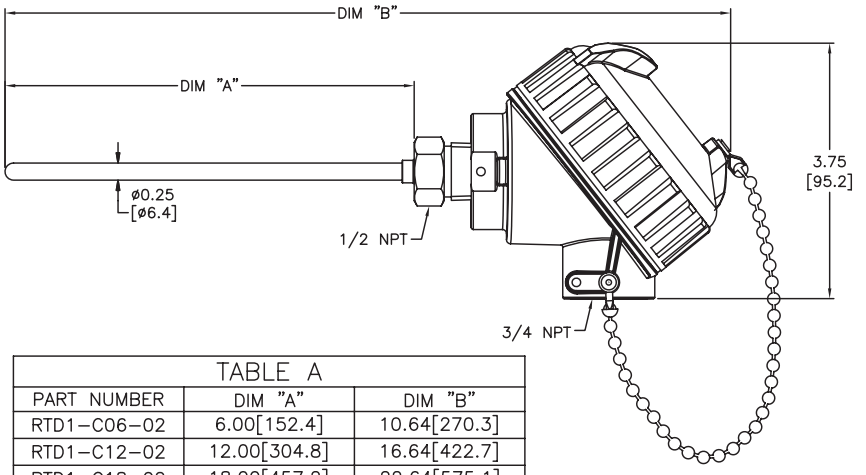
## Wiring Information




- Ignore polarity marks on terminal base
- Recommended screw terminal tightening torque 3-4 lb-in

***RTD1-CXX-02***




| TABLE A | | |
|---|---|---|
| PART NUMBER | DIM "A" | DIM "B" |
| RTD1-C06-02 | 6.00[152.4] | 10.64[270.3] |
| RTD1-C12-02 | 12.00[304.8] | 16.64[422.7] |
| RTD1-C18-02 | 18.00[457.2] | 22.64[575.1] |

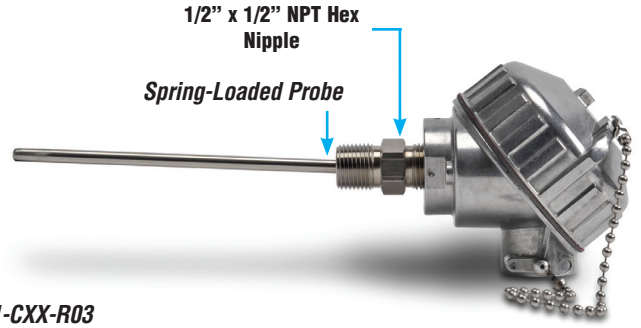
## Accessories

| Part No. | Description | Pcs/Pkg | Price |
|---|---|---|---|
| **BCF14-125N** | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread | 1 | $2.50 |
| **BCF14-25N** | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread | 1 | $3.00 |
| **BCF14-50N** | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread | 1 | $4.50 |
| **CF14-125N** | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread | 1 | $6.25 |
| **CF14-25N** | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread | 1 | $7.25 |
| **CF14-50N** | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread | 1 | $10.75 |
| **CFTF-14** | Teflon ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes | 5 | $6.50 |

***Note: RTD extension lead wire available at the end of this section.***
***See end of section for full listing of accessories and dimension information.***

# ProSense® RTD Spring-Loaded Probes with Connection Head

***RTD1-CXX-03***




***RTD1-CXX-R03***
***Replacement Probe***

## Overview

- All temperature sensors are pre-built stock items
- Probe
  - Spring-loaded for positive tip contact in thermowells
  - 100 ohm platinum RTD 3-wire element
  - Class A accuracy
  - 1/4" diameter, 316 SS sheath to protect against harsh environments
  - RTD element encased in alumina powder insulation provides excellent vibration dampening and heat transfer
  - 6", 12" or 18" probe length
- Connection Head
  - Cast aluminum NEMA 4X, IP66 screw cover head with captive gasket
  - One turn cover removal & installation eliminates cross threading and saves time
  - 3/4 NPT conduit opening with internal stop to prevent over-tightening and installation damage
  - Gripping ribs on cover edge
  - Stainless steel cover chain
- Wiring
  - Ceramic terminal base
  - Brass terminals with stainless steel screws eliminate the need to wrap connections around screws
  - Elevated terminal block for easy wire termination
- Made in the USA

RoHS 2002/95/EC

| RTD Spring-Loaded Probes with Connection Head | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ***Part Number*** | ***Pcs/Pkg*** | ***Wt (lb)*** | ***Price*** | ***Type*** | ***Probe Diameter (O.D.)*** | ***Probe Length*** | ***Temperature Sensing Range*** | ***Mounting*** |
| ***RTD1-C04-03*** | 1 | 1.3 | $74.00 | PT 100, 3-wire | 1/4" | 4" | -50 to 300°C (-58 to 572°F) | Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS. Mount in thermowell (see accessories, purchased separately) |
| ***RTD1-C06-03*** | | | $77.00 | | | 6" | | |
| ***RTD1-C12-03*** | | | $80.00 | | | 12" | | |

| RTD Spring-Loaded Replacement Probes | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ***Part Number*** | ***Pcs/Pkg*** | ***Wt (lb)*** | ***Price*** | ***Type*** | ***Probe Diameter (O.D.)*** | ***Fits Probe Length*** | ***Temperature Sensing Range*** | ***For Use With*** |
| ***RTD1-C04R-03*** | 1 | 0.2 | $38.00 | PT 100, 3-wire | 1/4" | 4" | -50 to 300°C (-58 to 572°F) | RTD1-C04-03 |
| ***RTD1-C06R-03*** | | | $39.00 | | | 6" | | RTD1-C06-03 |
| ***RTD1-C12R-03*** | | | $41.00 | | | 12" | | RTD1-C12-03 |

| Technical Specifications | |
|---|---|
| ***Sensing Element*** | Single 100 ohm platinum (Pt 100), 3-wire; TCR = 0.00385 ohm/ohm/°C |
| ***Initial Accuracy*** | Class A ±[0.15 +0.002 \|t\|] °C |
| ***Probe*** | ø1/4", 316 stainless steel sheath, single RTD is embedded in alumina powder |
| ***Connection Head*** | Die-cast aluminum, screw cover with stainless steel chain, compressed graphite gasket, NEMA 4X, IP66, 3/4" NPT conduit opening, Max Temp. 400°F (204°C) |
| ***Response Time*** | 7 seconds, 63% of a 25 to 77°C step change (ASTM E1137) |
| ***Wiring*** | Ceramic terminal base with brass terminals and stainless steel screws (Recommended tightening torque 3-4 lb-in) |

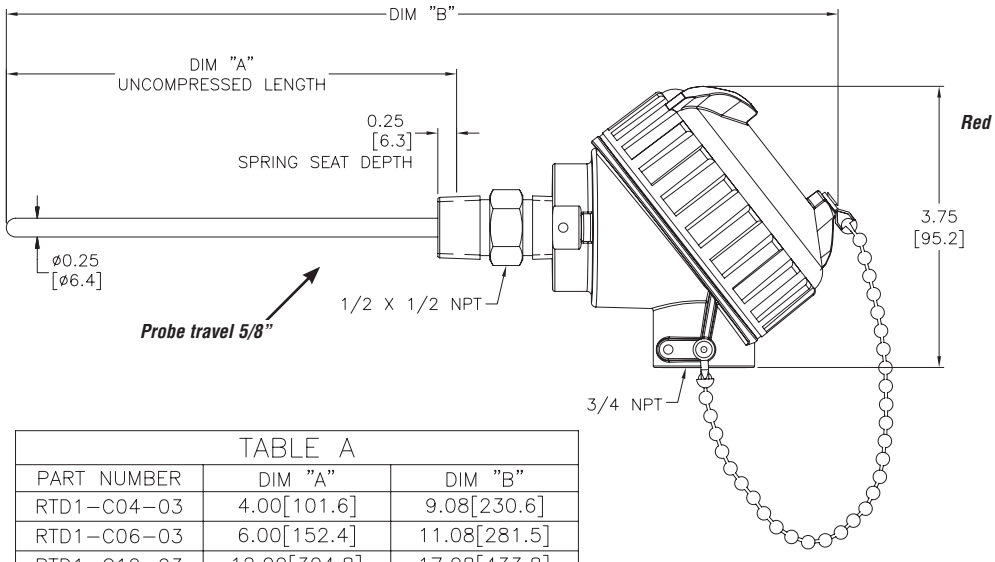
*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

# ProSense® RTD Spring-Loaded Probes with Connection Head

## Dimensions

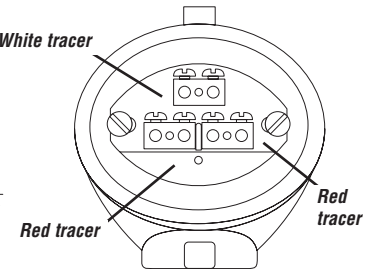
**inches [mm]**

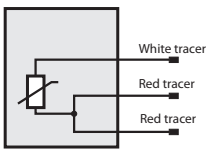
***RTD1-CXX-03***




| TABLE A | | |
|---|---|---|
| PART NUMBER | DIM "A" | DIM "B" |
| RTD1-C04-03 | 4.00[101.6] | 9.08[230.6] |
| RTD1-C06-03 | 6.00[152.4] | 11.08[281.5] |
| RTD1-C12-03 | 12.00[304.8] | 17.08[433.8] |

## Wiring Information



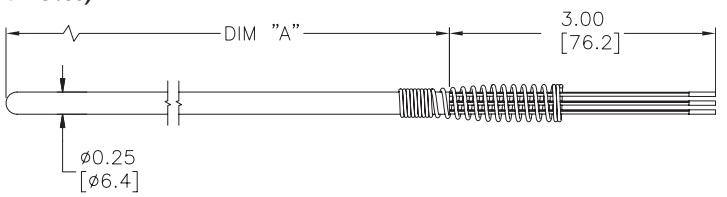




- Ignore polarity marks on terminal base
- Recommended screw terminal tightening torque 3-4 lb-in

## Dimensions

**inches [mm]**

***RTD1-CXXR-03***
***(Replacement Probes)***




| TABLE A | |
|---|---|
| PART NUMBER | DIM "A" |
| RTD1-C04R-03 | 5.00[127.0] |
| RTD1-C06R-03 | 7.00[177.8] |
| RTD1-C12R-03 | 13.00[330.2] |

***Note: RTD extension lead wire available at the end of this section.***
***See end of section for full listing of accessories and dimension information.***

### Probe Replacement

1. Open top cover.
2. Disconnect wires and remove terminal block.
3. Remove snap ring at bottom of head (snap ring pliers recommended).
4. Slide out old probe and slide new probe in place.
5. While compressing spring, replace snap ring.
6. Replace terminal block and connect probe wires.

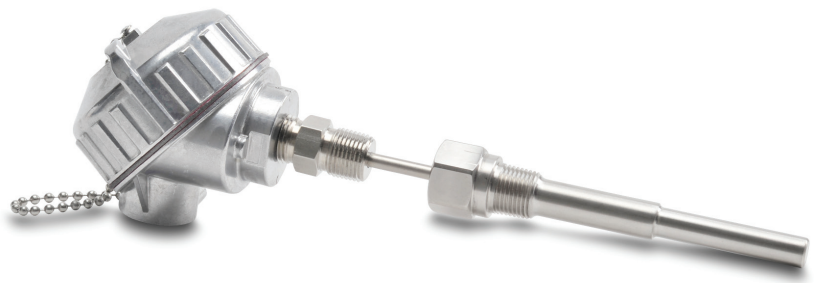
# ProSense® RTD Spring-Loaded Probes with Connection Head - Accessories

## Accessories

| Part No. | Description | Pcs/Pkg | Price |
|---|---|---|---|
| TW04-01 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 304 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter, for use with 4-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 2-1/2 inch insertion length | 1 | $24.00 |
| TW04-02 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 304 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter for use with 4-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 2-1/2 inch insertion length | 1 | $24.00 |
| TW04-03 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 316 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter for use with 4-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 2-1/2 inch insertion length | 1 | $31.00 |
| TW04-04 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 316 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter for use with 4-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 2-1/2 inch insertion length | 1 | $31.00 |
| TW06-01 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 304 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter for use with 6-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 4-1/2 inch insertion length | 1 | $32.00 |
| TW06-02 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 304 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter for use with 6-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 4-1/2 inch insertion length | 1 | $32.00 |
| TW06-03 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 316 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter for use with 6-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 4-1/2 inch insertion length | 1 | $41.00 |
| TW06-04 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 316 stainless steel, 6-1/4 inch overall length with 0.260 inch bore diameter for use with 6-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 4-1/2 inch insertion length | 1 | $41.00 |
| TW12-01 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 304 stainless steel, 12-1/4 inch overall length with 0.260 inch bore diameter for use with 12-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 10-1/2 inch insertion length | 1 | $55.00 |
| TW12-02 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 304 stainless steel, 12-1/4 inch overall length with 0.260 inch bore diameter for use with 12-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 10-1/2 inch insertion length | 1 | $55.00 |
| TW12-03 | Standard duty threaded thermowell with 1/2 inch NPT male process threads, 316 stainless steel, 12-1/4 inch overall length with 0.260 inch bore diameter for use with 12-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 10-1/2 inch insertion length | 1 | $69.00 |
| TW12-04 | Standard duty threaded thermowell with 3/4 inch NPT male process threads, 316 stainless steel, 12-1/4 inch overall length with 0.260 inch bore diameter for use with 12-inch long, 1/4 inch diameter spring loaded probes with 1/2 inch NPT threaded fitting, 10-1/2 inch insertion length | 1 | $69.00 |

***Note: RTD extension lead wire available at the end of this section.***
***See end of section for full listing of accessories and dimension information.***

## Spring-Loaded RTD Probe and Thermowell Assembly Example

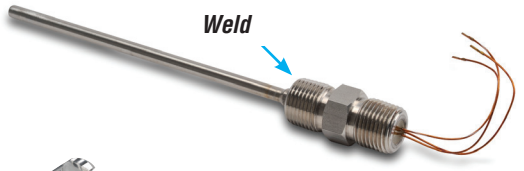


***-Spring-loaded probe design ensures positive tip contact with the bottom of the thermowell.***

***-Integral probe hex nipple threads directly into thermowell. No additional probe mounting fittings are required.***

# ProSense® RTD Probes with Hex Nipple

***RTD1-HXXL01-01***




***CHSC-AL-1***

***CHTB-3***

***Accessories***

## Overview

- All temperature sensors are pre-built stock items
- 100 ohm platinum RTD 3-wire element
- Class A accuracy
- 1/4" diameter, 316 sealed stainless steel sheath to protect against harsh environments
- RTD element encased in alumina powder insulation provides excellent vibration dampening and heat transfer
- 6", 12", or 18" probe length
- 1/2" x 1/2" NPT hex nipple allows easy replacement of existing probes and connection to a wiring junction box
- Made in the USA

RoHS 2002/95/EC

| RTD Probes with Hex Nipple | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ***Part Number*** | ***Pcs/Pkg*** | ***Wt (lb)*** | ***Price*** | ***Type*** | ***Probe Diameter (O.D.)*** | ***Probe Length*** | ***Temperature Sensing Range*** | ***Mounting*** |
| ***RTD1-H06L01-01*** | 1 | 0.5 | $56.00 | PT 100, 3-wire | 1/4" | 6" | -50 to 300°C (-58 to 572°F) | Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS |
| ***RTD1-H12L01-01*** | | | $59.00 | | | 12" | | |
| ***RTD1-H18L01-01*** | | | $62.00 | | | 18" | | |

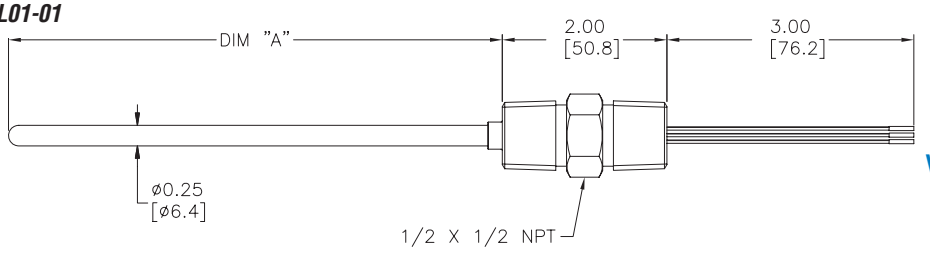
| Technical Specifications | |
|---|---|
| ***Sensing Element*** | Single 100 ohm platinum (Pt 100), 3-wire; TCR = 0.00385 ohm/ohm/°C |
| ***Initial Accuracy*** | Class A ±[0.15 +0.002 \|t\|] °C |
| ***Probe*** | ø1/4", 316 stainless steel sheath, single RTD is embedded in alumina powder |
| ***Minimum Installation Depth*** | 3" (76 mm) |
| ***Response Time*** | 7 seconds, 63% of a 25 to 77°C step change (ASTM E1137) |
| ***Wiring*** | 3-inch Kapton insulated wire leads with terminal pins |

*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

## Dimensions

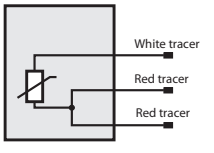
**inches [mm]**

***RTD1-HXXL01-01***




| TABLE A | |
|---|---|
| PART NUMBER | DIM "A" |
| RTD1-H06L01-01 | 6.00[152.4] |
| RTD1-H12L01-01 | 12.00[304.8] |
| RTD1-H18L01-01 | 18.00[457.2] |

## Wiring Information



# ProSense® RTD Probes with Hex Nipple

## Accessories

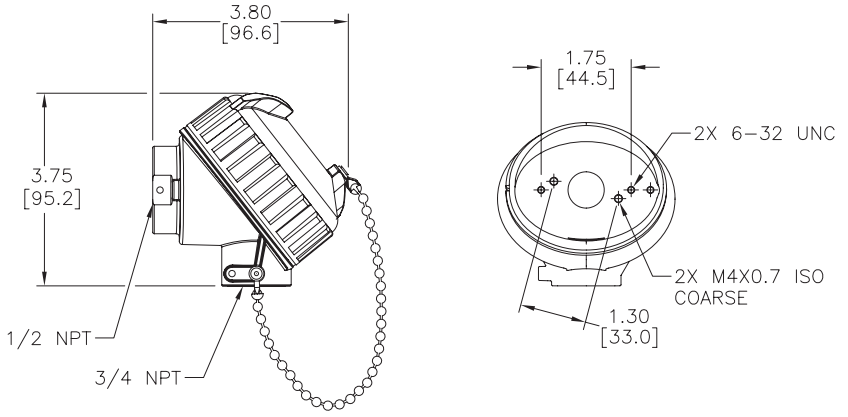
| Part No. | Description | Pcs/Pkg | Price |
|---|---|---|---|
| CHSC-AL-1 | ProSense general purpose screw cover connection head for temperature probes, die-cast aluminum, 1/2 inch NPT process opening, 3/4 inch NPT conduit opening, NEMA 4X, IP66 rated, graphite gasket, maximum temperature rating of 825°F (440°C). Order probe and terminal base separately. | 1 | $15.00 |
| CHTB-3 | ProSense ceramic terminal base, three brass terminals with stainless steel screws, for use with ProSense temperature probe connection heads, two mounting screws included. | 1 | $4.75 |

***Note: Thermocouple extension lead wire and full listing of accessories available at the end of this section.***

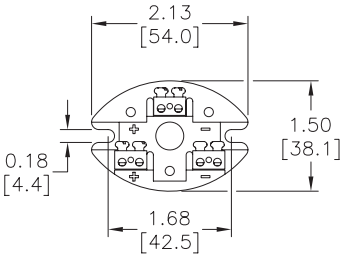
## Dimensions

**inches [mm]**

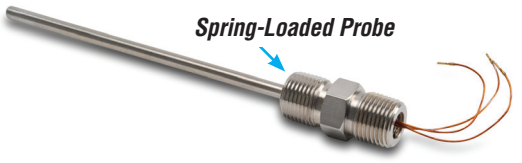
***CHSC-AL-1***




***CHTB-3***



# ProSense® RTD Spring-Loaded Probes with Hex Nipple




CHSC-AL-1

CHTB-3

Accessories

## Overview

- All temperature sensors are pre-built stock items
- Spring-loaded for positive tip contact in thermowells
- 100 ohm platinum RTD 3-wire element
- Class A accuracy
- 1/4" diameter, 316 stainless steel sheath to protect against harsh environments
- RTD element encased in alumina powder insulation provides excellent vibration dampening and heat transfer
- 4", 6", or 12" probe length
- 1/2" x 1/2" NPT hex nipple allows easy replacement of existing probes and connection to a wiring junction box
- Made in the USA

RoHS

| RTD Spring-Loaded Probes with Hex Nipple | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Part Number** | **Pcs/Pkg** | **Wt (lb)** | **Price** | **Type** | **Probe Diameter (O.D.)** | **Probe Length** | **Temperature Sensing Range** | **Mounting** |
| RTD1-H04L01-02 | 1 | 0.5 | $60.00 | PT 100, 3-wire | 1/4" | 4" | -50 to 300°C (-58 to 572°F) | Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS |
| RTD1-H06L01-02 | | | $63.00 | | | 6" | | |
| RTD1-H12L01-02 | | | $67.00 | | | 12" | | |

| Technical Specifications | |
|---|---|
| **Sensing Element** | Single 100 ohm platinum (Pt 100), 3-wire; TCR = 0.00385 ohm/ohm/°C |
| **Initial Accuracy** | Class A ±[0.15 +0.002 \|t\|] °C |
| **Probe** | ø1/4", 316 stainless steel sheath, single RTD is embedded in alumina powder |
| **Response Time** | 7 seconds, 63% of a 25 to 77°C step change (ASTM E1137) |
| **Wiring** | 3-inch Kapton insulated wire leads with terminal pins |

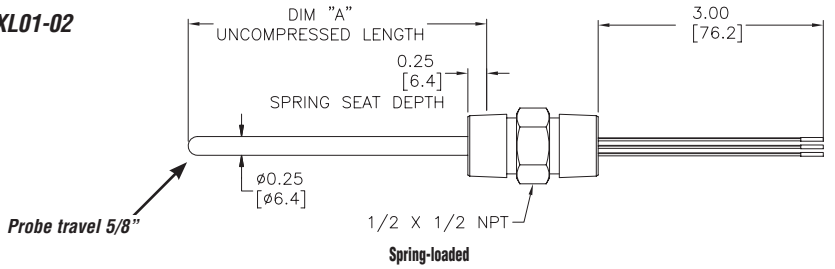
**Note: See end of section for thermowells to fit these unit..**

NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.

## Dimensions

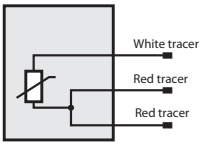
**inches [mm]**

**RTD1-HXXL01-02**




| TABLE A | |
|---|---|
| PART NUMBER | DIM "A" |
| RTD1-H04L01-02 | 4.00[101.6] |
| RTD1-H06L01-02 | 6.00[152.4] |
| RTD1-H12L01-02 | 12.00[304.8] |

## Wiring Information



# ProSense® RTD Spring-Loaded Probes with Hex Nipple

## Accessories

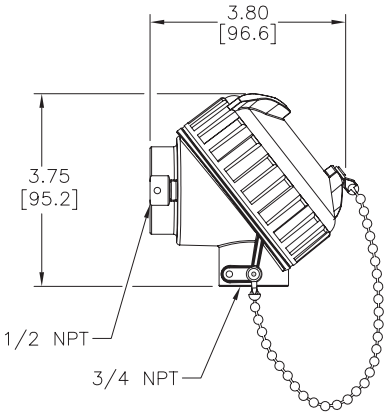
| Part No. | Description | Pcs/Pkg | Price |
|---|---|---|---|
| **CHSC-AL-1** | ProSense general purpose screw cover connection head for temperature probes, die-cast aluminum, 1/2 inch NPT process opening, 3/4 inch NPT conduit opening, NEMA 4X, IP66 rated, graphite gasket, maximum temperature rating of 825°F (440°C). Order probe and terminal base separately. | 1 | $15.00 |
| **CHTB-3** | ProSense ceramic terminal base, three brass terminals with stainless steel screws, for use with ProSense temperature probe connection heads, two mounting screws included. | 1 | $4.75 |

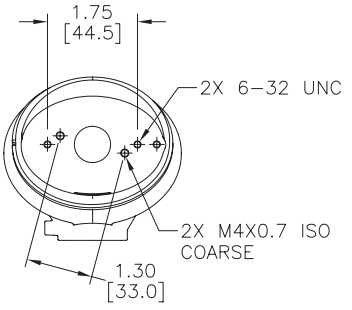
***Note: Thermocouple extension lead wire and full listing of accessories available at the end of this section.***

## Dimensions

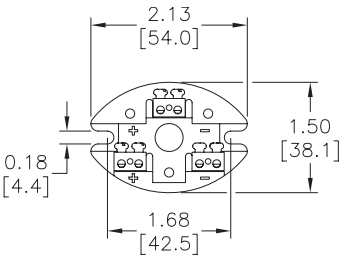
**inches [mm]**

***CHSC-AL-1***




***CHTB-3***



# ProSense® RTD Probes with Attached Plug

***RTD1-PXX-01***

## Overview

- All temperature sensors are pre-built stock items
- 100 ohm platinum RTD 3-wire element
- Class A accuracy
- 1/4" diameter, 316 stainless steel sheath to protect against harsh environments
- RTD element encased in alumina powder insulation provides excellent vibration dampening and heat transfer
- 6", 12", or 18" probe length
- Attached 3-pin plug for quick and easy wiring connections
- Made in the USA

RoHS 2002/95/EC

| RTD Probes with Attached Plug | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ***Part Number*** | ***Pcs/Pkg*** | ***Wt (lb)*** | ***Price*** | ***Type*** | ***Probe Diameter (O.D.)*** | ***Probe Length*** | ***Temperature Sensing Range*** | ***Mounting*** | ***Attached Plug Size*** | ***Mating Jack*** |
| ***RTD1-P06-01*** | 1 | 0.3 | $44.00 | PT 100, 3-wire | 1/4" | 6" | -50 to 300°C (-58 to 572°F) Plug rated to 400°F (204°C) | ProSense compression fitting (see accessories, purchased separately) | Standard size, 3-pin | RTD-SJ (see accessories, sold separately) |
| ***RTD1-P12-01*** | | | $47.00 | | | 12" | | | | |
| ***RTD1-P18-01*** | | | $38.25 | | | 18" | | | | |

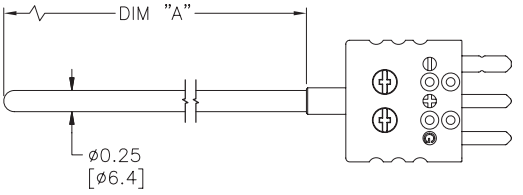
| Technical Specifications | |
|---|---|
| ***Sensing Element*** | Single 100 ohm platinum (Pt 100). 3-wire; TCR = 0.00385 ohm/ohm/°C |
| ***Initial Accuracy*** | Class A ±[0.15 +0.002 \|t\|] °C |
| ***Probe*** | ø1/4", 316 stainless steel sheath, single RTD is embedded in alumina powder |
| ***Minimum Installation Depth*** | 3" (76 mm) |
| ***Response Time*** | 7 seconds, 63% of a 25 to 77°C step change (ASTM E1137) |
| ***Wiring*** | Attached 3-pin standard size plug (mating jack sold separately, see accessories) |

*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

## Dimensions

**inches [mm]**

***RTD1-PXX-01***

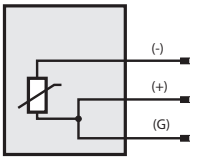



| TABLE A | |
|---|---|
| PART NUMBER | DIM "A" |
| RTD1-P06-01 | 6.00[152.4] |
| RTD1-P12-01 | 12.00[304.8] |
| RTD1-P18-01 | 18.00[457.2] |

## Wiring Information

**PT100: white plug**

**Pins labeled +, - and G**



# ProSense® RTD Probes with Attached Plug - Accessories

## Accessories

| Part No. | Description | Pcs/Pkg | Price |
|---|---|---|---|
| BCF14-125N | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread | 1 | $2.50 |
| BCF14-25N | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread | 1 | $3.00 |
| BCF14-50N | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread | 1 | $4.50 |
| CF14-125N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread | 1 | $6.25 |
| CF14-25N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread | 1 | $7.25 |
| CF14-50N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread | 1 | $10.75 |
| CFTF-14 | Teflon™ ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes | 5 | $6.50 |
| RTD-SJ | RTD 3-pin connector, standard round pin jack, maximum continuous temperature 400°F (200°C), white body, copper pins, 14 AWG maximum (2.0 mm) wire size | 1 | $8.50 |
| WCB-S | Wire / cable clamp bracket for use with standard thermocouple and RTD connectors. | 4 | $5.00 |

***Note: RTD extension lead wire available at the end of this section.***
***See end of section for full listing of accessories and dimension information.***

****Working pressure of compression fitting should not exceed 500 psi. However we recommend any pressure application use a thermowell***

***CF14-50N*** ***CF14-25N*** ***CF14-125N***

***S.S. Compression Fittings***

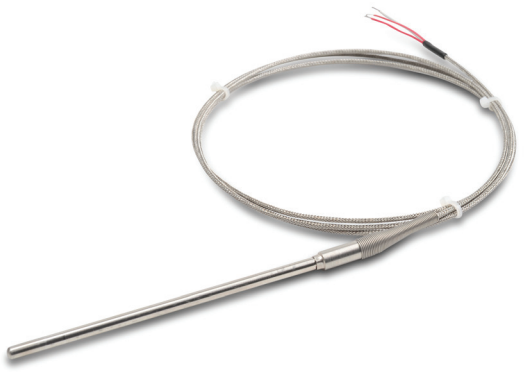
***BCF14-50N*** ***BCF14-25N*** ***BCF14-125N***

***Brass Compression Fittings***

***RTD-SJ*** ***RTD-SP***

***RTD Connectors***

# ProSense® RTD Probes with Lead Wire Transition



## Overview

- All temperature sensors are pre-built stock items
- 100 ohm platinum RTD 3-wire element
- Class A accuracy
- 1/4" diameter, 316 stainless steel sheath to protect against harsh environments
- RTD element encased in alumina powder insulation provides excellent vibration dampening and heat transfer
- 6", 12", or 18" probe length
- Heavy duty lead wire transition with relief spring
- 6-foot lead wires with Kapton insulation and stainless steel overbraid
- Made in the USA

RoHS 2002/95/EC

| RTD Probes with Lead Wire Transition | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Part Number** | **Pcs/Pkg** | **Wt (lb)** | **Price** | **Type** | **Probe Diameter (O.D.)** | **Probe Length** | **Temperature Sensing Range** | **Mounting** |
| **RTD1-T06L06-01** | 1 | 0.4 | $52.00 | PT 100, 3-wire | 1/4" | 6" | -50 to 300°C (-58 to 572°F), lead wire transition rated to 400°F (204°C) | ProSense compression fitting (see accessories purchased separately) |
| **RTD1-T12L06-01** | | | $54.00 | | | 12" | | |
| **RTD1-T18L06-01** | | | $58.00 | | | 18" | | |

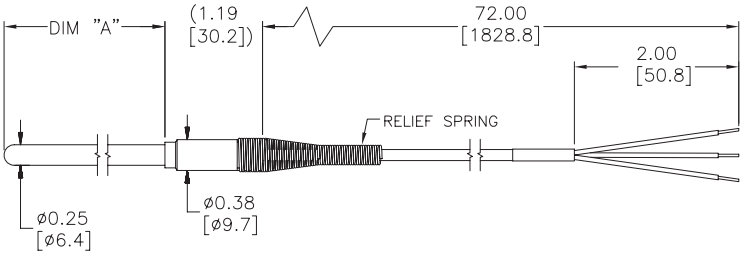
| Technical Specifications | |
|---|---|
| **Sensing Element** | Single 100 ohm platinum (Pt 100), 3-wire; TCR = 0.00385 ohm/ohm/°C |
| **Initial Accuracy** | Class A ±[0.15 +0.002 \|t\|] °C |
| **Probe** | ø1/4", 316 stainless steel sheath, single RTD is embedded in alumina powder |
| **Minimum Installation Depth** | 3" (76 mm) |
| **Response Time** | 7 seconds, 63% of a 25 to 77°C step change (ASTM E1137) |
| **Wiring** | 6 foot stranded conductor lead wires with stripped ends, Kapton insulation and stainless steel overbraid |

*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

## Dimensions

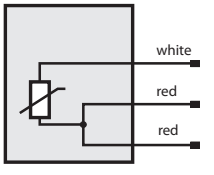
**inches [mm]**

***RTD1-TXXL06-01***




| TABLE A | |
|---|---|
| PART NUMBER | DIM "A" |
| RTD1-T06L06-01 | 6.00[152.4] |
| RTD1-L12L06-01 | 12.00[304.8] |
| RTD1-L18L06-01 | 18.00[457.2] |

## Wiring Information



# ProSense® RTD Probes with Lead Wire Transition - Accessories

## Accessories

| Part No. | Description | Pcs/Pkg | Price |
|---|---|---|---|
| BCF14-125N | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread | 1 | $2.50 |
| BCF14-25N | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread | 1 | $3.00 |
| BCF14-50N | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread | 1 | $4.50 |
| CF14-125N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread | 1 | $6.25 |
| CF14-25N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread | 1 | $7.25 |
| CF14-50N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread | 1 | $10.75 |
| CFTF-14 | Teflon™ ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes | 5 | $6.50 |
| RTD-SP | RTD 3-pin connector, standard round pin plug, maximum continuous temperature 400°F (200°C), white body, copper pins, 14 AWG maximum (2.0 mm) wire size | 1 | $6.50 |
| RTD-SJ | RTD 3-pin connector, standard round pin jack, maximum continuous temperature 400°F (200°C), white body, copper pins, 14 AWG maximum (2.0 mm) wire size | 1 | $8.50 |
| WCB-S | Wire / cable clamp bracket for use with standard thermocouple and RTD connectors. | 4 | $5.00 |

***Note: RTD extension lead wire available at the end of this section.***
***See end of section for full listing of accessories and dimension information.***

****Working pressure of compression fitting should not exceed 500 psi. However we recommend any pressure application use a thermowell***

***CFTF-14***

***CF14-50N*** ***CF14-25N*** ***CF14-125N***

***S.S. Compression Fittings***

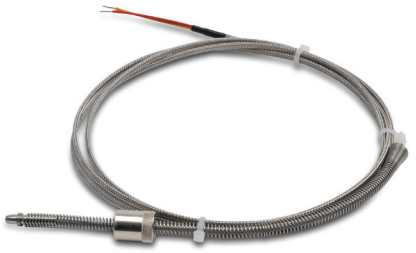
***BCF14-50N*** ***BCF14-25N*** ***BCF14-125N***

***Brass Compression Fittings***

***RTD-SJ*** ***RTD-SP***

***RTD Connectors***

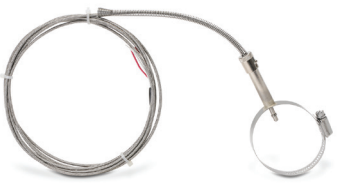
# ProSense® RTD Adjustable Immersion Sensor



## Overview

- All temperature sensors are pre-built stock items
- 100 ohm platinum RTD 3-wire element
- Class A accuracy
- Spring adjustable allows for variable immersion depths
- Integral bayonet cap makes installation quick and easy when used with a bayonet adapter or pipe clamp adapter
- Made in the USA

RoHS



*Shown with optional PCA pipe clamp adapter*

| RTD Probes with Spring Adjustable Immersion | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ***Part Number*** | ***Pcs/Pkg*** | ***Wt (lb)*** | ***Price*** | ***Type*** | ***Sensor Dimensions*** | ***Lead Wire Length (ft)*** | ***Temperature Sensing Range*** | ***Mounting*** |
| ***RTD1-D08L10-01*** | 1 | 0.3 | $45.00 | PT 100, Class A, 3-wire | 1/4" length x 3/16" O.D. sensing tip 8" length x 0.263" diameter spring. | 10 | -50 to 300°C (-58 to 572°F), lead wire transition rated to 400°F (204°C) | Bayonet fitting cap 7/16" inside diameter, single slot. Mount with ProSense bayonet fitting adapter or pipe clamp adapter (purchased separately - see accessories) |

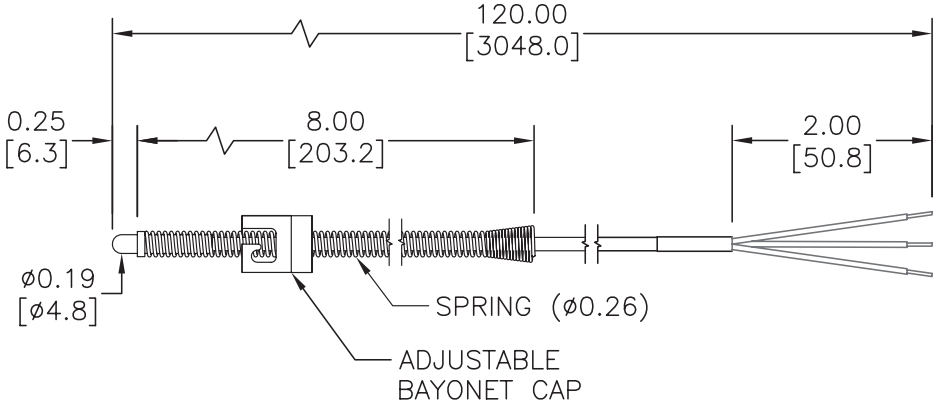
| Technical Specifications | |
|---|---|
| ***Sensing Element*** | Single 100 ohm platinum (Pt 100), 3-wire; TCR = 0.00385 ohm/ohm/°C |
| ***Initial Accuracy*** | Class A ±[0.15 +0.002 \|t\|] °C |
| ***Probe*** | 1/4" length x 3/16" O.D. sensing tip, 316 stainless steel sheath |
| ***Response Time*** | 7 seconds, 63% of a 25 to 77°C step change (ASTM E1137) |
| ***Wiring*** | Stranded conductor lead wires with stripped ends, fiberglass insulation and stainless steel overbraid<br>This probe is not sealed and cannot be immersed in liquids. |

*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

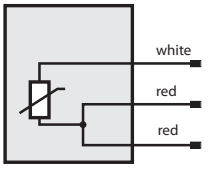
## Dimensions

**inches [mm]**

***RTD1-D08L10-01***




## Wiring Information



# ProSense® RTD Adjustable Immersion Sensor - Accessories

## Accessories

| Part No. | Description | Pcs/Pkg | Price |
|---|---|---|---|
| RTD-SP | RTD 3-pin connector, standard round pin plug, maximum continuous temperature 400°F (200°C), white body, copper pins, 14 AWG maximum (2.0 mm) wire size | 1 | $6.50 |
| RTD-SJ | RTD 3-pin connector, standard round pin jack, maximum continuous temperature 400°F (200°C), white body, copper pins, 14 AWG maximum (2.0 mm) wire size | 1 | $8.50 |
| WCB-S | Wire / cable clamp bracket for use with standard thermocouple and RTD connectors. | 4 | $5.00 |
| BA-078 | Bayonet adapter, 7/8 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | $1.25 |
| BA-100 | Bayonet adapter, 1 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | $1.25 |
| BA-114 | Bayonet adapter, 1-1/4 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | $1.50 |
| BA-112 | Bayonet adapter, 1-1/2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter,1/8 inch MNPT | 1 | $1.75 |
| BA-200 | Bayonet adapter, 2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | $2.00 |
| BA-212 | Bayonet adapter, 2-1/2 long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | $2.25 |
| BA-300 | Bayonet adapter, 3 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | $2.50 |
| BA-312 | Bayonet adapter, 3-1/2 long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | $2.75 |
| PCA-125 | Pipe clamp adapter, 1-1/16 to 1-1/4 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors. | 1 | $14.00 |
| PCA-200 | Pipe clamp adapter with 1-1/16 to 2 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors. | 1 | $12.00 |
| PCA-300 | Pipe clamp adapter with 2-1/16 to 3 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors. | 1 | $16.00 |
| PCA-425 | Pipe clamp adapter with 3-5/16 to 4-1/4 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors. | 1 | $17.00 |
| PCA-500 | Pipe clamp adapter with 4-1/8 to 7 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors. | 1 | $17.00 |

***Note: RTD extension lead wire available at the end of this section.***
***See end of section for full listing of accessories and dimension information.***

***BA-078***

***BA-114***

***BA-300***

***Bayonet Mounting Adapters***

***RTD-SJ*** ***RTD-SP***

***RTD Connectors***

***PCA-300***

***Pipe Clamp Adapter***

# ProSense® RTD Probes with M12 Cable Connector

## Overview

- All temperature sensors are pre-builtt stock items
- 100 ohm platinum RTD element
- Class A accuracy
- 316 stainless steel sheath to protect from harsh sensing applications
- 6 mm (0.24") diameter 3-wire or 10 mm (0.4") diameter 4-wire probes
- Probe lengths of 160 mm, 260 mm, 360 mm, and 560 mm
- 4-pin M12 cable connector plug for simplified wiring
- 3-year warranty

| RTD Probes With M12 Cable Connector | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ***Part Number*** | ***Pcs/ Pkg*** | ***Wt(lb)*** | ***Price*** | ***Type*** | ***Diameter*** | ***Length*** | ***Temperature Sensing Range*** | ***Mounting Fitting*** | ***Thermowell*** |
| ***RTD0100-06-010-H*** | 1 | 0.10 | $29.00 | PT 100, 3-wire | 0.24 inch (6 mm) | 6.3 inch (160 mm) | –40 to 302°F (–40 to 150°C), Wiring connection limited to -13 to 176°F (-25 to 80°C) | CF06-25N | RTDTW-06-010-50N CF06-25N |
| ***RTD0100-06-020-H*** | 1 | 0.20 | $30.00 | PT 100 3-wire | 0.24 inch (6 mm) | 10.2 inch (260 mm) | | CF06-25N | RTDTW-06-020-50N CF06-25N |
| ***RTD0100-06-030-H*** | 1 | 0.30 | $33.25 | PT 100 3-wire | 0.24 inch (6 mm) | 14.2 inch (360 mm) | | CF06-25N | RTDTW-06-030-50N CF06-25N |
| ***RTD0100-10-010-H*** | 1 | 0.10 | $29.00 | PT 100 4-wire | 10 mm (0.4 inch) | 160 mm (6.3 inch) | | CF10-50N | RTDTW-10-010-50N CF10-50N |
| ***RTD0100-10-020-H*** | 1 | 0.15 | $30.00 | PT 100 4-wire | 10 mm (0.4 inch) | 260 mm (10.2 inch) | | CF10-50N | RTDTW-10-020-50N CF10-50N |
| ***RTD0100-10-030-H*** | 1 | 0.22 | No Match! | PT 100 4-wire | 10 mm (0.4 inch) | 360 mm (14.2 inch) | | CF10-50N | RTDTW-10-030-50N CF10-50N |

| RTD Probes With M12 Cable Connector Technical Specifications | |
|---|---|
| ***Sensing Element*** | Single 100 ohm platinum (Pt100), TCR = 0.00385 Ω/Ω/°C |
| ***Initial Accuracy*** | DIN EN 60751, Class A, ± (0.15 + 0.002[t])°C |
| ***Probe*** | 6 mm (0.24") or 10 mm (0.4"), 316 stainless steel sheath with single RTD element, 316 stainless steel wiring connection |
| ***Minimum Installation Depth*** | 0.6" (15 mm) |
| ***Response Time*** | *t0.5 = 1 sec/ t0.9 = 3 sec (DIN EN 60751) |
| ***Wiring*** | M12 connector; gold-plated contacts, IP 68 / IP 69K, Class III |

**** $t_{0.5}$ = a 50% of full scale change in output when immersed in water at 0.4m/s, $t_{0.9}$ = a 90% FS change.***

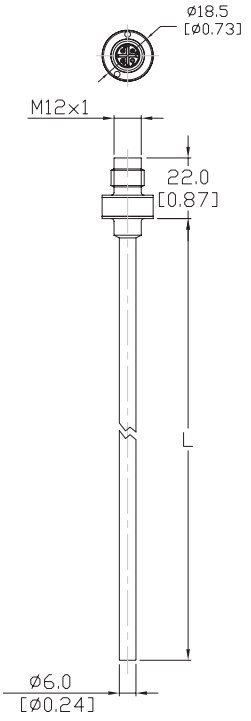
*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*
***www.automationdirect.com/static/specs/prosensechemresistance.pdf***

# ProSense® RTD Probes with M12 Cable Connector

## Dimensions

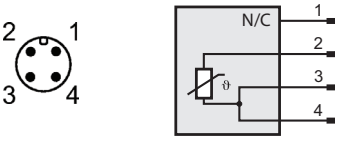
**mm [inches]**

### RTD0100-06 Series




| Part Number | Length | L |
|---|---|---|
| RTD0100-06-010-H | 160 mm | [6.3] |
| RTD0100-06-020-H | 260 mm | [10.2] |
| RTD0100-06-030-H | 360 mm | [14.2] |

## Wiring Information




**Cable Assembly Wiring Colors:**
**Pin 1 - Brown**
**Pin 2 - White**
**Pin 3 - Blue**
**Pin 4 - Black**

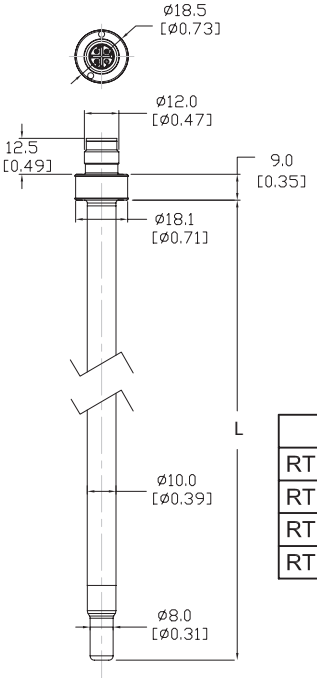
***Note: wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.***

*NOTE: MOUNT 0.24 (6 MM) INCH DIAMETER RTDS BY USING PROSENSE RTDTW SERIES THERMOWELLS AND / OR CF06-25N COMPRESSION FITTING.*

## Dimensions

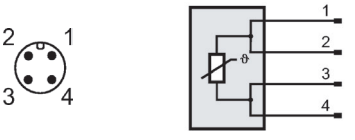
**mm [inches]**

### RTD0100-10 Series




| Part Number | Length | L |
|---|---|---|
| RTD0100-10-010-H | 160 mm | [6.3] |
| RTD0100-10-020-H | 260 mm | [10.2] |
| RTD0100-10-030-H | 360 mm | [14.2] |
| RTD0100-10-050-H | 560 mm | [22.0] |

## Wiring Information




**Cable Assembly Wiring Colors:**
**Pin 1 - Brown**
**Pin 2 - White**
**Pin 3 - Blue**
**Pin 4 - Black**

***Note: wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.***

*NOTE: MOUNT 10MM DIAMETER RTDS BY USING PROSENSE RTDTW SERIES THERMOWELLS AND / OR CF10-50N COMPRESSION FITTING.*

# ProSense® TTD Series Temperature Transmitters

## Overview

- **Converts ProSense RTD0100 Series RTD temperature probe output to 4-20mA signal**
- High accuracy 2-wire or 3-wire 4-20mA temperature transmitter
- M12 quick-disconnect for fast mounting
- 3 available temperature ranges
- 3-year warranty
- LED indication of loop current

*Note: Above photo shows assembled unit with TTD Transmitter and RTD0100 Probe*

| ProSense Temperature Transmitter TTD Series | | | | | |
|---|---|---|---|---|---|
| ***Part Number*** | ***Description*** | ***Pcs/Pkg*** | ***Wt (lb)*** | ***Price*** | ***Cable Assemblies**** |
| ***TTD-20-N40160F-H*** | Temperature transmitter, 4-20mA output, over temperature range of -40°F to 160°F (-40°C to 71.1°C) | 1 | 0.25 | $65.00 | CD12L-0B-020-A0<br>CD12L-0B-020-C0<br>CD12M-0B-070-A1<br>CD12M-0B-070-C1 |
| ***TTD-20-N40300F-H*** | Temperature transmitter, 4-20mA output, over temperature range of -40°F to 300°F (-40°C to 148.8°C) | 1 | 0.25 | $65.00 | CDP12-0B-010-AA<br>CDP12-0B-030-AA<br>CDP12-0B-010-BB<br>CDP12-0B-030-BB |

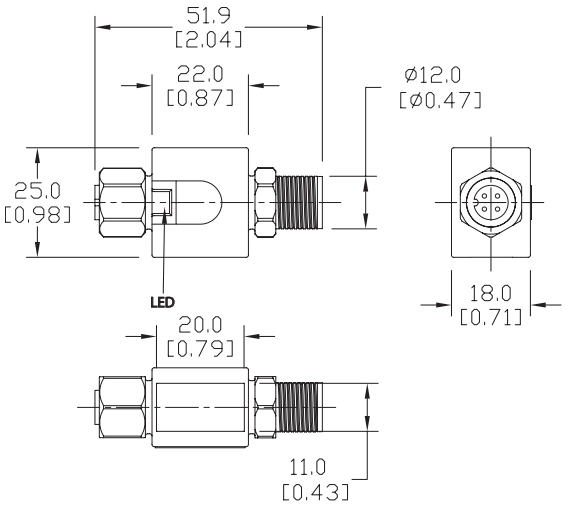
**** Order separately - See proximity sensor section for cable specs.***

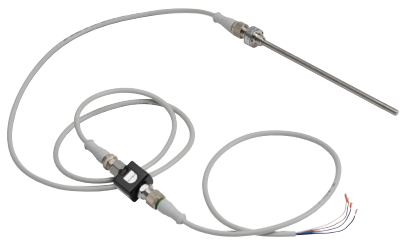
| ProSense TTD Series Technical Specifications | | | |
|---|---|---|---|
| | ***TTD-20-N40160F-H*** | ***TTD-20-N40300F-H*** | ***TTD-20-30300F-H*** |
| ***Operating Voltage*** | 20 to 32 VDC | | |
| ***Electrical Connection*** | M12 connector; gold-plated contacts (torque 5 to 13 in/lbs) | | |
| ***Short-Circuit Protection*** | Yes (non-latching) | | |
| ***Overload Protection*** | Yes | | |
| ***Reverse Polarity Protection*** | Yes | | |
| ***Analog Output*** | 4 to 20 mA (min/max 3.85 to 22 mA) | | |
| ***Maximum Load*** | Rmax: 300 Ω | | |
| ***Accuracy*** | ± 0.3°C + (± 0.1 % span) | | |
| ***Resolution*** | ± 0.3°C + (± 0.1 % span) | | |
| ***Measuring - Display [ms] / Cycle [ms]*** | 100 | | |
| ***Scaled Range*** | -40°F to 160°F (-40°C to 71.1°C) | -40°F to 300°F (-40°C to 148.8°C) | 30°F to 300°F (-1.1°C to 148.8°C) |
| ***Dynamic Response (DIN EN 60751)*** | *t0.5 + 1 sec. / t0.9 = 3 sec. | | |
| ***Housing Material*** | Polyamide PACM 12 (TROGAMID); PED; sealing:FPM (Viton); nut: stainless steel 316L / 1.4404; connector: TPU (urethane) | | |
| ***Ambient Temperature*** | -13°F to 158°F (-25°C to 70°C) | | |
| ***Storage Temperature*** | -40°F to 185°F (-40°C to 85°C) | | |
| ***Protection*** | IP 67 | | |
| ***Insulation Resistance*** | > 100MΩ / 500 VDC | | |
| ***Shock Resistance*** | 50g (DIN / IEC 68-2-27, 11ms) | | |
| ***Vibration Resistance*** | 20g (DIN / EN 68-2-6, (10 to 2000 Hz) | | |
| ***EMC*** | EN 61326 | | |
| ***EN 61000-4-2 ESD*** | 4 kV CD / 8 kV AD | | |
| ***EN 61000-4-3 HF Radiated*** | 10 V/m | | |
| ***EN 61000-4-4 Burst*** | 2 kV | | |
| ***EN 61000-4-5 Surge*** | 1 kV | | |
| ***EN 61000-4-6 HF Conducted*** | 10 V | | |
| ***Power-On Delay Time*** | 1 sec. | | |
| ***Agency Approvals*** | UL 508 listed, File # E324411, CE, RoHS | | |

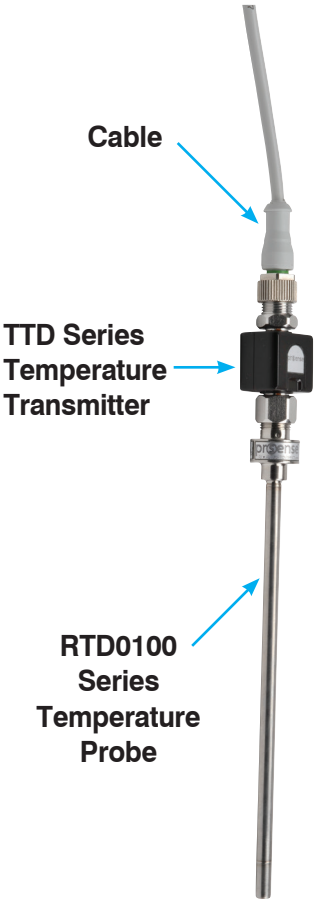
# ProSense® TTD Series Temperature Transmitter

## Dimensions

**mm [inches]**






***Note: The TTD transmitter can be located remotely from the RTD0100 probe by using an additional patch cable.***

## Wiring

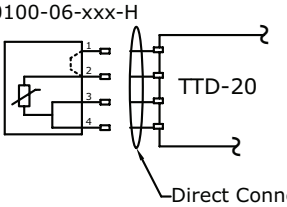
Cable Assembly Wiring Colors:
Pin 1 - Brown
Pin 2 - White
Pin 3 - Blue
Pin 4 - Black
Note: Wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.



INPUT SENSOR CONNECTION

3 Wire RTD Sensor

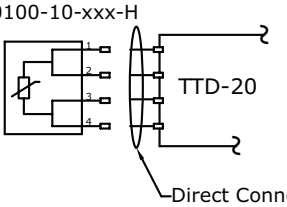
RTD0100-06-xxx-H




Direct Connection or Optional M12 Cable

4 Wire RTD Sensor

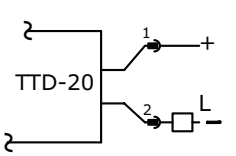
RTD0100-10-xxx-H



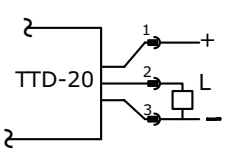

Direct Connection or Optional M12 Cable

OUTPUT SIGNAL CONNECTION

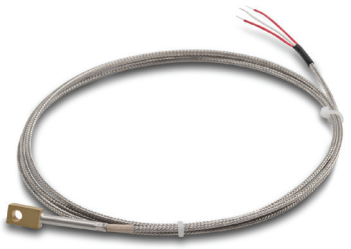
2 Wire 4-20mA Output Signal




3 Wire 4-20mA Output Signal



# ProSense® RTD Bolt-On Ring Sensors



## Overview

- All temperature sensors are pre-built stock items
- Ideal for many surface mount sensing applications
- 100 ohm platinum RTD 3-wire element
- Class A accuracy
- Brass ring construction
- 6-foot lead wires with Kapton insulation and stainless steel over-braid
- Made in the USA

RoHS 2002/95/EC

| RTD Probes with Leadwire Transition | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Part Number*** | ***Pcs/Pkg*** | ***Wt (lb)*** | ***Price*** | ***Type*** | ***Ring Material*** | ***Temperature Sensing Range*** | ***Mounting*** |
| ***RTD1-B01L06-01*** | 1 | 0.4 | $56.00 | PT 100, 3-wire | Brass | -50 to 300°C (-58 to 572°F) | Bolt on #6-#10 (4mm-5mm) screw or bolt size |
| ***RTD1-B02L06-01*** | 1 | 0.4 | $59.00 | PT 100, 3-wire | Brass | -50 to 300°C (-58 to 572°F) | Bolt on #12, 1/4 to 5/16 inch (5mm - 8mm) screw or bolt size |

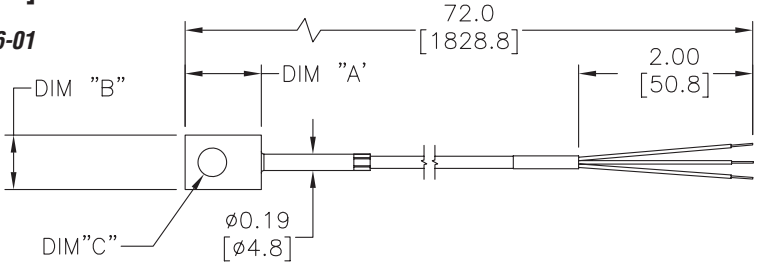
| Technical Specifications | |
|---|---|
| ***Sensing Element*** | Single 100 ohm platinum (Pt 100), 3-wire; TCR = 0.00385 ohm/ohm/°C |
| ***Initial Accuracy*** | Class A ±[0.15 +0.002 \|t\|] °C |
| ***Response Time*** | 7 seconds, 63% of a 25 to 77°C step change (ASTM E1137) |
| ***Wiring*** | 6 foot stranded conductor lead wires with stripped ends, Kapton insulation and stainless steel overbraid |

*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

## Dimensions

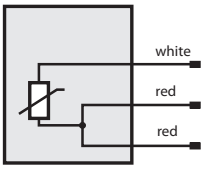
**inches [mm]**

***RTD1-B0XL06-01***




| TABLE A | | | |
|---|---|---|---|
| PART NUMBER | DIM "A" | DIM "B" | DIM "C" |
| RTD1-B01L06-01 | 0.63[15.9] | 0.38[9.5] | ø0.20[ø5.2] |
| RTD1-B02L06-01 | 0.88[22.2] | 0.63[15.9] | ø0.33[ø8.3] |

## Wiring Information



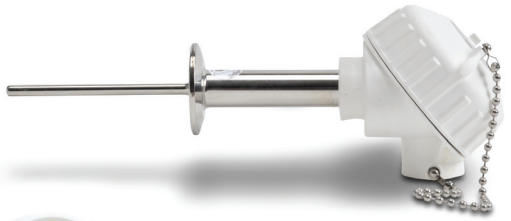

## Accessories

| ***Part No.*** | ***Description*** | ***Pcs/Pkg*** | ***Price*** |
|---|---|---|---|
| ***RTD-SP*** | RTD 3-pin connector, standard round pin plug, maximum continuous temperature 400 F (200 C), white body, copper pins, 14 AWG maximum (2.0 mm) wire size | 1 | $6.50 |
| ***RTD-SJ*** | RTD 3-pin connector, standard round pin jack, maximum continuous temperature 400 F (200 C), white body, copper pins, 14 AWG maximum (2.0 mm) wire size | 1 | $8.50 |
| ***WCB-S*** | Wire / cable clamp bracket for use with standard thermocouple and RTD connectors. | 4 | $5.00 |

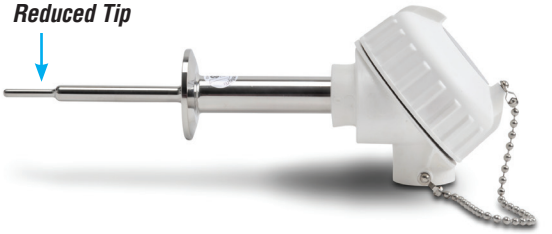
***Note: RTD extension lead wire and full listing of accessories and dimension information available at the end of this section.***

# ProSense® RTD Sanitary Clean-in-Place (CIP) Probes

***RTD1-S04-XX***



***Reduced Tip***



**Open head**

## Overview

- All temperature sensors are pre-built stock items
- Designed to meet the stringent requirements of HTST pasturization systems
- Probe
  - 100 ohm platinum RTD 3-wire element
  - Class A accuracy
  - Clean-in-place (CIP) sanitary 316 SS connectors for use in processing applications where sensor corrosion and product contamination are critical factors
  - Certified to meet or exceed 3A Sanitary Council Standard surface finish specifications
  - 316 SS sheaths available in standard 1/4" diameter, or 3/8" diameter with 3/16" diameter reduced tip for greater durability in high viscosity applications
  - Commonly used 4" probe insertion length
- Connection head
  - FDA compliant white thermoplastic screw cover head with captive o-ring seal provides excellent washdown protection
  - One turn cover removal & installation eliminates cross threading and saves time
  - 3/4" NPT conduit opening with internal stop to prevent overtightening and installation damage
  - Gripping ribs on cover edge
  - Stainless steel cover chain
- Wiring
  - Ceramic terminal base
  - Brass terminals with stainless steel screws eliminate the need to wrap connections around screws
  - Elevated terminal block for easy wire termination
- Made in the USA

3-A® RoHS 2002/95/EC

*74-04*

| RTD Probes with Leadwire Transition | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ***Part Number*** | ***Pcs/Pkg*** | ***Wt (lb)*** | ***Price*** | ***Type*** | ***Probe Diameter (O.D.)*** | ***Probe Insertion Length*** | ***Temperature Sensing Range*** | ***Mounting*** |
| ***RTD1-S04-01*** | 1 | 1.0 | $93.00 | PT 100, 3-wire | 1/4" | 4" | -50 to 204°C (-58 to 400°F) | 1" or 1-1/2" tri-clamp |
| ***RTD1-S04-02*** | | | $97.00 | | | | | 2" tri-clamp |
| ***RTD1-S04-03*** | | | $117.00 | | 3/8" O.D. reduced to 3/16" O.D. x 1-1/4" long tip | | | 1" or 1-1/2" tri-clamp |
| ***RTD1-S04-04*** | | | $118.00 | | | | | 2" tri-clamp |

| Technical Specifications | |
|---|---|
| ***Sensing Element*** | Single 100 ohm platinum (Pt 100), 3-wire; TCR = 0.00385 ohm/ohm/°C |
| ***Initial Accuracy*** | Class A ±[0.15+0.002 \|t\|]°C |
| ***Probe & Process Connection*** | 316 stainless steel sheath and 316 stainless steel sanitary CIP tri-clamp connection with a minimum 32 micro-inch Ra food grade surface finish. Meets or exceeds 3A Sanitary Council Standard specifications |
| ***Connection Head*** | FDA compliant white polypropylene screw cover with stainless steel chain, BUNA-N o-ring seal, NEMA 4X, 3/4" NPT conduit opening max. temp. 250°F (121°C) |
| ***Response Time*** | <4 seconds, 63% of 25 to 77°C step change (ASTM E1137) |
| ***Wiring*** | Ceramic terminal base with brass terminals and stainless steel screws (Recommended tightening torque 3-4 lb-in) |

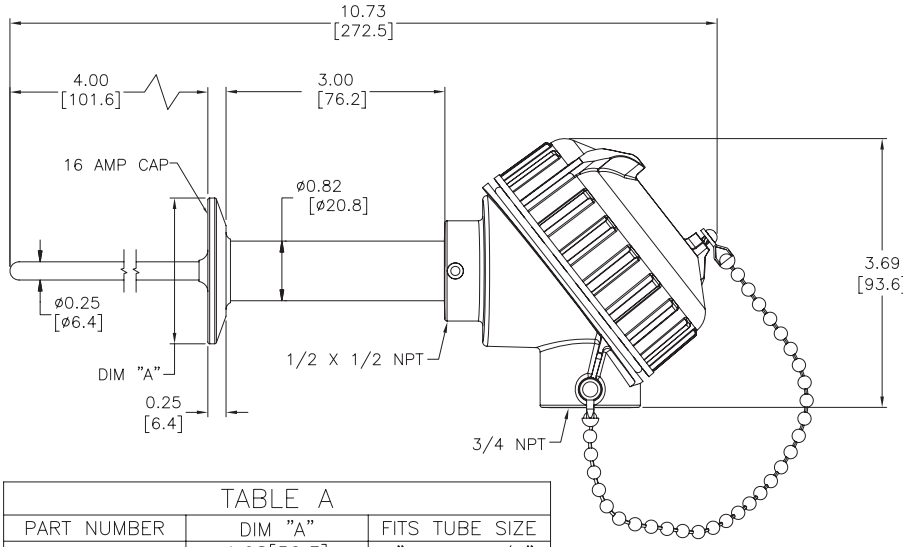
*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

# ProSense® RTD Sanitary Clean-in-Place (CIP) Probes

## Dimensions

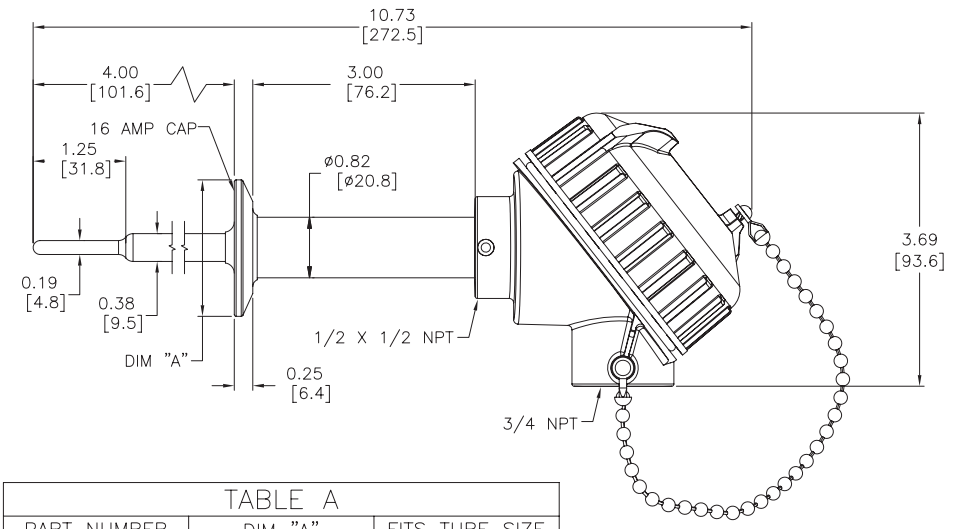
**inches [mm]**

***RTD1-S04-01 and 02***



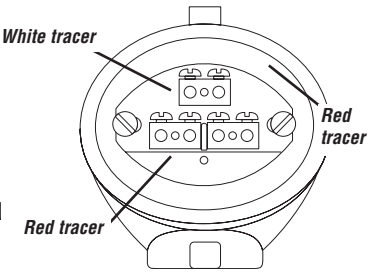

| TABLE A | | |
|---|---|---|
| PART NUMBER | DIM "A" | FITS TUBE SIZE |
| RTD1-S04-01 | 1.98[50.3] | 1" OR 1-1/2" |
| RTD1-S04-02 | 2.51[63.8] | 2" |

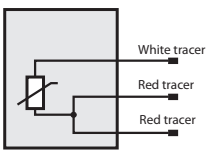
***RTD1-S04-03 and 04***




| TABLE A | | |
|---|---|---|
| PART NUMBER | DIM "A" | FITS TUBE SIZE |
| RTD1-S04-03 | 1.98[50.3] | 1" OR 1-1/2" |
| RTD1-S04-04 | 2.51[63.8] | 2" |

## Wiring Information




- Ignore polarity marks on terminal base
- Recommended screw terminal tightening torque 3-4 lb-in
- After wiring connections are made, terminals should be protected by applying a coating of moisture-proof sealant such as a silicone caulking

## Accessories

***RTD extension lead wire available at the end of this section.***

# ProSense® Temperature Transmitters - Head Mounted

XTH

## Features - Non-programmable Models

Sensor Types:
- Models for thermocouple Types J, K, or T
- Models for RTD Type Pt100 3-wire
- Select from a variety of pre-configured measuring ranges
- Internal cold junction compensation for thermocouple input models
- Transmitter is powered by 8-35 VDC and is reverse- polarity protected
- Output is linearized 2-wire 4-20mA current loop
- Up scale signal for sensor lead break or short circuit detection (NAMUR NE 43 fault response)
- Mounts in ProSense connection head or any DIN Form B sensor head
- 2 kVAC isolation between input and output

| ProSense Head Mounted Temperature Transmitters | | | | | |
|---|---|---|---|---|---|
| ***Part Number*** | ***Input Type*** | ***Fixed Measuring Range*** | ***Pcs/Pkg*** | ***Wt(lb)*** | ***Price*** |
| ***XTH-N40140F-PT1*** | Pt100 RTD (to IEC 751) ($\alpha$= 0.00385) | -40 to 140°F (-40 to 60°C) | 1 | 0.09 | $69.00 |
| ***XTH-0100F-PT1*** | | 0 to 100°F (-17.8 to 37.8°C) | 1 | 0.09 | $69.00 |
| ***XTH-0200F-PT1*** | | 0 to 200°F (-17.8 to 93.3°C) | 1 | 0.09 | $69.00 |
| ***XTH-0300F-PT1*** | | 0 to 300°F (-17.8 to 148.9°C) | 1 | 0.09 | $69.00 |
| ***XTH-0500F-PT1*** | | 0 to 500°F (-17.8 to 260°C) | 1 | 0.09 | $69.00 |
| ***XTH-0100F-J*** | Type J thermocouple (to NIST Monograph 175, IEC584) | 0 to 100°F (-17.8 to 37.8°C) | 1 | 0.09 | $69.00 |
| ***XTH-0200F-J*** | | 0 to 200°F (-17.8 to 93.3°C) | 1 | 0.09 | $69.00 |
| ***XTH-0300F-J*** | | 0 to 300°F (-17.8 to 148.9°C) | 1 | 0.09 | $69.00 |
| ***XTH-0500F-J*** | | 0 to 500°F (-17.8 to 260°C) | 1 | 0.09 | $69.00 |
| ***XTH-0800F-J*** | | 0 to 800°F (-17.8 to 426.7°C) | 1 | 0.09 | $69.00 |
| ***XTH-01000F-J*** | | 0 to 1000°F (-17.8 to 537.8°C) | 1 | 0.09 | $69.00 |
| ***XTH-0100F-K*** | Type K thermocouple (to NIST Monograph 175, IEC584) | 0 to 100°F (-17.8 to 37.8°C) | 1 | 0.09 | $69.00 |
| ***XTH-0200F-K*** | | 0 to 200°F (-17.8 to 93.3°C) | 1 | 0.09 | $69.00 |
| ***XTH-0300F-K*** | | 0 to 300°F (-17.8 to 148.9°C) | 1 | 0.09 | $69.00 |
| ***XTH-0500F-K*** | | 0 to 500°F (-17.8 to 260°C) | 1 | 0.09 | $69.00 |
| ***XTH-0800F-K*** | | 0 to 800°F (-17.8 to 426.7°C) | 1 | 0.09 | $69.00 |
| ***XTH-01000F-K*** | | 0 to 1000°F (-17.8 to 537.8°C) | 1 | 0.09 | $69.00 |
| ***XTH-01500F-K*** | | 0 to 1500°F (-17.8 to 815.5°C) | 1 | 0.09 | $69.00 |
| ***XTH-02000F-K*** | | 0 to 2000°F (-17.8 to 1093.3°C) | 1 | 0.09 | $69.00 |
| ***XTH-N2000F-T*** | Type T thermocouple (to NIST Monograph 175, IEC584) | -200 to 0°F (-128.9 to -17.8°C) | 1 | 0.09 | $69.00 |
| ***XTH-N100100F-T*** | | -100 to 100°F (-73.3 to 37.8°C) | 1 | 0.09 | $69.00 |
| ***XTH-0200F-T*** | | 0 to 200°F (-17.8 to 93.3°C) | 1 | 0.09 | $69.00 |

# ProSense® Temperature Transmitters - Head Mounted

## Features - Programmable Models

XTH-0-UNV

Sensor Types:
- Thermocouple Types J, K, T, E, N, R, S, U, B, C, D, L
- RTD Types Pt100, Pt500, Pt1000, Pt50, Ni100, Ni500, Ni1000, Cu50, Cu100 (2, 3 or 4-wire)
- Linear Resistance 10 to 400 Ohms, 10 to 2000 Ohms (2, 3 or 4-wire)
- Millivolts -10 to 100 mV
- Measuring range configurable within the full range of the sensor type selected
- Selectable units of °F or °C
- Choose from internal or external cold junction compensation for thermocouple inputs
- Wire resistance compensation for 2-wire RTDs
- Transmitter is powered by 8-35 VDC and is reverse-polarity protected
- Output is linearized 2-wire current loop and can be configured for 4-20mA or 20-4mA
- Selectable up scale or down scale signal for sensor lead break or short circuit detection (NAMUR NE 43 fault response)
- Adjustable digital filter time constant to compensate for undesirable input fluctuations
- Mounts in ProSense connection head probes or any DIN Form B sensor head
- 2 kVAC isolation between input and output
- Quick and easy configuration with Free XT-SOFT software and XT-USB cable (purchased separately) – NO decade box, meters, or signal generators needed!

RoHS c UL us CE

**ProSense Head Mounted Temperature Transmitters**

| Part Number | Input Type | Programmable Measuring Range Limits | Min. Span | Pcs/Pkg | Wt(lb) | Price |
|---|---|---|---|---|---|---|
| XTH-0-UNV | Pt100 RTD<br>Pt500 RTD<br>Pt1000 RTD<br>(to IEC 751)<br>($\alpha$=0.00385) | -328 to 1562°F (-200 to 850°C)<br>-328 to 482°F (-200 to 250°C)<br>-328 to 482°F (-200 to 250°C) | 18°F (10°C)<br>18°F (10°C)<br>18°F (10°C) | 1 | 0.09 | $89.00 |
| | Ni100 RTD<br>Ni500 RTD<br>Ni1000 RTD<br>(to DIN 43760)<br>($\alpha$=0.006180) | -76 to 356°F (-60 to 180°C)<br>-76 to 302°F (-60 to 150°C)<br>-76 to 302°F (-60 to 150°C) | 18°F (10°C)<br>18°F (10°C)<br>18°F (10°C) | | | |
| | Pt50 RTD<br>Pt100 RTD<br>(to GOST)<br>($\alpha$=0.003911) | -328 to 2012°F (-200 to 1100°C)<br>-328 to 1562°F (-200 to 850°C) | 18°F (10°C)<br>18°F (10°C) | | | |
| | Cu50 RTD<br>Cu100 RTD<br>(to GOST)<br>($\alpha$=0.004278) | -328 to 392°F (-200 to 200°C)<br>-328 to 392°F (-200 to 200°C) | 18°F (10°C)<br>18°F (10°C) | | | |
| | RTDs:<br>• Connection type: 2-, 3-, or 4-wire connection<br>• Software compensation of cable resistance possible in the 2 wire system (0-20Ω)<br>• Sensor cable resistance max. 11Ω per cable in the 3 and 4 wire system<br>• Sensor current: ≤0.6mA | | | | | |
| | Resistance Ω | 10 to 400 Ω<br>10 to 2000 Ω | 10 Ω<br>100 Ω | | | |
| | Thermocouples:<br>Type B<br>Type E<br>Type J<br>Type K<br>Type N<br>Type R<br>Type S<br>Type T<br>(to NIST Monograph 175, IEC 584) | 32 to 3308°F (0 to +1820°C)<br>-328 to 1679°F (-200 to +915°C)<br>-328 to 2192°F (-200 to +1200°C)<br>-328 to 2501°F (-200 to +1372°C)<br>-454 to 2372°F (-270 to +1300°C)<br>32 to 3214°F (0 to +1768°C)<br>32 to 3214°F (0 to +1768°C)<br>-328 to 752°F (-200 to +400°C) | 900°F (500°C)<br>90°F (50°C)<br>90°F (50°C)<br>90°F (50°C)<br>90°F (50°C)<br>900°F (500°C)<br>900°F (500°C)<br>90°F (50°C) | | | |
| | Thermocouples:<br>Type C<br>Type D<br>(to ASTM E988) | 32 to 4208°F (0 to +2320°C)<br>32 to 4523°F (0 to +2495°C) | 900°F (500°C)<br>900°F (500°C) | | | |
| | Thermocouples:<br>Type L<br>Type U<br>(to DIN 43710) | -328 to 1652°F (-200 to +900°C)<br>-328 to 1112° (-200 to +600°C) | 90°F (50°C)<br>90°F (50°C) | | | |
| | Thermocouples:<br>• Internal cold junction (Pt100) or external programmable fixed value, 32 to 176°F (0 to 80°C)<br>• Accuracy of cold junction: ± 1.8°F (1°C)<br>• Sensor current: 30nA | | | | | |
| | Millivolt (mV) | -10 to 100 mV | 5 mV | | | |

# ProSense® Temperature Transmitters - Head Mounted

| ProSense Head Mounted Temperature Transmitters General Specifications | | | | | | |
|---|---|---|---|---|---|---|
| | | XTH (PT1 Series) | XTH (J Series) | XTH (K Series) | XTH (T Series) | XTH-0-UNV |
| Output | Output Signal | 4-20 mA | | | | 4-20 mA, 20-4 mA programmable |
| | Signal Transmission | Output linear to temperature | | | | |
| | Fault Signal | Under ranging / Standard / 3.8 mA<br>Over ranging / Standard / 20.5 mA<br>Sensor break; sensor short circuit down scale / To NAMUR NE 43 / ≤3.6 mA (only applicable to XTH-0-UNV)<br>Sensor break; sensor short circuit up scale / To NAMUR NE 43 / ≥21.0 mA | | | | |
| | Max. Load Impedance | ($V_{powersupply}$ - 8V) / 0.025 A e.g. (24v-8V)/0.025A=640 Ω | | | | |
| | Galvanic Isolation | 2 kV AC (input/output) | | | | |
| | Input Current Requirement | ≤ 3.5 mA | | | | |
| | Current Limit | ≤ 25 mA | | | | |
| | Switch on Delay | 4 seconds (during power up output current = 3.8 mA) | | | | |
| | Response Time | 1 second | | | | |
| | Digital Filter | N/A | | | | 0 to 8 seconds (programmable) |
| | Power Supply | 8 to 35 VDC, polarity protected | | | | |
| | Allowable Ripple | ≤ 5 V with power supply ≥ 13; Max. frequency = 1 kHz | | | | |
| Accuracy | Reference Conditions | Calibration temperature 73.4°F ± 9°F (23°C ± 5°C) | | | | |
| | Maximum Measuring Error | 0.36°F (0.2°C) or 0.08% | 0.9°F (0.5°C) or 0.08% | | | See Table 1 |
| | Influence of Power Supply | ≤ ± 0.01%/V deviation from 24 V | | | | |
| | Load Influence | ≤ ± 0.02%/100 Ω | | | | |
| | Long Term Stability | ≤ 0.1 K / Year or ≤ 0.05% / Year | | | | |
| Installation | Orientation | No restrictions | | | | |
| | Location | Connection head according to DIN 43 729 Form B | | | | |
| Environmental | Ambient | -40 to 185°F (-40 to 85°C) | | | | |
| | Storage | -40 to 212°F (-40 to 100°C) | | | | |
| | Climate Class | As per IEC 60 654-1, class C | | | | |
| | Ingress Protection | IP00 / IP66 installed in appropriate housing | | | | |
| | Shock and Vibration | 4g / 2 to 150 Hz as per IEC 60 068-2-6 | | | | |
| | EMC Immunity | See Table 2 | | | | |
| | Moisture Condensation | Allowable | | | | |
| Construction | Materials | Housing: Polycarbonate; Potting: Polyurethane | | | | |
| | Terminals | Cable up to max. 1.75 mm² (16 AWG), secure screws | | | | |
| Approvals | | CE, UL recognized (UL 3111-1), File # E311366, RoHS | | | | |

**Table 1 - Maximum Measuring Error XTH-0-UNV**

| | Type | Measurement Accuracy* |
|---|---|---|
| Resistance Thermometer (RTD) | Pt100, Ni100<br>Pt500, Ni500<br>Pt1000, Ni1000 | 0.36°F (0.2°C) or 0.08%<br>0.9°F (0.5°C) or 0.20%<br>0.54°F (0.3°C) or 0.12% |
| Thermocouple TC | K, J, T, E, L, U<br>N, C, D<br>S, B, R | typ. 0.9°F (0.5°C) or 0.08%<br>typ. 1.8°F (1.0°C) or 0.08%<br>typ. 3.6°F (2.0°C) or 0.08% |
| | Measurement Range | Measurement Accuracy* |
| Resistance Transmitter (Ω) | 10 to 400 Ω<br>10 to 2000 Ω | ± 0.1 Ω or 0.08%<br>± 1.5 Ω or 0.12% |
| Voltage Transmitters (mV) | -10 to 100 mV | ± 20 µV or 0.08% |

** % is related to the adjusted measurement range. The value to be applied is the greater.*

**Table 2 - IEC Immunity**

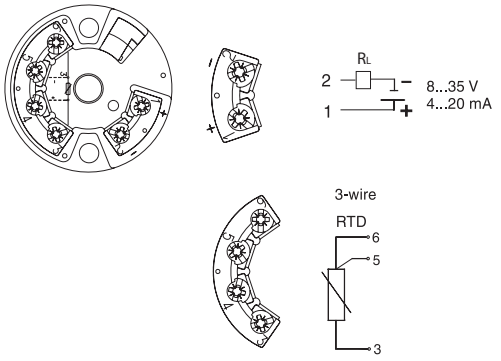
| | | | |
|---|---|---|---|
| Discharge of Static Electricity | IEC 61000-4-2 | 6 kV cont., 8 kV air | N/A |
| Electromagnetic Fields | IEC 61000-4-3 | 80 to 1000 Hz | 10 V/m |
| Burst (Signal) | IEC 61000-4-4 | 1 kV; 2 kV (B)** | N/A |
| Transient Voltage | IEC 61000-4-5 | 1 kV unsym. / 0.5 kV sym. | N/A |
| HF Coupling | IEC 61000-4-6 | 0.15 to 80 MHz | 10V |

*** self recovery*

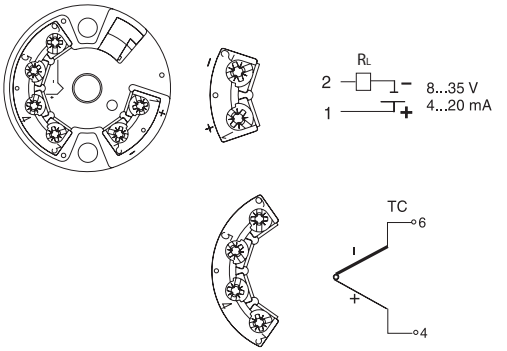
# ProSense® Temperature Transmitters - Head Mounted

## Wiring

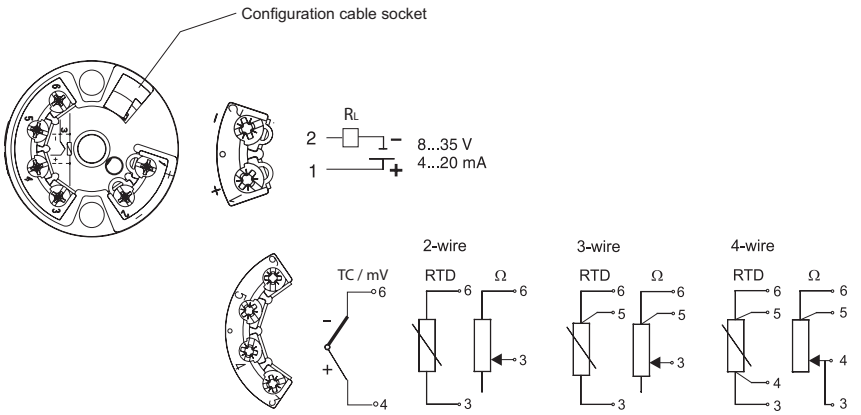
### XTH PT1 - RTD Input



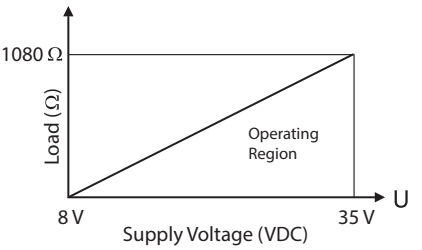

### XTH J, K & T - Thermocouple Input




### XTH-0-UNV




## Load Impedance

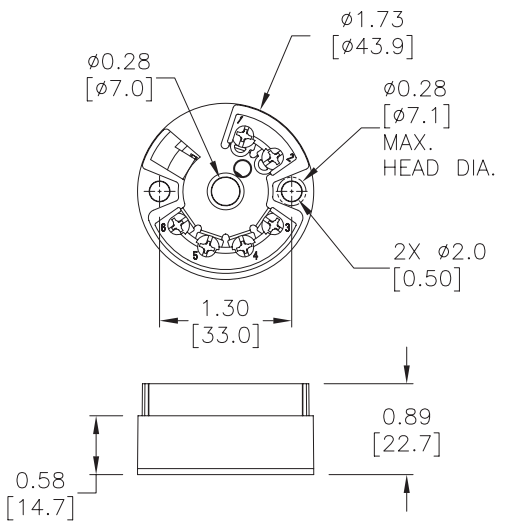



***RLmax = ($V_{powersupply}$-8V) / 0.025A (current output)***

***e.g. (24V - 8V) / 0.025A = 640 Ω***

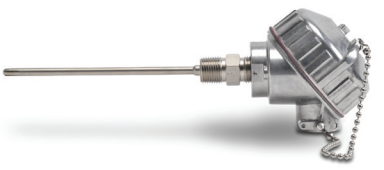
## Dimensions

**inches [mm]**




## Application

ProSense head mounted transmitters can be easily added in the field to a ProSense connection head probe. Just order a pre-assembled ProSense connection head probe and replace the internal terminal block with an XTH series transmitter and included mounting hardware.



***Pre-Assembled ProSense Connection Head Temperature Probe***

***XTH Series Transmitter***

# ProSense® Temperature Transmitters - DIN Rail Mounted

XTD

## Features - Non-programmable Models

Sensor Types:
- Models for thermocouple Types J, K, or T
- Models for RTD Type Pt100 3-wire
- Select from a variety of pre-configured measuring ranges
- Internal cold junction compensation for thermocouple input models
- Transmitter is powered by 12-35 VDC and is reverse-polarity protected
- Output is linearized 2-wire 4-20mA current loop
- Up scale signal for sensor lead break or short circuit detection (NAMUR NE 43 fault response)
- Mounts on 35mm DIN rail in a control panel
- 2 kVAC isolation between input and output

| ProSense DIN Rail Mounted Temperature Transmitter Series | | | | | |
|---|---|---|---|---|---|
| **Part Number** | **Input Type** | **Range** | **Pcs/Pkg** | **Wt(lb)** | **Price** |
| XTD-N40140F-PT1 | Pt100 RTD (to IEC 751) (α= 0.00385) | -40 to 140°F (-40 to 60°C) | 1 | 0.2 | $89.00 |
| XTD-0100F-PT1 | | 0 to 100°F (-17.8 to 37.8°C) | 1 | 0.2 | $89.00 |
| XTD-0200F-PT1 | | 0 to 200°F (-17.8 to 93.3°C) | 1 | 0.2 | $89.00 |
| XTD-0300F-PT1 | | 0 to 300°F (-17.8 to 148.9°C) | 1 | 0.2 | $89.00 |
| XTD-0500F-PT1 | | 0 to 500°F (-17.8 to 260°C) | 1 | 0.2 | $89.00 |
| XTD-0100F-J | J thermocouple (to NIST Monograph 175, IEC584) | 0 to 100°F (-17.8 to 37.8°C) | 1 | 0.2 | $89.00 |
| XTD-0200F-J | | 0 to 200°F (-17.8 to 93.3°C) | 1 | 0.2 | $89.00 |
| XTD-0300F-J | | 0 to 300°F (-17.8 to 148.9°C) | 1 | 0.2 | $89.00 |
| XTD-0500F-J | | 0 to 500°F (-17.8 to 260°C) | 1 | 0.2 | $89.00 |
| XTD-0800F-J | | 0 to 800°F (-17.8 to 426.7°C) | 1 | 0.2 | $89.00 |
| XTD-01000F-J | | 0 to 1000°F (-17.8 to 537.8°C) | 1 | 0.2 | $89.00 |
| XTD-0100F-K | K thermocouple (to NIST Monograph 175, IEC584) | 0 to 100°F (-17.8 to 37.8°C) | 1 | 0.2 | $89.00 |
| XTD-0200F-K | | 0 to 200°F (-17.8 to 93.3°C) | 1 | 0.2 | $89.00 |
| XTD-0300F-K | | 0 to 300°F (-17.8 to 148.9°C) | 1 | 0.2 | $89.00 |
| XTD-0500F-K | | 0 to 500°F (-17.8 to 260°C) | 1 | 0.2 | $89.00 |
| XTD-0800F-K | | 0 to 800°F (-17.8 to 426.7°C) | 1 | 0.2 | $89.00 |
| XTD-01000F-K | | 0 to 1000°F (-17.8 to 537.8°C) | 1 | 0.2 | $89.00 |
| XTD-01500F-K | | 0 to 1500°F (-17.8 to 815.5°C) | 1 | 0.2 | $89.00 |
| XTD-02000F-K | | 0 to 2000°F (-17.8 to 1093.3°C) | 1 | 0.2 | $89.00 |
| XTD-N2000F-T | T thermocouple (to NIST Monograph 175, IEC584) | -200 to 0°F (-128.9 to -17.8°C) | 1 | 0.2 | $89.00 |
| XTD-N100100F-T | | -100 to 100°F (-73.3 to 37.8°C) | 1 | 0.2 | $89.00 |
| XTD-0200F-T | | 0 to 200°F (-17.8 to 93.3°C) | 1 | 0.2 | $89.00 |

# ProSense® Temperature Transmitters - DIN Rail Mounted

**XTD-0-UNV**

## Features - Programmable Models

Sensor Types:

- Thermocouple Types J, K, T, E, N, R, S, U, B, C, D, L
- RTD Types Pt100, Pt500, Pt1000, Pt50, Ni100, Ni120, Ni500, Ni1000 (2, 3 or 4-wire)
- Linear Resistance 10 to 400 Ohms, 10 to 2000 Ohms (2, 3 or 4-wire)
- Millivolts -10 to 100 mV
- Measuring range configurable within the full range of the sensor type selected
- Selectable units of °F or °C
- Choose from internal or external cold junction compensation for TC inputs
- Wire resistance compensation for 2-wire RTDs
- Transmitter is powered by 12-35 VDC and is reverse-polarity protected
- Output is linearized 2-wire current loop and can be configured for 4-20mA or 20-4mA
- Selectable up scale or down scale signal for sensor lead break or short circuit detection (NAMUR NE43 fault response)
- Adjustable digital filter time constant to compensate for undesirable input fluctuations
- Mounts on 35mm DIN rail in a control panel
- 2 kVAC isolation between input and output
- Quick and easy configuration with Free XT-SOFT software and XT-USB cable (purchased separately) – NO decade box, meters, or signal generators needed!

RoHS c UL us CE

| ProSense DIN Rail Mounted Temperature Transmitters | | | | | | |
|---|---|---|---|---|---|---|
| ***XTD-0-UNV*** | ***Input Type*** | ***Programmable Measuring Range limits*** | ***Min. Span*** | ***Pcs/Pkg*** | ***Wt(lb)*** | ***Price*** |
| | Pt100 RTD<br>Pt500 RTD<br>Pt1000 RTD<br>(to IEC 751)<br>($\alpha$=0.00385) | -328 to 1562°F (-200 to 850°C)<br>-328 to 482°F (-200 to 250°C)<br>-328 to 482°F (-200 to 250°C) | 18°F (10°C)<br>18°F (10°C)<br>18°F (10°C) | 1 | 0.2 | $109.00 |
| | Ni100 RTD<br>Ni120 RTD<br>Ni500 RTD<br>Ni1000 RTD<br>(to DIN 43760)<br>($\alpha$=0.006180) | -76 to 356°F (-60 to 180°C)<br>-94 to 518°F (-70 to 270°C)<br>-76 to 302°F (-60 to 150°C)<br>-76 to 302°F (-60 to 150°C) | 18°F (10°C)<br>18°F (10°C)<br>18°F (10°C)<br>18°F (10°C) | | | |
| | Pt50 RTD<br>Pt100 RTD<br>(to GOST)<br>($\alpha$=0.003911) | -328 to 2012°F (-200 to 1100°C)<br>-328 to 1562°F (-200 to 850°C) | 18°F (10°C)<br>18°F (10°C) | | | |
| | RTDs:<br>• Connection type: 2-, 3-, or 4-wire connection<br>• Software compensation of cable resistance possible in the 2 wire system (0-20Ω)<br>• Sensor cable resistance max. 11Ω per cable in the 3 and 4 wire system<br>• Sensor current: ≤0.6mA | | | | | |
| | Resistance Ω | 10 to 400 Ω<br>10 to 2000 Ω | 10 Ω<br>100 Ω | | | |
| | Thermocouples:<br>Type B<br>Type E<br>Type J<br>Type K<br>Type N<br>Type R<br>Type S<br>Type T<br>(to NIST Monograph 175, IEC 584) | 32 to 3308°F (0 to +1820°C)<br>-328 to 1679°F (-200 to +915°C)<br>-328 to 2192°F (-200 to +1200°C)<br>-328 to 2501°F (-200 to +1372°C)<br>-454 to 2372°F (-270 to +1300°C)<br>32 to 3214°F (0 to +1768°C)<br>32 to 3214°F (0 to +1768°C)<br>-328 to 752°F (-200 to +400°C) | 900°F (500°C)<br>90°F (50°C)<br>90°F (50°C)<br>90°F (50°C)<br>90°F (50°C)<br>900°F (500°C)<br>900°F (500°C)<br>90°F (50°C) | | | |
| | Thermocouples:<br>Type C<br>Type D<br>(to ASTM E988) | 32 to 4208°F (0 to +2320°C)<br>32 to 4523°F (0 to +2495°C) | 900°F (500°C)<br>900°F (500°C) | | | |
| | Thermocouples:<br>Type L<br>Type U<br>(to DIN 43710) | -328 to 1652°F (-200 to +900°C)<br>-328 to 1112° (-200 to +600°C) | 90°F (50°C)<br>90°F (50°C) | | | |
| | Thermocouples:<br>• Internal cold junction (Pt100) or external programming fixed value, 32 to 176°F (0 to 80°C)<br>• Accuracy of cold junction: ± 1.8°F (1°C)<br>• Sensor current: 30nA | | | | | |
| | Millivolt (mV) | -10 to 100 mV | 5 mV | | | |

# ProSense® Temperature Transmitters - DIN Rail Mounted

| ProSense DIN Rail Mounted Temperature Transmitters General Specifications | | | | | | |
|---|---|---|---|---|---|---|
| | | XTD (PT1 Series) | XTD (J Series) | XTD (K Series) | XTD (T Series) | XTD-0-UNV |
| Output | Output Signal | 4-20 mA | | | | 4-20 mA, 20-4 mA programmable |
| | Signal Transmission | Output linear to temperature | | | | |
| | Fault Signal | Under ranging / Standard / 3.8 mA<br>Over ranging / Standard / 20.5 mA<br>Sensor break; sensor short circuit down scale / To NAMUR NE 43 / ≤3.6 mA (only applicable to XTD-0-UNV)<br>Sensor break; sensor short circuit up scale / To NAMUR NE 43 / ≥21.0 mA | | | | |
| | Max. Load Impedance | ($V_{powersupply}$ - 12 V) / 0.022 A e.g. (24v-12V)/0.023A=521.74Ω | | | | |
| | Galvanic Isolation | 2 kV AC (input/output) | | | | |
| | Input Current Requirement | ≤ 3.5 mA | | | | |
| | Current Limit | ≤ 23 mA | | | | |
| | Switch on Delay | 4 seconds (during power up output current = 3.8 mA) | | | | |
| | Response Time | 1 second | | | | |
| | Digital Filter | N/A | | | | 0 to 8 seconds (programmable) |
| | Power Supply | 12 to 35 VDC, polarity protected | | | | |
| | Allowable Ripple | ≤ 3 V with power supply ≥ 15, Max. frequency = 1 kHz | | | | |
| Accuracy | Reference Conditions | Calibration temperature 73.4°F ± 9°F (23°C ± 5°C) | | | | |
| | Maximum Measuring Error | 0.36°F (0.2°C) or 0.08% | 0.8°F (0.5°C) or 0.08% | | | See Table 1 |
| | Influence of Power Supply | ≤ ± 0.01%/V deviation from 24 V | | | | |
| | Load Influence | ≤ ± 0.02%/100 Ω | | | | |
| | Long Term Stability | ≤ 0.1 K / Year or ≤ 0.05% / Year | | | | |
| Installation | Orientation | No restrictions | | | | |
| Environmental | Ambient | -40 to 185°F (-40 to 85°C) | | | | |
| | Storage | -40 to 212°F (-40 to 100°C) | | | | |
| | Climate Class | As per IEC 60 654-1, class C | | | | |
| | Ingress Protection | IP20 | | | | |
| | Shock and Vibration | 4g / 2 to 150 Hz as per IEC 60 068-2-6 | | | | |
| | EMC Immunity | See Table 2 | | | | |
| | Moisture Condensation | Allowable | | | | |
| Construction | Materials | Housing: Polycarbonate/ABS, UL94V-0 | | | | |
| | Terminals | Pluggable screw terminal, max. 2.5 mm² (14 AWG) solid, or strand with wire end sleeve, recommended torque 0.5-0.7Nm (4.5-6.2lb.in) | | | | |
| Human Interface | Display | Illuminated yellow LED (2 mm, 0.08 in) signals device operation | | | | |
| Approvals | | CE, UL recognized (UL 3111-1), File # E311366, RoHS | | | | |

**Table 1 - Maximum Measuring Error XTD-0-UNV**

| | Type | Measurement Accuracy* |
|---|---|---|
| Resistance Thermometer (RTD) | Pt100, Ni100, Ni120<br>Pt500, Ni500<br>Pt1000, Ni1000 | 0.36°F (0.2°C) or 0.08%<br>0.9°F (0.5°C) or 0.20%<br>0.54°F (0.3°C) or 0.12% |
| Thermocouple (TC) | K, J, T, E, L, U<br>N, C, D<br>S, B, R | typ. 0.9°F (0.5°C) or 0.08%<br>typ. 1.8°F (1.0°C) or 0.08%<br>typ. 3.6°F (2.0°C) or 0.08% |
| | **Measurement Range** | **Measurement Accuracy*** |
| Resistance Transmitter (Ω) | 10 to 400 Ω<br>10 to 2000 Ω | ± 0.1 Ω or 0.08%<br>± 1.5 Ω or 0.12% |
| Voltage Transmitters (mV) | -10 to 100 mV | ± 20 µV or 0.08% |

** % is related to the adjusted measurement range. The value to be applied is the greater.*

**Table 2 - IEC Immunity**

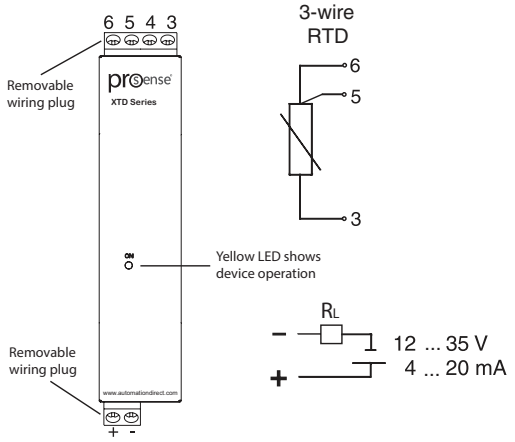
| | | | |
|---|---|---|---|
| Discharge of Static Electricity | IEC 61000-4-2 | 6 kV cont., 8 kV air | N/A |
| Electromagnetic Fields | IEC 61000-4-3 | 80 to 1000 Hz | 10 V/m |
| Burst (Signal) | IEC 61000-4-4 | 1 kV; 2 kV (B)** | N/A |
| Transient Voltage | IEC 61000-4-5 | 1 kV unsym. / 0.5 kV sym. | N/A |
| HF Coupling | IEC 61000-4-6 | 0.15 to 80 MHz | 10V |

*** self recovery*

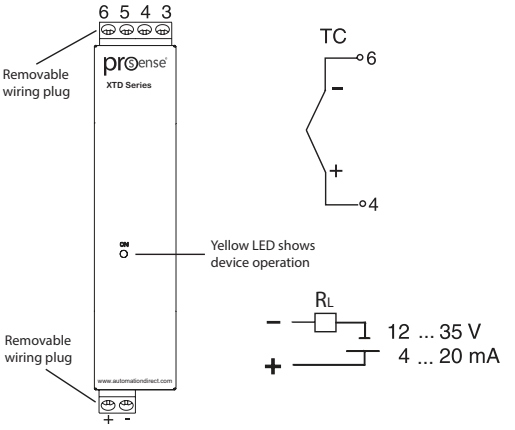
# ProSense® Temperature Transmitters - DIN Rail Mounted

## Wiring

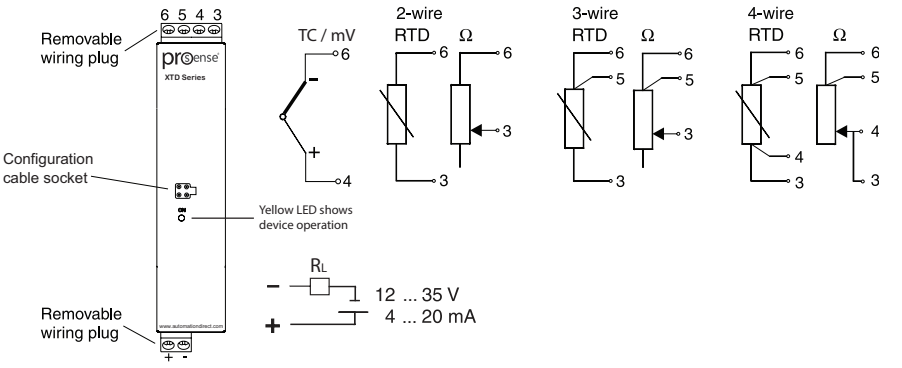
### XTD PT1



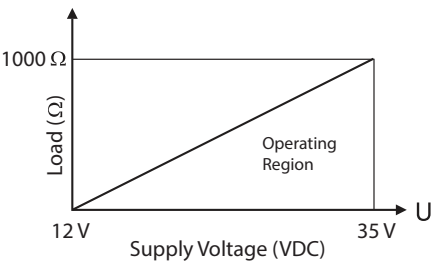

### XTD J, K, & T




### XTD-0-UNV



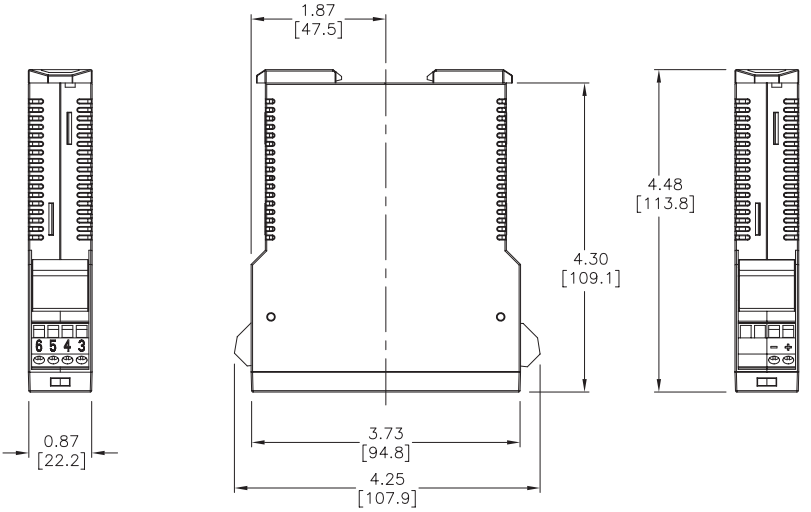

## Load Impedance




***RLmax = ($V_{powersupply}$-12V) / 0.023***
***(current output) e.g. (24V - 12V) / 0.023A = 521.74 Ω***

## Dimensions

**inches [mm]**



# ProSense® Temperature Transmitter Configuration Software

***Quick and easy configuration with Free XT-SOFT software – NO decade box, meters, or signal generators needed!***

## Overview

XT-SOFT PC software is a utility program that allows users to easily configure ProSense XTH-0-UNV, XTD-0-UNV and XTP series temperature transmitters and ETS series digital temperature sensors. Download your free copy of XT-SOFT at www.AutomationDirect.com and connect your transmitter to the PC through an XT-USB configuration cable (purchased separately). An XT-M12 adapter is also required when connecting to an XTP series transmitter.

System Requirements:

- Windows XP (32 Bit)
- Windows Vista, Windows 7, Windows 8 (32 and 64 Bit)
- 1 USB 2.0 Port
- 128 MB hard disk space

## XTP Series Configuration Parameters:

- Measuring unit (°C/°F)
- Measuring range limits -50 to 150°C (-58 to 302°F)
- Fault condition reaction (≤ 3.6 mA or ≥ 21.0 mA)
- Output (4-20 mA or 20-4 mA)
- Filter (0 to 8s)
- Offset (-9.9 to +9.9 K)
- Measurement point identification/TAG
- Output simulation drives output to a fixed value

**XTP Series**

## XTH & XTD Configuration Parameters:

Sensor Type:

- Thermocouple Types J, K, T, E, N, R, S, U, B, C, D, L
- RTD Types Pt100, Pt500, Pt1000, Pt50, Ni100, Ni120, Ni500, Ni1000
- Linear Resistance 10 to 400 Ohms, 10 to 2000 Ohms
- Millivolts -10 to 100 mV
- Wiring connection 2, 3, or 4-wire (RTD or Linear Resistance only)
- Measuring range start and end points
- Selectable units of °F or °C
- Choose from internal or external cold junction compensation (TC only)
- Wire resistance compensation (2-wire RTD or Linear Resistance only)
- Output action of 4-20 mA or 20-4 mA
- Selectable up scale or down scale signal for sensor lead break or short circuit detection (NAMUR NE43 fault response)
- Adjustable digital filter time constant to compensate for undesirable input fluctuations
- Zero point correction offset factor in °F or °C

**XTH Series**

**XTD Series**

## ETS Series Configuration Parameters:

**ETS Series**

Basic Settings:

- Measuring unit (°C/°F/K)
- Offset: Configure zero point: ±18ºF (±10ºC/K)
- Display - Measured value display
  Measured value display rotated 180°
  Set switch point display
  Set switch point display rotated 180°
  Display off
  Display off rotated 180°
- Damping: display value, output signal: 0 (no damping) to 40s (in increments of 1 second)
- DESINA - PIN assignment of the M12 connector is in accordance with the guidelines of DESINA

Settings for Switch Output:

- Switching characteristic - Window/NC contact
  Hysteresis/NC contact
  Window/NO contact
  Hysteresis/NO contact
  Analog output (if applicable)
- Switch point value: -57.1 to 302°F (-49.5 to 150°C) in increments of 0.18°F (0.1°C)
- Switch-back point value: -58 to 300°F (-50 to 149°C) in increments of 0.18°F (0.1°C)
- Switch point delay: 0 to 99s in increments of 0.1s
- Switch-back point delay: 0 to 99s in increments of 0.1s

Settings for Analog Output (if applicable):

- Value for 4mA: -58 to 266°F (-50 to 130°C) Lower range value in increments of 0.18°F (0.1°C)
- Value for 20mA: -22 to 302°F (-30 to 150°C) Upper range value in increments of 0.18°F (0.1°C)
- Error current - Current value in event of error:
  Minimum = ≤ 3.6 mA
  Maximum = ≥ 21.0 mA
  HOLD = last value

Settings for Service Functions:

- Locking code - Enter the locking code for enabling the device.
- Change locking code - Freely selectable code 1 to 9999. 0 = no locking
- Simulation output 1 or 2 - OFF: No simulation
  OPEN: Switch output open
  CLOSE: Switch output closed
  Simulation values for analog output in mA (3.5 / 4.0 / 8.0 / 12.0 / 16.0 / 20.0 / 21.7)

# ProSense® Temperature Transmitter Configuration Software

*XT-SOFT CD*

*XT-USB*

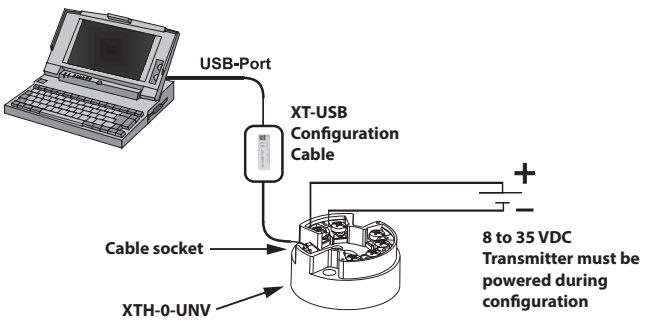
*XT-M12*

| Part No. | Description | Pcs/Pkg | Wt(lb) | Price |
|---|---|---|---|---|
| XT-SOFT | ProSense configuration software, CD or free download. For use with ProSense temperature transmitter XTP series, digital temperature sensor ETS series and models XTH-0-UNV, XTD-0-UNV. | 1 | 0.1 | $9.00 |
| XT-USB | ProSense configuration cable, USB to keyed 4-pin male, 7.9 ft/2.4 m cable length. For use with XT-SOFT configuration software, ProSense temperature transmitter XTP series, digital temperature sensor ETS series and models XTH-0-UNV, XTD-0-UNV. | 1 | 0.4 | $89.00 |
| XT-M12 | ProSense adapter, keyed 4-pin female to 4-pin M12. For use with ProSense temperature transmitter XTP series and XT-USB cable. | 1 | 0.1 | $15.00 |

## Connection Examples

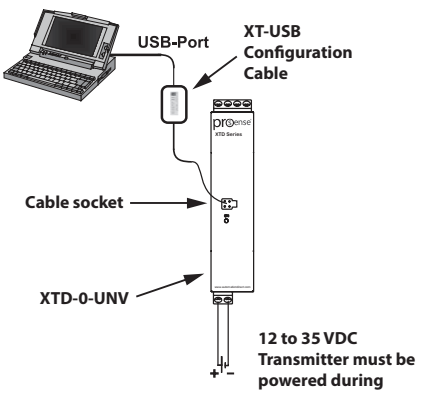
### XTH-0-UNV Connection

**XT-SOFT PC configuration software**

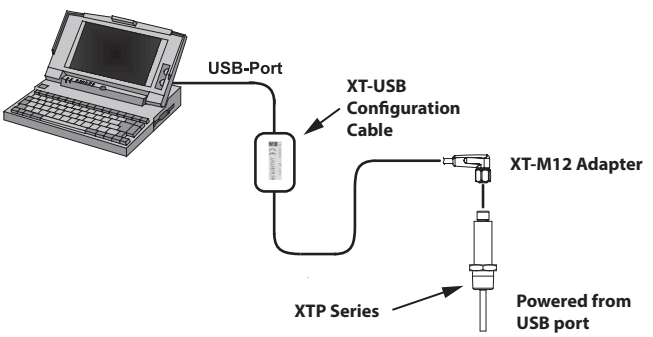



### XTD-0-UNV Connection

**XT-SOFT PC configuration software**

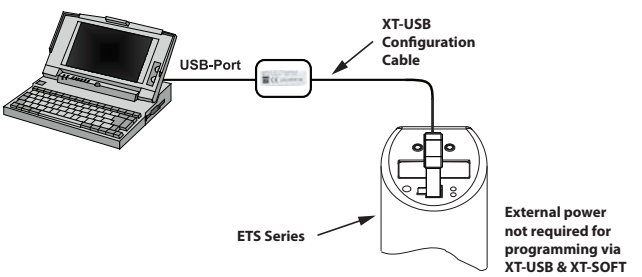



### XTP Series Connection




*Note: XT-SOFT version 1.27.13.0 or later required for use with the XTP series transmitters*

### ETS Series Connection




*Note: XT-SOFT version 1.27.15.0 or later required for use with the ETS Series.*

# ProSense® Thermowells for RTD Probes with M12 Cable Connector

## Overview

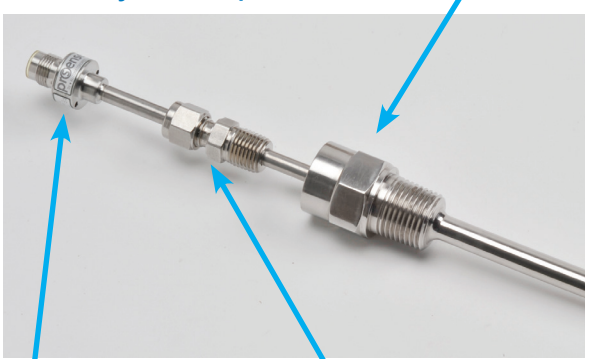
- All thermowells are pre-built stock items
- Thermowells for ProSense RTD probes with M12 cable connector
- All wetted parts are 316 stainless steel
- 600°F (315°C) temperature and 232 psi (16 bar) pressure rating
- CF06-25N or CF10-50N fitting required to mount RTD probes in thermowell
- 3-year warranty


| Thermowells for RTD Probes with M12 Cable Connector | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *Part Number* | *Pcs/ Pkg* | *Wt(lb)* | *Price* | *I.D.* | *Overall Length* | *Male Process Threads* | *Female Probe Threads* | *Wetted Material* | *Temperature/ Pressure Rating* | *Use With* |
| ***RTDTW-06-010-50N*** | 1 | 0.10 | $28.00 | 7 mm (0.28") | 113 mm (4.4") | 1/2" NPT | 1/4" NPT | 316 SS | 600°F (315°C) max; 232 psi (16 bar) max | RTD0100-06-010-H CF06-25N |
| ***RTDTW-06-020-50N*** | 1 | 0.20 | $30.00 | | 213 mm (8.4") | | | | | RTD0100-06-020-H CF06-25N |
| ***RTDTW-06-030-50N*** | 1 | 0.30 | $33.25 | | 313 mm (12.3") | | | | | RTD0100-06-030-H CF06-25N |
| ***RTDTW-10-010-50N*** | 1 | 0.10 | $28.00 | 11 mm (0.43") | 92 mm (3.62") | | 1/2" NPT | | | RTD0100-10-010-H CF10-50N |
| ***RTDTW-10-020-50N*** | 1 | 0.15 | $30.00 | | 192 mm (7.55") | | | | | RTD0100-10-020-H CF10-50N |
| ***RTDTW-10-030-50N*** | 1 | 0.22 | $33.25 | | 292 mm (11.48") | | | | | RTD0100-10-030-H CF10-50N |
| ***RTDTW-10-050-50N*** | 1 | 0.10 | $36.00 | | 492 mm (19.37") | | | | | RTD0100-10-050-H CF10-50N |

*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE THERMOWELL'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*
*www.automationdirect.com/static/specs/prosensechemresistance.pdf*

*NOTE: RESPONSE TIME IS REDUCED WHEN INSTALLED IN A THERMOWELL. BE SURE TO INSTALL THE PROBE SO THAT IT CONTACTS THE END OF THE THERMOWELL FOR FASTER RESPONSE.. THERMAL COMPOUND MAY BE USED DEPENDING ON APPLICATION*

## RTD & Thermowell Assembly Example



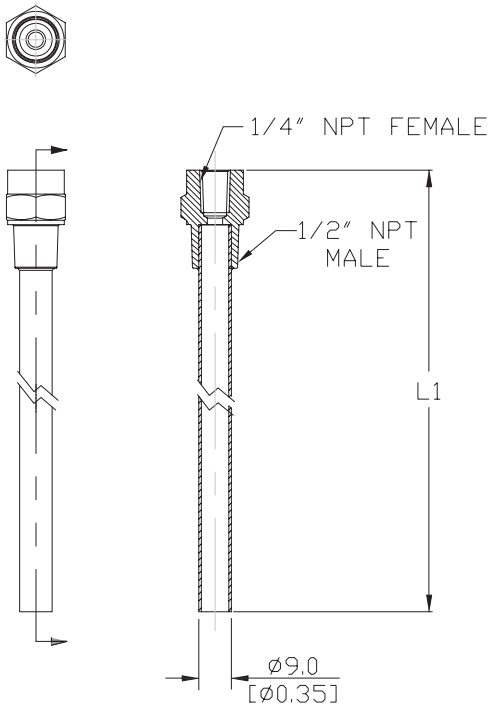

***Note: Once tightened compression fitting cannot be re-adjusted***

# ProSense® Thermowells for RTD Probes with M12 Cable Connector

## Dimensions

**inches [mm]**

### RTDTW-06 Series




| Part Number | L1 |
|---|---|
| RTDTW-06-010-50N | 113 mm [ 4.4] |
| RTDTW-06-020-50N | 213 mm [ 8.4] |
| RTDTW-06-030-50N | 313 mm [12.3] |

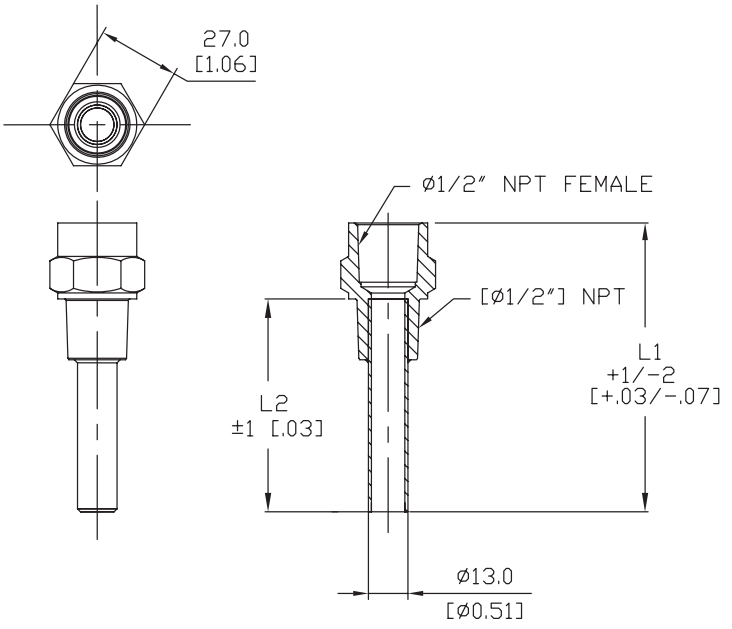
***Torque threads to 40 lb-ft [54.23 Nm]****

*** Torque values are for reference. Actual torque required for a proper seal of NPT threads is influenced by tolerance, sealant, lubricant, etc.***

## Dimensions

**inches [mm]**

### RTDTW-10 Series




| Part Number | L1 | L2 |
|---|---|---|
| RTDTW-10-010-50N | 92 mm [ 3.62] | 70 mm [ 2.75] |
| RTDTW-10-020-50N | 192 mm [ 7.55] | 170 mm [ 6.69] |
| RTDTW-10-030-50N | 292 mm [11.48] | 270 mm [10.6] |
| RTDTW-10-050-50N | 492 mm [19.37] | 470 mm [18.47] |

***Torque threads to 40 lb-ft [54.23 Nm]****

# ProSense® Thermowells for Spring-Loaded Thermocouples and RTD's or Thermometers

*TW06-01*

*TW06-02*

## Overview

- All thermowells are pre-built stock items
- Thermowells designed for use with ProSense spring-loaded thermocouple and RTD probes or ProSense Thermometers elminate the need for a separate probe mounting fitting or adapter
- Drilled bar stock one piece construction (no welds) from 304 or 316 stainless steel
- 1/2" and 3/4" NPT male process threads available
- Designs and fabrication comply with ASME B31.1 and boiler and pressure vessel codes
- Material complies with NACE MR 0175 / ISO 15156
- CRN registered for all Canadian provinces
- Made in the USA

RoHS 2002/95/EC

**Thermowells for Spring-Loaded Thermocouples and RTD's or Thermometers**

| Part Number | Pcs/ Pkg | Wt(lb) | Price | I.D. | Overall Length/"U" Length | Male Process Threads | Female Probe Threads | Wetted Material | Temperature/ Pressure Rating | Use With Probe or Thermometer |
|---|---|---|---|---|---|---|---|---|---|---|
| TW025-01 | 1 | 0.4 | $24.00 | 0.26" | 2-3/4" / 1" | 1/2" NPT | 1/2" NPT | 304 SS | 304SS: 1000°F max; 3400psi max<br>316SS: 1000°F max; 5200psi max | T30-XXXX-25C<br>T50-XXXX-25A |
| TW025-03 | 1 | 0.4 | $27.00 | | | 1/2" NPT | | 316 SS | | |
| TW04-01 | 1 | 0.5 | $24.00 | | 4-1/4" / 2-1/2" | 1/2" NPT | | 304 SS | | THMJ-C04-03<br>THMK-C04-03<br>THMJ-H04L01-02<br>THMK-H04L01-02<br>RTD1-C04-03<br>RTD1-H04L01-02<br>T30-XXXX-4C<br>T50-XXXX-4A<br>XTP50N-100-XXXX<br>ETS50N-100-XXXX |
| TW04-02 | 1 | 0.5 | $24.00 | | | 3/4" NPT | | 304 SS | | |
| TW04-03 | 1 | 0.5 | $31.00 | | | 1/2" NPT | | 316 SS | | |
| TW04-04 | 1 | 0.5 | $31.00 | | | 3/4" NPT | | 316 SS | | |
| TW06-01 | 1 | 0.7 | $32.00 | | 6-1/4" / 4-1/2" | 1/2" NPT | | 304 SS | | THMJ-C06-03<br>THMK-C06-03<br>THMJ-H06L01-02<br>THMK-H06L01-02<br>RTD1-C06-03<br>RTD1-H06L01-02<br>T30-XXXX-6C<br>T50-XXXX-6A<br>XTP50N-150-XXXX<br>ETS50N-150-XXXX |
| TW06-02 | 1 | 0.7 | $32.00 | | | 3/4" NPT | | 304 SS | | |
| TW06-03 | 1 | 0.7 | $41.00 | | | 1/2" NPT | | 316 SS | | |
| TW06-04 | 1 | 0.7 | $41.00 | | | 3/4" NPT | | 316 SS | | |
| TW09-01 | 1 | 1.0 | $53.00 | | 9-1/4" / 7-1/2" | 1/2" NPT | | 304 SS | | T50-XXXX-9A |
| TW09-03 | 1 | 1.0 | $60.00 | | | 1/2" NPT | | 316 SS | | |
| TW12-01 | 1 | 1.2 | $55.00 | | 12-1/4" / 10-1/2" | 1/2" NPT | | 304 SS | | THMJ-C12-03<br>THMK-C12-03<br>THMJ-H12L01-02<br>THMK-H12L01-02<br>RTD1-C12-03<br>RTD1-H12L01-02 |
| TW12-02 | 1 | 1.2 | $55.00 | | | 3/4" NPT | | 304 SS | | |
| TW12-03 | 1 | 1.2 | $69.00 | | | 1/2" NPT | | 316 SS | | |
| TW12-04 | 1 | 1.2 | $69.00 | | | 3/4" NPT | | 316 SS | | |

*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S (OR THERMOWELL'S) WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

*NOTE: RESPONSE TIME IS REDUCED WHEN INSTALLED IN A THERMOWELL. BE SURE TO INSTALL THE PROBE SO THAT IT CONTACTS THE END OF THE THERMOWELL FOR FASTER RESPONSE. THERMAL COMPOUND MAY BE USED DEPENDING ON APPLICATION.*

# ProSense® Thermowells for Spring-Loaded Thermocouples and RTD's or Thermometers

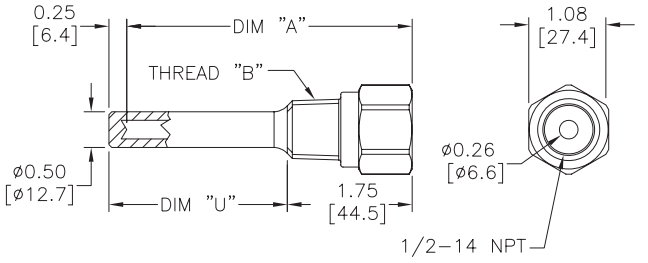
## Spring-loaded Thermocouple or RTD and Thermowell Assembly Example

- ***Using spring-loaded probe design ensures positive tip contact with the bottom of the thermowell.***
- ***Probes with hex nipple thread directly into thermowell. No additional probe mounting fittings are required.***

## Dimensions

**inches [mm]**

***TW04-XX & TW025-XX***

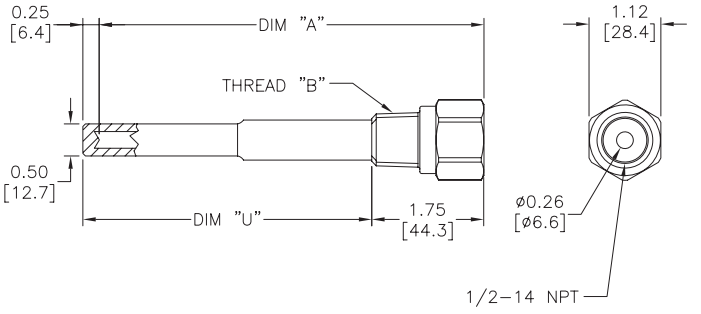



| TABLE A | | | |
|---|---|---|---|
| PART NUMBER | DIM "A' | THREAD "B' NPT | DIM "U' |
| TW025–01 | 2.50[63.5] | 1/2–14 | 1.00[25.5] |
| TW025–03 | 2.50[63.5] | 1/2–14 | |
| TW04–01 | 4.00[101.6] | 1/2–14 | 2.50[63.5] |
| TW04–02 | 4.00[101.6] | 3/4–14 | |
| TW04–03 | 4.00[101.6] | 1/2–14 | |
| TW04–04 | 4.00[101.6] | 3/4–14 | |

## Dimensions

**inches [mm]**

***TW06-XX***
***TW09-XX***
***TW12-XX***



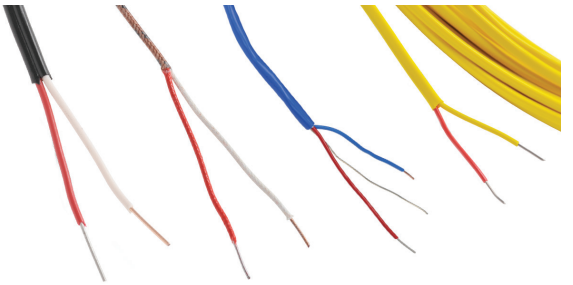

| TABLE A | | | |
|---|---|---|---|
| PART NUMBER | DIM "A" | THREAD "B" NPT | DIM "U" |
| TW06–01 | 6.00[152.4] | 1/2–14 | 4.50[14.3] |
| TW06–02 | 6.00[152.4] | 3/4–14 | |
| TW06–03 | 6.00[152.4] | 1/2–14 | |
| TW06–04 | 6.00[152.4] | 3/4–14 | |
| TW09–01 | 9.00[228.6] | 1/2–14 | 7.50[190.5] |
| TW09–03 | 9.00[228.6] | 1/2–14 | |
| TW12–01 | 12.00[304.8] | 1/2–14 | 10.50[266.7] |
| TW12–02 | 12.00[304.8] | 3/4–14 | |
| TW12–03 | 12.00[304.8] | 1/2–14 | |
| TW12–04 | 12.00[304.8] | 3/4–14 | |

# ProSense® Thermocouple Extension Wire

## Overview

- Thermocouple extension wire for Types J, K and T
- Available insulation types include PVC, fiber-glass and PVC with aluminum Mylar shield and copper drain wire
- Convenient 50, 100 and 200 foot lengths
- Standard ASTM/ANSI color coding

RoHS 2002/95/EC



| Thermocouple Extension Wire | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Part Number | Wt (lb) | Price | Length (ft)/Pkg | Gauge, AWG | Conductors | Insulation Type / Color | | | Limits of Error | Continuous Temperature Range | Nominal Size (inches) |
| | | | | | | Each Conductor | Inner Jacket | Outer Jacket | | | |
| THMWJ-50-01 | 0.7 | $16.00 | 50 | 20 | 2, solid | PVC Red = Negative White = Positive | None | PVC, Black | Standard | -20°F to 221°F (-29°C to 105°C) | 0.095x0.158 |
| THMWJ-100-01 | 1.3 | $31.00 | 100 | | | | | | | | |
| THMWJ-200-01 | 2.8 | $61.00 | 200 | | | | | | | | |
| THMWJ-50-02 | 0.7 | $20.00 | 50 | | | Fiberglass braid Red = Negative White = Positive | | Fiberglass braid, Brown | | 32°F to 900°F (0 to 482°C) | 0.059x0.097 |
| THMWJ-100-02 | 1.3 | $39.00 | 100 | | | | | | | | |
| THMWJ-200-02 | 2.8 | $78.00 | 200 | | | | | | | | |
| THMWJ-50-03 | 0.5 | $18.00 | 50 | | 2, twisted, solid | PVC Red = Negative White = Positive | Aluminum Mylar shield and copper drain wire | PVC, Black | | -20°F to 221°F (-29°C to 105°C) | 0.170 O.D. |
| THMWJ-100-03 | 0.9 | $35.00 | 100 | | | | | | | | |
| THMWJ-200-03 | 2.0 | $70.00 | 200 | | | | | | | | |
| THMWK-50-01 | 0.7 | $25.00 | 50 | | 2, solid | PVC Red = Negative Yellow = Positive | None | PVC, Yellow | | | 0.095x0.158 |
| THMWK-100-01 | 1.3 | $50.00 | 100 | | | | | | | | |
| THMWK-200-01 | 2.8 | $100.00 | 200 | | | | | | | | |
| THMWK-50-02 | 0.5 | $34.00 | 50 | | | Fiberglass braid Red = Negative Yellow = Positive | | Fiberglass Braid, Brown | | 32°F to 900°F (0 to 482°C) | 0.059x0.097 |
| THMWK-100-02 | 0.9 | $67.00 | 100 | | | | | | | | |
| THMWK-200-02 | 2.0 | $132.00 | 200 | | | | | | | | |
| THMWK-50-03 | 0.5 | $36.00 | 50 | | 2, twisted, solid | PVC Red = Negative Yellow = Positive | Aluminum Mylar shield and copper drain wire | PVC, Yellow | | -20°F to 221°F (-29°C to 105°C) | 0.170 O.D. |
| THMWK-100-03 | 0.9 | $71.00 | 100 | | | | | | | | |
| THMWK-200-03 | 2.0 | $140.00 | 200 | | | | | | | | |

*NOTE: SPECIAL CONNECTORS AND TERMINAL BLOCKS ARE REQUIRED TO CONNECT THERMOCOUPLES TO A CONTROL DEVICE. BOTH ARE AVAILABLE FROM AUTOMATIONDIRECT.COM*

*NOTE: MAXIMUM RECOMMENDED DISTANCE BETWEEN THERMOCOUPLE AND CONTROL DEVICE IS 100 FEET.*

# ProSense® Thermocouple Extension Wire

| Thermocouple Extension Wire | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Part Number | Wt (lb) | Price | Length (ft)/Pkg | Gauge, AWG | Conductors | Insulation Type / Color | | | Limits of Error | Continuous Temperature Range | Nominal Size (inches) |
| | | | | | | Each Conductor | Inner Jacket | Outer Jacket | | | |
| THMWT-50-01 | 0.5 | $16.00 | 50 | 20 | 2, solid | PVC Red = Negative Blue = Positive | None | PVC, Blue | Standard | -20°F to 221°F (-29°C to 105°C) | 0.059 x 0.097 |
| THMWT-100-01 | 0.7 | $32.00 | 100 | | | | | | | | |
| THMWT-200-01 | 1.0 | $62.00 | 200 | | | | | | | | |
| THMWT-50-02 | 0.5 | $36.00 | 50 | | | Fiberglass braid Red = Negative Blue = Positive | | Fiberglass braid, Brown | | 32°F to 900°F (0 to 482°C) | |
| THMWT-100-02 | 0.7 | $72.00 | 100 | | | | | | | | |
| THMWT-200-02 | 1.0 | $143.00 | 200 | | | | | | | | |
| THMWT-50-03 | 0.5 | $18.00 | 50 | | 2, twisted, solid | PVC Red = Negative Blue = Positive | Aluminum Mylar shield and copper drain wire | PVC, Blue | | -20°F to 221°F (-29°C to 105°C) | |
| THMWT-100-03 | 0.7 | $35.00 | 100 | | | | | | | | |
| THMWT-200-03 | 1.0 | $70.00 | 200 | | | | | | | | |

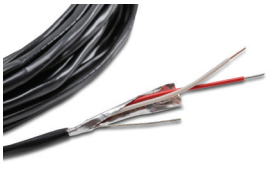
*Note: Special connectors and terminal blocks are required to connect thermocouples to a control device. Both are available from AutomationDirect.com*

*Note: Maximum recommended distance between thermocouple and control device is 100 feet.*

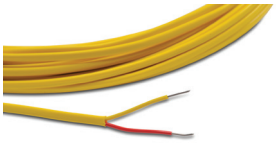
**THMWJ-XX-01**

**THMWJ-XX-02**

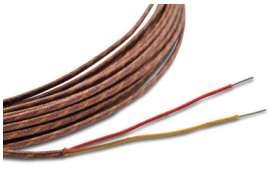
**THMWJ-XX-03**



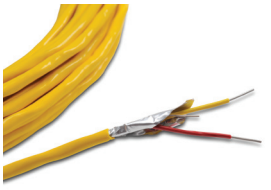
**THMWK-XX-01**



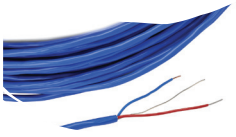
**THMWK-XX-02**



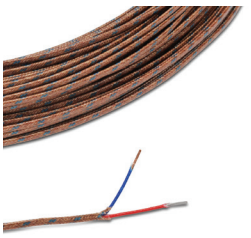
**THMWK-XX-03**



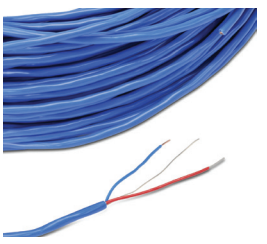
**THMWT-XX-01**



**THMWT-XX-02**

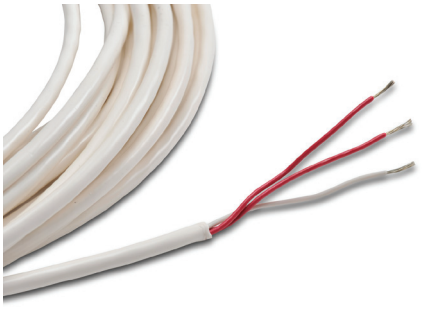


**THMWT-XX-03**

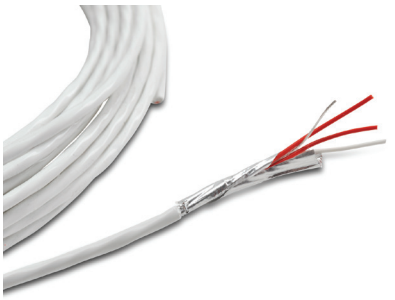


# ProSense® RTD Extension Wire

***RTDW-XX-01***



***RTDW-XX-02***



## Overview

- Specialized construction for use as RTD extension wire offers superior performance compared to "off-the-shelf" cable
- Available insulation types include PVC and FEP Teflon with aluminum Mylar shield and copper drain wire
- Convenient 50, 100 and 200 foot lengths

RoHS 2002/95/EC

**RTD Extension Wire**

| Part Number | Wt (lb) | Price | Type | Length (ft)/Pkg | Gauge, AWG | Conductors | Insulation Type / Color | | | Ohms/Triple Foot@68°F (20°C) | Continuous Temperature Rating | Nominal Size (inches) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Each Conductor | Inner Jacket | Outer Jacket | | | |
| RTDW-50-01 | 0.9 | $22.00 | RTD | 50 | 22 | 3, stranded tinned copper | PVC, 2 red, 1 white | None | PVC, white | 0.044 | -20°F to 221°F (-29°C to 105°C) | 0.160 O.D. |
| RTDW-100-01 | 1.5 | $43.00 | | 100 | | | | | | | | |
| RTDW-200-01 | 3.0 | $86.00 | | 200 | | | | | | | | |
| RTDW-50-02 | 0.9 | $57.00 | | 50 | 24 | 3, twisted, stranded tinned copper | FEP Teflon, 2 red, 1 white | Aluminum Mylar shield and copper drain wire | FEP Teflon, white | 0.066 | -328°F to 400°F (-200°C to 204°C) | 0.150 O.D. |
| RTDW-100-02 | 1.5 | $113.00 | | 100 | | | | | | | | |
| RTDW-200-02 | 3.0 | $228.00 | | 200 | | | | | | | | |

*NOTE: MAXIMUM RECOMMENDED DISTANCE BETWEEN RTD AND CONTROL DEVICE IS 300 FEET.*

# ProSense® Connection Head and Ceramic Terminal Bases

## Overview

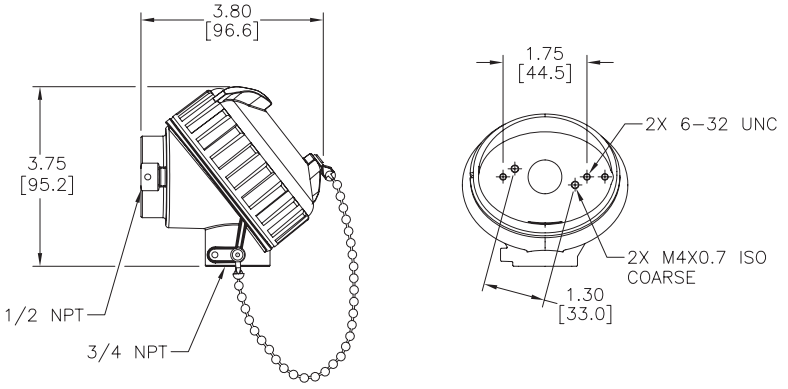
- Cast aluminum NEMA 4X, IP66 screw cover head with captive gasket
- One turn cover removal & installation eliminates cross threading and saves time
- 3/4" NPT conduit opening with internal stop to prevent overtightening and installation damage
- Gripping ribs on cover edge
- Stainless steel cover chain
- Made in the USA

| ProSense Aluminum Connection Head | | | | |
|---|---|---|---|---|
| ***Part Number*** | ***Description*** | ***Pcs/ Pkg*** | ***Wt(lb)*** | ***Price*** |
| ***CHSC-AL-1*** | ProSense general purpose screw cover connection head for temperature probes, die-cast aluminum, 1/2 NPT process opening, 3/4 NPT conduit opening, NEMA 4X, IP66 rated, graphite gasket, maximum temperature rating of 825°F (440°C) | 1 | 1.0 | $15.00 |

## Dimensions

**inches [mm]**

***CHSC-AL-1***




***CHTB-2***

***CHTB-3***

## Overview

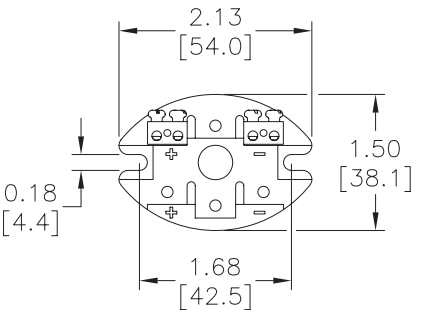
- Available with two terminals for thermocouples or three terminals for RTDs
- Fits CHSC-AL-1 connection heads
- Cermaic base with brass terminals and stainless steel screws
- Accepts up to 12 AWG wire

| Terminal Base for Connection Heads | | | | |
|---|---|---|---|---|
| ***Part Number*** | ***Description*** | ***Pcs/ Pkg*** | ***Wt(lb)*** | ***Price*** |
| ***CHTB-2*** | ProSense ceramic terminal base, two brass terminals with stainless steel screws, for use with ProSense temperature probe connection heads, two mounting screws included. | 1 | 1.0 | $4.00 |
| ***CHTB-3*** | ProSense ceramic terminal base, three brass terminals with stainless steel screws, for use with ProSense temperature probe connection heads, two mounting screws included. | 1 | 1.0 | $4.75 |

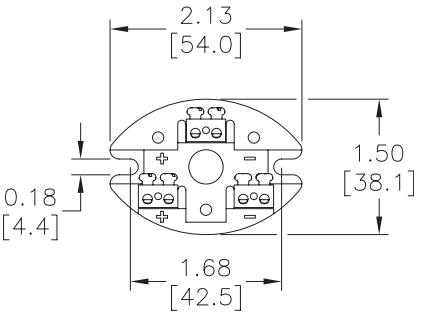
## Dimensions

**inches [mm]**

***CHTB-2***




***CHTB-3***



# ProSense® Compression Mounting Fittings for Temperature Probes

| Compression Mounting Fittings for Temperature Probes | | | | |
|---|---|---|---|---|
| **Part Number** | **Description** | **Pcs/ Pkg** | **Wt(lb)** | **Price** |
| BCF18-125N | Compression fitting, brass, for 1/8 inch diameter temperature probes,1/8 inch NPT male thread | 1 | 0.5 | $2.50 |
| BCF14-125N | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread | 1 | 0.5 | $2.50 |
| BCF18-25N | Compression fitting, brass, for 1/8 inch diameter temperature probes,1/4 inch NPT male thread | 1 | 0.5 | $3.00 |
| BCF14-25N | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread | 1 | 0.5 | $3.00 |
| BCF18-50N | Compression fitting, brass, for 1/8 inch diameter temperature probes,1/2 inch NPT male thread | 1 | 0.5 | $4.50 |
| BCF14-50N | Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread | 1 | 0.5 | $3.00 |
| CF18-125N | Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/8 inch NPT male thread | 1 | 0.5 | $6.25 |
| CF14-125N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread | 1 | 0.5 | $6.25 |
| CF18-25N | Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/4 inch NPT male thread | 1 | 0.5 | $7.25 |
| CF14-25N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread | 1 | 0.5 | $7.25 |
| CF18-50N | Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/2 inch NPT male thread | 1 | 0.5 | $10.75 |
| CF14-50N | Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread | 1 | 0.5 | $10.75 |
| CFTF-18 | Teflon™ ferrule for brass or stainless steel compression fittings and 1/8 diameter temperature probes | 5 | 0.5 | $6.00 |
| CFTF-14 | Teflon ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes | 5 | 0.5 | $6.50 |
| CF06-25N | 1/4 NPT stainless steel compression fitting for 0.24 inch (6 mm) diameter RTD probe with M12 connector. | 1 | 0.18 | $24.00 |
| CF10-50N | 1/2 NPT stainless steel compression fitting for 10 mm (0.4 inch) diameter RTD probe with M12 connector. | 1 | 0.20 | $25.00 |
| CF18-BC | Bayonet compression fitting, for 1/8" diameter probe sheath sensors | 1 | 0.1 | $8.00 |
| BB125N-50N | Reducing bushing, brass, 1/2 MNPT x 1/8 FNPT, hex head | 1 | 0.1 | $4.25 |

*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

***Working pressure of compression fitting should not exceed 500 psi. However we recommend any pressure application use a thermowell**

**BCF18-125N**

**BCF18-25N**

**BCF18-50N**

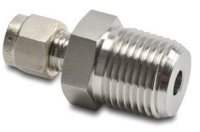
**BB125N-50N**

**CFTF-14**

**CFTF-18**

**CF14-125N**

**CF14-50N**



**CF14-25N**

**CF18-BC**

**CF06-25N**

**CF10-50N**

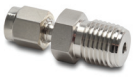
# ProSense® Compression Mounting Fittings for Temperature Probes

***BCF14-125N***

***BCF14-25N***

***BCF14-50N***

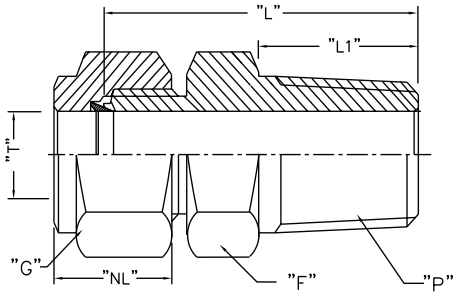
***CF18-25N***



***CF18-50N***

***CF18-125N***

## Dimensions




***Note: All threaded connections should be hand tightened and then turned 1 to 2 full turns for proper sealing.***

***Actual torque required for a proper seal of NPT threads is influenced by tolerance, sealant, lubricant, etc.***

| ProSense Compression Fittings | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ***Part No.*** | ***Weight (lb)*** | ***Description*** | ***"T" Tube O.D.*** | ***"P" NPT(M)*** | ***"L" Body Length**** | ***"L1" Thread Length*** | ***"F" Body Hex**** | ***"G" Nut Hex**** | ***"NL" Nut Length**** |
| ***BCF18-125N/ CF18-125N*** | 0.5 | 1/8" OD x 1/8" NPT(M) | 0.128/0.132 | 1/8" NPT(M) | 0.909" | 0.393" | 0.5" | 0.433" | 0.492" |
| ***BCF14-125N/ CF14-125N*** | 0.5 | 1/4" OD x 1/8" NPT(M) | 0.253/0.257 | 1/8"NPT(M) | 1.0" | 0.393" | 0.5" | 0.559" | 0.5" |
| ***BCF18-25N/ CF18-25N*** | 0.5 | 1/8" OD x 1/4" NPT(M) | 0.128/0.132 | 1/4" NPT(M) | 1.114" | 0.551" | 0.551" | 0.433" | 0.492" |
| ***BCF14-25N/ CF14-25N*** | 0.5 | 1/4" OD x 1/4" NPT(M) | 0.253/0.257 | 1/4" NPT(M) | 1.188" | 0.551" | 0.551" | 0.559" | 0.5" |
| ***BCF18-50N/ CF18-50N*** | 0.5 | 1/8" OD x 1/2" NPT(M) | 0.128/0.132 | 1/2" NPT(M) | 1.377" | 0.748" | 0.866" | 0.433" | 0.492" |
| ***BCF14-50N/ CF14-50N*** | 0.5 | 1/4" OD x 1/2" NTP(M) | 0.253/0.257 | 1/2" NPT(M) | 1.437" | 0.748" | 0.866" | 0.559" | 0.5" |
| ***CF06-25N*** | 0.18 | 6 mm OD x 1/4" NPT(M) | 0.236/0.240 | 1/4" NPT(M) | 1.174" | 0.59" | 0.67" | 0.55" | 0.587" |
| ***CF10-50N*** | 0.20 | 10 mm OD x 1/2" NPT(M) | 0.394/0.399 | 1/2" NPT(M) | 1.458" | 0.55" | 1.06" | 0.75" | 0.608" |

***Note: All dimensions are in inches***
*** ± 0.07***
**** ± 0.03***

***Note: Once the compression fitting has been fully tightened on the probe, the ferrule will be locked onto the probe and cannot be removed or reused.***

****Working pressure of compression fitting should not exceed 500 psi. However we recommend any pressure application use a thermowell***

# ProSense® Bayonet Mounting Adapter for Temperature Sensors

| Bayonet Mounting Adapter for Temperature Sensors | | | | |
|---|---|---|---|---|
| **Part Number** | **Description** | **Pcs/ Pkg** | **Wt(lb)** | **Price** |
| **BA-078** | Bayonet adapter, 7/8 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | 0.5 | $1.25 |
| **BA-100** | Bayonet adapter, 1 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | 0.5 | $1.25 |
| **BA-114** | Bayonet adapter, 1-1/4 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | 0.5 | $1.50 |
| **BA-112** | Bayonet adapter, 1-1/2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter,1/8 inch MNPT | 1 | 0.5 | $1.75 |
| **BA-200** | Bayonet adapter, 2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | 0.5 | $2.00 |
| **BA-212** | Bayonet adapter, 2-1/2 long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | 0.5 | $2.25 |
| **BA-300** | Bayonet adapter, 3 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | 0.5 | $2.50 |
| **BA-312** | Bayonet adapter, 3-1/2 long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT | 1 | 0.5 | $2.75 |
| **CF18-BC** | Adjustable bayonet compression fitting, for 1/8" diameter probe sheath sensors | 1 | 0.1 | $8.00 |
| **BB125N-50N** | Reducing bushing, brass, 1/2 MNPT x 1/8 FNPT, hex head | 1 | 0.1 | $4.25 |

*NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.*

**BA-078**

**BA-100**

**BA-114**

**CF18-BC**

**BA-300**

**BA-112**

**BB125N-50N**

**BA-312**

**BA-200**

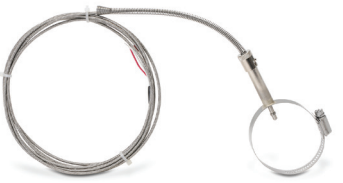
**BA-212**

# ProSense® Pipe Clamp Adapters

*PCA-300*

## Overview

- For use with ProSense adjustable immersion thermocouple and RTD sensors
- Available in adjustable diameters from 1-1/16 to 7 inches
- Provides an easy means of sensing temperature on the outside of a pipe

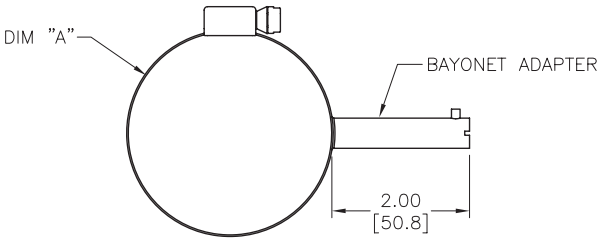


***Shown with optional adjustable immersion sensor***

| Pipe Clamp Adapters for ProSense Adjustable Immersion Sensors | | | | |
|---|---|---|---|---|
| ***Part Number*** | ***Description*** | ***Pcs/ Pkg*** | ***Wt(lb)*** | ***Price*** |
| ***PCA-125*** | ProSense pipe clamp adapter, 1-1/16 to 1-1/4 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors. | 1 | 0.1 | $14.00 |
| ***PCA-200*** | ProSense pipe clamp adapter with 1-1/16 to 2 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors. | 1 | 0.1 | $12.00 |
| ***PCA-300*** | ProSense pipe clamp adapter with 2-1/16 to 3 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors. | 1 | 0.1 | $16.00 |
| ***PCA-425*** | ProSense pipe clamp adapter with 3-5/16 to 4-1/4 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors. | 1 | 0.1 | $17.00 |
| ***PCA-500*** | ProSense pipe clamp adapter with 4-1/8 to 7 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors. | 1 | 0.1 | $17.00 |

## Dimensions

**inches [mm]**




| TABLE A | | |
|---|---|---|
| PART NUMBER | DIM "A" | FITS PIPE SIZES |
| PCA–125 | ø0.68–1.25 [ø17.2–31.7] | 1/2 TO 3/4 NPS |
| PCA–200 | ø1.06–2.00 [ø26.9–50.8] | 1 TO 1–1/2 NPS |
| PCA–300 | ø2.06–3.00 [ø52.3–76.2] | 2 TO 2–1/2 NPS |
| PCA–425 | ø3.31–4.25 [ø84.1–108.0] | 3 TO 3–1/2 NPS |
| PCA–500 | ø4.12–7.00 [ø104.6–177.8] | 4 TO 6 NPS |

# ProSense® Thermocouple and RTD Connectors

## Overview

- Glass-filled high quality thermoplastic body with original thermocouple material pins and spring-loaded inserts
- Polarized pins
- Molded barriers prevent short circuit
- Captive central cover screw for easy assembly
- Easy wire connection pressure plate construction
- Stainless steel screws with combination head (Slotted and Phillips)
- 3-pin standard connectors have a third pin for ground or continuous shield, or for 3-wire RTDs

RoHS 2002/95/EC

**Thermocouple and RTD Connectors**

| Part Number | Pcs/ Pkg | Wt(lb) | Price | Sensor Type | Connector Type | Temperature Rating | Body Color | Wire Size | Wire Cable Clamp Bracket |
|---|---|---|---|---|---|---|---|---|---|
| THMJ-SP | 1 | 0.5 | $3.25 | J | Standard round pin plug | Max continuous 400°F (200°C) | Black | 32 AWG (0.2 mm) to 14 AWG maximum (2.0 mm) | WCB-S |
| THMJ-SJ | 1 | 0.5 | $4.25 | | Standard round pin jack | | | | |
| THMJ-SPJ | 1 | 0.5 | $7.75 | | Standard round direct mount jack | | | | – |
| THMJ-MP | 1 | 0.5 | $3.00 | | Miniature flat pin plug | | | 40 AWG (0.08 mm) to 20 AWG maximum (0.8 mm) | WCB-M |
| THMJ-MJ | 1 | 0.5 | $3.50 | | Miniature flat pin jack | | | | |
| THMJ-MPJ | 1 | 0.5 | $5.00 | | Miniature round direct mount jack | | | | – |
| THMK-SP | 1 | 0.5 | $3.75 | K | Standard round pin plug | | Yellow | 32 AWG (0.2 mm) to 14 AWG maximum (2.0 mm) | WCB-S |
| THMK-SJ | 1 | 0.5 | $4.50 | | Standard round pin jack | | | | |
| THMK-SPJ | 1 | 0.5 | $7.50 | | Standard round direct mount jack | | | | – |
| THMK-MP | 1 | 0.5 | $3.25 | | Miniature flat pin plug | | | 40 AWG (0.08 mm) to 20 AWG maximum (0.8 mm) | WCB-M |
| THMK-MJ | 1 | 0.5 | $3.50 | | Miniature flat pin jack | | | | |
| THMK-MPJ | 1 | 0.5 | $5.50 | | Miniature round direct mount jack | | | | – |
| THMK-HSP | 1 | 0.5 | $8.50 | | Standard hi-temp round pin plug | Max continuous 662°F (350°C) | Brown | 32 AWG (0.2 mm) to 14 AWG maximum (2.0 mm) | WCB-S |
| THMK-HSJ | 1 | 0.5 | $10.00 | | Standard hi-temp round pin jack | | | | |
| THMT-SP | 1 | 0.5 | $3.50 | T | Standard round pin plug | Max continuous 400°F (200°C) | Blue | | |
| THMT-SJ | 1 | 0.5 | $4.75 | | Standard round pin jack | | | | |
| THMT-SPJ | 1 | 0.5 | $7.50 | | Standard round direct mount jack | | | | – |
| THMT-MP | 1 | 0.5 | $3.25 | | Miniature flat pin plug | | | 40 AWG (0.08 mm) to 20 AWG maximum (0.8 mm) | WCB-M |
| THMT-MJ | 1 | 0.5 | $3.75 | | Miniature flat pin jack | | | | |
| THMT-MPJ | 1 | 0.5 | $5.75 | | Miniature round direct mount jack | | | | – |
| RTD-SP | 1 | 0.5 | $6.50 | RTD | Standard round pin plug | | White | 32 AWG (0.2 mm) to 14 AWG maximum (2.0 mm) | WCB-S |
| RTD-SJ | 1 | 0.5 | $8.50 | | Standard round pin jack | | | | |

THMT-SP

THMT-SJ

THMK-SP

THMK-SJ

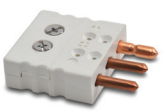
THMJ-MP

THMJ-MJ

THMT-SPJ

THMT-MPJ

RTD-SP



RTD-SJ

THMK-HSP

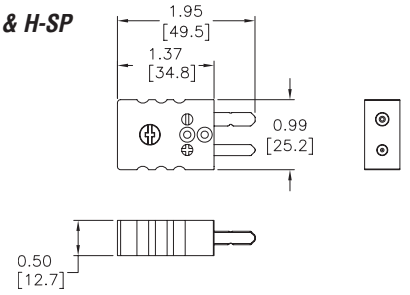
THMK-HSJ

# ProSense® Thermocouple and RTD Connectors

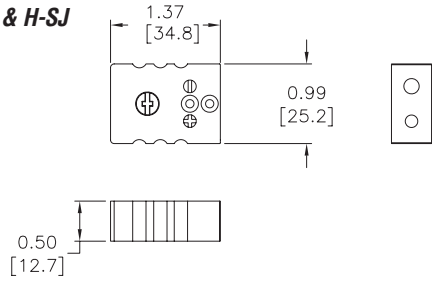
## Dimensions

**inches [mm]**

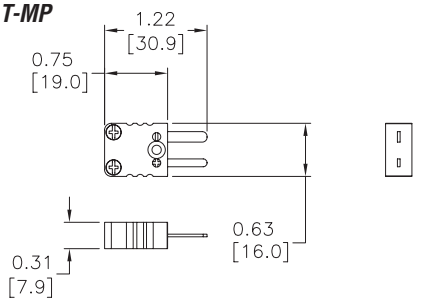
***THMJ, K, T, & H-SP***



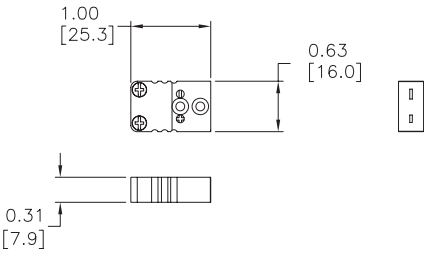

***THMJ, K, T, & H-SJ***



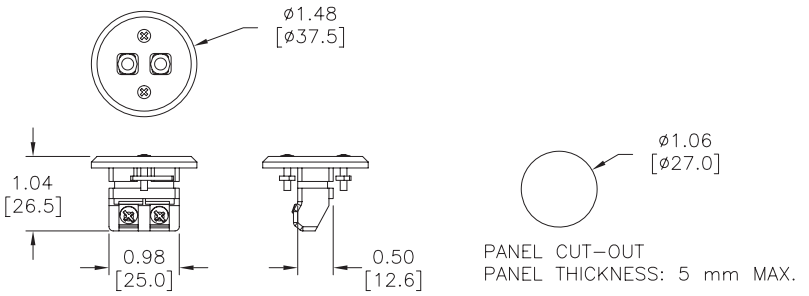

***THMJ, K, & T-MP***



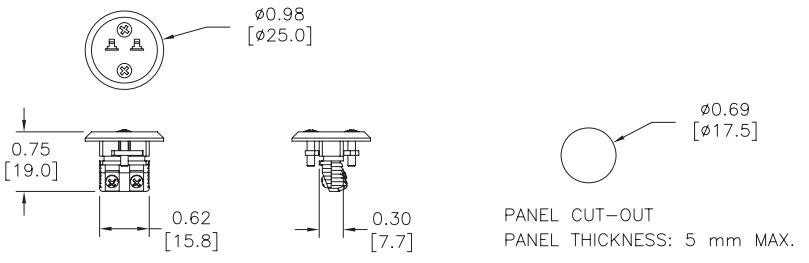

***THMJ, K, & T-MJ***



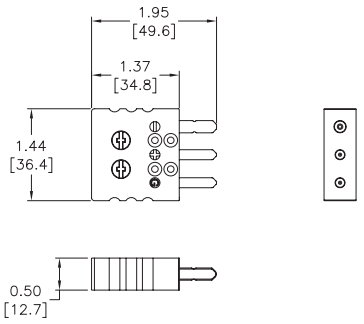

***THMJ, K, & T-SPJ***



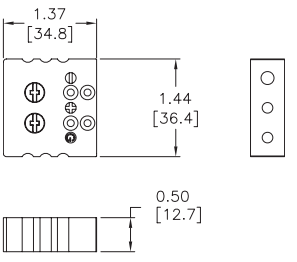

***THMJ, K, & T-MPJ***




***RTD-SP***




***RTD-SJ***

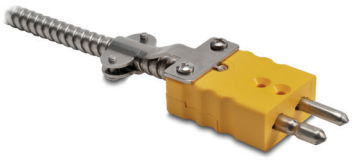


# ProSense® Thermocouple and RTD Connectors

***WCB-S***

***WCB-M***

***WCB-S Application***



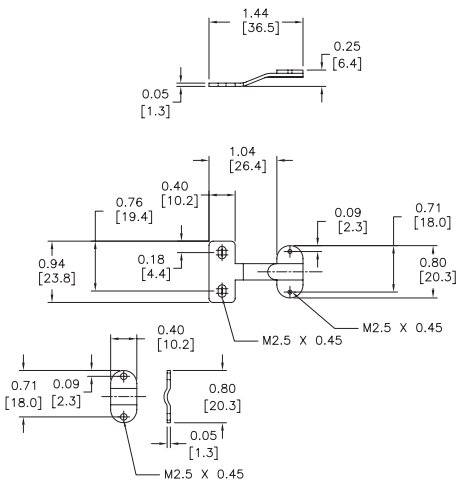
***WCB-M Application***

| Thermocouple and RTD Connectors Accessories | | | | |
|---|---|---|---|---|
| ***Part Number*** | ***Pcs/ Pkg*** | ***Wt(lb)*** | ***Price*** | ***Description*** |
| ***WCB-S*** | 4 | 0.5 | $5.00 | Wire / cable clamp bracket for use with standard thermocouple and RTD connectors. |
| ***WCB-M*** | 4 | 0.5 | $5.00 | Wire / cable clamp bracket for use with miniature thermocouple connectors. |

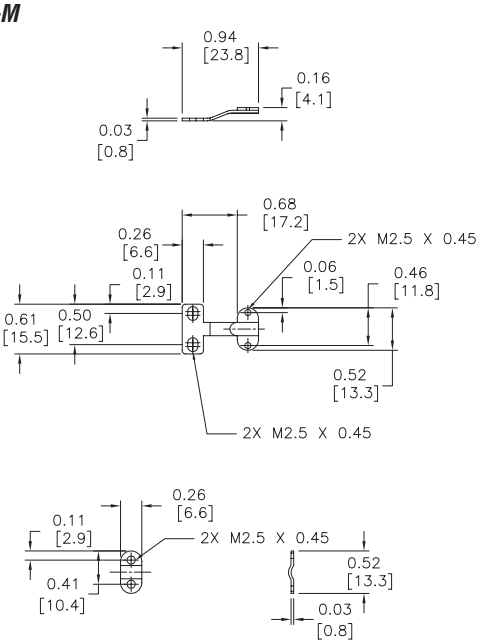
## Dimensions

**inches [mm]**

***WCB-S***




***WCB-M***



# ProSense® Thermocouple and RTD Temperature Range

| Thermocouple Temperature Range | |
|---|---|
| THMK-C06-04 | 32 to 2100°F (0 to 1149°C) |
| THMK-C12-04 | |
| THMK-C18-04 | |
| THMK-H06L01-03 | |
| THMK-H12L01-03 | |
| THMK-H18L01-03 | |
| THMK-T06L06-03 | 32 to 2100°F (0 to 1149°C) lead wire transition rated to 204°C (400°F) |
| THMK-T12L06-03 | |
| THMK-T18L06-03 | |
| TTD25C-20-0300F-H | 0 to 300°F (-17.8 to 148.9°C) |
| TTD25N-20-0300F-H | |
| THMJ-A01L04-01 | 32 to 900°F (0 to 482°C) |
| THMJ-A01L06-01 | |
| THMJ-A01L10-01 | |
| THMJ-A01L10-02 | |
| THMJ-B01L06-01 | |
| THMJ-B01L06-02 | |
| THMJ-B02L06-01 | |
| THMJ-B02L06-02 | |
| THMJ-D08L04-01 | |
| THMJ-D08L06-01 | |
| THMJ-D08L10-01 | |
| THMJ-D08L10-02 | |
| THMK-A01L04-01 | |
| THMK-A01L06-01 | |
| THMK-A01L10-01 | |
| THMK-A01L10-02 | |
| THMK-B01L06-01 | |
| THMK-B01L06-02 | |
| THMK-D08L04-01 | |
| THMK-D08L06-01 | |
| THMK-D08L10-01 | |
| THMK-D08L10-02 | |
| THMJ-T06L06-01 | 32 to 970°F (0 to 521°C), lead wire transition rated to 400 °F (204 °C) |
| THMJ-T12L06-01 | |
| THMJ-T18L06-01 | |
| THMJ-P06-01 | 32 to 970°F (0 to 521°C), plug rated to 400 °F (204 °C) |
| THMJ-P12-01 | |
| THMJ-P18-01 | |
| THMJ-C04-03 | 32 to 1330°F (0 to 720°C) |
| THMJ-C04R-03 | |
| THMJ-C06-01 | |
| THMJ-C06-02 | |
| THMJ-C06-03 | |
| THMJ-C06R-03 | |
| THMJ-C12-01 | |
| THMJ-C12-02 | |
| THMJ-C12-03 | |
| THMJ-C12R-03 | |
| THMJ-C18-01 | |
| THMJ-C18-02 | |
| THMJ-H04L01-02 | |
| THMJ-H06L01-01 | |
| THMJ-H06L01-02 | |
| THMJ-H12L01-01 | |
| THMJ-H12L01-02 | |
| THMJ-H18L01-01 | |

| Thermocouple Temperature Range | |
|---|---|
| THMJ-T06L06-02 | 32 to 1330°F (0 to 720°C) lead wire transition rated to 400 °F (204 °C) |
| THMJ-T12L06-02 | |
| THMJ-T18L06-02 | |
| THMJ-P06-02 | 32 to 1330°F (0 to 720°C) plug rated to 400 °F (204 °C) |
| THMJ-P12-02 | |
| THMJ-P18-02 | |
| THMK-C04-03 | 32 to 1700°F (0 to 927°C) |
| THMK-C04R-03 | |
| THMK-C06-01 | |
| THMK-C06-02 | |
| THMK-C06-03 | |
| THMK-C06R-03 | |
| THMK-C12-01 | |
| THMK-C12-02 | |
| THMK-C12-03 | |
| THMK-C12R-03 | |
| THMK-C18-01 | |
| THMK-C18-02 | |
| THMK-H04L01-02 | |
| THMK-H06L01-01 | |
| THMK-H06L01-02 | |
| THMK-H12L01-01 | |
| THMK-H12L01-02 | |
| THMK-H18L01-01 | |
| THMK-T06L06-01 | 32 to 1700°F (0 to 927°C) lead wire transition rated to 400 °F (204 °C) |
| THMK-T06L06-02 | |
| THMK-T12L06-01 | |
| THMK-T12L06-02 | |
| THMK-T18L06-01 | |
| THMK-T18L06-02 | |
| THMK-P06-01 | 32 to 1700°F (0 to 927°C) plug rated to 400 °F (204 °C) |
| THMK-P06-02 | |
| THMK-P12-01 | |
| THMK-P12-02 | |
| THMK-P18-01 | |
| THMK-P18-02 | |
| THMK-B02L06-01 | 32° to 900°F (0° to 482°C) |
| THMK-B02L06-02 | |
| THMT-P06-01 | -328 to 700°F (-200 to 371°C) plug rated to 400 °F (204 °C) |
| THMT-P12-01 | |
| THMT-P18-01 | |
| THMT-T06L06-01 | -328 to 700°F (-200 to 371°C), lead wire transition rated to 400 °F (204 °C) |
| THMT-T12L06-01 | |
| THMT-T18L06-01 | |
| TTD25C-20-0100C-H | 32 to 212°F (0 to 100°C) |
| TTD25N-20-0100C-H | |
| TSD25N-0P-0284-H | -4 to 284°F (-20 to 140°C) |
| TSD25N-AP-0284-H | |

| RTD Temperature Range | |
|---|---|
| RTD1-R01-01 | 40 to 185°F (-40 to 85°C) |
| RTD1-S04-01 | -58 to 572°F (-50 to 300°C) |
| RTD1-S04-02 | |
| RTD1-S04-03 | |
| RTD1-S04-04 | |
| RTD1-B01L06-01 | |
| RTD1-B02L06-01 | |
| RTD1-C04-03 | |
| RTD1-C04R-03 | |
| RTD1-C06-01 | |
| RTD1-C06-03 | |
| RTD1-C06R-03 | |
| RTD1-C12-01 | |
| RTD1-C12-02 | |
| RTD1-C12-03 | |
| RTD1-C12R-03 | |
| RTD1-C18-01 | |
| RTD1-C18-02 | |
| RTD1-H04L01-02 | |
| RTD1-H06L01-01 | |
| RTD1-H06L01-02 | |
| RTD1-H12L01-01 | |
| RTD1-H12L01-02 | |
| RTD1-H18L01-01 | |
| RTD1-P06-01 | -58 to 572°F (-50 to 300°C) Plug rated to 400°F (204°C) |
| RTD1-P12-01 | |
| RTD1-P18-01 | |
| RTD1-D08L10-01 | -58 to 572°F (-50 to 300°C), lead wire transition rated to 400°F (204°C) |
| RTD1-T06L06-01 | |
| RTD1-T12L06-01 | |
| RTD1-T18L06-01 | |

| J, K, & T Thermocouple Color Code | | |
|---|---|---|
| J | White | + |
| | Red | - |
| K | Yellow | + |
| | Red | - |
| T | Blue | + |
| | Red | - |

# ProSense® Bi-Metal Dial Thermometers

T50

T30

## Features

- General purpose 3" and 5" dial, 304 stainless steel thermometer
- Bi-metallic sensing element for reliable readings
- Back or adjustable angle connection
- Welded stem length from 2.5" to 9"
- Dual scale (°F / °C)
- ±1% accuracy
- Anti-parallax dial that reduces operator reading errors
- Re-zero adjustment screws
- Optional thermowells
- 5 year warranty

## Applications

- Industrial process, hot/chilled water lines, boilers, HVAC, food processing and wastewater, OEM

**ProSense 3" Dial Bi-Metal Thermometers**

| Part Number | Description | Pcs/Pkg | Wt(lb) | Price | Thermowell |
|---|---|---|---|---|---|
| T30-N40160-25C | Thermometer, 3 in. dial, 2.5 in. stem, -40 to 160 °F (-40 to 70 °C), center back mount | 1 | 0.50 | $24.50 | TW025-01* TW025-03* |
| T30-0250-25C | Thermometer, 3 in. dial, 2.5 in. stem, 0 to 250 °F (-18 to 120 °C), center back mount | 1 | 0.50 | $24.50 | |
| T30-50500-25C | Thermometer, 3 in. dial, 2.5 in. stem, 50 to 500 °F (10 to 260 °C), center back mount | 1 | 0.50 | $24.50 | |
| T30-150750-25C | Thermometer, 3 in. dial, 2.5 in. stem, 150 to 750 °F (70 to 400 °C), center back mount | 1 | 0.50 | $24.50 | |
| T30-N40160-4C | Thermometer, 3 in. dial, 4 in. stem, -40 to 160 °F (-40 to 70 °C), center back mount | 1 | 0.50 | $24.50 | TW04-01* TW04-02* TW04-03* TW04-04* |
| T30-0250-4C | Thermometer, 3 in. dial, 4 in. stem, 0 to 250 °F (-18 to 120 °C), center back mount | 1 | 0.50 | $24.50 | |
| T30-50500-4C | Thermometer, 3 in. dial, 4 in. stem, 50 to 500 °F (10 to 260 °C), center back mount | 1 | 0.50 | $24.50 | |
| T30-150750-4C | Thermometer, 3 in. dial, 4 in. stem, 150 to 750 °F (70 to 400 °C), center back mount | 1 | 0.50 | $24.50 | |
| T30-N40160-6C | Thermometer, 3 in. dial, 6 in. stem, -40 to 160 °F (-40 to 70 °C), center back mount | 1 | 0.50 | $24.50 | TW06-01* TW06-02* TW06-03* TW06-04* |
| T30-0250-6C | Thermometer, 3 in. dial, 6 in. stem, 0 to 250 °F (18 to 120 °C), center back mount | 1 | 0.50 | $24.50 | |
| T30-50500-6C | Thermometer, 3 in. dial, 6 in. stem, 50 to 500 °F (10 to 260 °C), center back mount | 1 | 0.50 | $24.50 | |
| T30-150750-6C | Thermometer, 3 in. dial, 6 in. stem, 150 to 750 °F (70 to 400 °C), center back mount | 1 | 0.50 | $24.50 | |

**ProSense 5" Dial Bi-Metal Thermometers**

| Part Number | Description | Pcs/Pkg | Wt(lb) | Price | Thermowell |
|---|---|---|---|---|---|
| T50-N40160-25A | Thermometer, 5 in. dial, 2.5 in. stem, -40 to 160 °F (-40 to 70 °C), adjustable angle mount | 1 | 1.30 | $56.00 | TW025-01* TW025-03* |
| T50-0250-25A | Thermometer, 5 in. dial, 2.5 in. stem, 0 to 250 °F (-18 to 120 °C), adjustable angle mount | 1 | 1.30 | $56.00 | |
| T50-50500-25A | Thermometer, 5 in. dial, 2.5 in. stem, 50 to 500 °F (10 to 260 °C), adjustable angle mount | 1 | 1.30 | $56.00 | |
| T50-150750-25A | Thermometer, 5 in. dial, 2.5 in. stem, 150 to 750 °F (70 to 400 °C), adjustable angle mount | 1 | 1.30 | $56.00 | |
| T50-N40160-4A | Thermometer, 5 in. dial, 4 in. stem, -40 to 160 °F (-40 to 70 °C), adjustable angle mount | 1 | 1.30 | $56.00 | TW04-01* TW04-02* TW04-03* TW04-04* |
| T50-0250-4A | Thermometer, 5 in. dial, 4 in. stem, 0 to 250 °F (-18 to 120 °C), adjustable angle mount | 1 | 1.30 | $56.00 | |
| T50-50500-4A | Thermometer, 5 in. dial, 4 in. stem, 50 to 500 °F (10 to 260 °C), adjustable angle mount | 1 | 1.30 | $56.00 | |
| T50-150750-4A | Thermometer, 5 in. dial, 4 in. stem,150 to 750 °F (70 to 400 °C), adjustable angle mount | 1 | 1.30 | $56.00 | |
| T50-N40160-6A | Thermometer, 5 in. dial, 6 in. stem, -40 to 160 °F (-40 to 70 °C), adjustable angle mount | 1 | 1.30 | $56.00 | TW06-01* TW06-02* TW06-03* TW06-04* |
| T50-0250-6A | Thermometer, 5 in. dial, 6 in. stem, 0 to 250 °F (-18 to 120 °C), adjustable angle mount | 1 | 1.30 | $56.00 | |
| T50-50500-6A | Thermometer, 5 in. dial, 6 in. stem, 50 to 500 °F (10 to 260 °C), adjustable angle mount | 1 | 1.30 | $55.00 | |
| T50-150750-6A | Thermometer, 5 in. dial, 6 in. stem, 150 to 750 °F (70 to 400 °C), adjustable angle mount | 1 | 1.30 | $38.00 | |
| T50-N40160-9A | Thermometer, 5 in. dial, 9 in. stem, -40 to 160 °F (-40 to 70 °C), adjustable angle mount | 1 | 1.50 | $56.00 | TW09-01* TW09-03* |
| T50-0250-9A | Thermometer, 5 in. dial, 9 in. stem, 0 to 250 °F (-18 to 120 °C), adjustable angle mount | 1 | 1.50 | $56.00 | |
| T50-50500-9A | Thermometer, 5 in. dial, 9 in. stem, 50 to 500 °F (10 to 260 °C), adjustable angle mount | 1 | 1.50 | $56.00 | |
| T50-150750-9A | Thermometer, 5 in. dial, 9 in. stem, 150 to 750 °F (70 to 400 °C), adjustable angle mount | 1 | 1.50 | $56.00 | |

*** Catalog pages for these thermowells are located on previous pages in this same section, under the "Thermowells for Spring-Loaded Thermocouples and RTD's, or Thermometers" pages.**

# ProSense® Bi-Metal Dial Thermometers

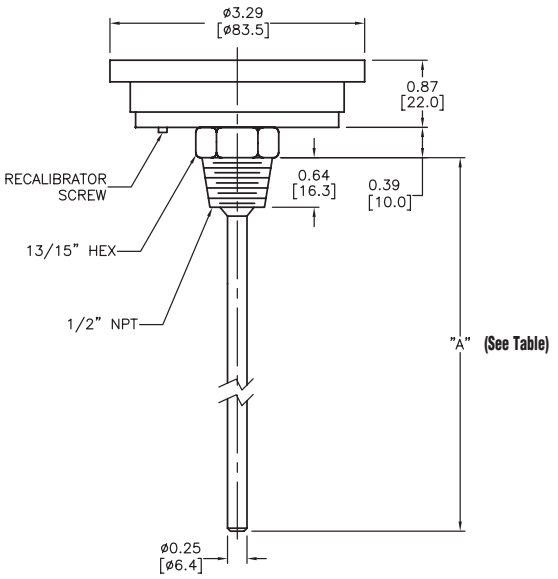
| Technical Specifications | | |
|---|---|---|
| ***Dial Size*** | 3.0" [76.2 mm] | 5.0" [127 mm] |
| ***Case*** | AISI 304 SS | |
| ***Stem*** | AISI 304 SS welded to socket, center back | AISI 304 center back, adjustable angle |
| ***Lens*** | Glass, hermetically sealed | |
| ***Ring*** | AISI 304 SS | |
| ***Connection*** | 1/2" NPT | |
| ***Sensing Element*** | Bi-metallic coil | |
| ***Pointer*** | Aluminum, painted black | |
| ***Maximum Operating Pressure*** | 125 psi (861 kPa) | |
| ***Operating Temperature*** | 75% of full scale value (recommended maximum) | |
| ***Ambient Temperatures*** | -58°F to 248°F (-50°C to 120°C) | |
| ***Accuracy*** | ±1% | |
| ***Enclosure Rating*** | IP68 | |

*NOTE: THE USE OF A THERMOWELL IS RECOMMENDED TO PROTECT THE THERMOMETER IN CORROSIVE OR PRESSURE APPLICATIONS, AS WELL AS TO MAINTAIN A CLOSED SYSTEM DURING ITS REMOVAL FROM THE PROCESS.*

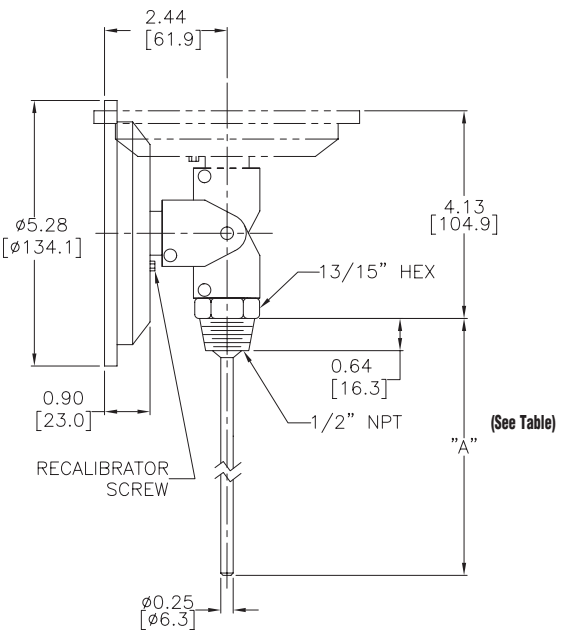
## Dimensions

Inches [mm]

***3" Dial***




***5" Dial***




| Dimension "A" According to Thermometer Model | | |
|---|---|---|
| ***Part Number Ending With:*** | ***Inches*** | ***Millimeters*** |
| ***-25C*** | 2.5" | 63.5 mm |
| ***-4C*** | 4" | 101.6 mm |
| ***-6C*** | 6" | 152.4 mm |
| ***-9C*** | 9" | 228.6 mm |