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	Price
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	$01nnd:	PSD-CV	$6uu:
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	$01nnc:	PSD-CV	$6uu:
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	500mA each output	
Current Consumption	< 30mA	
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)	*t0.5 = 1 sec/ t0.9 = 3 sec	

** t0.5 = a 50% of full scale change in output when immersed in water at 0.4m/s, t0.9 = a 90% FS change.*
*** Class 2 power supply must be used in order to comply with UL requirements*

ProSense® TSDA25 Series Temperature Switches

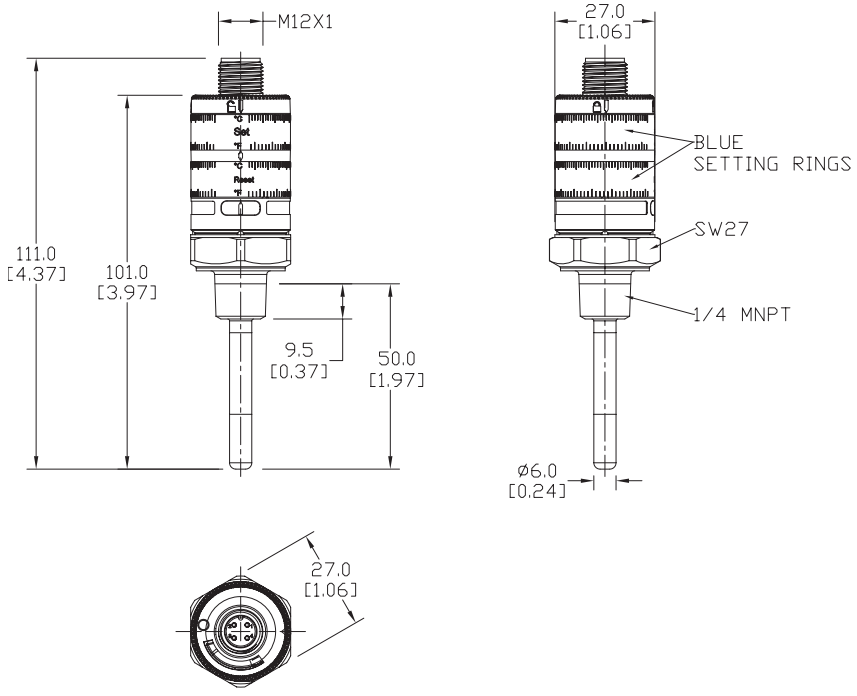
ProSense TSDA25 Series Technical Specifications Continued		
	TSDA25N-AP-0284-H	***TSDA25N-0P-0284-H***
Minimum Installation Depth	0.6 in (15 mm)	
Housing Material	PBT (Pocan); PC (Makrolon); FPM (Viton); stainless steel (316L)	
Materials (wetted parts)	Stainless steel (316L)	
Indication/Switch Status	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. -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	> 100MΩ (500VDC)	
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]

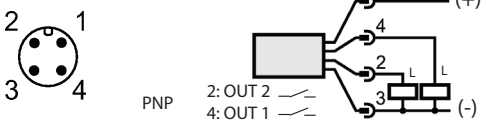


See our Web site www.AutomationDirect.com for complete Engineering drawings.

ProSense® TSDA25 Series Temperature Switches

Wiring

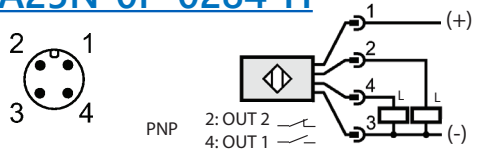
TSDA25N-AP-0284-H



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

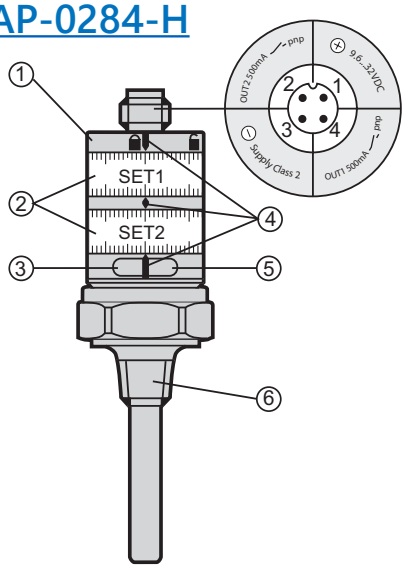


Note: wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.

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

Setting and Operation

TSDA25N-AP-0284-H

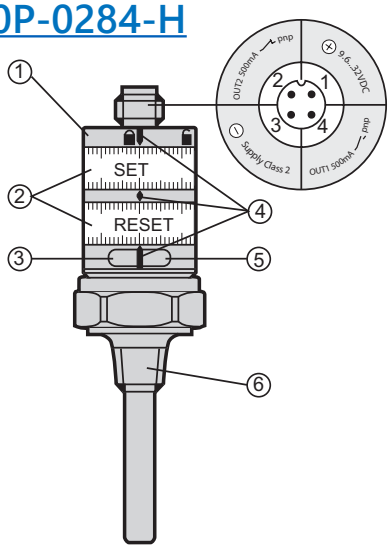


1: locking ring
2: setting rings (manually adjustable after unlocking)
3: LED yellow: lights if OUT1 = ON, temperature ≥ [SET1]
4: setting marks
5: LED yellow: lights if OUT2 = ON, temperature ≥ [SET2]
6: process connection ¼" NPT
Pin 4 = OUT1 / Pin 2 = OUT2

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

Scan the QR Code above or click to view the TSDA25N-AP-0284-H product insert.

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.

Scan the QR Code above or click to view the TSDA25N-0P-0284-H product insert.

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 several probe insertion lengths and process connections including male NPT threads, 3-A approved sanitary clean in place tri-clamp, or compression fitting allowing for adjustable insertion depth. 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, 150, 160, 260, or 360mm probe insertion lengths
- Process connections include 1/4" or 1/2" male NPT threads, 3-A approved sanitary CIP tri-clamp, or compression fitting for adjustable insertion depth.
- 4-20 mA output
- M12 quick-disconnect electrical connection

(XTPS models)

ProSense XTP Series Temperature Transmitter Probes

Part Number	Preconfigured Measuring Range*	Process Connection	Length	Thermowell (purchased separately)	Wt(lb)	Price	Drawing Link
XTP-160-N40140F	-40 to 140°F (-40 to 60°C)	None, use compression fitting (CF06-25N purchased separately)	160mm (6.3")	RTDTW-06-010-50N CF06-25N	0.24	$;04nf7:	PDF
XTP-260-N40140F			260mm (10.24")	RTDTW-06-020-50N CF06-25N	0.34	$;04nfd:	PDF
XTP-360-N40140F			360mm (14.17")	RTDTW-06-030-50N CF06-25N	0.37	$;04nfg:	PDF
XTP25N-030-N40140F		1/4" Male NPT	30mm (1.18")	None	0.2	$;01g[d:	PDF
XTP25N-050-N40140F			50mm (1.97")		0.2	$;01g[e:	PDF
XTP25N-100-N40140F			100mm (3.94")		0.3	$;;01g[f:	PDF
XTP25N-150-N40140F			150mm (5.91")		0.3	$;01g[g:	PDF
XTP50N-030-N40140F		1/2" Male NPT	30mm (1.18")		0.3	$;01g[1:	PDF
XTP50N-050-N40140F			50mm (1.97")		0.3	$;01g[2:	PDF
XTP50N-100-N40140F			100mm (3.94")	TW04-0x	0.4	$;01g[3:	PDF
XTP50N-150-N40140F			150mm (5.91")	TW06-0x	0.4	$;01g[4:	PDF
XTP-160-0300F	0 to 300°F (-17.8 to 148.9°C)	None, use compression fitting (CF06-25N purchased separately)	160mm (6.3")	RTDTW-06-010-50N CF06-25N	0.24	$;04nf8:	PDF
XTP-260-0300F			260mm (10.24")	RTDTW-06-020-50N CF06-25N	0.27	$;04nfe:	PDF
XTP-360-0300F			360mm (14.17")	RTDTW-06-030-50N CF06-25N	0.37	$;04nfh:	PDF
XTP25N-030-0300F		1/4" Male NPT	30mm (1.18")	None	0.2	$;01g[h:	PDF
XTP25N-050-0300F			50mm (1.97")		0.2	$;-01g[i:	PDF
XTP25N-100-0300F			100mm (3.94")		0.3	$;-01g[j:	PDF
XTP25N-150-0300F			150mm (5.91")		0.3	$;01g[k:	PDF
XTP50N-030-0300F		1/2" Male NPT	30mm (1.18")		0.3	$;01g[5:	PDF
XTP50N-050-0300F			50mm (1.97")		0.3	$;01g[6:	PDF
XTP50N-100-0300F			100mm (3.94")	TW04-0x	0.4	$;01g[7:	PDF
XTP50N-150-0300F			150mm (5.91")	TW06-0x	0.4	$;01g[8:	PDF

** 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.*

ProSense XTP Series Temperature Transmitter Probes

ProSense XTP Series Temperature Transmitter Probes							
Part Number	***Preconfigured Measuring Range****	***Process Connection***	***Length***	***Thermowell (purchased separately)***	***Wt(lb)***	***Price***	***Drawing Link***
XTP-160-0100C	0 to 100°C (32 to 212°F)	None, use compression fitting (CF06-25N purchased separately)	160mm (6.3")	RTDTW-06-010-50N CF06-25N	0.25	$;04nfc:	PDF
XTP-260-0100C			260mm (10.24")	RTDTW-06-020-50N CF06-25N	0.34	$;;04nff:	PDF
XTP-360-0100C			360mm (14.17")	RTDTW-06-030-50N CF06-25N	0.37	$;-04nfi:	PDF
XTP25N-030-0100C		1/4" Male NPT	30mm (1.18")	None	0.2	$;-01g[l:	PDF
XTP25N-050-0100C			50mm (1.97")		0.2	$;01g[n:	PDF
XTP25N-100-0100C			100mm (3.94")		0.3	$;01g[o:	PDF
XTP25N-150-0100C			150mm (5.91")		0.3	$;01g[p:	PDF
XTP50N-030-0100C		1/2" Male NPT	30mm (1.18")		0.3	$;01g[9:	PDF
XTP50N-050-0100C			50mm (1.97")		0.3	$;01g[a:	PDF
XTP50N-100-0100C			100mm (3.94")	TW04-0x	0.4	$;01g[b:	PDF
XTP50N-150-0100C			150mm (5.91")	TW06-0x	0.4	$;01g[c:	PDF
XTPS15-030-0300F	0 to 300°F (–17.8 to 148.9°C)	1-1/2" Sanitary CIP Tri-Clamp (3-A)	30mm (1.18")	None	0.45	$;04nfn:	PDF
XTPS15-050-0300F			50mm (1.97")		0.45	$;04nfo:	PDF
XTPS15-100-0300F			100mm (3.94")		0.47	$;04nfp:	PDF
XTPS15-150-0300F			150mm (5.91")		0.48	$;04nfq:	PDF

** 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.*

Scan the QR Code above or click to view the XTP Series product insert.

ProSense® XTP Series Temperature Transmitter Probes

ProSense XTP Series Temperature Transmitter Probes Specifications	
Operating Voltage	10 to 35 VDC
Electrical Connection	4-pin M12 quick disconnect
Probe Diameter	6mm (0.2")
Short-Circuit Protection	Yes
Reverse Polarity Protection	Yes
Electrical Protection	Protection Class III, Overvoltage category II, Pollution degree 2
Analog Output	4 to 20 mA (software configurable for 20 to 4 mA)
Maximum Load	608Ω @ 24VDC (Upowersupply - 10V) / 0.023 A
Signal on Alarm (per NAMUR NE43)	Underranging: Linear drop to 3.8 mA Overranging: Linear rise to 20.5 mA Sensor break; Sensor short-circuit: ≥ 21.0 mA (21.5 mA output is guaranteed) or software configurable for ≤ 3.6 mA
Minimum Current Consumption	≤ 3.5 mA
Current Limit	≤ 23mA
Switch-on Delay	2s
Transmitter Response Time	≤ 3s
Pressure Rating	With or without NPT process connection** • 1450 psig (100bar) maximum With Sanitary Tri-clamp process connection • 232 psig (16bar) maximum
Altitude	Up to 6600ft (2000m) above mean sea level
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, % relates to the set span. The larger value applies.
Measuring Element	Pt100 class A as per IEC 60751
Measuring Range Limits	-58 to 302°F (-50 to 150°C), software configurable
Minimum Span	10K (18°F), software configurable
Minimum Installation Depth	30mm
Housing Material	Stainless steel (304)
Materials (wetted parts)	Stainless steel (316L) ; XTPS15 sanitary surface finish Ra ≤ 0.76 µm (30 µin)
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
Certifications	cURus # E311366, CE, 3-A (XTPS15 models only)

** 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.
*** Working pressure when using compression fitting should not exceed the fittings rated pressure.*

Note: Response time will be slower 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.

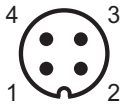
Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

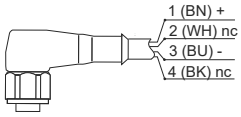
ProSense® XTP Series Temperature Transmitter Probes

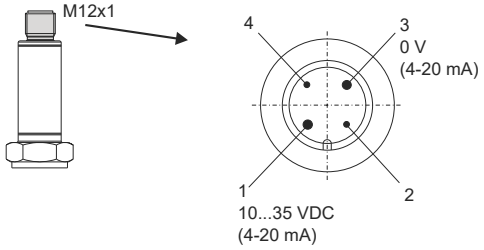
Wiring

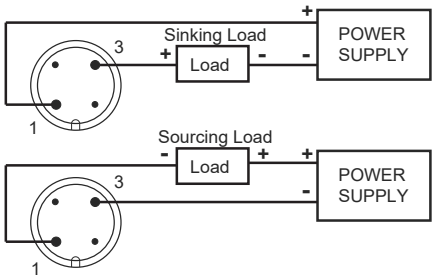
Cable Assembly Wiring Colors:
Pin 1 - Brown
Pin 2 - White
Pin 3 - Blue
Pin 4 - Black

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

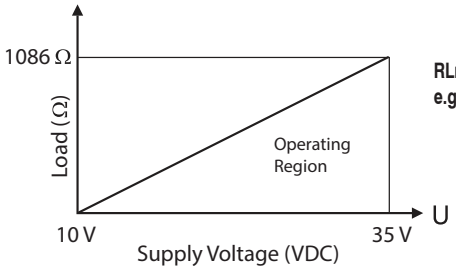






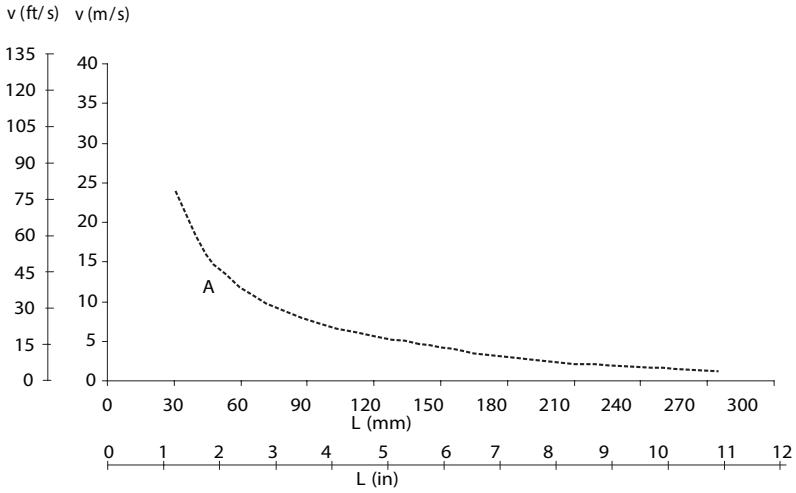


Load Impedance



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
A Medium water at T = 50 °C (122 °F)

Endress+Hauser
People for Process Automation

TM311 iTHERM CompactLine Temperature Sensors/Transmitters

Part No. TM311-P801/0

Part No. TM311-TLR0/0

Part No. TM311-TLR0/0TM311-TLV1/0

The Endress+Hauser TM311 iTHERM® CompactLine conveniently combines a precision RTD sensing element and transmitter electronics in a single stainless steel temperature transmitter probe. Preconfigured for a process measuring range of 0 to +150 °C (32 to +302 °F), the TM311 can be used for a wide variety of temperature sensing applications. Several probe insertion lengths are available, and process connections include male NPT thread or 3-A approved sanitary clean in place tri-clamp. An M12 quick-disconnect provides electrical connection and can be connected to operate as a loop powered 4-20 mA output signal or with IO-Link communications that enable access to various temperature process variable, configuration, diagnostic, and logging parameters.

Features

- Endress+Hauser iTHERM CompactLine RTD and transmitter electronics combined in a stainless steel probe
- Fast response time with Endress+Hauser TipSens RTD sensing element
- Preconfigured process measuring temperature range
- 4-20 mA or IO-Link communications that enable access to various temperature process variable, configuration, diagnostic, and logging parameters.
- 30, 50, 100, and 150mm probe insertion lengths
- Process connections include 1/4", 1/2" male NPT threads, or 3-A approved sanitary CIP tri-clamp
- M12 quick-disconnect electrical connection

IO-Link

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

Endress+Hauser TM311 Series iTHERM Temperature Sensor/Transmitter Selection									
Part Number	*Sensing Element*	*Temperature Range*	*Insertion Length*	*Probe Diameter*	*Process Connection*	*Output*	*Electrical Connection*	*Weight (lb)*	*Price*
TM311-P801/0	Pt100 RTD	0 to 150°C (32 to 302°F)	30mm	6mm	1/4in male NPT	1-channel, 4-20mA / IO-Link	4-pin M12 quick-disconnect	0.78	$06n?7:
TM311-TLN8/0			50mm					0.79	$06n?8:
TM311-T5U0/0			100mm					0.80	$06n?9:
TM311-TLP9/0			150mm					0.81	$06n?a:
TM311-ART9/0			30mm		1/2in male NPT			0.88	$06n?b:
TM311-TLR0/0			50mm					0.88	$06n?2:
TM311-2F91/0			100mm					0.90	$06n?3:
TM311-TLT0/0			150mm					0.91	$06n?4:
TM311-TLU6/0			30mm		1-1/2in sanitary tri-clamp			0.93	$06n?5:
TM311-TLV1/0			50mm					0.93	$06n?6:
TM311-TWH1/0			100mm					0.95	$06n?c:
TM311-TLX2/0			150mm					0.95	$06n?d:

Endress+Hauser
People for Process Automation

TM311 iTHERM CompactLine Temperature Sensors/Transmitters

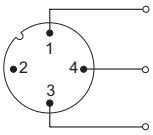
Endress+Hauser TM311 Series iTHERM Temperature Sensor/ Transmitter Information				
Part Number	***Drawing Links***	***Manufacturer Tech Specs***	***Manufacturer Quick Start***	***Manufacturer Manual***
TM311-2F91/0	PDF	PDF	PDF	PDF
TM311-ART9/0	PDF			
TM311-P801/0	PDF			
TM311-T5U0/0	PDF			
TM311-TLN8/0	PDF			
TM311-TLP9/0	PDF			
TM311-TLR0/0	PDF			
TM311-TLT0/0	PDF			
TM311-TLU6/0	PDF			
TM311-TLV1/0	PDF			
TM311-TLX2/0	PDF			
TM311-TWH1/0	PDF			

For complete technical information and installation see Manufacturer Tech Specs and Manual links.

Wiring Information

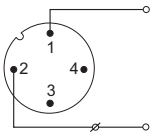
IO-Link operating mode

1 Pin 1 - power supply 15 to 30 VDC
2 Pin 2 - not used
3 Pin 3 - power supply 0 VDC
4 Pin 4 - C/Q (IO-Link or switch output)



4 to 20 mA operating mode

1 Pin 1 - power supply 10 to 30 VDC
2 Pin 2 - power supply 0 VDC
3 Pin 3 - not used
4 Pin 4 - not used



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	$-01ihe:	-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	$;-01ihf:			50mm	
*ETS50N-100-1001***	$-01ihg:			100mm	
*ETS50N-150-1001***	$-01ihh:			150mm	
ETS25N-30-1001	$--01ihi:		1/4" MNPT	30mm	
ETS25N-50-1001	$--01ihj:			50mm	
ETS50N-30-1003	$-01ihk:	-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	$--01ihl:			50mm	
*ETS50N-100-1003***	$-01ihn:			100mm	
*ETS50N-150-1003***	$-01iho:			150mm	
ETS25N-30-1003	$-01ihp:		1/4" MNPT	30mm	
ETS25N-50-1003	$-01ihq:			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.

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°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	$-01ihe:
ETS50N-50-1001	ProSense digital temperature sensor, 1/2in male NPT process connection, 50mm insertion length, -58 to 302°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	$;-01ihf:
*ETS50N-100-1001**	ProSense digital temperature sensor, 1/2in male NPT process connection, 100mm insertion length, -58 to 302°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	$-01ihg:
*ETS50N-150-1001**	ProSense digital temperature sensor, 1/2in male NPT process connection, 150mm insertion length, -58 to 302°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	$-01ihh:
ETS25N-30-1001	ProSense digital temperature sensor, 1/4in male NPT process connection, 30mm insertion length, -58 to 302°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	$--01ihi:
ETS25N-50-1001	ProSense digital temperature sensor, 1/4in male NPT process connection, 50mm insertion length, -58 to 302°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	$--01ihj:

** 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 150ºC (-58 to +302ºF)	
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) LRV Factory Setting: 32°F (0°C) 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 MAX = ≥ 21.0 mA HOLD = last value
	Load	Max. ($V_{power\ supply}$ - 6.5 V) / 0.022A (current output) , 795Ω @ 24VDC
Switch Outputs	Switch status ON	I_a ≤ 250mA
	Switch status OFF	I_a ≤ 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; Max. capacitance load: 14µF for max. supply voltage (without resistive load); 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 T = 25ºC (77ºF), 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 (0.36ºF)
	Sensor	Total class A as per IEC 60751, -50 to +200°C (-58 to 392°F) Maximum measure error in ºC = ± 0.15 + 0.002 · | T | (| T | = Process temperature in °C without taking sign into account.)
	Total error	Electronics error + sensor error, e.g. for process temperature: -50 to +75°C (-58 to +167°F) ≤ 0.5 K (0.9°F) +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	

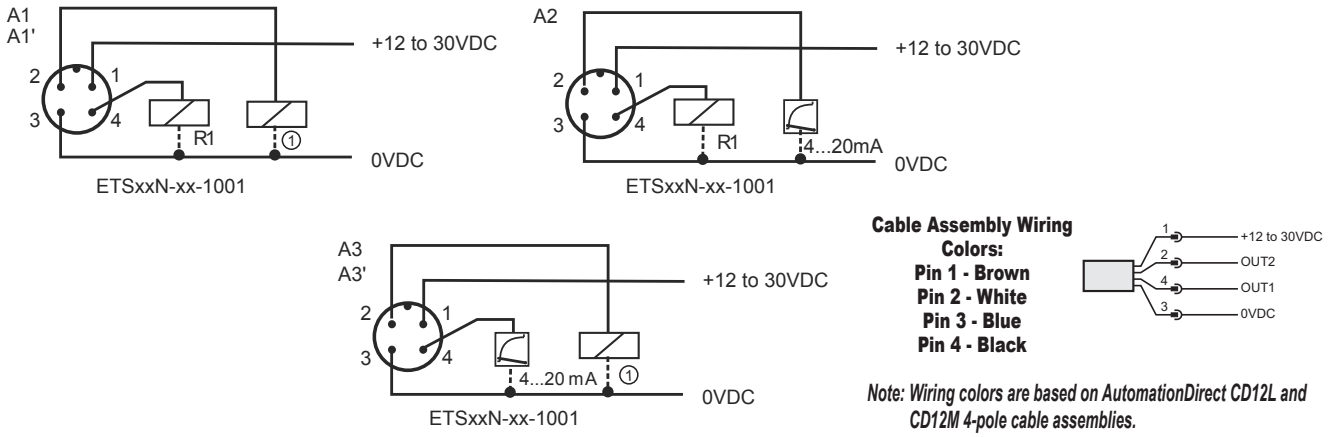
ETS Series (-1001) Digital Temperature Sensors

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) t_{50} < 1.0 s 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 Housing can be rotated up to 310°	
Orientation	No restrictions	
Operating Conditions: Environment		
Housing Material	Stainless steel (316L); ethylene propylene diene monomer (EPDM)	
Materials (wetted parts)	Stainless steel (316L)	
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 Interference immunity as per IEC 61326 Series, appendix A (industrial use) and NAMUR Recommendation NE 21 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	CULus, 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

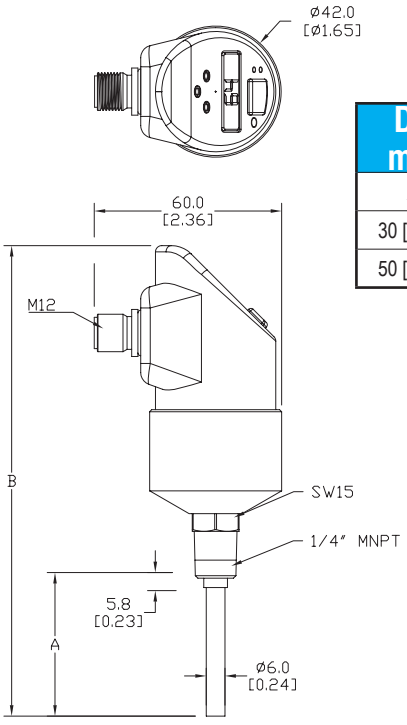
Note: Wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.

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)

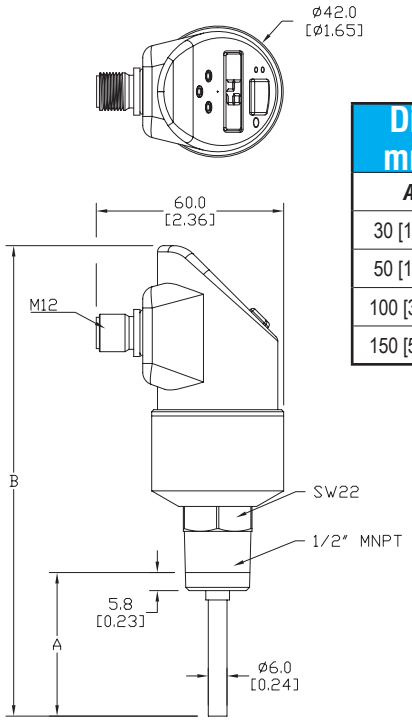
Dimensions

mm [inches]



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

ETS25



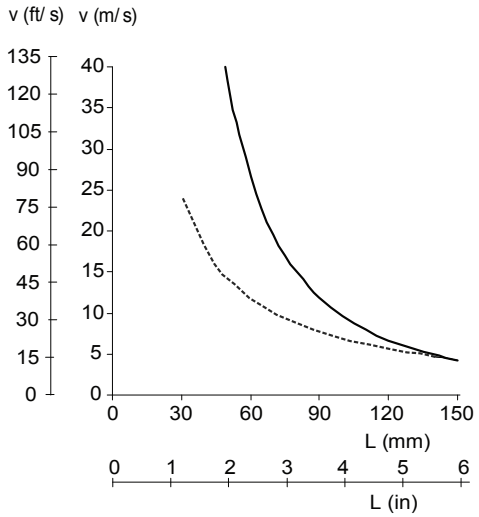
Dimensions mm [inches]	
A	*B*
30 [1.18]	131 [5.16]
50 [1.97]	151 [5.94]
100 [3.94]	204 [8.03]
150 [5.91]	254 [10.00]

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

Scan the QR Code above or click to view the ETS Series product insert.

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°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	$-01ihk:
ETS50N-50-1003	ProSense digital temperature sensor, 1/2in male NPT process connection, 50mm insertion length, -58 to 302°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	$--01ihl:
ETS50N-100-1003*	ProSense digital temperature sensor, 1/2in male NPT process connection, 100mm insertion length, -58 to 302°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	$-01ihn:
ETS50N-150-1003*	ProSense digital temperature sensor, 1/2in male NPT process connection, 150mm insertion length, -58 to 302°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	$-01iho:
ETS25N-30-1003	ProSense digital temperature sensor, 1/4in male NPT process connection, 30mm insertion length, -58 to 302°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	$-01ihp:
ETS25N-50-1003	ProSense digital temperature sensor, 1/4in male NPT process connection, 50mm insertion length, -58 to 302°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	$-01ihq:

** 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

ETS Series (-1003) Digital Temperature Sensors

ProSense ETS (-1003) Series Specifications		
Input		
Measuring Element	Pt100 as per IEC 60751	
Measuring Range	-50 to 150ºC (-58 to +302ºF)	
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; Max. capacitance load: 14µF for max. supply voltage (without resistive load); 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 T = 25ºC (77ºF), 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 (0.36ºF)
	Sensor	Total class A as per IEC 60751, -50 to +200°C (-58 to 392°F) Maximum measure error in ºC = ± 0.15 + 0.002 · | T | (| T | = Process temperature in °C without taking sign into account.)
	Total error	Electronics error + sensor error, e.g. for process temperature: -50 to +75°C (-58 to +167°F) ≤ 0.5 K (0.9°F) +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	

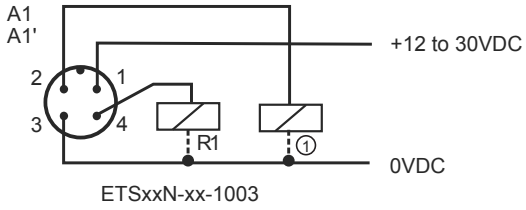
ProSense® ETS Series (-1003) Digital Temperature Sensors

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) t50 < 1.0 s t90 < 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 Housing can be rotated up to 310°	
Orientation	No restrictions	
Operating Conditions: Environment		
Housing Material	Stainless steel (316L); ethylene propylene diene monomer (EPDM)	
Materials (wetted parts)	Stainless steel (316L)	
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 Interference immunity as per IEC 61326 Series, appendix A (industrial use) and NAMUR Recommendation NE 21 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	CULus, File # E311366, CE	

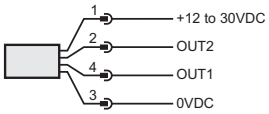
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.*

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



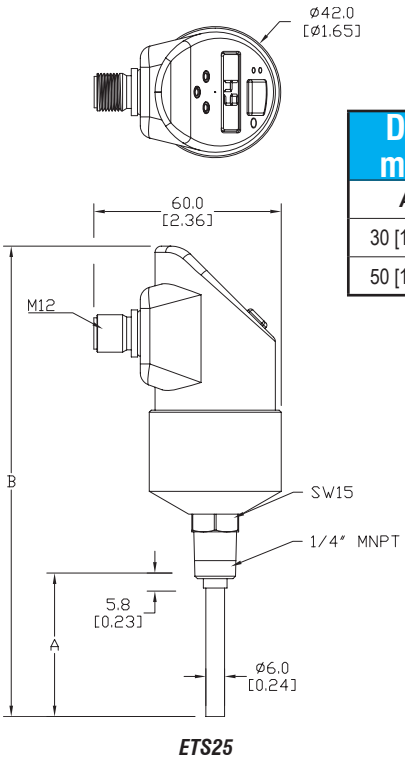
Note: Wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.

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)

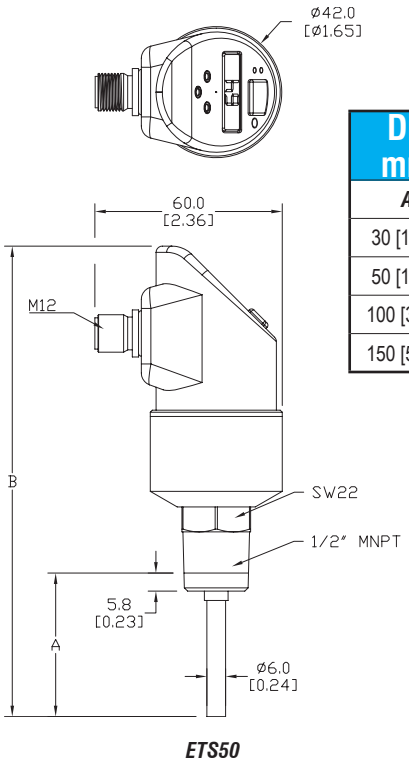
Dimensions

mm [inches]



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

ETS25



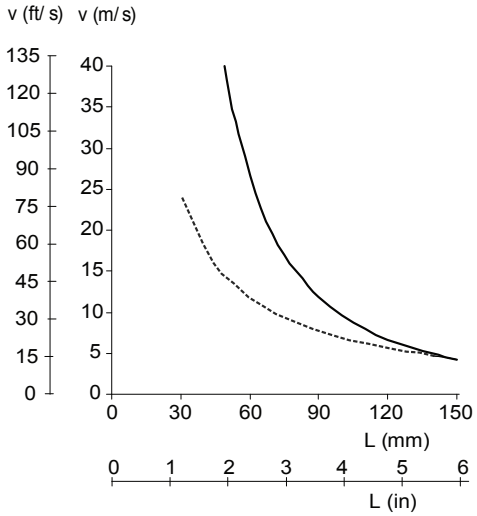
Dimensions mm [inches]	
A	***B***
30 [1.18]	131 [5.16]
50 [1.97]	151 [5.94]
100 [3.94]	204 [8.03]
150 [5.91]	254 [10.00]

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

Scan the QR Code above or click to view the ETS Series product insert.

ETS Series Digital Temperature Sensor Accessories

ETS Series Digital Temperature Sensor Accessories

TW06-01

TW06-02

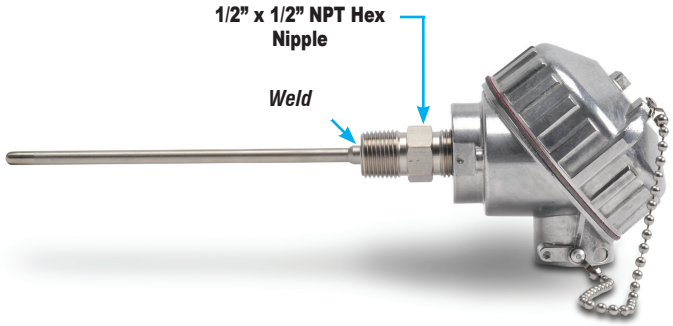
Part No.	Description	Use with Transmitter Probe	Pcs/Pkg	Price
TW04-01	Standard duty threaded thermowell with 1/2 inch NPT male process threads, 304 stainless steel, 4-1/4 inch overall length with 0.260 inch bore diameter, 2-1/2 inch insertion length	ETS50N-100-XXXX	1	$08g4:
TW04-02	Standard duty threaded 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	$08g5:
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	$08g6:
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	$08g7:
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	$08g8:
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	$08g9:
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	$08ga:
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	$08gb:

ProSense® Thermocouple Probes with Connection Head

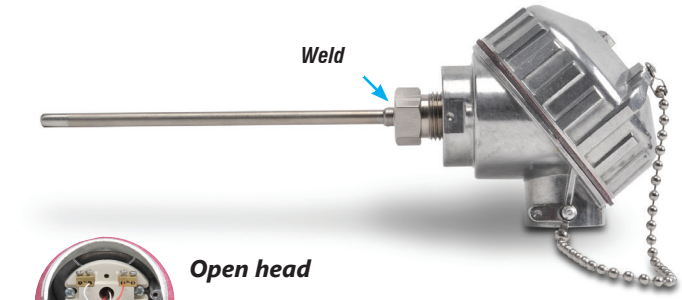
Overview

- 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 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

THMJ & K - CXX-01 & 04



THMJ & K - CXX-02



THMJ & K - CXX-02 use Pro-Sense Compression Fittings for Mounting

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	$;-08j!:	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			$;-08j,:	J		12"			
THMJ-C18-01			$08k1:	J		18"			
THMK-C06-01			$08k3:	K		6"		0 to 927°C (32 to 1700°F)	
THMK-C12-01			$08k5:	K		12			
THMK-C18-01			$08k7:	K		18"			
THMJ-C06-02			$-08j?:	J		6"		0 to 720°C (32 to 1330°F)	ProSense compression fitting (see accessories - purchased separately)
THMJ-C12-02			$08k0:	J		12"			
THMJ-C18-02			$08k2:	J		18"			
THMK-C06-02			$08k4:	K		6"		0 to 927°C (32 to 1700°F)	
THMK-C12-02			$08k6:	K		12"			
THMK-C18-02			$08k8:	K		18"			
THMK-C06-04			$;0d!#:	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			$;;0d!!:	K		12"			
THMK-C18-04			$;0d!?:	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	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

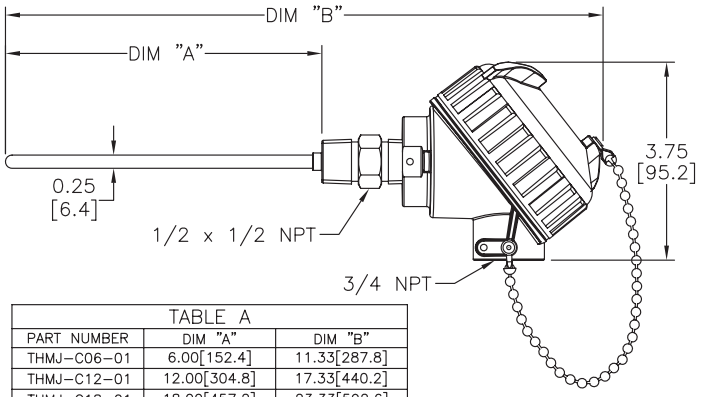


TABLE A		
PART NUMBER	DIM "A"	DIM "B"
THMJ-C06-01	6.00[152.4]	11.33[287.8]
THMJ-C12-01	12.00[304.8]	17.33[440.2]
THMJ-C18-01	18.00[457.2]	23.33[592.6]
THMK-C06-01	6.00[152.4]	11.33[287.8]
THMK-C12-01	12.00[304.8]	17.33[440.2]
THMK-C18-01	18.00[457.2]	23.33[592.6]
THMK-C06-04	6.00[152.4]	11.33[287.8]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

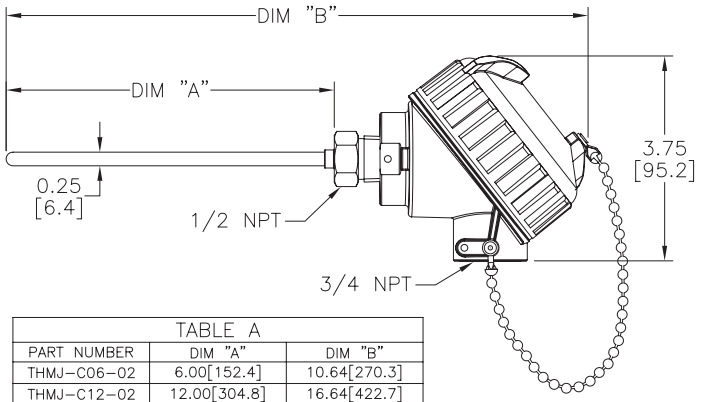
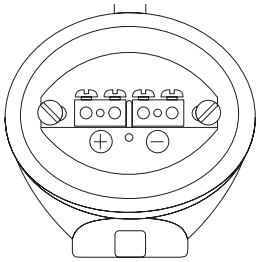


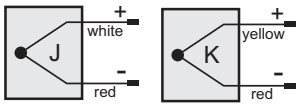
TABLE A		
PART NUMBER	DIM "A"	DIM "B"
THMJ-C06-02	6.00[152.4]	10.64[270.3]
THMJ-C12-02	12.00[304.8]	16.64[422.7]
THMJ-C18-02	18.00[457.2]	22.64[575.1]
THMK-C06-02	6.00[152.4]	10.64[270.3]
THMK-C12-02	12.00[304.8]	16.64[422.7]
THMK-C18-02	18.00[457.2]	22.64[575.1]

Wiring Information



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

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



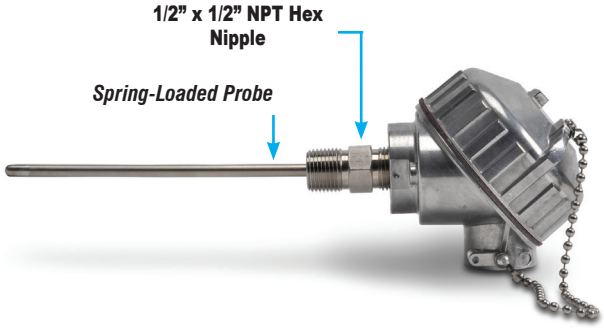
Accessories

Part No.	Description	Pcs/Pkg	Price
BCF14-125N	Compression fitting, brass, for 1/4 inch diameter temperature probes, 1/8 inch male thread	1	$ekq:
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes, 1/4 inch male thread	1	$eks:
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes, 1/2 inch male thread	1	$;ekt:
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes, 1/8 inch male thread	1	$;ek]:
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes, 1/4 inch male thread	1	$;ek[:
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes, 1/2 inch male thread	1	$0ek_:
CFTF-14	Teflon ferrule for brass or stainless steel compression fittings and 1/4 inch diameter temperature probes	5	$;ea!:

Note: Full listing of accessories available at the end of this section. Thermocouple extension lead wire available at www.automationdirect.com.

ProSense® Thermocouple Spring-Loaded Probes with Connection Head

THMJ & K - CXX-03



Open head

Overview

- 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

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	$-08jq:	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			$;-08jt:	J		6"		
THMJ-C12-03			$-08jv:	J		12"		
THMK-C04-03			$-08jy:	K		4"	0 to 927°C (32 to 1700°F)	
THMK-C06-03			$;-08j]:	K		6"		
THMK-C12-03			$-08j_:	K		12"		

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	Connection head: Ceramic terminal base with brass terminals and stainless steel screws (Recommended tightening torque 3-4 lb-in) Replacement Probes: 3 inch stranded 24 AWG wire leads

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

Dimensions

inches [mm]

THMJ & K - CXX-03

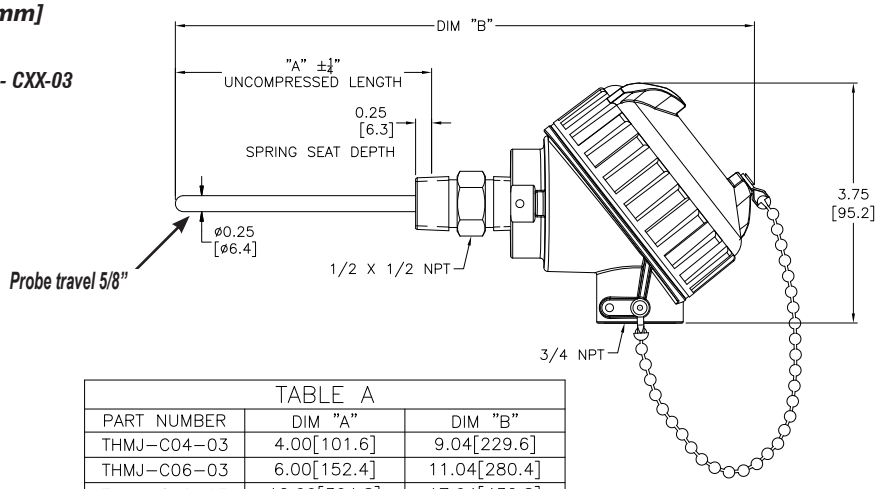
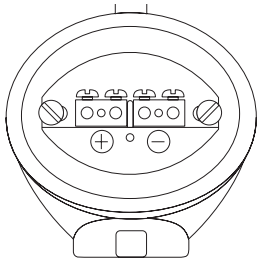


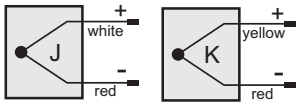
TABLE A		
PART NUMBER	DIM "A"	DIM "B"
THMJ-C04-03	4.00[101.6]	9.04[229.6]
THMJ-C06-03	6.00[152.4]	11.04[280.4]
THMJ-C12-03	12.00[304.8]	17.04[432.8]
THMK-C04-03	4.00[101.6]	9.04[229.6]
THMK-C06-03	6.00[152.4]	11.04[280.4]
THMK-C12-03	12.00[304.8]	17.04[432.8]

Wiring Information



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

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



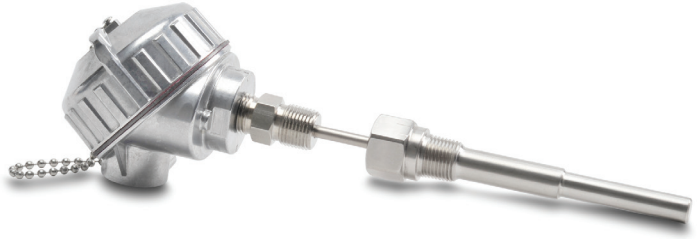
ProSense® Thermocouple Spring-Loaded Probes with Connection Head - Accessories

Accessories

Part No.	Description	Pcs/Pkg	Price
TW04-01	ProSense thermowell, 1/2in female NPT probe connection, 1/2in male NPT process connection, 304 stainless steel body, 4-1/4in overall length, 0.260in bore.	1	$08g4:
TW04-02	ProSense thermowell, 1/2in female NPT probe connection, 3/4in male NPT process connection, 304 stainless steel body, 4-1/4in overall length, 0.260in bore.	1	$08g5:
TW04-03	ProSense thermowell, 1/2in female NPT probe connection, 1/2in male NPT process connection, 316 stainless steel body, 4-1/4in overall length, 0.260in bore.	1	$08g6:
TW04-04	ProSense thermowell, 1/2in female NPT probe connection, 3/4in male NPT process connection, 316 stainless steel body, 4-1/4in overall length, 0.260in bore.	1	$08g7:
TW06-01	ProSense thermowell, 1/2in female NPT probe connection, 1/2in male NPT process connection, 304 stainless steel body, 6-1/4in overall length, 0.260in bore.	1	$08g8:
TW06-02	ProSense thermowell, 1/2in female NPT probe connection, 3/4in male NPT process connection, 304 stainless steel body, 6-1/4in overall length, 0.260in bore.	1	$08g9:
TW06-03	ProSense thermowell, 1/2in female NPT probe connection, 1/2in male NPT process connection, 316 stainless steel body, 6-1/4in overall length, 0.260in bore.	1	$08ga:
TW06-04	ProSense thermowell, 1/2in female NPT probe connection, 3/4in male NPT process connection, 316 stainless steel body, 6-1/4in overall length, 0.260in bore.	1	$08gb:
TW12-01	ProSense thermowell, 1/2in female NPT probe connection, 1/2in male NPT process connection, 304 stainless steel body, 12-1/4in overall length, 0.260in bore.	1	$08ge:
TW12-02	ProSense thermowell, 1/2in female NPT probe connection, 3/4in male NPT process connection, 304 stainless steel body, 12-1/4in overall length, 0.260in bore.	1	$;08gf:
TW12-03	ProSense thermowell, 1/2in female NPT probe connection, 1/2in male NPT process connection, 316 stainless steel body, 12-1/4in overall length, 0.260in bore.	1	$08gg:
TW12-04	ProSense thermowell, 1/2in female NPT probe connection, 3/4in male NPT process connection, 316 stainless steel body, 12-1/4in overall length, 0.260in bore.	1	$08gh:
STW04-01	ProSense sanitary thermowell, 1/2in female NPT probe connection, 1-1/2in sanitary tri-clamp process connection, 316 stainless steel body, 4-1/4in overall length, 0.260in bore.	1	$054k7:
STW06-01	ProSense sanitary thermowell, 1/2in female NPT probe connection, 1-1/2in sanitary tri-clamp process connection, 316 stainless steel body, 6-1/4in overall length, 0.260in bore.	1	$054kc:
STW12-01	ProSense sanitary thermowell, 1/2in female NPT probe connection, 1-1/2in sanitary tri-clamp process connection, 316 stainless steel body, 12-1/4in overall length, 0.260in bore.	1	$054ke:
STW04-02	ProSense sanitary thermowell, 1/2in female NPT probe connection, 2in sanitary tri-clamp process connection, 316 stainless steel body, 4-1/4in overall length, 0.260in bore.	1	$054k8:
STW06-02	ProSense sanitary thermowell, 1/2in female NPT probe connection, 2in sanitary tri-clamp process connection, 316 stainless steel body, 6-1/4in overall length, 0.260in bore.	1	$054kd:
STW12-02	ProSense sanitary thermowell, 1/2in female NPT probe connection, 2in sanitary tri-clamp process connection, 316 stainless steel body, 12-1/4in overall length, 0.260in bore.	1	$;054kf:

Note: Full listing of accessories and dimension information available at the end of this section. Thermocouple extension lead wire available at www.automationdirect.com.

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 Heat Trace Probe with Connection Head

THMJ-HT34-01

Open head

Overview

Heat Trace Thermocouples are used to measure the surface temperature of process pipe that is carrying products whose temperatures must be controlled to prevent freeze-up, or to maintain a viscosity level so that the inner medium will flow.

- Probe
  - Type J thermocouple element
  - 1/4" diameter, 316 SS sealed sheath to protect against harsh environments
  - 3" hot leg with 1"x2" weld pad for mounting to pipe surface
  - Mounting weld pad is flexible enough to be formed around nominal pipe sizes from 1" to 12"
  - 4" cold leg allows for electrical connections outside of pipe insulation
- 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
  - 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

Thermocouple Heat Trace Probe with Connection Head

Part Number	Pcs/Pkg	Wt (lb)	Price	Type	Probe Length	Temperature Sensing Range	Mounting
THMJ-HT34-01	1	1.44	$-54kj:	J	3" Hot Leg / 4" Cold Leg	-18 to 482°C (0 to 900°F)	1" X 2" X R3/4" Weld Pad, 304 SS*

** Mounting pad is flexible enough to be formed around nominal pipe sizes from 1" to 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
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	Connection head: Ceramic terminal base with brass terminals and stainless steel screws (Recommended tightening torque 3-4 lb-in)

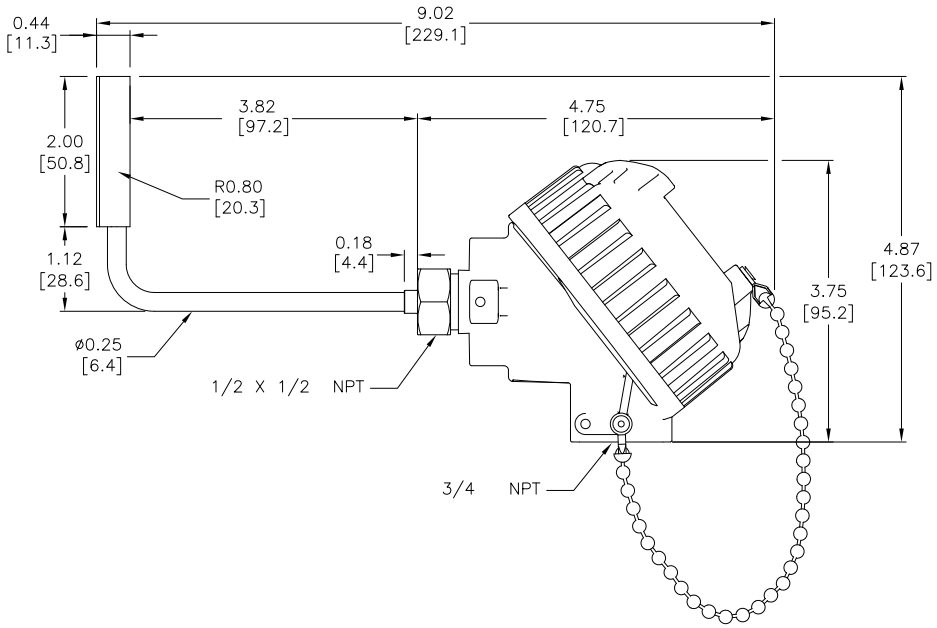
Thermocouple extension lead wire available at www.automationdirect.com.

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

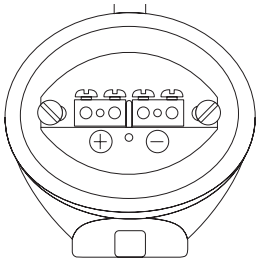
ProSense® Thermocouple Heat Trace Probes with Connection Head

Dimensions

inches [mm]

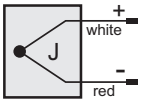


Wiring Information



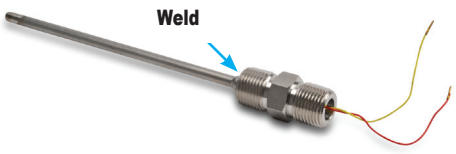
Type J: (+) white (-) red

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



ProSense® Thermocouple Probes with Hex Nipple

THMJ & K - HXXL01-01 & 03



CHSC-AL-1

CHTB-2

Accessories

Overview

- 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

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	$08h8:	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			$08h9:	J		12"			
THMJ-H18L01-01			$08ha:	J		18"			
THMK-H06L01-01			$-08i3:	K		6"		0 to 927°C (32 to 1700°F)	
THMK-H12L01-01			$-08i4:	K		12"			
THMK-H18L01-01			$-08i5:	K		18"			
THMK-H06L01-03			$;;0d!,:	K		6"	Inconel Alloy 600	0 to 1149°C (32 to 2100°F)	
THMK-H12L01-03			$0d?0:	K		12"			
THMK-H18L01-03			$0d?1:	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" (76mm)
Response Time	2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839
Wiring	3 inch stranded 24 AWG wire leads with terminal pins, Teflon insulation

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

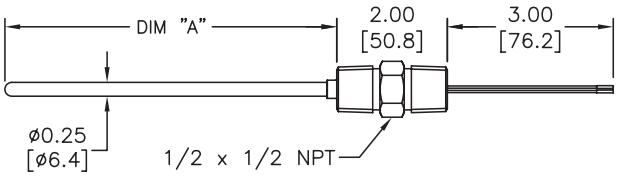
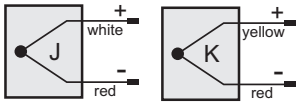


TABLE A	
PART NUMBER	DIM "A"
THMJ–H06L01–01	6.00[152.4]
THMJ–H12L01–01	12.00[304.8]
THMJ–H18L01–01	18.00[457.2]
THMK–H06L01–01	6.00[152.4]
THMK–H12L01–01	12.00[304.8]
THMK–H18L01–01	18.00[457.2]
THMK–H06L01–03	6.00[152.4]
THMK–H12L01–03	12.00[304.8]
THMK–H18L01–03	18.00[457.2]

Wiring Information

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

- Must use thermocouple extension lead wire
- Observe polarity when making connections
- Do not use standard wire nuts



Accessories

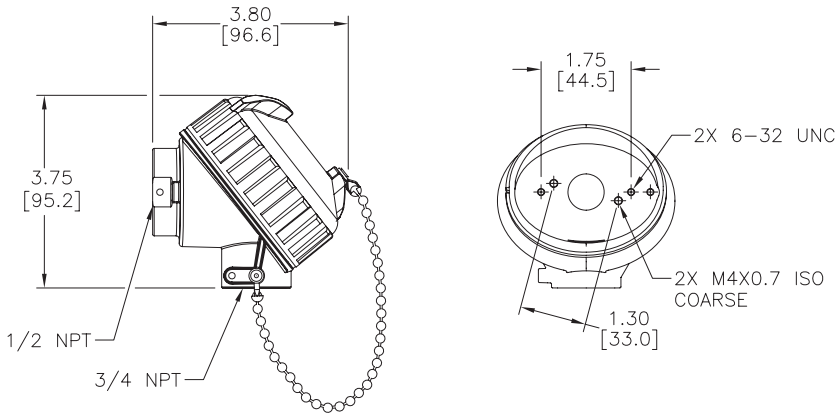
Part No.	Description	Pcs/Pkg	Price
CHSC-AL-1	ProSense general purpose screw cover connection head for temperature probes, die-cast aluminum, 1/2 inch NPT process opening, 3/4 inch NPT conduit opening, NEMA 4X, IP66 rated, graphite gasket, maximum temperature rating of 825°F (440°C). Order probe and terminal base separately.	1	$;06uf:
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	$;5]5:

Note: Full listing of accessories at the end of this section. Thermocouple extension lead wire available at www.automationdirect.com.

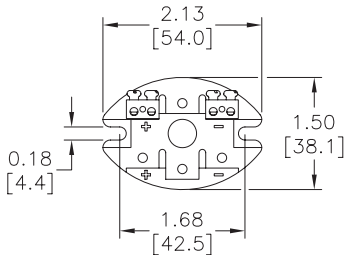
Dimensions

inches [mm]

CHSC-AL-1

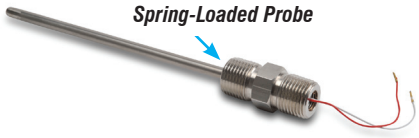


CHTB-2



ProSense® Thermocouple Spring-Loaded Probes with Hex Nipple

THMJ & K - HXXL01-02



CHSC-AL-1

CHTB-2

Accessories

Overview

- 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

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	$08gx:	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			$08gy:	J		6"		
THMJ-H12L01-02			$08gz:	J		12"		
THMK-H04L01-02			$;08g]:	K		4"	0 to 927°C (32 to 1700°F)	
THMK-H06L01-02			$;08g[:	K		6"		
THMK-H12L01-02			$08g_:	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 stranded 24 AWG wire leads with terminal pins, Teflon insulation

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

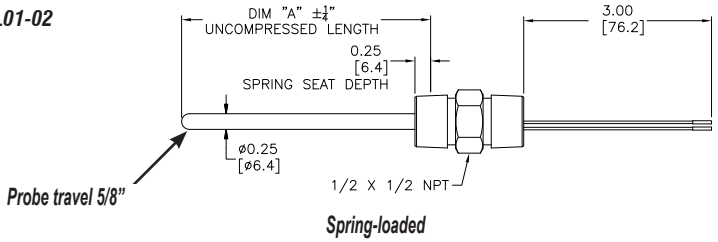
Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

ProSense® Thermocouple Spring-Loaded Probes with Hex Nipple

Dimensions

inches [mm]

THMJ & K - HXXL01-02



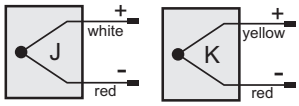
Spring-loaded

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
- Observe polarity when making connections
- Do not use standard wire nuts



Accessories

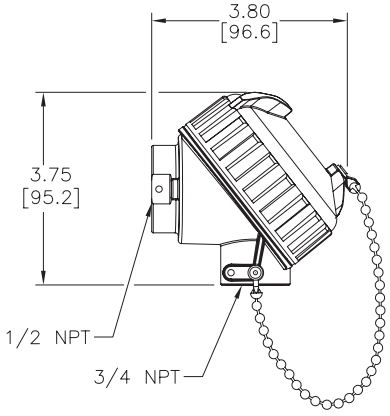
Part No.	Description	Pcs/Pkg	Price
CHSC-AL-1	ProSense general purpose screw cover connection head for temperature probes, die-cast aluminum, 1/2 inch NPT process opening, 3/4 inch NPT conduit opening, NEMA 4X, IP66 rated, graphite gasket, maximum temperature rating of 825°F (440°C). Order probe and terminal base separately.	1	$;06uf:
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	$;5]5:

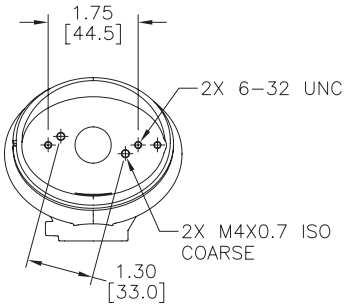
Note: Full listing of accessories at the end of this section. Thermocouple extension lead wire available at www.automationdirect.com.

Dimensions

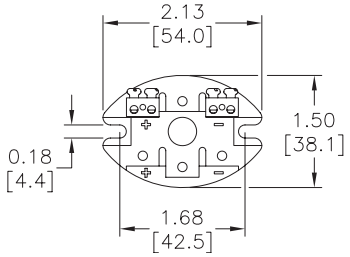
inches [mm]

CHSC-AL-1





CHTB-2



ProSense® Thermocouple Probes with Attached Plug

THMJ-PXX-01

THMK-PXX-01

THMT-PXX-01

THMJ-PXX-02

Overview

- 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

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

THMK-PXX-02

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	$08g#:	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			$08g?:	J		12"				
THMJ-P18-01			$08h0:	J		18"				
THMK-P06-01			$08h2:	K		6"	0 to 927°C (32 to 1700°F) plug rated to 400 °F (204 °C)			THMK-MJ
THMK-P12-01			$08h4:	K		12"				
THMK-P18-01			$08h6:	K		18"				
THMT-P06-01			$;;0d!]:	T		6"	-200 to 371°C (-328 to 700°F) plug rated to 400 °F (204 °C)			THMT-MJ
THMT-P12-01			$;;0d![:	T		12"				
THMT-P18-01			$;0d!_:	T		18"				
THMJ-P06-02			$;08g!:	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			$;08g,:	J		12"				
THMJ-P18-02			$08h1:	J		18"				
THMK-P06-02			$08h3:	K		6"	0 to 927°C (32 to 1700°F) plug rated to 400 °F (204 °C)			THMK-SJ
THMK-P12-02			$08h5:	K		12"				
THMK-P18-02			$08h7:	K		18"				

Technical Specifications

Junction Type	Ungrounded
ASTM E230 Standard Limits of Error	Types J, K: ± 2.2°C (± 4.0°F); Type T: ± 1°C (± 1.8°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

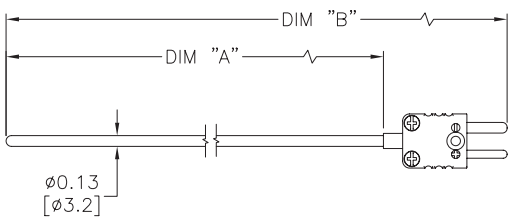
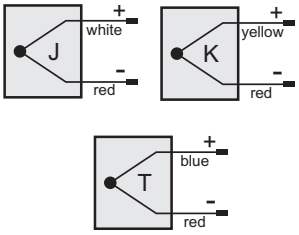


TABLE A		
PART NUMBER	DIM "A"	DIM "B"
THMJ–P06–01	6.00[152.4]	7.61[193.3]
THMJ–P12–01	12.00[304.8]	13.61[345.7]
THMJ–P18–01	18.00[457.2]	19.61[498.1]
THMK–P06–01	6.00[152.4]	7.61[193.3]
THMK–P12–01	12.00[304.8]	13.61[345.7]
THMK–P18–01	18.00[457.2]	19.61[498.1]
THMT–P06–01	6.00[152.4]	7.61[193.3]
THMT–P12–01	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
- Observe polarity when making connections
- Do not use standard wire nuts



Dimensions

inches [mm]

THMJ & K - PXX-02

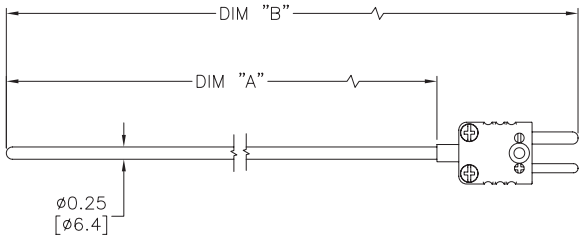
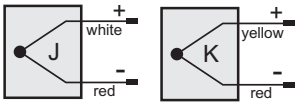


TABLE A		
PART NUMBER	DIM "A"	DIM "B"
THMJ–P06–02	6.00[152.4]	8.36[212.3]
THMJ–P12–02	12.00[304.8]	14.36[364.7]
THMJ–P18–02	18.00[457.2]	20.39[517.14]
THMK–P06–02	6.00[152.4]	8.36[212.3]
THMK–P12–02	12.00[304.8]	14.36[364.7]
THMK–P18–02	18.00[457.2]	20.39[517.14]

Wiring Information

Type J: black plug
Type K: yellow plug
Pins labeled + and -

- Must use with mating jack and thermocouple extension lead wire
- 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	$eku:
BCF14-125N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$ekq:
BCF18-25N	Compression fitting, brass, for 1/8 inch diameter temperature probes,1/4 inch NPT male thread	1	$ekv:
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$eks:
BCF18-50N	Compression fitting, brass, for 1/8 inch diameter temperature probes,1/2 inch NPT male thread	1	$ekx:
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$;ekt:
CF18-125N	Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/8 inch NPT male thread	1	$ek#:
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$;ek]:
CF18-25N	Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/4 inch NPT male thread	1	$;ek!:
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$;ek[:
CF18-50N	Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/2 inch NPT male thread	1	$0ek?:
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$0ek_:
CFTF-18	Teflon ferrule for brass or stainless steel compression fittings and 1/8 inch diameter temperature probes	5	$ea?:
CFTF-14	Teflon ferrule for brass or stainless steel compression fittings and 1/4 inch diameter temperature probes	5	$;ea!:
CF18-BC	Adjustable bayonet cap compression fitting for 1/8 inch diameter probe sheaths	1	$0ea#:
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	$43h:
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	$43q:
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	$43y:
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	$43e:
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	$43n:
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	$43u:
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	$-043j:
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	$;043t:
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	$;043]:
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	$43g:
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	$43p:
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	$43x:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:
WCB-M	Wire / cable clamp bracket for use with miniature thermocouple connectors	4	$05ho:

Note: Thermocouple extension lead wire available at www.automationdirect.com.
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

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

- 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

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	$08hb:	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	$08hd:	J		12"			
THMJ-T18L06-01			$;08hf:	J		18"			
THMK-T06L06-01		0.4	$08hh:	K		6"		0 to 927°C (32 to 1700°F), lead wire transition rated to 400 °F (204 °C)	
THMK-T12L06-01		0.6	$-08hj:	K		12"			
THMK-T18L06-01			$-08hl:	K		18"			
THMT-T06L06-01		0.4	$0d?5:	T		6"		-200 to 371°C (-328 to 700°F), lead wire transition rated to 400 °F (204 °C)	
THMT-T12L06-01		0.6	$0d?6:	T		12"			
THMT-T18L06-01			$0d?7:	T		18"			
THMJ-T06L06-02		0.4	$08hc:	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	$08he:	J		12"			
THMJ-T18L06-02			$08hg:	J		18"			
THMK-T06L06-02		0.4	$-08hi:	K		6"		0 to 927°C (32 to 1700°F), lead wire transition rated to 400 °F (204 °C)	
THMK-T12L06-02		0.6	$08hk:	K		12"			
THMK-T18L06-02			$08hn:	K		18"			
THMK-T06L06-03		0.4	$0d?2:	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	$0d?3:	K		12"			
THMK-T18L06-03			$0d?4:	K		18"			

ProSense® Thermocouple Probes with Lead Wire Transition

Technical Specifications	
Junction Type	Ungrounded
ASTM E230 Standard Limits of Error	Types J, K: ± 2.2°C (± 4.0°F); Type T: ± 1°C (± 1.8°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 20 AWG wire leads 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

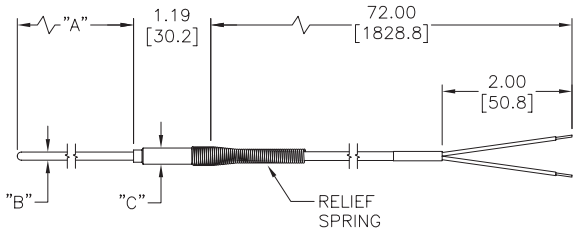
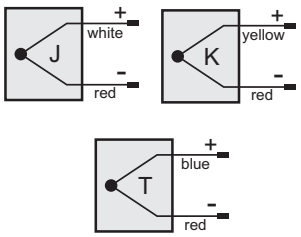


TABLE A			
PART NUMBER	DIM "A"	DIM "B"	DIM "C"
THMJ–T06L06–01	6.00[152.4]	0.13[3.3]	0.25[6.35]
THMJ–T12L06–01	12.00[304.8]	0.13[3.3]	0.25[6.35]
THMJ–T18L06–01	18.00[457.2]	0.13[3.3]	0.25[6.35]
THMT–T06L06–01	6.00[152.4]	0.13[3.3]	0.25[6.35]
THMT–T12L06–01	12.00[304.8]	0.13[3.3]	0.25[6.35]
THMT–T18L06–01	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
- Observe polarity when making connections
- Do not use standard wire nuts



ProSense® Thermocouple Probes with Lead Wire Transition

Accessories

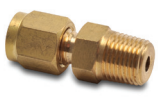
Part No.	Description	Pcs/Pkg	Price
BCF18-125N	Compression fitting, brass, for 1/8 inch diameter temperature probes,1/8 inch NPT male thread	1	$eku:
BCF14-125N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$ekq:
BCF18-25N	Compression fitting, brass, for 1/8 inch diameter temperature probes,1/4 inch NPT male thread	1	$ekv:
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$eks:
BCF18-50N	Compression fitting, brass, for 1/8 inch diameter temperature probes,1/2 inch NPT male thread	1	$ekx:
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$;ekt:
CF18-125N	Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/8 inch NPT male thread	1	$ek#:
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$;ek]:
CF18-25N	Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/4 inch NPT male thread	1	$;ek!:
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$;ek[:
CF18-50N	Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/2 inch NPT male thread	1	$0ek?:
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$0ek_:
CFTF-18	Teflon ferrule for brass or stainless steel compression fittings and 1/8 diameter temperature probes	5	$ea?:
CFTF-14	Teflon ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes	5	$;ea!:
CF18-BC	Bayonet adapter, 7/8 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	$0ea#:
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	$-43i:
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	$43h:
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	$43s:
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	$43q:
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	$-043l:
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	$043k:
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	$43z:
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	$43y:
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	$;43f:
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	$43e:
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	$43o:
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	$43n:
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	$43v:
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	$43u:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:
WCB-M	Wire / cable clamp bracket for use with miniature thermocouple connectors	4	$05ho:
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	$-043j:
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	$;043t:
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	$;043]:
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	$43g:
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	$43p:
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	$43x:

Note: Thermocouple extension lead wire available at www.automationdirect.com.
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 Probes with Cuttable Length

THMJ-V24L06-01

Overview

- Type J or K thermocouple elements to meet many temperature sensing applications
- 1/4″ diameter, 316 SS sheath to protect against harsh environments
- 24″ probe length can be cut using an ordinary tubing cutter to adapt to the application
- Mounting is accomplished using a variety of ProSense compression fittings
- 2-foot fiberglass insulated leadwires
- Made in the USA

Thermocouple Probes with Cuttable Length

Part Number	Pcs/Pkg	Wt (lb)	Price	Type	Probe Diameter (O.D)	Probe Length	Probe Material	Temperature Sensing Range	Mounting
THMJ-V24L06-01	1	0.44	$;54k,:	J	1/4″	24″ (4″ minimum cut length)	316 stainless steel	-18 to 482°C (0 to 900°F)	ProSense compression fitting(see accessories purchased separately)
THMK-V24L06-01	1	0.44	$-54l8:	K					

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
Probe Minimum Bend Radius	Not bendable
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	2 foot solid 20 AWG wire leads with stripped ends, fiberglass insulation

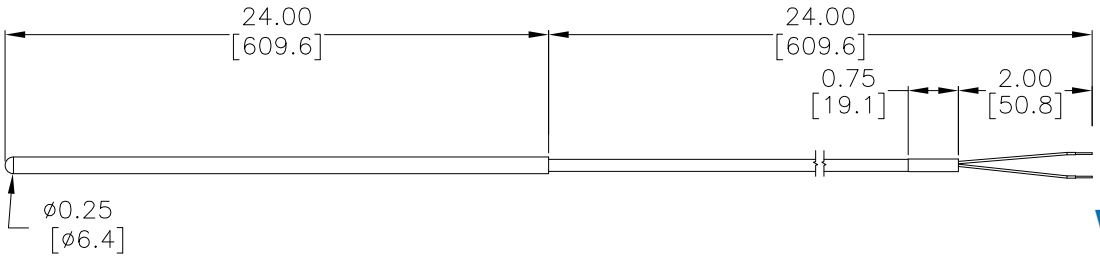
Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

ProSense® Thermocouple Probes with Cuttable Length

Dimensions

inches [mm]

THMJ & K - V24L06-01



Cutting Instructions

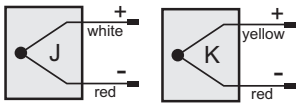
1. Remove the plastic retainer mounted to the top of outer metal tube.
2. Remove the inner sensing element and wires to prevent possible damage while cutting.
3. Cut the tube to the desired length and remove all burrs or sharp edges.
4. Reinstall the sensing element and plastic retainer.

Note: Ensure sensing element is fully seated at the base of the outer tube. If outer tube is compressed during installation it may not be possible to remove the sensing element.

Wiring Information

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

- Must use thermocouple extension lead wire
- Observe polarity when making connections
- Do not use standard wire nuts



ProSense® Thermocouple Probes with Cuttable Length - 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	$ekq:
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$eks:
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$;ekt:
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$;ek]:
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$;ek[:
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$0ek_:
CFTF-14	Teflon ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes	5	$;ea!:
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	$-43i:
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	$43h:
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	$43s:
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	$43q:
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	$-043l:
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	$043k:
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	$;43f:
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	$43e:
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	$43o:
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	$43n:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:
WCB-M	Wire / cable clamp bracket for use with miniature thermocouple connectors	4	$05ho:
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	$-043j:
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	$;043t:
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	$43g:
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	$43p:

Note: Thermocouple extension lead wire available at www.automationdirect.com
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*

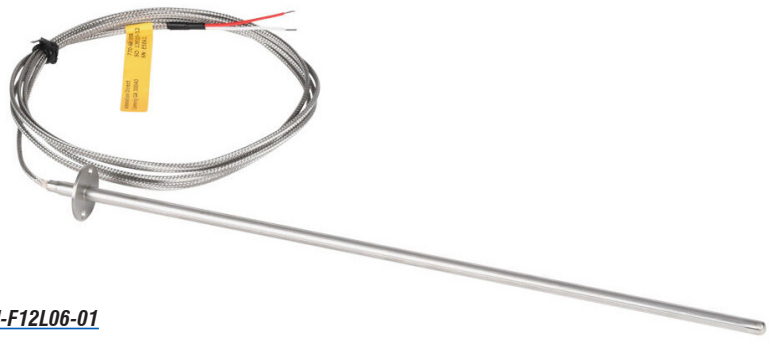
THMJ-SPJ

CF14-25N

THMJ-SP

THMJ-SJ

ProSense® Thermocouple Probes with Flange Mount



THMJ-F12L06-01

Overview

- Ideal for use with ovens, freezers, ducts, or anywhere through the wall temperature sensing is required.
- Type J or K thermocouple elements to meet many temperature sensing applications
- 1/4" diameter, 316 SS sheath to protect against harsh environments
- 6", 12", or 18" probe lengths
- Mounting is accomplished using the conveniently attached round mounting flange
- 6-foot lead wires with stainless steel overbraid
- Made in the USA

Thermocouple Probes with Flange Mount

Part Number	Pcs/Pkg	Wt (lb)	Price	Type	Probe Diameter (O.D)	Probe Length	Probe Material	Temperature Sensing Range	Mounting
THMJ-F06L06-01	1	0.44	$54kg:	J	1/4"	6"	316 stainless steel	-18 to 482°C (0 to 900°F)	1" diameter 1/16" thick 304 stainless steel flange (2x - ø0.144" mounting holes 0.75" spacing)
THMJ-F12L06-01	1	0.44	$54kh:			12"			
THMJ-F18L06-01	1	0.44	$-54ki:			18"			
THMK-F06L06-01	1	0.44	$-54l0:	K		6"			
THMK-F12L06-01	1	0.44	$-54l1:			12"			
THMK-F18L06-01	1	0.44	$-54l2:			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, single thermocouple element
Minimum Installation Depth	3" (76 mm)
Probe Minimum Bend Radius	Not bendable
Response Time	2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839
Wiring	6 foot stranded 20 AWG wire leads 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.

ProSense® Thermocouple Probes with Flange Mount

Dimensions

inches [mm]

THMJ & K - FXXLXX-01

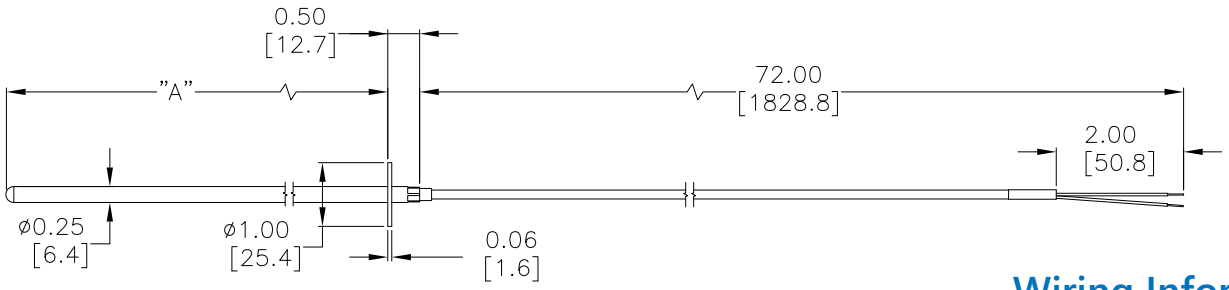
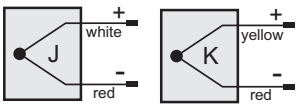


TABLE A	
PART NUMBER	DIM "A"
THMJ–F06L06–01	6.00[152.4]
THMJ–F12L06–01	12.00[304.8]
THMJ–F18L06–01	18.00[457.2]
THMK–F06L06–01	6.00[152.4]
THMK–F12L06–01	12.00[304.8]
THMK–F18L06–01	18.00[457.2]

Wiring Information

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

- Must use thermocouple extension lead wire
- Observe polarity when making connections
- Do not use standard wire nuts



ProSense® Thermocouple Probes with Flange Mount - Accessories

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	$-43i:
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	$43h:
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	$43s:
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	$43q:
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	$-043l:
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	$043k:
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	$;43f:
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	$43e:
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	$43o:
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	$43n:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:
WCB-M	Wire / cable clamp bracket for use with miniature thermocouple connectors	4	$05ho:
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	$-043j:
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	$;043t:
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	$43g:
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	$43p:

Note: Thermocouple extension lead wire available at www.automationdirect.com
See end of section for full listing of accessories and dimension information.

THMJ-SPJ

THMJ-SP

THMJ-SJ

ProSense® Melt-Bolt Thermocouple Probes with Attached Plug

THMJ-MB3T14-02

THMJ-MB6T00-02

THMJ-MB6TA-01

Overview

- Used on extruders and injection molding machines to directly measure the melt temperature of plastic as it moves down the extruder barrel
- Commonly used Type J thermocouple
- 3" or 6" bolt lengths
- Flush, 1/8", 1/4", or adjustable tip lengths
- Grounded or ungrounded junctions
- 1/2-20 UNF thread process connection
- 2-pin standard size plug

Melt-Bolt Thermocouple Probes with Attached Plug - Type J

Part Number	Pcs/Pkg	Wt (lb)	Price	Type	Tip Length	Tip Diameter	Bolt Length	Temperature Sensing Range	Junction Type	Attached Plug Size	Mating Jack (see accessories- purchased separately)
THMJ-MB3T00-01	1	0.63	$-54kl:	J	Flush	1/8"	3"	-18 to 482°C (0 to 900°F), plug rated to 204°C (400°F)	Grounded	Standard	THMJ-SJ or THMJ-SPJ
THMJ-MB3T18-01		0.63	$54kq:		1/8"						
THMJ-MB3T14-01		0.63	$54ko:		1/4"						
THMJ-MB3T00-02		0.63	$54kn:		Flush				Ungrounded		
THMJ-MB3T18-02		0.63	$54ks:		1/8"						
THMJ-MB3T14-02		0.63	$54kp:		1/4"						
THMJ-MB6T00-01		0.75	$54ku:		Flush		6"		Grounded		
THMJ-MB6T18-01		0.75	$54kz:		1/8"						
THMJ-MB6T14-01		0.75	$54kx:		1/4"						
THMJ-MB6T00-02		0.75	$54kv:		Flush				Ungrounded		
THMJ-MB6T18-02		0.75	$;54k]:		1/8"						
THMJ-MB6T14-02		0.75	$54ky:		1/4"						
THMJ-MB3TA-01		0.75	$;054kt:		Adjustable (0 - 1")	5/32"	3"		Exposed		
THMJ-MB6TA-01		0.75	$;054k[:				6"				

Technical Specifications

ASTM E230 Standard Limits of Error	±2.2°C (±4.0°F) or 0.75%, whichever is greater
Bolt Threads	1/2-20 UNF - 2A Bolt Thread (Nominal Thread Length 1-7/8")
Response Time	2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839
Wiring	Fixed tip: Fiberglass insulation with flexible armor Adjustable tip: MgO insulated tube 1/8" graduated marks 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® Melt-Bolt Thermocouple Probes with Attached Plug

Dimensions

inches [mm]

THMJ-MBxxxx-xx

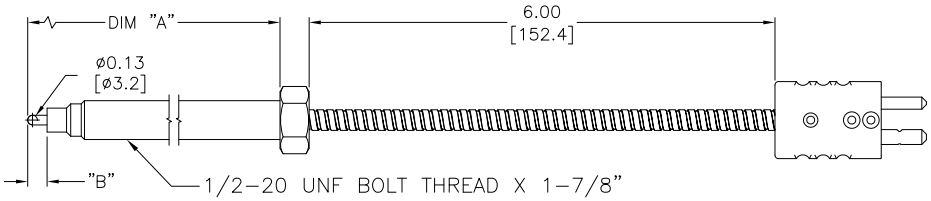
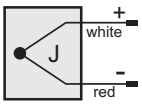


TABLE A		
PART NUMBER	DIM "A"	DIM "B"
THMJ–MB3T00–01	3.00[76.2]	0.00[FLUSH]
THMJ–MB3T14–01	3.00[76.2]	0.25[6.4]
THMJ–MB3T18–01	3.00[76.2]	0.125[3.2]
THMJ–MB3T00–02	3.00[76.2]	0.00[FLUSH]
THMJ–MB3T14–02	3.00[76.2]	0.25[6.4]
THMJ–MB3T18–02	3.00[76.2]	0.125[3.2]
THMJ–MB6T00–01	6.00[152.4]	0.00[FLUSH]
THMJ–MB6T14–01	6.00[152.4]	0.25[6.4]
THMJ–MB6T18–01	6.00[152.4]	0.125[3.2]
THMJ–MB6T00–02	6.00[152.4]	0.00[FLUSH]
THMJ–MB6T14–02	6.00[152.4]	0.25[6.4]
THMJ–MB6T18–02	6.00[152.4]	0.125[3.2]

Wiring Information

Type J: (+) white (-) red

- Must use thermocouple extension lead wire
- Observe polarity when making connections
- Do not use standard wire nuts



Dimensions

inches [mm]

THMJ-MB3TA-0X

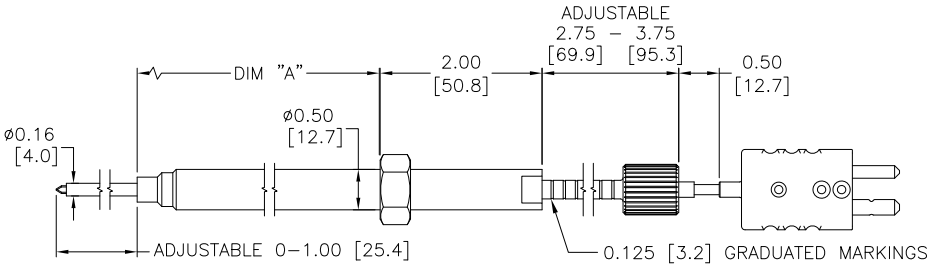


TABLE A	
PART NUMBER	DIM "A"
THMJ–MB3TA–01	3.00[76.2]
THMJ–MB3TA–02	6.00[152.4]

ProSense® Melt-Bolt Thermocouple Probes with Attached Plug - Accessories

Accessories

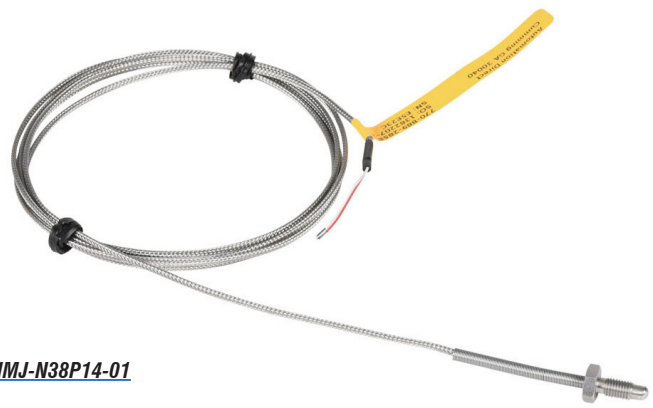
Part No.	Description	Pcs/Pkg	Price
THMJ-SP	Thermocouple connector, Type J, standard round pin plug, maximum continuous temperature 400°F (200°C), glass filled thermoplastic black body, thermocouple material pins, 14 AWG maximum (2.0 mm) wire size	1	$-43i:
THMJ-SJ	Thermocouple connector, Type J, standard 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	$43h:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:
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	$-043j:
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	$43g:

Note: Thermocouple extension lead wire available at www.automationdirect.com
See end of section for full listing of accessories and dimension information.

THMJ-SPJ

THMJ-SJ

ProSense® Thermocouple Threaded Bolt Sensors



THMJ-N38P14-01

Overview

- Typically used to measure the temperature of the nozzle of an injection molding machine without being in direct contact with the molten plastic.
- The small size of this sensor makes it ideal for other general areas of use such as mounting in bearing housings, sealing bars, heat plates, and other limited space applications
- Type J or Type K thermocouples
- Grounded or ungrounded junctions
- 1/4-28 UNF threaded stainless steel rotating bolt allows for easy installation
- 6-foot lead wires with stainless steel overbraid
- Made in the USA

Thermocouple Threaded Bolt Sensors - Types J and K

Part Number	Pcs/Pkg	Wt (lb)	Price	Type	Junction Type	Bolt	Temperature Sensing Range
THMJ-N38P14-01	1	0.25	$54k_:	J	Grounded	1/4-28 x 3/8" Stainless Steel Rotating Bolt	-18 to 482°C (0 to 900°F)
THMJ-N38P14-02	1	0.25	$54k#:		Ungrounded		
THMK-N38P14-01	1	0.25	$-54l4:	K	Grounded		
THMK-N38P14-02	1	0.25	$-54l5:		Ungrounded		

Technical Specifications

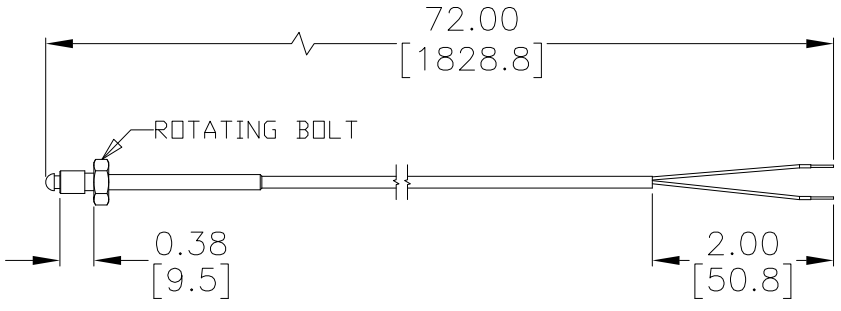
ASTM E230 Standard limits of Error	±2.2°C (±4.0°F) or 0.75%, whichever is greater
Response Time	2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839
Wiring	6 foot stranded 24 AWG wire leads with stripped ends, fiberglass insulation and stainless steel overbraid

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

Dimensions

inches [mm]

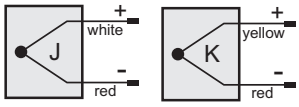
THMJ & K - N38P14-0X



Wiring Information

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

- Must use thermocouple extension lead wire
- Observe polarity when making connections
- Do not use standard wire nuts



ProSense® Thermocouple Threaded Bolt Sensors

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	$-43i:
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	$43h:
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	$43s:
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	$43q:
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	$-043l:
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	$;43f:
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	$43e:
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	$43o:
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	$43n:
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	$-043j:
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	$;043t:
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	$43g:
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	$43p:
WCB-M	Wire / cable clamp bracket for use with miniature thermocouple connectors	4	$05ho:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:

Note: Thermocouple extension lead wire available at www.automationdirect.com
See end of section for full listing of accessories and dimension information.

THMJ-SJ

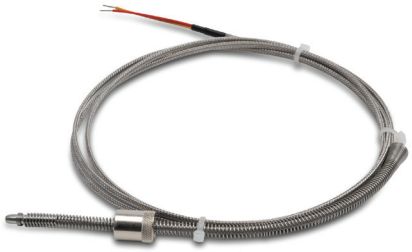
THMJ-SP

THMJ-SPJ

Thermocouple Connectors

ProSense® Thermocouple Adjustable Immersion Sensors

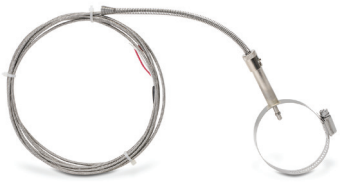
THMJ & K - D08LXX-01 & 02



Spring Adjustable

THMJ & K - A01LXX-01 & 02

Armor Adjustable



Shown with optional PCA pipe clamp adapter

Overview

- 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

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	$;08ht:	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			$08hu:	J			6		
THMJ-D08L10-01			$08hv:	J			10		
THMK-D08L04-01			$08h_:	K			4		
THMK-D08L06-01			$08h#:	K			6		
THMK-D08L10-01			$;08h!:	K			10		
THMJ-D08L10-02			$08hx:	J	Ungrounded		10		
THMK-D08L10-02			$08h?:	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	$08ho:	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			$08hp:	J			6		
THMJ-A01L10-01			$08hq:	J			10		
THMK-A01L04-01			$08hy:	K			4		
THMK-A01L06-01			$08hz:	K			6		
THMK-A01L10-01			$;08h]:	K			10		
THMJ-A01L10-02			$08hs:	J	Ungrounded		10		
THMK-A01L10-02			$;08h[:	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 20 AWG wire leads with stripped ends, fiberglass insulation and stainless steel overbraid Armor adjustable: Stranded 20 AWG wire leads with stripped ends, fiberglass insulation and flexible armor This probe is not sealed and cannot be immersed in liquids

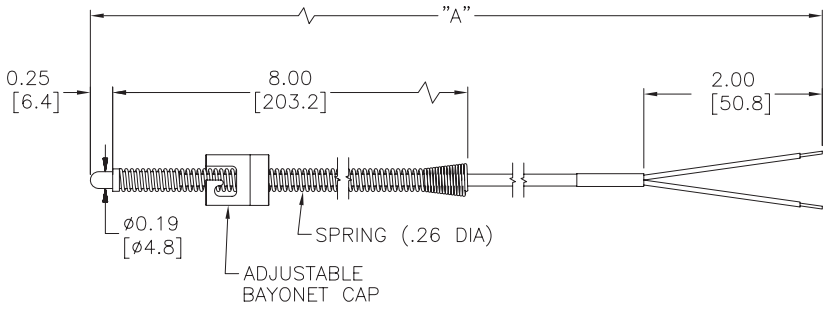
Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

ProSense® Thermocouple Adjustable Immersion Sensors

Dimensions

inches [mm]

THMJ & K - D08LXX-01 & 02



Wiring Information

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

- Must use thermocouple extension lead wire
- Observe polarity when making connections
- Do not use standard wire nuts

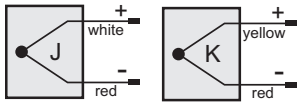
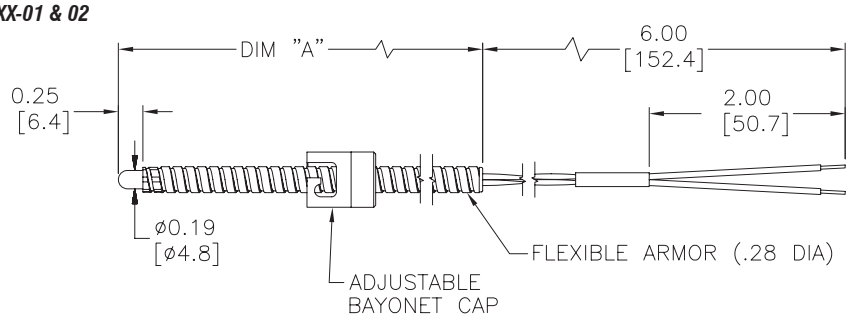


TABLE A	
PART NUMBER	DIM "A"
THMJ-D08L04-01	48.00[1219.2]
THMJ-D08L06-01	72.00[1828.8]
THMJ-D08L10-01	120.00[3048.0]
THMK-D08L04-01	48.00[1219.2]
THMK-D08L06-01	72.00[1828.8]
THMK-D08L10-01	120.00[3048.0]
THMJ-D08L10-02	120.00[3048.0]
THMK-D08L10-02	120.00[3048.0]

Dimensions

inches [mm]

THMJ & K - A01LXX-01 & 02



Wiring Information

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

- Must use thermocouple extension lead wire
- Observe polarity when making connections.
- Do not use standard wire nuts

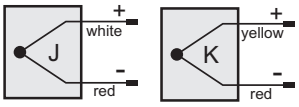


TABLE A	
PART NUMBER	DIM "A"
THMJ-A01L04-01	48.00[1219.2]
THMJ-A01L06-01	72.00[1828.8]
THMJ-A01L10-01	120.00[3048.0]
THMK-A01L04-01	48.00[1219.2]
THMK-A01L06-01	72.00[1828.8]
THMK-A01L10-01	120.00[3048.0]
THMJ-A01L10-02	120.00[3048.0]
THMK-A01L10-02	120.00[3048.0]

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	$4bb:
BA-100	Bayonet adapter, 1 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	$4bc:
BA-114	Bayonet adapter, 1-1/4 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	$4be:
BA-112	Bayonet adapter, 1-1/2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter,1/8 inch MNPT	1	$4bd:
BA-200	Bayonet adapter, 2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	$;4bf:
BA-212	Bayonet adapter, 2-1/2 long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	$4bg:
BA-300	Bayonet adapter, 3 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	$4bh:
BA-312	Bayonet adapter, 3-1/2 long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	$-4bi:
PCA-125	Pipe clamp adapter, 11/16 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	$-04bj:
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	$04bk:
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	$-04bl:
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	$04bn:
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	$04bo:
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	$-43i:
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	$43h:
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	$43s:
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	$43q:
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	$-043j:
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	$;043t:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors.	4	$05hp:

Note: Thermocouple extension lead wire available at www.automationdirect.com
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

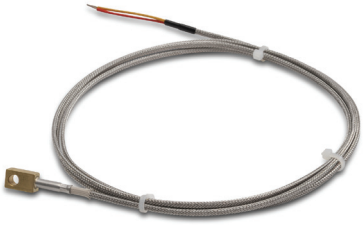
PCA-XXX

Pipe Clamp Adapter

ProSense® Thermocouple Bolt-On Ring Sensors

THMJ & K - B01L06-01

THMJ & K - B01L06-02



Overview

- 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

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	$;08h,:	J	Grounded	316 SS	0° to 482°C (32° to 900°F)	#6-#10 (4mm-5mm) screw or bolt size
THMK-B01L06-01			$-08i1:	K				
THMJ-B01L06-02			$-08i0:	J	Ungrounded	Brass		
THMK-B01L06-02			$-08i2:	K				
THMJ-B02L06-01			$0d?8:	J	Grounded	316 SS		#12, 1/4 to 5/16 inch (5mm - 8mm) screw or bolt size
THMK-B02L06-01			$0d?a:	K				
THMJ-B02L06-02			$0d?9:	J	Ungrounded	Brass		
THMK-B02L06-02			$0d?b:	K				

Technical Specifications

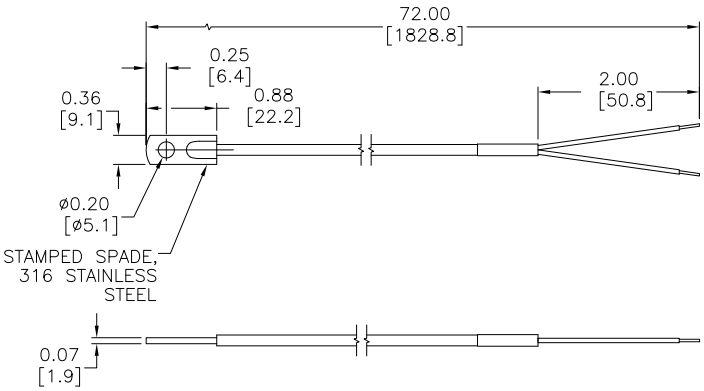
ASTM E230 Standard limits of Error	±2.2°C (±4.0°F) or 0.75%, whichever is greater
Response Time	2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839
Wiring	6 foot stranded 20 AWG wire leads with stripped ends, fiberglass insulation and stainless steel overbraid

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

Dimensions

inches [mm]

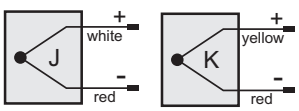
THMJ & K - B01L06-01



Wiring Information

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

- Must use thermocouple extension lead wire
- Observe polarity when making connections
- Do not use standard wire nuts

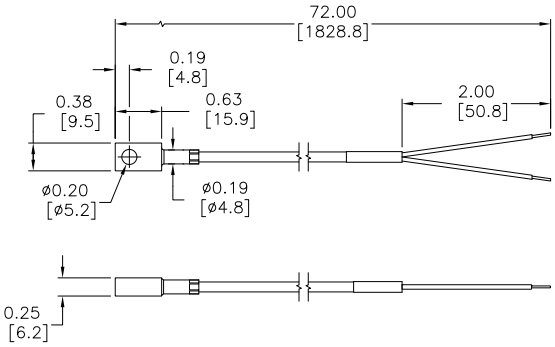


ProSense® Thermocouple Bolt-On Ring Sensors

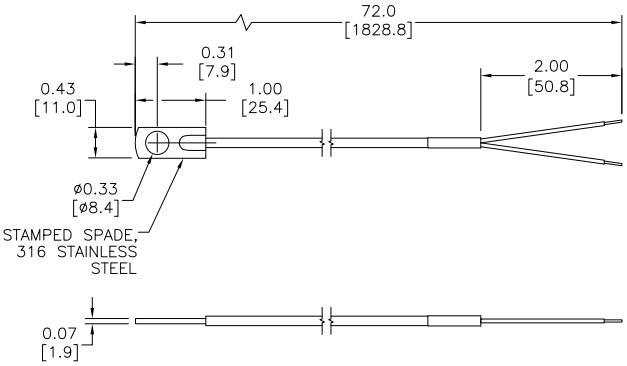
Dimensions

inches [mm]

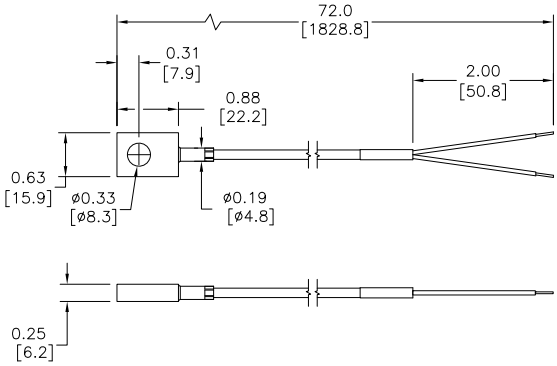
THMJ & K - B01L06-02



THMJ & K - B02L06-01



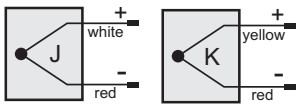
THMJ & K - B02L06-02



Wiring Information

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

- Must use thermocouple extension lead wire
- 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	$-43i:
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	$43h:
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	$43s:
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	$43q:
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	$-043j:
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	$;043t:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors.	4	$05hp:

Note: Thermocouple extension lead wire available at www.automationdirect.com
See end of section for full listing of accessories and dimension information.

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

Thermocouple Connectors

ProSense® Room Temperature Sensors - Thermistor, Thermocouple, and RTD Types

RTD1-R01-01

RTD1-R01-02

NTC10K3-R02-01

Overview

- ABS Plastic ventilated cover
- Available in thermistor, thermocouple, and RTD versions
- Internal terminal strip for wiring connections
- Can be mounted horizontally or vertically

ProSense Room Temperature Sensors							
Part Number	*Pcs/Pkg*	*Wt (lb)*	*Price*	*Drawing Link*	*Type*	*Temperature Sensing Range*	*Mounting*
NTC10K3-R02-01	1	0.14	$;6a!p:	PDF	10K-AN Type 3 Thermistor	-40 to 185ºF (-40 to 85ºC)	Single element, plastic ventilated housing, plastic wall mounting subplate, terminal strip for wiring connections.
THMJ-R01-01	1	0.3	$0d?c:	PDF	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 (-02 model does not have metal wall mounting subplate)
THMJ-R01-02	1	0.3	$;;6a!t:	PDF			
RTD1-R01-01	1	0.3	$;0d!v:	PDF	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 (-02 model does not have metal wall mounting subplate)
RTD1-R01-02	1	0.3	$;6a!s:	PDF			

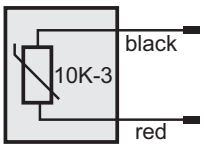
ProSense® Room Temperature Sensors - Thermistor, Thermocouple, and RTD Types

ProSense Room Sensor Technical Specifications						
Part Number	***Sensing Element***	***Limits of Error***	***Initial Accuracy***	***Housing***	***Response Time***	***Wiring***
NTC10K3-R02-01	Epoxy Coated NTC Thermistor 10kΩ at 25ºC r	N/A	± 0.2°C from 0°C to 70°C	ABS	Approximately 10 seconds*	Screw terminal strip
THMJ-R01-01 ***THMJ-R01-02***	Type J thermocouple	±2.2°C (±4.0°F) or 0.75%, whichever is greater	N/A		2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839	
RTD1-R01-01 ***RTD1-R01-02***	PT 100, Class B, 3-wire, TCR = 0.00385 ohm/ohm/°C	N/A	Class B		7 seconds, 63% of a 25 to 77°C step change (ASTM E1137)	

** The sensing element has an approximate response time of 10 seconds in still air. Different constructions will have different thermal responses.*

Wiring Information

NTC10K3-R02-01

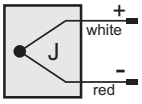


- No polarity

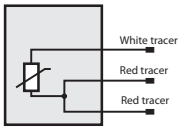
THMJ-R01-01

Type J: (+) white (-) red

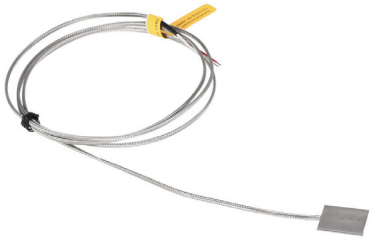
- Must use thermocouple extension lead wire
- Observe polarity when making connections
- Do not use standard wire nuts



RTD1-R01-01



ProSense® Thermocouple Spade Sensors



THMJ-S01L06-01

THMJ-S02L06-01

Overview

- Ideal for surface temperature measurement.
- Versions include a thermocouple sandwiched between two thin shims of stainless steel or a thermocouple sealed in epoxy between two layers of polyimide tape.
- Stainless steel version can be mounted using a worm drive hose clamp or by placing under heater bands.
- Polyimide versions are provided with an adhesive backing for easy attachment to many surfaces.
- These spades can be formed and secured to the outside of various size tubes, pipes, or nozzles.
- Type J or Type K thermocouples
- Grounded or ungrounded junctions
- 6-foot lead wires with stainless steel overbraid
- Made in the USA

Thermocouple Spade Sensors - Types J and K

Part Number	Pcs/Pkg	Wt (lb)	Price	Type	Junction Type	Spade Material	Temperature Sensing Range
THMJ-S01L06-01	1	0.25	$;54k!:	J	Grounded	Stainless steel	-18 to 482°C (0 to 900°F)
THMJ-S02L06-01	1	0.25	$54k?:		Ungrounded	Polyimide w/ adhesive	-18 to 204°C (0 to 400°F)
THMK-S01L06-01	1	0.25	$-54l6:	K	Grounded	Stainless steel	-18 to 482°C (0 to 900°F)
THMK-S02L06-01	1	0.25	$-54l7:		Ungrounded	Polyimide w/ adhesive	-18 to 204°C (0 to 400°F)

Technical Specifications

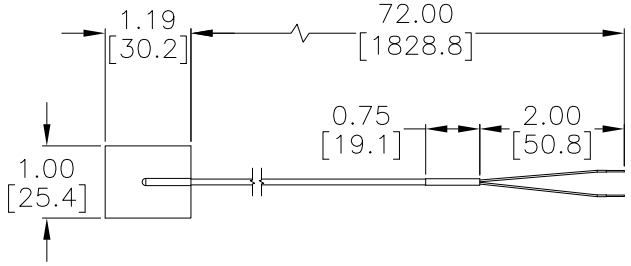
ASTM E230 Standard limits of Error	±2.2°C (±4.0°F) or 0.75%, whichever is greater
Response Time	2.9 seconds, 63.2% of a 25-77°C step change per method ASTM E839
Wiring	6 foot stranded (Stainless steel spade: 20 AWG / Polyimide spade: 24 AWG) wire leads with stripped ends, fiberglass insulation and stainless steel overbraid

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

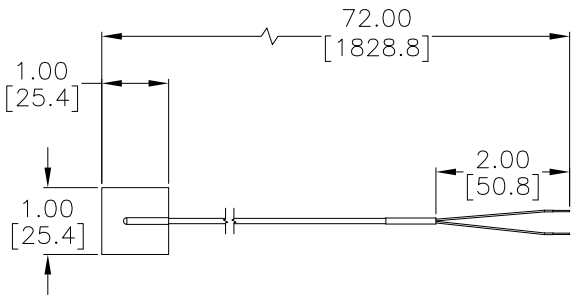
Dimensions

inches [mm]

THMJ & K - S01L06-01



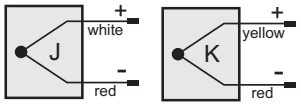
THMJ & K - S02L06-01



Wiring Information

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

- Must use thermocouple extension lead wire
- Observe polarity when making connections
- Do not use standard wire nuts



ProSense® Thermocouple Spade Sensors

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	$-43i:
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	$43h:
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	$43s:
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	$43q:
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	$-043l:
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	$;43f:
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	$43e:
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	$43o:
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	$43n:
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	$-043j:
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	$;043t:
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	$43g:
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	$43p:
WCB-M	Wire / cable clamp bracket for use with miniature thermocouple connectors	4	$05ho:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:

Note: Thermocouple extension lead wire available at www.automationdirect.com
See end of section for full listing of accessories and dimension information.

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



Thermocouple Connectors

ProSense® Thermocouple Magnet Mount Sensors

THMJ-M01L06-01

Overview

- Magnet sensors are designed to measure the surface temperature of ferrous metals with a convenient and non-destructive magnetic attachment.
- Can be mounted either vertically or horizontally to molding press platens, bearing/motor housings and various other metal surfaces.
- Type J or Type K thermocouples
- Exposed junction
- 6-foot lead wires with stainless steel overbraid
- Made in the USA

Thermocouple Magnet Mount Sensors - Types J and K

Part Number	Pcs/Pkg	Wt (lb)	Price	Type	Junction Type	Temperature Sensing Range	Mounting
THMJ-M01L06-01	1	0.75	$054kk:	J	Exposed	-18 to 316°C (0 to 600°F)*	Alnico 4-pole rotor magnet (10lb pull force)
THMK-M01L06-01	1	0.75	$-054l3:	K			

** Continuous operating temperature of 400 °F. Intermittent temperatures up to 600 °F, but the pull of the magnet will be degraded at temperatures above 450 °F.*

Technical Specifications

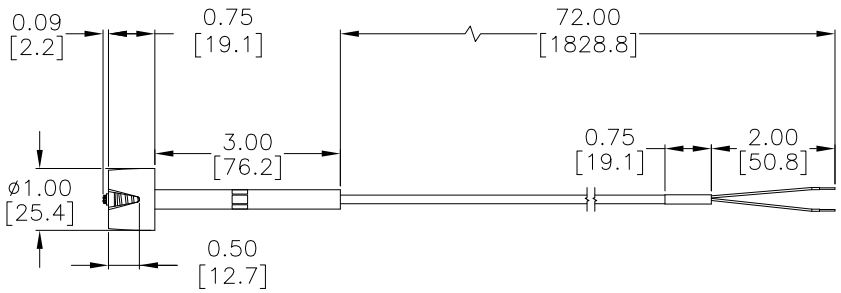
ASTM E230 Standard limits of Error	±2.2°C (±4.0°F) or 0.75%, whichever is greater
Wiring	6 foot stranded 20 AWG wire leads with stripped ends, fiberglass insulation and stainless steel overbraid

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

Dimensions

inches [mm]

THMJ & K - M01L06-01

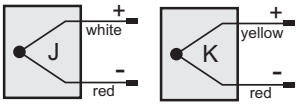


Note: Magnet mount sensors ship with a metal blank attached to the magnet. Remove the metal blank before use.

Wiring Information

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

- Must use thermocouple extension lead wire
- Observe polarity when making connections
- Do not use standard wire nuts



ProSense® Thermocouple Magnet Mount Sensors

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	$-43i:
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	$43h:
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	$43s:
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	$43q:
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	$-043l:
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	$;43f:
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	$43e:
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	$43o:
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	$43n:
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	$-043j:
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	$;043t:
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	$43g:
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	$43p:
WCB-M	Wire / cable clamp bracket for use with miniature thermocouple connectors	4	$05ho:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:

Note: Thermocouple extension lead wire available at www.automationdirect.com
See end of section for full listing of accessories and dimension information.

THMJ-SJ

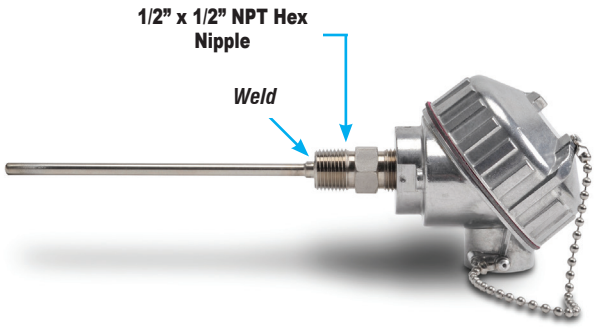
THMJ-SP

THMJ-SPJ

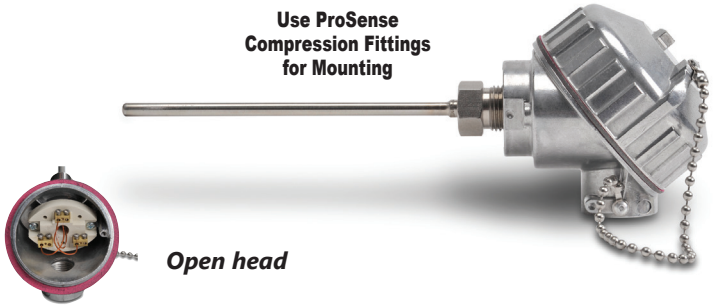
Thermocouple Connectors

ProSense® RTD Probes with Connection Head

RTD1-CXX-01



RTD1-CXX-02



Overview

- Probe
  - 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

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	$-008j1:	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			$-008j3:			12"		
RTD1-C18-01			$-008j5:			18"		
RTD1-C06-02			$-08j2:			6"		ProSense compression fitting (see accessories - purchased separately)
RTD1-C12-02			$-08j4:			12"		
RTD1-C18-02			$-08j6:			18"		

Technical Specifications

Sensing Element	Single 100Ω platinum (Pt 100), 3-wire; TCR = 0.00385 Ω/Ω/°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

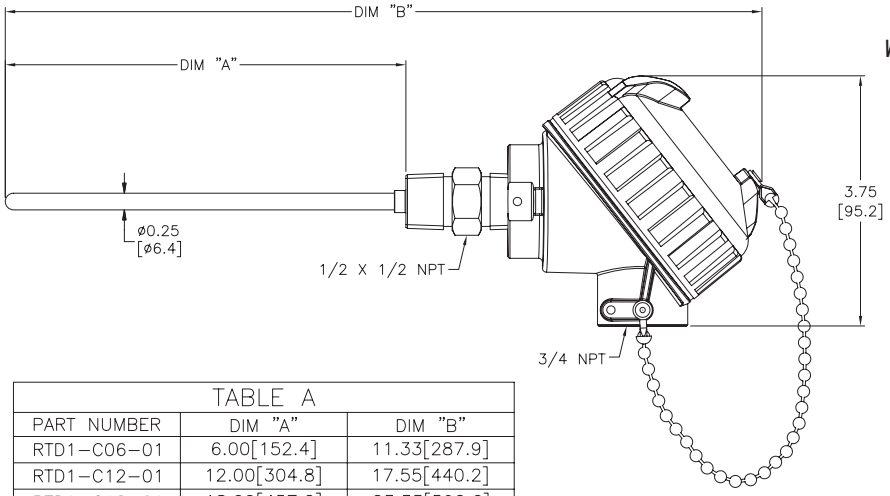


TABLE A		
PART NUMBER	DIM "A"	DIM "B"
RTD1-C06-01	6.00[152.4]	11.33[287.9]
RTD1-C12-01	12.00[304.8]	17.55[440.2]
RTD1-C18-01	18.00[457.2]	23.33[592.6]

RTD1-CXX-02

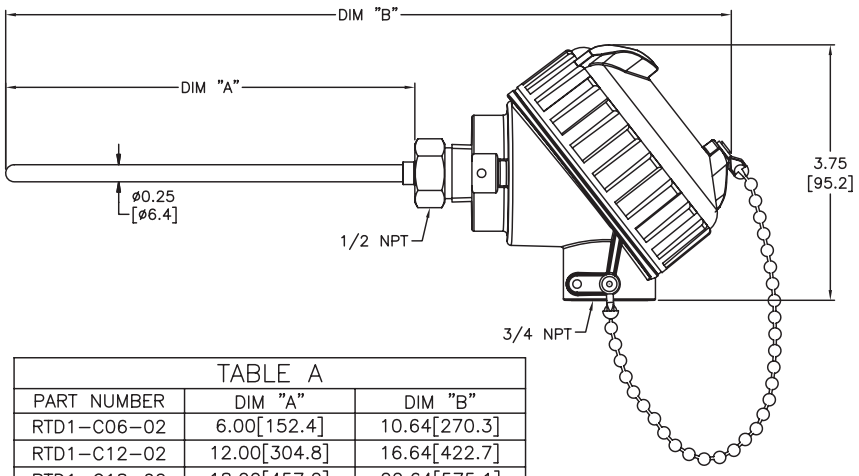
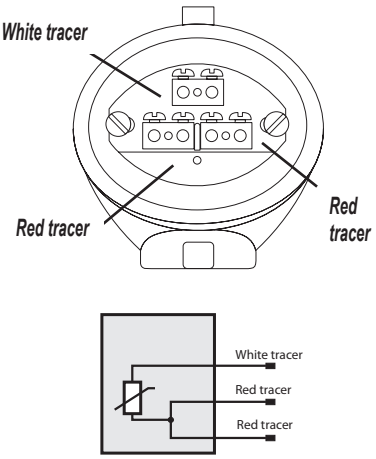


TABLE A		
PART NUMBER	DIM "A"	DIM "B"
RTD1-C06-02	6.00[152.4]	10.64[270.3]
RTD1-C12-02	12.00[304.8]	16.64[422.7]
RTD1-C18-02	18.00[457.2]	22.64[575.1]

Wiring Information



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

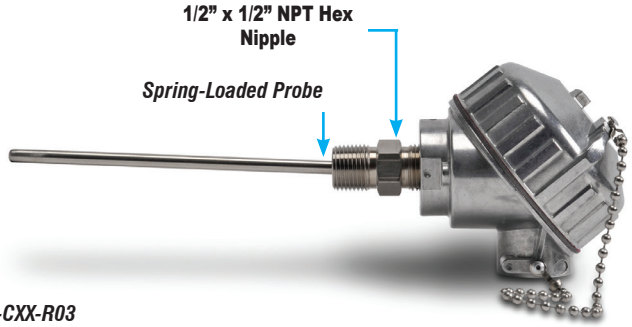
Accessories

Part No.	Description	Pcs/Pkg	Price
BCF14-125N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$ekq:
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$eks:
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$;ekt:
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$;ek]:
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$;ek[:
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$0ek_:
CFTF-14	Teflon ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes	5	$;ea!:

Note: RTD extension lead wire available at www.automationdirect.com
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

- 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
  - 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

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	$-008iv:	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			$-008iy:			6"		
RTD1-C12-03			$;-008i]:			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	$-08ix:	PT 100, 3-wire	1/4"	4"	-50 to 300°C (-58 to 572°F)	RTD1-C04-03
RTD1-C06R-03			$-08iz:			6"		RTD1-C06-03
RTD1-C12R-03			$;-08i[:			12"		RTD1-C12-03

Technical Specifications

Sensing Element	Single 100Ω platinum (Pt 100), 3-wire; TCR = 0.00385 Ω/Ω/°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	Connection head: Ceramic terminal base with brass terminals and stainless steel screws (Recommended tightening torque 3-4 lb-in) Replacement Probes: 3 inch stranded 24 AWG wire leads

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

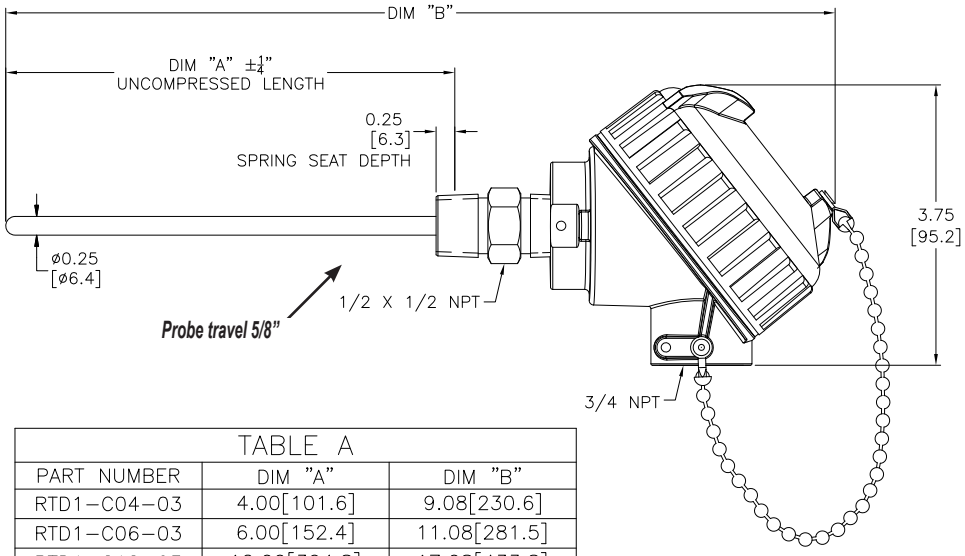
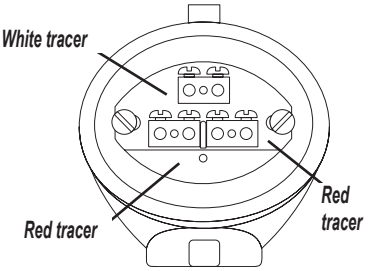
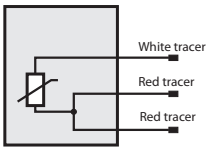


TABLE A		
PART NUMBER	DIM "A"	DIM "B"
RTD1–C04–03	4.00[101.6]	9.08[230.6]
RTD1–C06–03	6.00[152.4]	11.08[281.5]
RTD1–C12–03	12.00[304.8]	17.08[433.8]

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)

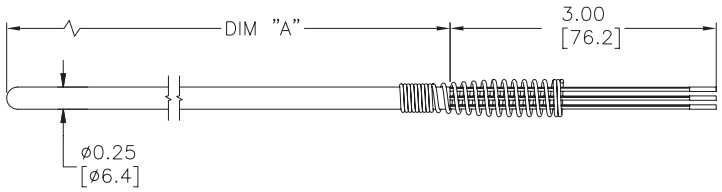


TABLE A	
PART NUMBER	DIM "A"
RTD1–C04R–03	5.00[127.0]
RTD1–C06R–03	7.00[177.8]
RTD1–C12R–03	13.00[330.2]

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.

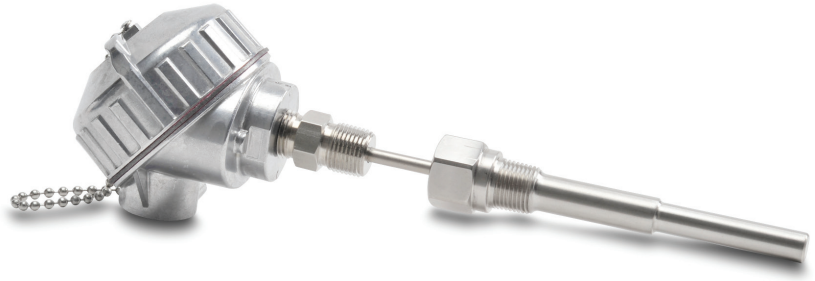
ProSense® RTD Spring-Loaded Probes with Connection Head - Accessories

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	$08g4:
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	$08g5:
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	$08g6:
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	$08g7:
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	$08g8:
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	$08g9:
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	$08ga:
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	$08gb:
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	$08ge:
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	$;08gf:
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	$08gg:
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	$08gh:

Note: RTD extension lead wire available at www.automationdirect.com
See end of section for full listing of accessories and dimension information.

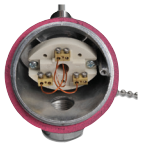
Spring-Loaded RTD Probe and Thermowell Assembly Example



- 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 Heat Trace Probes with Connection Head

RTD1-HT34-01



Open head

Overview

Heat Trace RTD's are used to measure the surface temperature of process pipe that is carrying products whose temperatures must be controlled to prevent freeze-up, or to maintain a viscosity level so that the inner medium will flow.

- Probe
  - 100 ohm platinum RTD 3-wire element
  - Class A accuracy
  - 1/4" diameter, 316 SS sealed sheath to protect against harsh environments
  - 3" hot leg with 1"x2" weld pad for mounting to pipe surface
  - Mounting weld pad is flexible enough to be formed
  - around nominal pipe sizes from 1" to 12"
  - 4" cold leg allows for electrical connections outside of pipe insulation
- 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
  - 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

RTD Heat Trace Probe with Connection Head

Part Number	Pcs/Pkg	Wt (lb)	Price	Type	Probe Length	Temperature Sensing Range	Mounting
RTD1-HT34-01	1	1.44	$54k5:	PT 100, 3-wire	3" Hot Leg / 4" Cold Leg	-40 to 482°C (-40 to 900°F)	1" X 2" X R3/4" Weld Pad, 304 SS*

** Mounting pad is flexible enough to be formed around nominal pipe sizes from 1" to 12"*

Technical Specifications

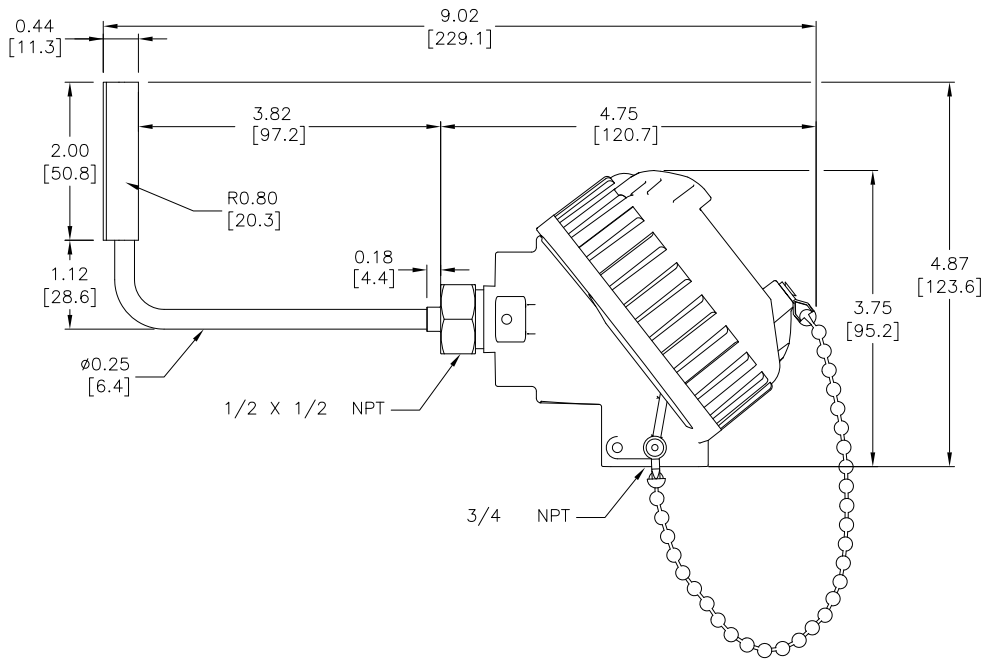
Sensing Element	Single 100Ω platinum (Pt 100), 3-wire; TCR = 0.00385 Ω/Ω/°C
Initial Accuracy	Class A ±[0.15 +0.002 |t|] °C
Probe	ø1/4", 316 stainless steel sheath, single RTD
Response Time	7 seconds, 63% of a 25 to 77°C step change (ASTM E1137)
Wiring	Connection head: Ceramic terminal base with brass 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.

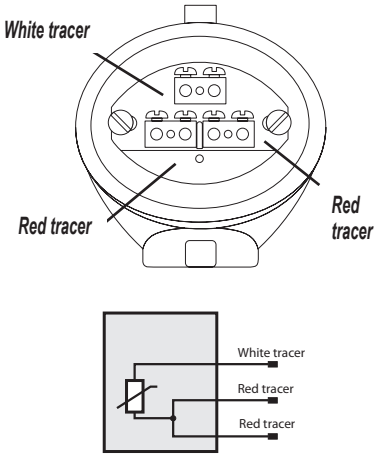
ProSense® RTD Heat Trace Probes with Connection Head

Dimensions

inches [mm]



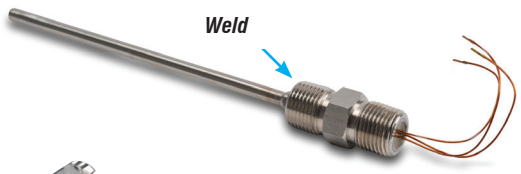
Wiring Information



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

ProSense® RTD Probes with Hex Nipple

RTD1-HXXL01-01



CHSC-AL-1

CHTB-3

Accessories

Overview

- 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

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	$-08j7:	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			$-08j8:			12"		
RTD1-H18L01-01			$-08j9:			18"		

Technical Specifications

Sensing Element	Single 100Ω platinum (Pt 100), 3-wire; TCR = 0.00385 Ω/Ω/°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 stranded 24 AWG wire leads with terminal pins, Kapton insulated

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

Dimensions

inches [mm]

RTD1-HXXL01-01

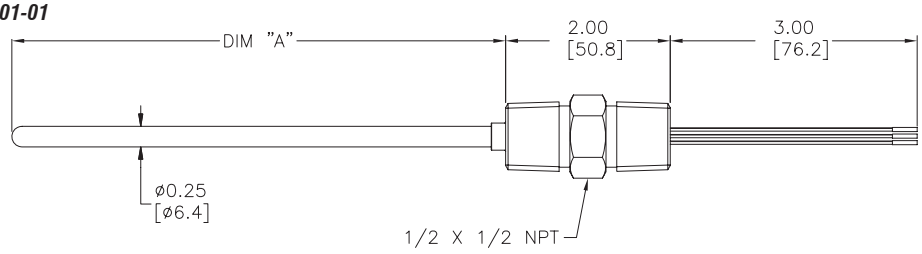
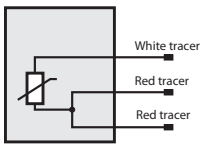


TABLE A	
PART NUMBER	DIM "A"
RTD1-H06L01-01	6.00[152.4]
RTD1-H12L01-01	12.00[304.8]
RTD1-H18L01-01	18.00[457.2]

Wiring Information



ProSense® RTD Probes with Hex Nipple

Accessories

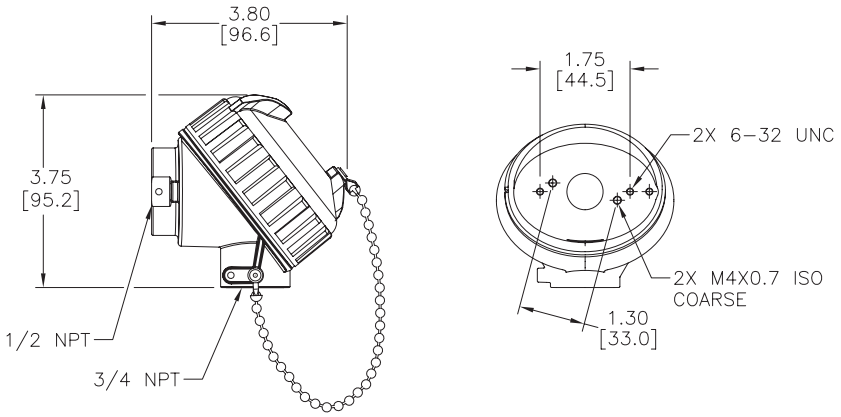
Part No.	Description	Pcs/Pkg	Price
CHSC-AL-1	ProSense general purpose screw cover connection head for temperature probes, die-cast aluminum, 1/2 inch NPT process opening, 3/4 inch NPT conduit opening, NEMA 4X, IP66 rated, graphite gasket, maximum temperature rating of 825°F (440°C). Order probe and terminal base separately.	1	$;06uf:
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	$;5]6:

Note: Full listing of accessories available at the end of this section. RTD extension lead wire available at www.automationdirect.com

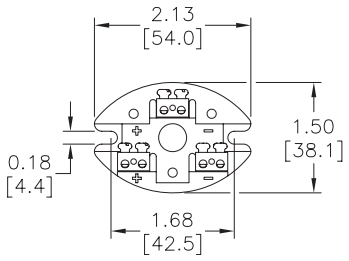
Dimensions

inches [mm]

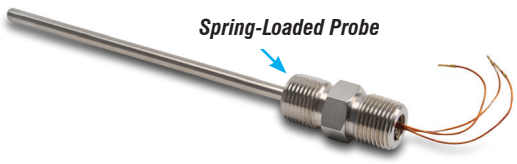
CHSC-AL-1



CHTB-3



ProSense® RTD Spring-Loaded Probes with Hex Nipple



CHSC-AL-1

CHTB-3

Accessories

Overview

- 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

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	$-08i_:	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			$-08i#:			6"		
RTD1-H12L01-02			$;-08i!:			12"		

Technical Specifications

Sensing Element	Single 100Ω platinum (Pt 100), 3-wire; TCR = 0.00385 Ω/Ω/°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 stranded 24 AWG wire leads with terminal pins, Kapton insulated

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

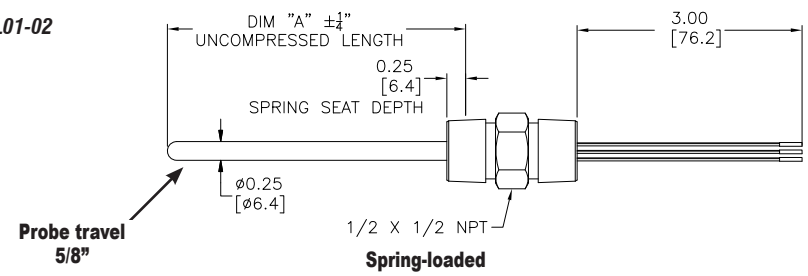
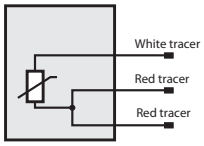


TABLE A	
PART NUMBER	DIM "A"
RTD1-H04L01-02	4.00[101.6]
RTD1-H06L01-02	6.00[152.4]
RTD1-H12L01-02	12.00[304.8]

Wiring Information



ProSense® RTD Spring-Loaded Probes with Hex Nipple

Accessories

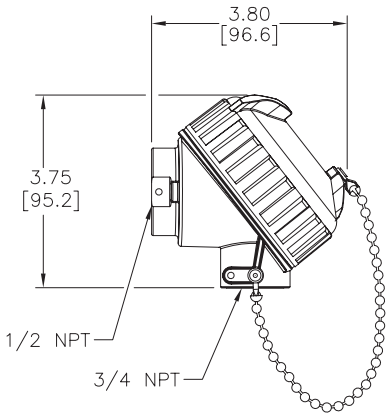
Part No.	Description	Pcs/Pkg	Price
CHSC-AL-1	ProSense general purpose screw cover connection head for temperature probes, die-cast aluminum, 1/2 inch NPT process opening, 3/4 inch NPT conduit opening, NEMA 4X, IP66 rated, graphite gasket, maximum temperature rating of 825°F (440°C). Order probe and terminal base separately.	1	$;06uf:
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	$;5]6:

Note: Full listing of accessories available at the end of this section. RTD extension lead wire available at www.automationdirect.com

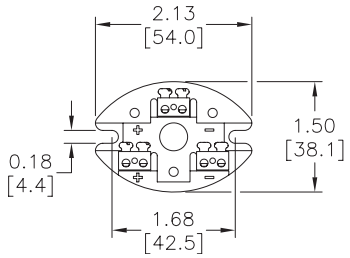
Dimensions

inches [mm]

CHSC-AL-1



CHTB-3



ProSense® RTD Probes with Attached Plug

RTD1-PXX-01

Overview

- 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

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	$-08i?:	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			$;-08i,:			12"				
RTD1-P18-01			$-08j0:			18"				

Technical Specifications

Sensing Element	Single 100Ω platinum (Pt 100). 3-wire; TCR = 0.00385 Ω/Ω/°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

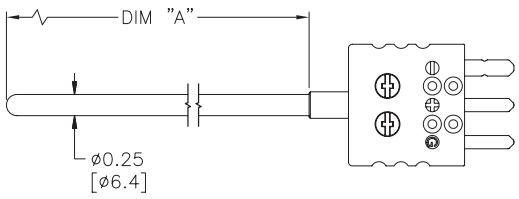
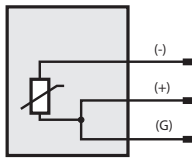


TABLE A	
PART NUMBER	DIM "A"
RTD1-P06-01	6.00[152.4]
RTD1-P12-01	12.00[304.8]
RTD1-P18-01	18.00[457.2]

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	$ekq:
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$eks:
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$;ekt:
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$;ek]:
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$;ek[:
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$0ek_:
CFTF-14	Teflon™ ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes	5	$;ea!:
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	$042v:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:

Note: RTD extension lead wire available at www.automationdirect.com
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

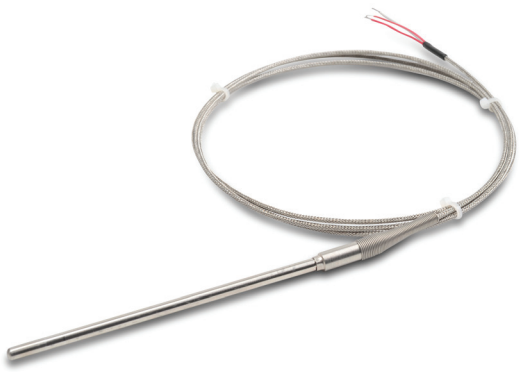
BCF14-50N BCF14-25N BCF14-125N

Brass Compression Fittings

RTD-SJ RTD-SP

RTD Connectors

ProSense® RTD Probes with Lead Wire Transition



Overview

- 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

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	$-08ja:	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			$-08jb:			12"		
RTD1-T18L06-01			$-08jc:			18"		

Technical Specifications

Sensing Element	Single 100Ω platinum (Pt 100), 3-wire; TCR = 0.00385 Ω/Ω/°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 24 AWG wire leads 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

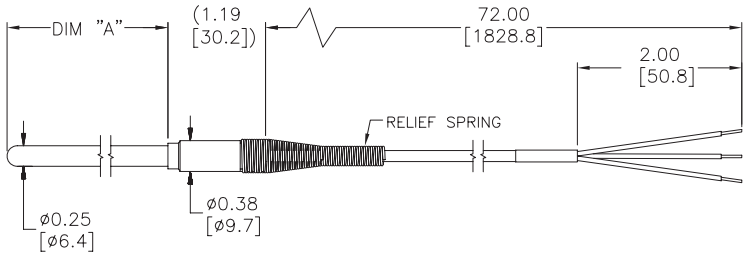
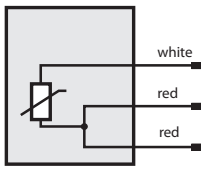


TABLE A	
PART NUMBER	DIM "A"
RTD1-T06L06-01	6.00[152.4]
RTD1-L12L06-01	12.00[304.8]
RTD1-L18L06-01	18.00[457.2]

Wiring Information



ProSense® RTD Probes with Lead Wire Transition - Accessories

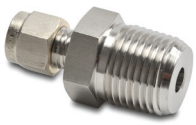
Accessories

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	$ekq:
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$eks:
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$;ekt:
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$;ek]:
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$;ek[:
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$0ek_:
CFTF-14	Teflon™ ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes	5	$;ea!:
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	$42x:
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	$042v:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:

Note: RTD extension lead wire available at www.automationdirect.com
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

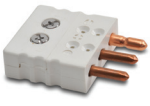
BCF14-25N

BCF14-125N

Brass Compression Fittings

RTD-SJ

RTD-SP



RTD Connectors

ProSense® RTD Probes with M12 Cable Connector

Overview

- 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 30mm, 50mm, 100mm, 150mm, 160mm, 260mm, and 360mm
- Process connections include 1/4" or 1/2" male NPT threads, 3-A approved sanitary CIP tri-clamp, or compression fitting for adjustable insertion depth.
- 4-pin M12 cable connector plug for simplified wiring

(RTD1 & RTD1-S models)

(RTD0100 models)

(RTD1-S models)

RTD Probes With M12 Cable Connector

Part Number	Wt(lb)	Price	Type	Diameter	Length	Temperature Sensing Range	Process Connection	Thermowell (purchased separately)	Drawing Link
RTD0100-06-010-H	0.10	$-08jd:	Pt100, 3-wire	6mm (0.24")	160mm (6.3")	–40 to 302°F (–40 to 150°C)	None, use compression fitting (CF06-25N purchased separately)	RTDTW-06-010-50N CF06-25N	PDF
RTD0100-06-020-H	0.20	$-08je:			260mm (10.24")			RTDTW-06-020-50N CF06-25N	PDF
RTD0100-06-030-H	0.30	$;-08jf:			360mm (14.17")			RTDTW-06-030-50N CF06-25N	PDF
RTD0100-10-010-H	0.10	$-08jg:	Pt100 4-wire	10mm (0.4")	160mm (6.3")		None, use compression fitting (CF10-50N purchased separately)	RTDTW-10-010-50N CF10-50N	PDF
RTD1-25N-030-H	0.2	$;4nf2:	Pt100, 3-wire	6mm (0.24")	30mm (1.18")	–58 to 302°F (–50 to 150°C)	1/4" Male NPT	None	PDF
RTD1-25N-050-H	0.21	$;4nf3:			50mm (1.97")				PDF
RTD1-25N-100-H	0.22	$;4nf4:			100mm (3.94")				PDF
RTD1-25N-150-H	0.23	$;4nf5:			150mm (5.91")				PDF
RTD1-50N-030-H	0.3	$;4nf6:			30mm (1.18")		1/2" Male NPT		PDF
RTD1-50N-050-H	0.31	$;4nf9:			50mm (1.97")				PDF
RTD1-50N-100-H	0.32	$;4nfa:			100mm (3.94")			TW04-0x STW04-0x	PDF
RTD1-50N-150-H	0.33	$;4nfb:			150mm (5.91")			TW06-0x STW06-0x	PDF
RTD1-S15-030-H	0.41	$;-04nfj:			30mm (1.18")		1-1/2" Sanitary CIP Tri-Clamp (3-A)	None	PDF
RTD1-S15-050-H	0.42	$;04nfk:			50mm (1.97")				PDF
RTD1-S15-100-H	0.44	$;-04nfl:			100mm (3.94")				PDF
RTD1-S15-150-H	0.44	$;04nfs:			150mm (5.91")				PDF

Scan the QR Code or click to view the RTD1 Series product insert.

ProSense® RTD Probes with M12 Cable Connector

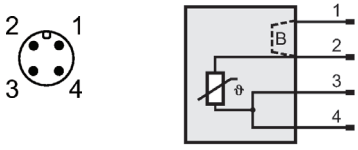
RTD Probes With M12 Cable Connector Technical Specifications		
Series	***RTD0100 Series***	***RTD1 Series***
Sensing Element	Single 100Ω platinum (Pt100), TCR = 0.00385 Ω/Ω/°C	
Initial Accuracy	DIN EN 60751, Class A, ±(0.15 + 0.002[t])°C	
Probe Diameter	6mm (0.24") or 10mm (0.4")	6mm (0.24")
Minimum Installation Depth	15mm (0.6")	30mm (1.2")
Response Time	*t0.5 = 1 sec/ t0.9 = 3 sec (DIN EN 60751)	*t0.5 = <1 sec/ t0.9 = <2 sec (DIN EN 60751)
Electrical Connection	4-pin M12 quick disconnect	
Housing Material	Stainless steel (316L)	Stainless steel (304)
Materials (Wetted Parts)	Stainless steel (316L)	Stainless steel (316L)
Protection	IP68 or IP 69K with appropriately rated cable	IP66/67 or IP69K with appropriately rated cable
Ambient Temperature	-13 to 176°F (-25 to 80°C)	-40 to 185°F (-40 to 85°C)
Process Temperature	-40 to 302°F (-40 to 150°C)	-58 to 302°F (-50 to 150°C)
Storage Temperature	-40 to 212°F (-40 to 100°C)	-40 to 185°F (-40 to 85°C)
Pressure Rating	2320 psig (160 bar) maximum	With NPT process connection, 1450 psig (100bar) maximum With Sanitary Tri-clamp process connection, 232 psig (16bar) maximum
Certifications	cULus, CE	cURus, CE, 3-A (RTD1-S models only)

** $t_{0.5}$ = a 50% of full scale change in output when immersed in water flowing 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.

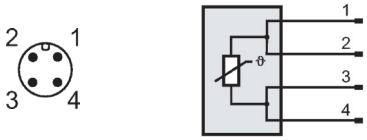
Note: Response time will be slower when installed in a thermowell. Be sure to install the probe so that it contacts the end of the thermowell for faster response. Thermal compound may be used depending on application.

Wiring Information RTD0100-06



B = Internal Jumper

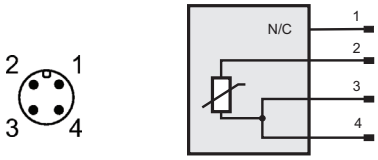
Wiring Information RTD0100-10 Series



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

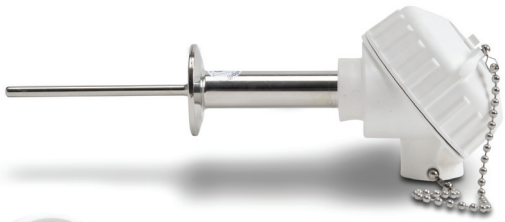
Cable Assembly Wiring Colors:
Pin 1 - Brown
Pin 2 - White
Pin 3 - Blue
Pin 4 - Black

RTD1 Series

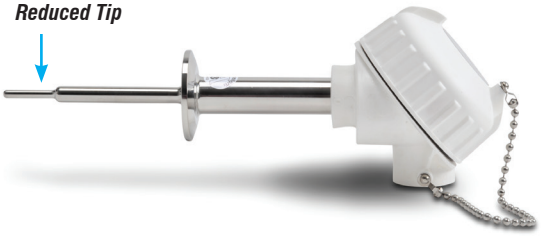


ProSense® RTD Sanitary Clean-in-Place (CIP) Probes

RTD1-S04-XX



Reduced Tip



Open head

Overview

- Designed to meet the stringent requirements of HTST pasteurization 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 3-A 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® 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	$-008jk:	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			$--008jl:					2" tri-clamp
RTD1-S04-03			$-008jn:		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			$-008jo:					2" tri-clamp

Technical Specifications

Sensing Element	Single 100Ω platinum (Pt 100), 3-wire; TCR = 0.00385Ω/Ω/°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 3-A 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

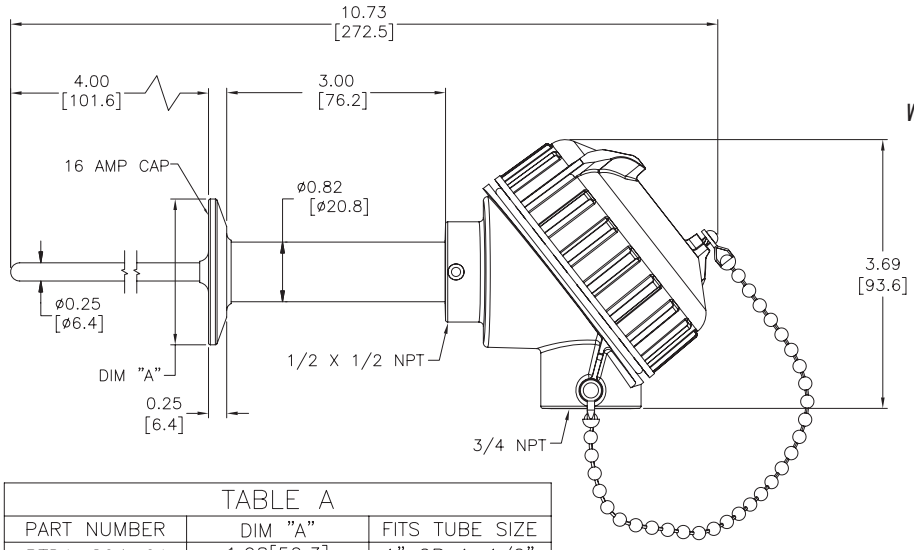


TABLE A		
PART NUMBER	DIM "A"	FITS TUBE SIZE
RTD1-S04-01	1.98[50.3]	1" OR 1-1/2"
RTD1-S04-02	2.51[63.8]	2"

RTD1-S04-03 and 04

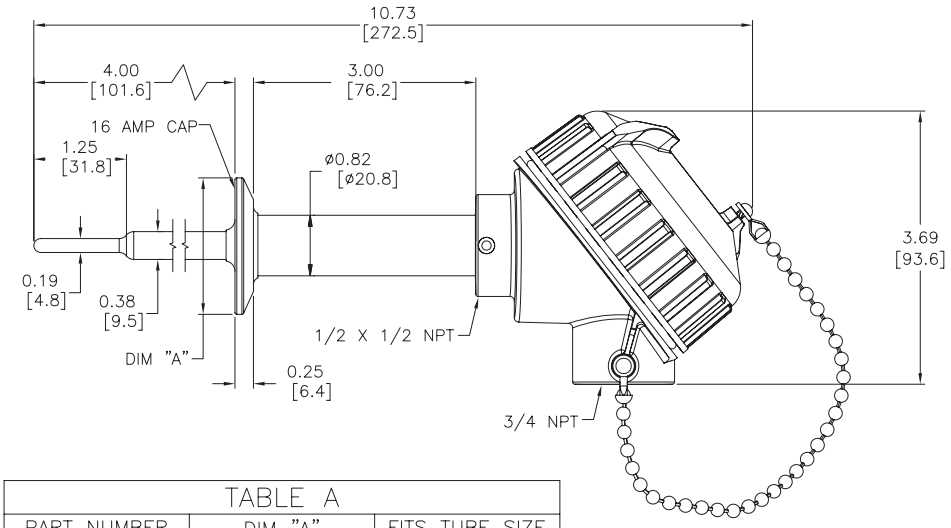
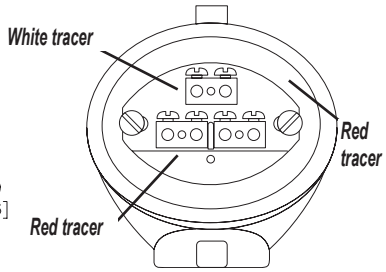
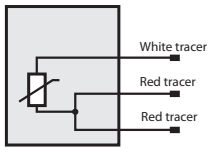


TABLE A		
PART NUMBER	DIM "A"	FITS TUBE SIZE
RTD1-S04-03	1.98[50.3]	1" OR 1-1/2"
RTD1-S04-04	2.51[63.8]	2"

Wiring Information



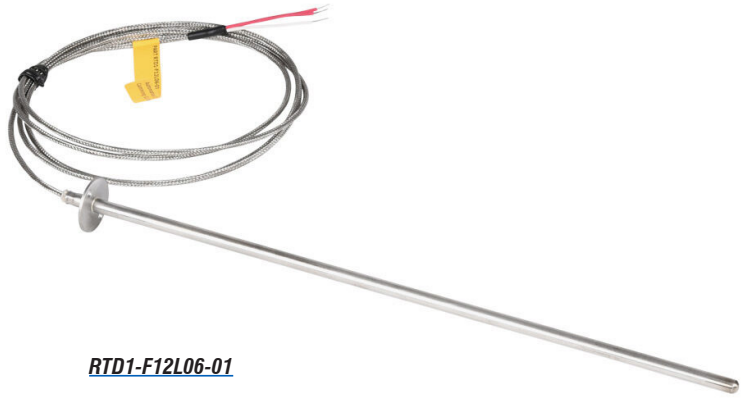


- Ignore polarity marks on terminal base
- Recommended screw terminal tightening torque 3-4 lb-in
- After wiring connections are made, terminals should be protected by applying a coating of moisture-proof sealant such as a silicone caulking

Accessories

RTD extension lead wire available at www.automationdirect.com

ProSense® RTD Flange Mount Probes



RTD1-F12L06-01

Overview

- Ideal for use with ovens, freezers, ducts, or anywhere through the wall temperature sensing is required.
- 100 ohm platinum RTD 3-wire element
- Class A accuracy
- 1/4" diameter, 316 SS sheath to protect against harsh environments
- 6", 12", or 18" probe lengths
- Mounting is accomplished using the conveniently attached round mounting flange
- 6-foot lead wires with stainless steel overbraid
- Made in the USA

RTD Flange Mount Probes								
Part Number	**Pcs/Pkg**	**Wt (lb)**	**Price**	**Type**	**Probe Insertion Length**	**Probe Material**	**Temperature Sensing Range**	**Mounting**
RTD1-F06L06-01	1	0.44	$54k2:	PT 100, Class A, 3-wire	6"	316 stainless steel	-40 to 316°C (-40 to 600°F)	1" diameter 1/16" thick 304 stainless steel flange (2x - ø0.144" mounting holes 0.75" spacing)
RTD1-F12L06-01	1	0.44	$54k3:		12"			
RTD1-F18L06-01	1	0.44	$54k4:		18"			

Technical Specifications	
Sensing Element	Single 100Ω platinum (Pt 100), 3-wire; TCR = 0.00385Ω/Ω/°C
Initial Accuracy	Class A ±[0.15 +0.002 |t|] °C
Probe	1/4" O.D., 316 stainless steel sheath
Minimum Installation Depth	3" (76mm)
Probe Minimum Bend Radius	Not bendable
Response Time	7 seconds, 63% of a 25 to 77°C step change (ASTM E1137)
Wiring	6 foot stranded 24 AWG wire leads 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-FXXL06-01

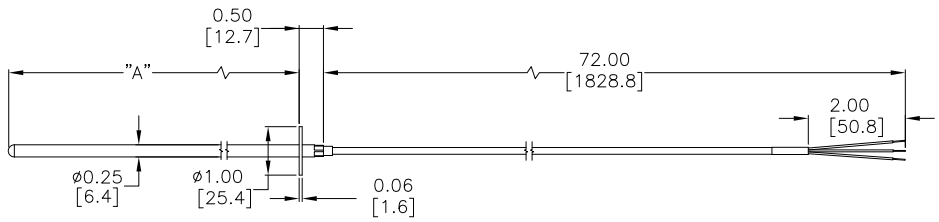
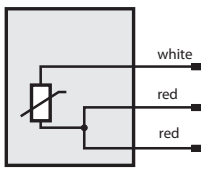


TABLE A	
PART NUMBER	DIM "A"
RTD1-F06L06-01	6.00[152.4]
RTD1-F12L06-01	12.00[304.8]
RTD1-F18L06-01	18.00[457.2]

Wiring Information



ProSense® RTD Flange Mount Probe - 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	$42x:
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	$042v:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:

Note: RTD extension lead wire available at www.automationdirect.com
See end of section for full listing of accessories and dimension information.

RTD-SJ RTD-SP

RTD Connectors

ProSense® RTD Cuttable Length Probe

RTD1-V24L06-01

Overview

- 100 ohm platinum RTD 3-wire element
- Class A accuracy
- 1/4" diameter, 316 SS sheath to protect against harsh environments
- 24" probe length can be cut using an ordinary tubing cutter to adapt to the application
- Mounting is accomplished using a variety of ProSense compression fittings
- 2-foot Kapton insulated leadwires
- Made in the USA

RTD Cuttable Length Probe

Part Number	Pcs/Pkg	Wt (lb)	Price	Type	Probe Diameter (O.D.)	Probe Length	Probe Material	Temperature Sensing Range	Mounting
RTD1-V24L06-01	1	0.44	$54kb:	PT 100, Class A, 3-wire	1/4"	24" (4" minimum cut length)	316 stainless steel	-40 to 316°C (-40 to 600°F)	ProSense compression fitting(see accessories purchased separately)

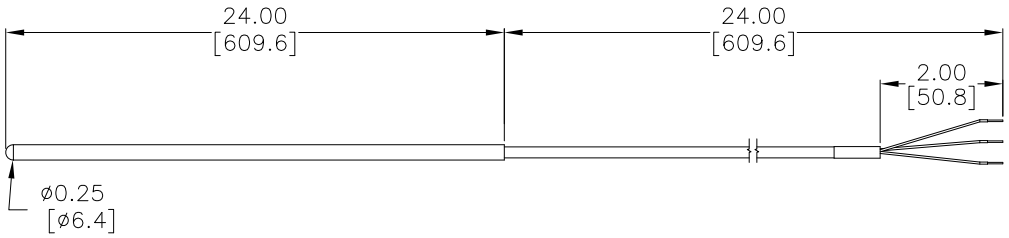
Technical Specifications

Sensing Element	Single 100Ω platinum (Pt 100), 3-wire; TCR = 0.00385 Ω/Ω/°C
Initial Accuracy	Class A ±[0.15 +0.002 |t|] °C
Probe	1/4" O.D., 316 stainless steel sheath
Minimum Installation Depth	3" (76mm)
Probe Minimum Bend Radius	Not bendable
Response Time	7 seconds, 63% of a 25 to 77°C step change (ASTM E1137)
Wiring	2 foot solid 24 AWG wire leads with stripped ends, Kapton insulation

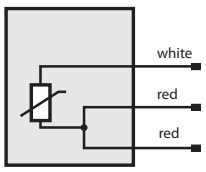
Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

Dimensions

inches [mm]



Wiring Information



Cutting Instructions

1. Remove the plastic retainer mounted to the top of outer metal tube.
2. Remove the inner sensing element and wires to prevent possible damage while cutting.
3. Cut the tube to the desired length and remove all burrs or sharp edges.
4. Reinstall the sensing element and plastic retainer.

Note: Ensure sensing element is fully seated at the base of the outer tube. If outer tube is compressed during installation it may not be possible to remove the sensing element.

ProSense® RTD Cuttable Length Probe - Accessories

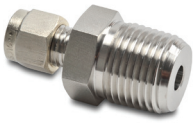
Accessories

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	$ekq:
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$eks:
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$;ekt:
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$;ek]:
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$;ek[:
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$0ek_:
CFTF-14	Teflon™ ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes	5	$;ea!:
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	$42x:
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	$042v:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:

Note: RTD extension lead wire available at www.automationdirect.com
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 Melt Bolt Probes

RTD1-MB3T14-01

Overview

- Used on extruders and injection molding machines to directly measure the melt temperature of plastic as it moves down the extruder barrel
- 100 ohm platinum RTD 3-wire element
- Class A accuracy
- 3" or 6" bolt lengths
- Flush, 1/8", 1/4" tip lengths
- 1/2-20 UNF thread process connection
- Made in the USA

RTD Melt Bolt Probes										
Part Number	Pcs/Pkg	Wt (lb)	Price	Type	Tip Length	Tip Diameter	Bolt length	Temperature Sensing Range	Attached Plug Size	Mating Jack
RTD1-MB3T00-01	1	0.63	$54k6:	PT 100, Class A, 3-wire	Flush	1/8"	3"	-40 to 316°C (-40 to 600°F)	Standard	RTD-SJ
RTD1-MB3T18-01	1	0.63	$-54j?:		1/8"					
RTD1-MB3T14-01	1	0.63	$;-54j!:		1/4"					
RTD1-MB6T00-01	1	0.75	$;-54j,:		Flush		6"			
RTD1-MB6T18-01	1	0.75	$54k1:		1/8"					
RTD1-MB6T14-01	1	0.75	$54k0:		1/4"					

Technical Specifications	
Sensing Element	Single 100Ω platinum (Pt 100), 3-wire; TCR = 0.00385 Ω/Ω/°C
Initial Accuracy	Class A ±[0.15 +0.002 |t|] °C
Probe	316 stainless steel sheath
Bolt Threads	1/2-20 UNF - 2A Bolt Thread (Nominal Thread Length 1-7/8")
Response Time	7 seconds, 63% of a 25 to 77°C step change (ASTM E1137)
Wiring	Kapton insulation with flexible armor 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.

Dimensions

inches [mm]

RTD1-MBXTXX-01

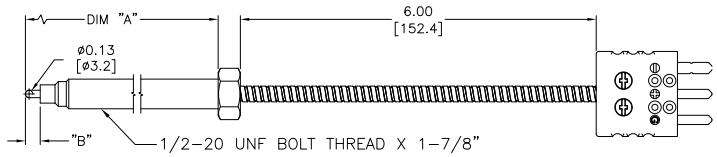
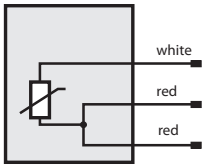


TABLE A		
PART NUMBER	DIM "A"	DIM "B"
RTD1–MB3T00–01	3.00[76.2]	0.00[FLUSH]
RTD1–MB3T14–01	3.00[76.2]	0.25[6.4]
RTD1–MB3T18–01	3.00[76.2]	0.125[3.2]
RTD1–MB6T00–01	6.00[152.4]	0.00[FLUSH]
RTD1–MB6T14–01	6.00[152.4]	0.25[6.4]
RTD1–MB6T18–01	6.00[152.4]	0.125[3.2]

Wiring Information



ProSense® RTD Melt Bolt Probes

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	$42x:
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	$042v:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:

Note: RTD extension lead wire available at www.automationdirect.com
See end of section for full listing of accessories and dimension information.

RTD-SJ *RTD-SP*

RTD Connectors

ProSense® RTD Threaded Bolt Sensors

RTD1-N38P14-01

Overview

- Typically used to measure the temperature of the nozzle of an injection molding machine without being in direct contact with the molten plastic.
- The small size of this sensor makes it ideal for other general areas of use such as mounting in bearing housings, sealing bars, heat plates, and other limited space applications
- 100 ohm platinum RTD 3-wire element
- Class A accuracy
- 1/4-28 UNF threaded stainless steel rotating bolt allows for easy installation
- 6-foot lead wires with stainless steel overbraid
- Made in the USA

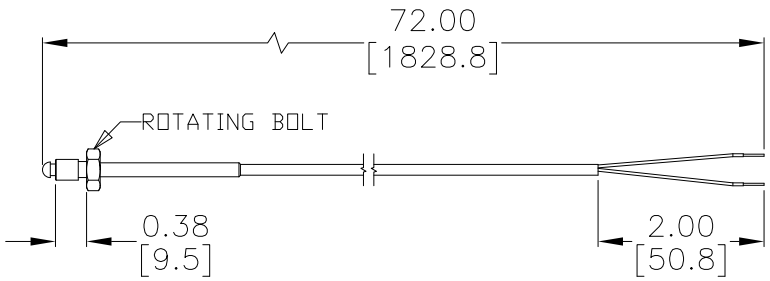
RTD Threaded Bolt Sensors						
Part Number	***Pcs/Pkg***	***Wt (lb)***	***Price***	***Type***	***Bolt***	***Temperature Sensing Range***
RTD1-N38P14-01	1	0.25	$54k9:	PT 100, 3-wire	1/4-28 x 3/8" SS - Rotating Bolt	-40 to 316°C (-40 to 600°F)

Technical Specifications	
Sensing Element	Single 100Ω platinum (Pt 100), 3-wire; TCR = 0.00385 Ω/Ω/°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 24 AWG wire leads with stripped ends, Kapton insulation and stainless steel overbraid

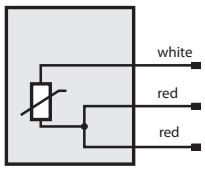
Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

Dimensions

inches [mm]



Wiring Information



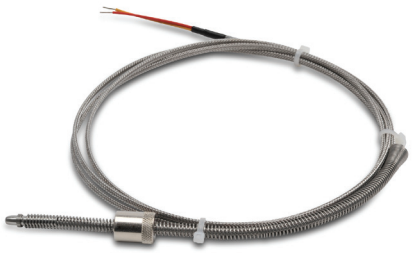
Accessories

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	$42x:
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	$042v:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:

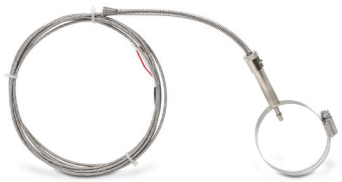
Note: Full listing of accessories and dimension information available at the end of this section. RTD extension lead wire available at www.automationdirect.com

ProSense® RTD Adjustable Immersion Sensor

Overview



- Ideal sensor for the plastics processing industry
- 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



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	$;;0d!t:	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

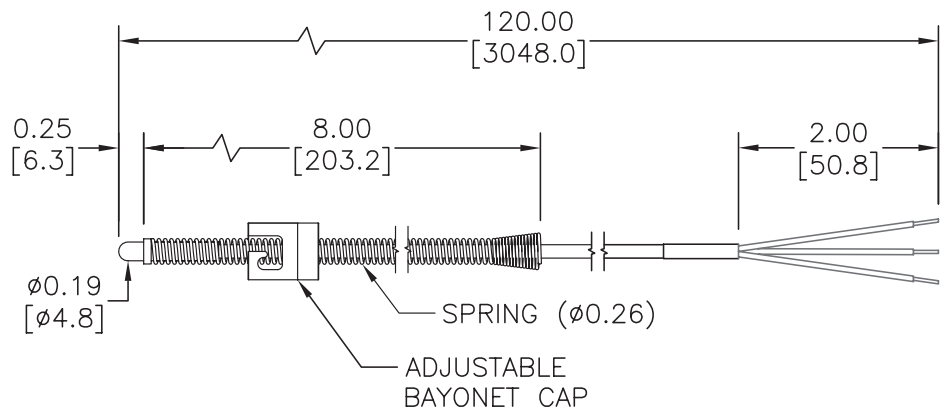
Sensing Element	Single 100Ω platinum (Pt 100), 3-wire; TCR = 0.00385 Ω/Ω/°C
Initial Accuracy	Class A ±[0.15 +0.002 |t|] °C
Probe	1/4" length x 3/16" O.D. sensing tip, 316 stainless steel sheath
Response Time	7 seconds, 63% of a 25 to 77°C step change (ASTM E1137)
Wiring	Stranded 24 AWG wire leads with stripped ends, fiberglass insulation and stainless steel overbraid 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.

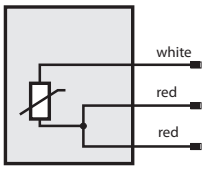
Dimensions

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	$42x:
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	$042v:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:
BA-078	Bayonet adapter, 7/8 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	$4bb:
BA-100	Bayonet adapter, 1 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	$4bc:
BA-114	Bayonet adapter, 1-1/4 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	$4be:
BA-112	Bayonet adapter, 1-1/2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter,1/8 inch MNPT	1	$4bd:
BA-200	Bayonet adapter, 2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	$;4bf:
BA-212	Bayonet adapter, 2-1/2 long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	$4bg:
BA-300	Bayonet adapter, 3 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	$4bh:
BA-312	Bayonet adapter, 3-1/2 long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT	1	$-4bi:
PCA-125	Pipe clamp adapter, 11/16 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	$-04bj:
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	$04bk:
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	$-04bl:
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	$04bn:
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	$04bo:

Note: RTD extension lead wire available at www.automationdirect.com
See end of section for full listing of accessories and dimension information.

BA-078

RTD-SJ **RTD-SP**

RTD Connectors

BA-114

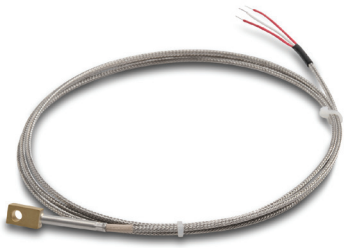
PCA-300

BA-300

Pipe Clamp Adapter

Bayonet Mounting Adapters

ProSense® RTD Bolt-On Ring Sensors



Overview

- 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 overbraid
- Made in the USA

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	$-08jp:	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	$;0d!u:	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 100Ω platinum (Pt 100), 3-wire; TCR = 0.00385 Ω/Ω/°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 24 AWG wire leads 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

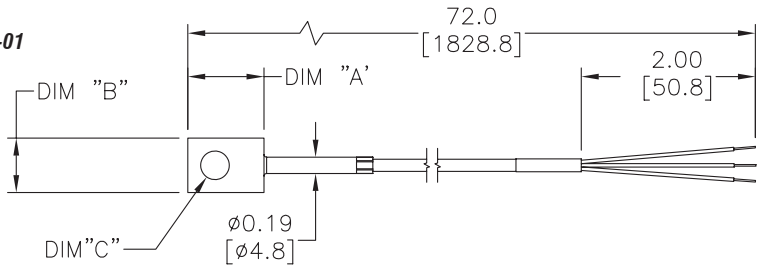
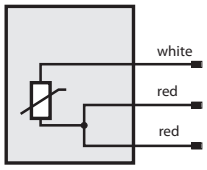


TABLE A			
PART NUMBER	DIM "A"	DIM "B"	DIM "C"
RTD1-B01L06-01	0.63[15.9]	0.38[9.5]	ø0.20[ø5.2]
RTD1-B02L06-01	0.88[22.2]	0.63[15.9]	ø0.33[ø8.3]

Wiring Information

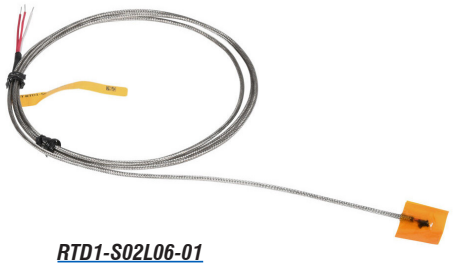


Accessories

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	$42x:
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	$042v:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors.	4	$05hp:

Note: Full listing of accessories and dimension information available at the end of this section. RTD extension lead wire available at www.automationdirect.com

ProSense® RTD Spade Sensors



RTD1-S02L06-01

Overview

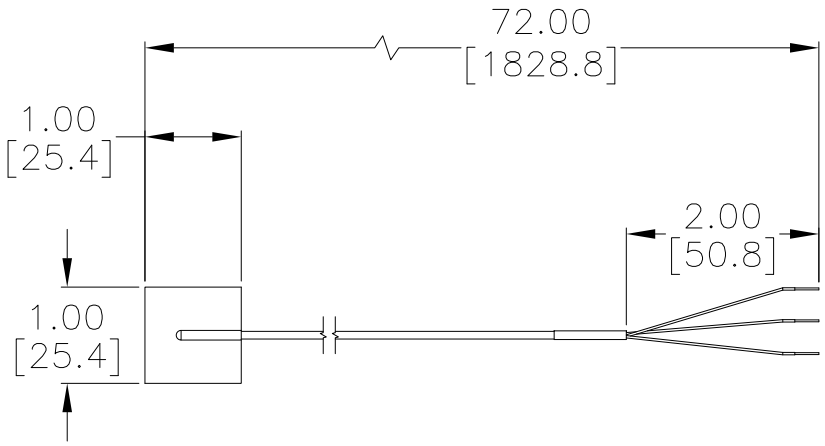
- Ideal for surface temperature measurement.
- 100 ohm platinum RTD 3-wire element sealed in epoxy between two layers of polyimide tape.
- Class A accuracy
- Provided with an adhesive backing for easy attachment to many surfaces.
- Can be formed and secured to the outside of various size tubes, pipes, or nozzles.
- 6-foot lead wires with stainless steel overbraid.
- Made in the USA

RTD Spade Sensors						
Part Number	**Pcs/Pkg**	**Wt (lb)**	**Price**	**Type**	**Spade Material**	**Temperature Sensing Range**
RTD1-S02L06-01	1	0.25	$54ka:	PT 100, 3-wire	Polyimide w/ adhesive back	-40 to 204°C (-40 to 400°F)

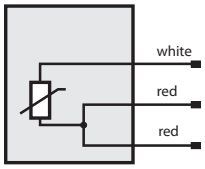
Technical Specifications	
Sensing Element	Single 100Ω platinum (Pt 100), 3-wire; TCR = 0.00385 Ω/Ω/°C
Initial Accuracy	Class A ±[0.15 +0.002 |t|] °C
Response Time	7 seconds, 63% of a 25 to 77°C step change (ASTM E1137)
Wiring	6 foot stranded 24 AWG wire leads with stripped ends, Kapton insulation and stainless steel overbraid

Dimensions

inches [mm]



Wiring Information



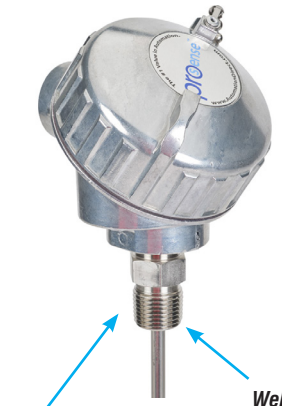
Accessories

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	$42x:
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	$042v:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:

Note: Full listing of accessories and dimension information available at the end of this section. RTD extension lead wire available at www.automationdirect.com

ProSense® 10K-3 Thermistor Probes with Connection Head

NTC10K3-C06-01



Weld

1/2" x 1/2" NPT Hex Nipple

NTC10K3-C06-02

Use ProSense Compression Fittings for Mounting

Note: Full probe length not shown in photos

Overview

- Probe
  - NTC 10k Thermistor Type 3
  - 1/4" diameter, 316 SS sealed sheath to protect against harsh environments
  - 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
  - 2 feet of cable provided with 2 inches of 24AWG wire pre-stripped 1/4 inch and tinned
- Made in the USA

10K-3 Thermistor Probes with Connection Head									
Part Number	***Pcs/Pkg***	***Wt (lb)***	***Price***	***Drawing Link***	***Type***	***Probe Diameter (O.D.)***	***Probe Length***	***Temperature Sensing Range***	***Mounting***
NTC10K3-C06-01	1	1.12	$6a#q:	PDF	10K-AN Type 3 Thermistor	1/4"	6"	-40 to 125° C (-40 to 257° F)	Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS
NTC10K3-C12-01		1.18	$6a#s:	PDF			12"		
NTC10K3-C18-01		1.23	$;6a#t:	PDF			18"		
NTC10K3-C06-02		1.0	$6a#u:	PDF			6"		ProSense compression fitting (see accessories - purchased separately)
NTC10K3-C12-02		1.09	$6a#v:	PDF			12"		
NTC10K3-C18-02		1.16	$6a#x:	PDF			18"		

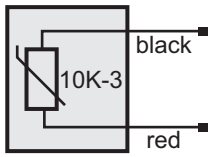
Technical Specifications	
Sensing Element	Epoxy Coated NTC Thermistor
No-Load Resistance	10kΩ at 25ºC
Accuracy	± 0.2°C from 0°C to 70°C
Probe	ø1/4", 316 stainless steel sheath
Minimum Installation Depth	3" (76 mm)
Connection Head	Die-cast aluminum, screw cover with stainless steel chain, compressed graphite gasket, NEMA 4X, IP66, 3/4" NPT conduit opening, max temp. 221°F (105°C)
Sensing Element Response Time	Approximately 1 second*
Wiring	24 inches of PVC cable inside cover with 2 inches of 24AWG wire stripped 1/4 inch and tinned

** The sensing element has an approximate response time of 1 second in a well stirred liquid bath. Different constructions will have different thermal responses.*

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

ProSense® 10K-3 Thermistor Probes with Connection Head

Wiring Information



- No polarity

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	$ekq:
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$eks:
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$;ekt:
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$;ek]:
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$;ek[:
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$0ek_:
CFTF-14	Teflon ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes	5	$;ea!:

See end of section for full listing of accessories and dimension information.

ProSense® 10K-3 Thermistor Spring-Loaded Probes with Connection Head

NTC10K3-C04-03

1/2" x 1/2" NPT Hex Nipple

Spring-Loaded Probe

Note: Full probe length not shown in photo

Overview

- Probe
  - Spring-loaded for positive tip contact in thermowells
  - NTC 10k Thermistor Type 3
  - 1/4" diameter, 316 SS sheath to protect against harsh environments
  - 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
  - 2 feet of cable provided with 2 inches of 24AWG wire pre-stripped 1/4 inch and tinned
- Made in the USA

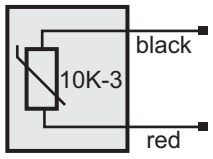
10K-3 Thermistor Spring-Loaded Probes with Connection Head									
Part Number	***Pcs/Pkg***	***Wt (lb)***	***Price***	***Drawing Link***	***Type***	***Probe Diameter (O.D.)***	***Probe Length***	***Temperature Sensing Range***	***Mounting***
NTC10K3-C04-03	1	1.1	$6a#y:	PDF	10K-AN Type 3 Thermistor	1/4"	4"	-40 to 125° C (-40 to 257° F)	Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS. Mount in thermowell (see accessories, purchased separately)
NTC10K3-C06-03		1.11	$6a#z:	PDF			6"		
NTC10K3-C12-03		1.15	$;6a#]:	PDF			12"		

Technical Specifications	
Sensing Element	Epoxy Coated NTC Thermistor
No-Load Resistance	10kΩ at 25ºC
Accuracy	± 0.2°C from 0°C to 70°C
Probe	ø1/4", 316 stainless steel sheath
Connection Head	Die-cast aluminum, screw cover with stainless steel chain, compressed graphite gasket, NEMA 4X, IP66, 3/4" NPT conduit opening, Max Temp. 221°F (105°C)
Sensing Element Response Time	Approximately 1 second*
Wiring	24 inches of PVC cable inside cover with 2 inches of 24AWG wire stripped 1/4 inch and tinned

**** The sensing element has an approximate response time of 1 second in a well stirred liquid bath. Different constructions will have different thermal responses.***

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

Wiring Information



- No polarity

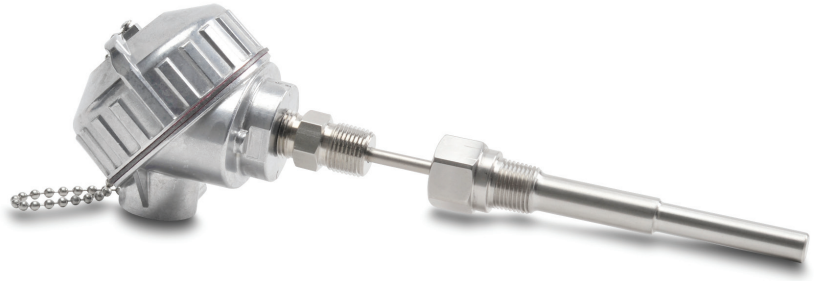
ProSense® 10K-3 Thermistor Spring-Loaded Probes with Connection Head - Accessories

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	$08g4:
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	$08g5:
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	$08g6:
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	$08g7:
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	$08g8:
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	$08g9:
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	$08ga:
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	$08gb:
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	$08ge:
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	$;08gf:
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	$08gg:
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	$08gh:

See end of section for full listing of accessories and dimension information.

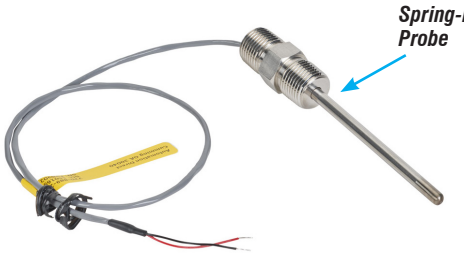
Spring-Loaded Probe and Thermowell Assembly Example



- *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® 10K-3 Thermistor Spring-Loaded Probes with Hex Nipple

NTC10K3-H04L01-02



Overview

- Spring-loaded for positive tip contact in thermowells
- NTC 10k Thermistor Type 3
- 1/4" diameter, 316 stainless steel sheath to protect against harsh environments
- 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
- Wiring
  - 2 feet of cable provided with 2 inches of 24AWG wire pre-stripped 1/4 inch and tinned
- Made in the USA

10K-3 Thermistor Spring-Loaded Probes with Hex Nipple									
Part Number	Pcs/Pkg	Wt (lb)	Price	Drawing Link	Type	Probe Diameter (O.D.)	Probe Length	Temperature Sensing Range	Mounting
NTC10K3-H04L01-02	1	0.28	$;6a#[:	PDF	10K-AN Type 3 Thermistor	1/4"	4"	-40 to 125° C (-40 to 257° F)	Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS
NTC10K3-H06L01-02		0.30	$6a#_:	PDF			6"		
NTC10K3-H12L01-02		0.35	$6a##:	PDF			12"		

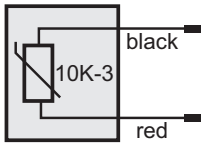
Technical Specifications	
Sensing Element	Epoxy Coated NTC Thermistor
No-Load Resistance	10kΩ at 25ºC
Accuracy	± 0.2°C from 0°C to 70°C
Probe	ø1/4", 316 stainless steel sheath
Sensing Element Response Time	Approximately 1 second*
Wiring	24 inches of PVC cable inside cover with 2 inches of 24AWG wire stripped 1/4 inch and tinned

** The sensing element has an approximate response time of 1 second in a well stirred liquid bath. Different constructions will have different thermal responses.*

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.

Wiring Information



- No polarity

Accessories

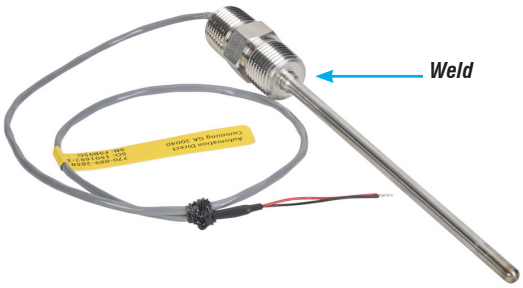
CHSC-AL-1

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	$;06uf:

Note: Full listing of accessories available at the end of this section.

ProSense® 10K-3 Thermistor Probes with Hex Nipple

NTC10K3-H06L01-01



Overview

- NTC 10k Thermistor Type 3
- 1/4" diameter, 316 sealed stainless steel sheath to protect against harsh environments
- 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
- Wiring
  - 2 feet of cable provided with 2 inches of 24AWG wire pre-stripped 1/4 inch and tinned
- Made in the USA

10K-3 Thermistor Probes with Hex Nipple

Part Number	Pcs/Pkg	Wt (lb)	Price	Drawing Link	Type	Probe Diameter (O.D.)	Probe Length	Temperature Sensing Range	Mounting
NTC10K3-H06L01-01	1	0.31	$;6a#!:	PDF	10K-AN Type 3 Thermistor	1/4"	6"	-40 to 125° C (-40 to 257° F)	Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS
NTC10K3-H12L01-01		0.37	$6a#?:	PDF			12"		
NTC10K3-H18L01-01		0.42	$;6a#,:	PDF			18"		

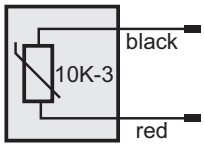
Technical Specifications

Sensing Element	Epoxy Coated NTC Thermistor
No-Load Resistance	10kΩ at 25ºC
Accuracy	± 0.2°C from 0°C to 70°C
Probe	ø1/4", 316 stainless steel sheath
Minimum Installation Depth	3" (76 mm)
Sensing Element Response Time	Approximately 1 second*
Wiring	24 inches of PVC cable inside cover with 2 inches of 24AWG wire stripped and tinned

** The sensing element has an approximate response time of 1 second in a well stirred liquid bath. Different constructions will have different thermal responses.*

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

Wiring Information



- No polarity

Accessories

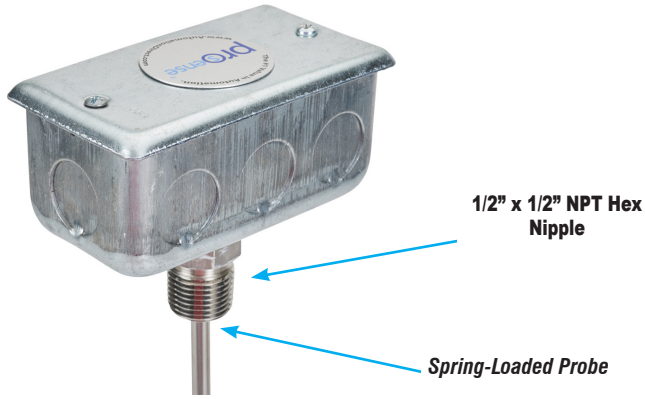
CHSC-AL-1

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	$;06uf:

Note: Full listing of accessories available at the end of this section.

ProSense® 10K-3 Thermistor Spring-Loaded Probes with Junction Box

NTC10K3-JB04-03



Note: Full probe length not shown in photo

Overview

- Probe
  - Spring-loaded for positive tip contact in thermowells
  - NTC 10k Thermistor Type 3
  - 1/4" diameter, 316 SS sheath to protect against harsh environments
  - 4", 6" or 12" probe length
- 2" X 4" Junction Box
  - Nine, 1/2" knockouts for conduit and other connections
  - Easy install cover with two screws to keep cover securely closed
- Wiring
  - 2 feet of cable provided with 2 inches of 24AWG wire pre-stripped 1/4 inch and tinned
- Made in the USA

10K-3 Thermistor Spring-Loaded Probes with Junction Box

Part Number	Pcs/Pkg	Wt (lb)	Price	Drawing Link	Type	Probe Diameter (O.D.)	Probe Length	Temperature Sensing Range	Mounting
NTC10K3-JB04-03	1	0.86	$;6a!0:	PDF	10K-AN Type 3 Thermistor	1/4"	4"	-40 to 125° C (-40 to 257° F)	Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS. Mount in thermowell (see accessories, purchased separately)
NTC10K3-JB06-03		0.89	$;6a!1:	PDF			6"		
NTC10K3-JB12-03		0.92	$;6a!2:	PDF			12"		

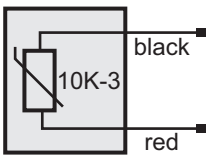
Technical Specifications

Sensing Element	Epoxy Coated NTC Thermistor
No-Load Resistance	10kΩ at 25ºC
Accuracy	± 0.2°C from 0°C to 70°C
Probe	ø1/4", 316 stainless steel sheath
Junction Box	2" X 4" galvanized steel junction box with multiple conduit openings, Max Temp. 221°F (105°C)
Sensing Element Response Time	Approximately 1 second*
Wiring	24 inches of PVC cable inside cover with 2 inches of 24AWG wire stripped 1/4 inch and tinned

** The sensing element has an approximate response time of 1 second in a well stirred liquid bath. Different constructions will have different thermal responses.*

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

Wiring Information



- No polarity

ProSense® 10K-3 Thermistor Spring-Loaded Probe with Junction Box - 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	$08g4:
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	$08g5:
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	$08g6:
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	$08g7:
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	$08g8:
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	$08g9:
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	$08ga:
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	$08gb:
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	$08ge:
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	$;08gf:
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	$08gg:
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	$08gh:

See end of section for full listing of accessories and dimension information.

Thermowells

ProSense® 10K-3 Thermistor Probes with Junction Box

NTC10K3-JB06-01

NTC10K3-JB06-02

1/2" x 1/2" NPT Hex Nipple

Weld

Use ProSense Compression Fittings for Mounting

Note: Full probe length not shown in photos

Overview

- Probe
  - NTC 10k Thermistor Type 3
  - 1/4" diameter, 316 SS sealed sheath to protect against harsh environments
  - 6", 12" or 18" probe length
- 2" X 4" Junction Box
  - Nine, 1/2" knockouts for conduit and other connections
  - Easy install cover with two screws to keep cover securely closed
- Wiring
  - 2 feet of cable provided with 2 inches of 24AWG wire pre-stripped 1/4 inch and tinned
- Made in the USA

10K-3 Thermistor Probes with Junction Box

Part Number	*Pcs/Pkg*	*Wt (lb)*	*Price*	*Drawing Link*	*Type*	*Probe Diameter (O.D.)*	*Probe Length*	*Temperature Sensing Range*	*Mounting*
NTC10K3-JB06-01	1	0.89	$;6a!3:	PDF	10K-AN Type 3 Thermistor	1/4"	6"	-40 to 125° C (-40 to 257° F)	Integral 1/2" x 1/2" NPT Hex Nipple, 316 SS
NTC10K3-JB12-01		0.96	$;6a!4:	PDF			12"		
NTC10K3-JB18-01		1.0	$;6a!5:	PDF			18"		
NTC10K3-JB06-02		0.81	$;6a!6:	PDF			6"		ProSense compression fitting (see accessories - purchased separately)
NTC10K3-JB12-02		0.86	$;6a!7:	PDF			12"		
NTC10K3-JB18-02		0.93	$;6a!8:	PDF			18"		

Technical Specifications

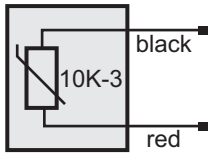
Sensing Element	Epoxy Coated NTC Thermistor
No-Load Resistance	10kΩ at 25ºC
Accuracy	± 0.2°C from 0°C to 70°C
Probe	ø1/4", 316 stainless steel sheath
Minimum Installation Depth	3" (76 mm)
Junction Box	2" X 4" galvanized steel junction box with multiple conduit openings, max temp. 221°F (105°C)
Sensing Element Response Time	Approximately 1 second*
Wiring	24 inches of PVC cable inside cover with 2 inches of 24AWG wire stripped 1/4 inch and tinned

**** The sensing element has an approximate response time of 1 second in a well stirred liquid bath. Different constructions will have different thermal responses.***

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

ProSense® 10K-3 Thermistor Probes with Junction Box

Wiring Information



- no polarity

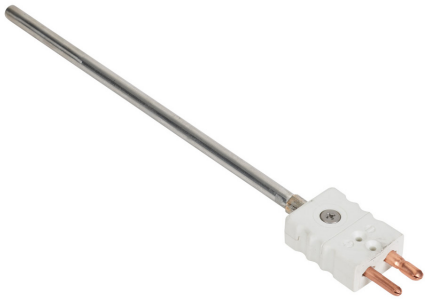
Accessories

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	$ekq:
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$eks:
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$;ekt:
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$;ek]:
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$;ek[:
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$0ek_:
CFTF-14	Teflon ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes	5	$;ea!:

See end of section for full listing of accessories and dimension information.

ProSense® 10K-3 Thermistor Probes with Attached Plug

NTC10K3-P06-02



Overview

- NTC 10k Thermistor Type 3
- 1/4" diameter, 316 stainless steel sheath to protect against harsh environments
- 6", 12", or 18" probe length
- Attached 2-pin plug for quick and easy wiring connections
- Made in the USA

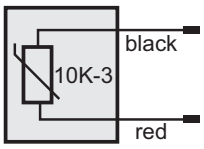
10K-3 Thermistor Probes with Attached Plug											
Part Number	***Pcs/Pkg***	***Wt (lb)***	***Price***	***Drawing Link***	***Type***	***Probe Diameter (O.D.)***	***Probe Length***	***Temperature Sensing Range***	***Mounting***	***Attached Plug Size***	***Mating Jack***
NTC10K3-P06-02	1	0.1	$;6a!9:	PDF	10K-AN Type 3 Thermistor	1/4"	6"	-40 to 125° C (-40 to 257° F) Plug rated to 400°F (204°C)	ProSense compression fitting (see accessories, purchased separately)	Standard size, 2-pin	NTC-SJ (see accessories, sold separately)
NTC10K3-P12-02		0.14	$;6a!a:	PDF			12"				
NTC10K3-P18-02		0.18	$;6a!b:	PDF			18"				

Technical Specifications	
Sensing Element	Epoxy Coated NTC Thermistor
No-Load Resistance	10kΩ at 25ºC
Accuracy	± 0.2°C from 0°C to 70°C
Probe	ø1/4", 316 stainless steel sheath
Minimum Installation Depth	3" (76 mm)
Sensing Element Response Time	Approximately 1 second*
Wiring	Attached 2-pin standard size plug (mating jack sold separately, see accessories)

**** The sensing element has an approximate response time of 1 second in a well stirred liquid bath. Different constructions will have different thermal responses.***

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

Wiring Information



- No polarity

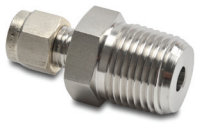
ProSense® 10K-3 Thermistor Probes with Attached Plug - Accessories

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	$ekq:
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$eks:
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$;ekt:
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$;ek]:
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$;ek[:
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$0ek_:
CFTF-14	Teflon™ ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes	5	$;ea!:
NTC-SJ	ProSense 2-pin thermistor connector, standard round pin jack, 400 deg F (200 deg C), glass filled thermoplastic body, white, copper pins, 32 AWG to 14 AWG wire size range.	1	$;6a!q:
WCB-S	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors	4	$05hp:

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

Stainless Steel Compression Fittings

BCF14-50N

BCF14-25N

BCF14-125N

Brass Compression Fittings

NTC-SJ

ProSense® 10K-3 Thermistor Probes with Lead Wire Transition

NTC10K3-T06L06-02

Overview

- NTC 10k Thermistor Type 3
- 1/4" diameter, 316 stainless steel sheath to protect against harsh environments
- 6", 12", or 18" probe length
- 4 point crimp and sleeve transition to PVC cable
- 6-foot cable with 2 inches of 24AWG wire pre-stripped 1/4 inch and tinned
- Made in the USA

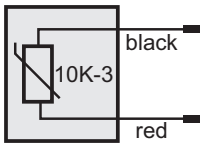
10K-3 Thermistor Probes with Lead Wire Transition									
Part Number	***Pcs/Pkg***	***Wt (lb)***	***Price***	***Drawing Link***	***Type***	***Probe Diameter (O.D.)***	***Probe Length***	***Temperature Sensing Range***	***Mounting***
NTC10K3-T06L06-02	1	0.11	$;6a!c:	PDF	10K-AN Type 3 Thermistor	1/4"	6"	-40 to 125° C (-40 to 257° F)	ProSense compression fitting (see accessories purchased separately)
NTC10K3-T12L06-02		0.16	$;6a!d:	PDF			12"		
NTC10K3-T18L06-02		0.20	$;6a!e:	PDF			18"		

Technical Specifications	
Sensing Element	Epoxy Coated NTC Thermistor
No-Load Resistance	10kΩ at 25ºC
Accuracy	± 0.2°C from 0°C to 70°C
Probe	ø1/4", 316 stainless steel sheath
Minimum Installation Depth	3" (76 mm)
Sensing Element Response Time	Approximately 1 second*
Wiring	72 inches of PVC cable with 2 inches of 24AWG wire stripped 1/4 inch and tinned

**** The sensing element has an approximate response time of 1 second in a well stirred liquid bath. Different constructions will have different thermal responses.***

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

Wiring Information



- No polarity

ProSense® 10K-3 Thermistor Probes with Lead Wire Transition - Accessories

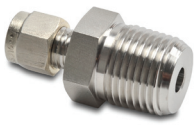
Accessories

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	$ekq:
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$eks:
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$;ekt:
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$;ek]:
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$;ek[:
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$0ek_:
CFTF-14	Teflon™ ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes	5	$;ea!:

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

Stainless Steel Compression Fittings

BCF14-50N

BCF14-25N

BCF14-125N

Brass Compression Fittings

ProSense® 10K-3 Thermistor Flange Mount Probes

NTC10K3-F06L06-01

Overview

- Ideal for use with freezers, ducts, or anywhere through the wall temperature sensing is required.
- NTC 10k Thermistor Type 3
- 1/4" diameter, 316 SS sheath to protect against harsh environments
- 6", 12", or 18" probe lengths
- Mounting is accomplished using the conveniently attached round mounting flange
- 6-foot cable with 2 inches of 24AWG wire pre-stripped 1/4 inch and tinned
- Made in the USA

10K-3 Thermistor Flange Mount Probes									
Part Number	***Pcs/Pkg***	***Wt (lb)***	***Price***	***Drawing Link***	***Type***	***Probe Insertion Length***	***Probe Material***	***Temperature Sensing Range***	***Mounting***
NTC10K3-F06L06-01	1	0.12	$;;6a!f:	PDF	10K-AN Type 3 Thermistor	6"	316 stainless steel	-40 to 125° C (-40 to 257° F)	1" diameter 1/16" thick 304 stainless steel flange (2x - ø0.144" mounting holes 0.75" spacing)
NTC10K3-F12L06-01	1	0.17	$;6a!g:	PDF		12"			
NTC10K3-F18L06-01	1	0.22	$;6a!h:	PDF		18"			

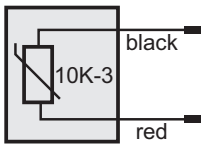
Technical Specifications	
Sensing Element	Epoxy Coated NTC Thermistor
No-Load Resistance	10kΩ at 25ºC
Accuracy	± 0.2°C from 0°C to 70°C
Probe	1/4" O.D., 316 stainless steel sheath
Minimum Installation Depth	3" (76mm)
Probe Minimum Bend Radius	Not bendable
Sensing Element Response Time	Approximately 1 second*
Wiring	72 inches of PVC cable with 2 inches of 24AWG wire stripped 1/4 inch and tinned

**** The sensing element has an approximate response time of 1 second in a well stirred liquid bath. Different constructions will have different thermal responses.***

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

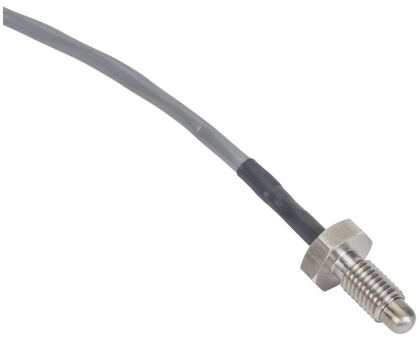
See end of section for full listing of accessories and dimension information.

Wiring Information



- No polarity

ProSense® 10K-3 Thermistor Threaded Bolt Sensors



NTC10K3-N38P14-01

Overview

- Easily add temperature measurement of surfaces that can be drilled and tapped
- The small size of this sensor makes it ideal for other general areas of use, such as mounting in bearing housings, sealing bars, heat plates, and other space-limited applications
- NTC 10k Thermistor Type 3
- 1/4-28 UNF threaded stainless steel rotating bolt allows for easy installation
- 6-foot cable with 2 inches of 24AWG wire pre-stripped 1/4 inch and tinned
- Made in the USA

10K-3 Thermistor Threaded Bolt Sensors							
Part Number	*Pcs/Pkg*	*Wt (lb)*	*Price*	*Drawing Link*	*Type*	*Bolt*	*Temperature Sensing Range*
NTC10K3-N38P14-01	1	0.08	$;-6a!i:	PDF	10K-AN Type 3 Thermistor	1/4-28 x 3/8" SS - Rotating Bolt	-40 to 125° C (-40 to 257° F)

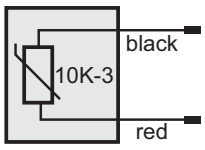
Technical Specifications	
Sensing Element	Epoxy Coated NTC Thermistor
No-Load Resistance	10kΩ at 25°C
Accuracy	± 0.2°C from 0°C to 70°C
Sensing Element Response Time	Approximately 1 second*
Wiring	72 inches of PVC cable with 2 inches of 24AWG wire stripped 1/4 inch and tinned

** The sensing element has an approximate response time of 1 second in a well stirred liquid bath. Different constructions will have different thermal responses.*

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

See end of section for full listing of accessories and dimension information.

Wiring Information



- No polarity

ProSense® 10K-3 Thermistor Bolt-On Ring Sensors

NTC10K3-B01L06-02

Overview

- Ideal for many surface mount sensing applications
- NTC 10k Thermistor Type 3
- Brass ring construction
- 6-foot cable with 2 inches of 24AWG wire pre-stripped 1/4 inch and tinned
- Made in the USA

10K-3 Thermistor Bolt-On Ring Sensors								
Part Number	***Pcs/Pkg***	***Wt (lb)***	***Price***	***Drawing Link***	***Type***	***Ring Material***	***Temperature Sensing Range***	***Mounting***
NTC10K3-B01L06-02	1	0.08	$;-6a!j:	PDF	10K-AN Type 3 Thermistor	Brass	-40 to 125° C (-40 to 257° F)	Bolt on #6-#10 (4mm-5mm) screw or bolt size
NTC10K3-B02L06-02	1	0.1	$;6a!k:	PDF				Bolt on #12, 1/4 to 5/16 inch (5mm - 8mm) screw or bolt size

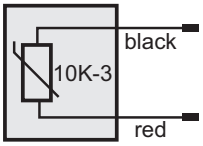
Technical Specifications	
Sensing Element	Epoxy Coated NTC Thermistor
No-Load Resistance	10kΩ at 25°C
Accuracy	± 0.2°C from 0°C to 70°C
Sensing Element Response Time	Approximately 1 second*
Wiring	72 inches of PVC cable with 2 inches of 24AWG wire stripped 1/4 inch and tinned

** The sensing element has an approximate response time of 1 second in a well stirred liquid bath. Different constructions will have different thermal responses.*

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

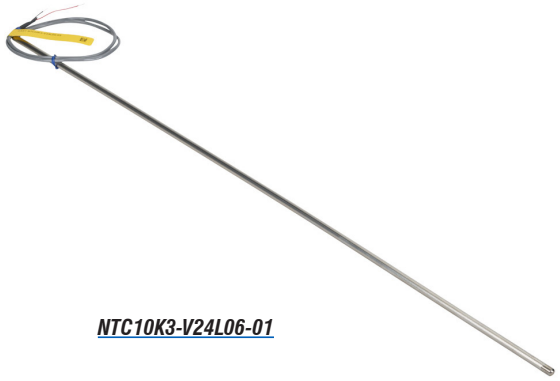
See end of section for full listing of accessories and dimension information.

Wiring Information



- No polarity

ProSense® 10K-3 Thermistor Cuttable Length Probe



NTC10K3-V24L06-01

Overview

- NTC 10k Thermistor Type 3
- 1/4" diameter, 316 SS sheath to protect against harsh environments
- 24" probe length can be cut using an ordinary tubing cutter to adapt to the application
- Mounting is accomplished using a variety of ProSense compression fittings
- 2-foot PVC cable with 2 inches of 24AWG wire stripped 1/4 inch and tinned.
- Made in the USA

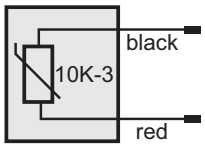
10K-3 Thermistor Cuttable Length Probe										
Part Number	*Pcs/Pkg*	*Wt (lb)*	*Price*	*Drawing Link*	*Type*	*Probe Diameter (O.D.)*	*Probe Length*	*Probe Material*	*Temperature Sensing Range*	*Mounting*
NTC10K3-V24L06-01	1	0.22	$;-6a!:	PDF	10K-AN Type 3 Thermistor	1/4"	24" (4" minimum cut length)	316 stainless steel	-40 to 125° C (-40 to 257° F)	ProSense compression fitting(see accessories purchased separately)

Technical Specifications	
Sensing Element	Epoxy Coated NTC Thermistor
No-Load Resistance	10kΩ at 25°C
Accuracy	± 0.2°C from 0°C to 70°C
Probe	1/4" O.D., 316 stainless steel sheath
Minimum Installation Depth	3" (76mm)
Probe Minimum Bend Radius	Not bendable
Sensing Element Response Time	Approximately 1 second*
Wiring	24 inches of PVC cable with 2 inches of 24AWG wire stripped 1/4 inch and tinned

** The sensing element has an approximate response time of 1 second in a well stirred liquid bath. Different constructions will have different thermal responses.*

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

Wiring Information



- No polarity

Cutting Instructions

1. Remove the plastic retainer mounted to the top of outer metal tube.
2. Remove the inner sensing element and wires to prevent possible damage while cutting.
3. Cut the tube to the desired length and remove all burrs or sharp edges.
4. Reinstall the sensing element and plastic retainer.

Note: Ensure sensing element is fully seated at the base of the outer tube. If outer tube is compressed during installation, it may not be possible to remove the sensing element.

ProSense® 10K-3 Thermistor Cuttable Length Probe - Accessories

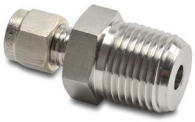
Accessories

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	$ekq:
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$eks:
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$;ekt:
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$;ek]:
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$;ek[:
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$0ek_:
CFTF-14	Teflon™ ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes	5	$;ea!:

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

Stainless Steel Compression Fittings

BCF14-50N

BCF14-25N

BCF14-125N

Brass Compression Fittings

ProSense® 10K-3 Thermistor Bead Sensor

NTC10K3-BR01L06-01

Overview

- Miniature sensor adaptable to restricted space applications
- NTC 10k Thermistor Type 3
- 6-foot cable with 2 inches of 24AWG wire pre-stripped 1/4 inch and tinned
- Made in the USA

10K-3 Thermistor Bead Sensor							
Part Number	***Pcs/Pkg***	***Wt (lb)***	***Price***	***Drawing Link***	***Type***	***Bead Material***	***Temperature Sensing Range***
NTC10K3-BR01L06-01	1	0.07	$;6a!n:	PDF	10K-AN Type 3 Thermistor	Polyolefin inside melt heat shrink	-40 to 125° C (-40 to 257° F)

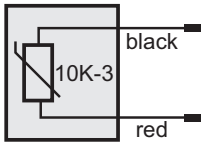
Technical Specifications	
Sensing Element	Epoxy Coated NTC Thermistor
No-Load Resistance	10kΩ at 25ºC
Accuracy	± 0.2°C from 0°C to 70°C
Sensing Element Response Time	Approximately 1 second*
Wiring	72 inches of PVC cable with 2 inches of 24 AWG wire stripped 1/4 inch and tinned

** The sensing element has an approximate response time of 1 second in a well stirred liquid bath. Different constructions will have different thermal responses.*

Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

See end of section for full listing of accessories and dimension information.

Wiring Information



- No polarity

ProSense® 10K-3 Thermistor Spade Sensor

NTC10K3-S02L06-01

Overview

- Ideal for surface temperature measurement.
- NTC 10k Thermistor Type 3 element sealed in epoxy between two layers of polyimide tape.
- Provided with an adhesive backing for easy attachment to many surfaces.
- Can be formed and secured to the outside of various size tubes, pipes, or nozzles.
- 6-foot PVC 24 lead wires stripped and tinned.
- Made in the USA

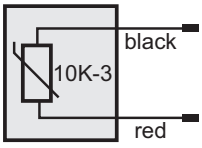
10K-3 Thermistor Spade Sensors							
Part Number	***Pcs/Pkg***	***Wt (lb)***	***Price***	***Drawing Link***	***Type***	***Spade Material***	***Temperature Sensing Range***
NTC10K3-S02L06-01	1	0.07	$;6a!o:	PDF	10K-AN Type 3 Thermistor	Polyimide w/ adhesive back	-40 to 125° C (-40 to 257° F)

Technical Specifications	
Sensing Element	Epoxy Coated NTC Thermistor
No-Load Resistance	10kΩ at 25ºC
Accuracy	± 0.2°C from 0°C to 70°C
Sensing Element Response Time	Approximately 1 second*
Wiring	72 inches of PVC cable with 2 inches of 24AWG wire stripped 1/4 inch and tinned

** The sensing element has an approximate response time of 1 second in a well stirred liquid bath. Different constructions will have different thermal responses.*

See end of section for full listing of accessories and dimension information.

Wiring Information



- No polarity

ProSense Temperature Transmitters - Head Mounted

XTH

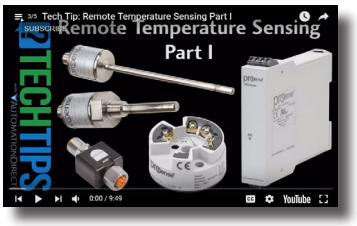
Features - Non-programmable Models

- Sensor Types:
- Models for thermocouple Types J, K, or T
- 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-0100F-J	Type J thermocouple (to NIST Monograph 175, IEC584)	0 to 100°F (-17.8 to 37.8°C)	1	0.09	$0d_o:
XTH-0200F-J		0 to 200°F (-17.8 to 93.3°C)	1	0.09	$0d_a:
XTH-0300F-J		0 to 300°F (-17.8 to 148.9°C)	1	0.09	$0d_d:
XTH-0500F-J		0 to 500°F (-17.8 to 260°C)	1	0.09	$;0d_f:
XTH-0800F-J		0 to 800°F (-17.8 to 426.7°C)	1	0.09	$0d_h:
XTH-01000F-J		0 to 1000°F (-17.8 to 537.8°C)	1	0.09	$-0d_l:
XTH-0100F-K	Type K thermocouple (to NIST Monograph 175, IEC584)	0 to 100°F (-17.8 to 37.8°C)	1	0.09	$0d_p:
XTH-0200F-K		0 to 200°F (-17.8 to 93.3°C)	1	0.09	$0d_b:
XTH-0300F-K		0 to 300°F (-17.8 to 148.9°C)	1	0.09	$0d_e:
XTH-0500F-K		0 to 500°F (-17.8 to 260°C)	1	0.09	$0d_g:
XTH-0800F-K		0 to 800°F (-17.8 to 426.7°C)	1	0.09	$-0d_i:
XTH-01000F-K		0 to 1000°F (-17.8 to 537.8°C)	1	0.09	$0d_n:
XTH-01500F-K		0 to 1500°F (-17.8 to 815.5°C)	1	0.09	$0d_q:
XTH-02000F-K		0 to 2000°F (-17.8 to 1093.3°C)	1	0.09	$0d_s:
XTH-N2000F-T	Type T thermocouple (to NIST Monograph 175, IEC584)	-200 to 0°F (-128.9 to -17.8°C)	1	0.09	$0d_k:
XTH-N100100F-T		-100 to 100°F (-73.3 to 37.8°C)	1	0.09	$-0d_j:
XTH-0200F-T		0 to 200°F (-17.8 to 93.3°C)	1	0.09	$0d_c:

Click on the thumbnail or go to https://www.automationdirect.com/VID-TE-0002 for a short video on DIN Rail Mounted Temperature Transmitters



Click on the thumbnail or go to https://www.automationdirect.com/VID-TE-0006 for a short video on Remote Temperature Sensing

Scan the QR Code above or click to view the Fixed Range XTH Series product insert.

ProSense® Temperature Transmitters - Head Mounted

ProSense Head Mounted Temperature Transmitters General Specifications				
		XTH (J Series)	XTH (K Series)	XTH (T Series)
Output	Output Signal	4-20 mA		
	Signal Transmission	Output linear to temperature		
	Fault Signal	Under ranging / Standard / 3.8 mA Over ranging / Standard / 20.5 mA Sensor break; sensor short circuit down scale / To NAMUR NE 43 / m3.6 mA (only applicable to XTH-0-UNV) Sensor break; sensor short circuit up scale / To NAMUR NE 43 / M21.0 mA		
	Max. Load Impedance	(Vpowersupply- 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		
	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 w 9°F (23°C w 5°C)		
	Maximum Measuring Error	0.9°F (0.5°C) or 0.08%		
	Influence of Power Supply	≤ w 0.01%/V deviation from 24 V		
	Load Influence	≤ w 0.02%/100 Ω		
	Long Term Stability	≤ 0.1 K / Year or m 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*
Thermocouple TC	K, J, T, E, L, U N, C, D S, B, R	typ. 0.9°F (0.5°C) or 0.08% typ. 1.8°F (1.0°C) or 0.08% typ. 3.6°F (2.0°C) or 0.08%
	Measurement Range	Measurement Accuracy*
Resistance Transmitter (Ω)	10 to 400 Ω 10 to 2000 Ω	± 0.1 Ω or 0.08% ± 1.5 Ω or 0.12%
Voltage Transmitters (mV)	-10 to 100 mV	± 20 µV or 0.08%

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

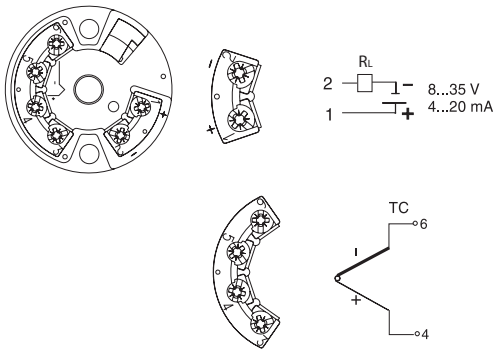
** self recovery

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

ProSense® Temperature Transmitters - Head Mounted

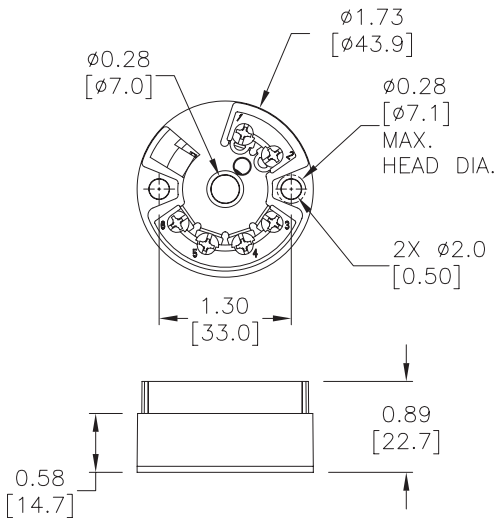
Wiring

XTH J, K & T - Thermocouple Input

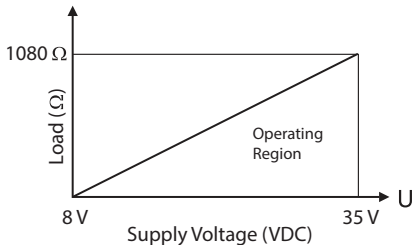


Dimensions

inches [mm]



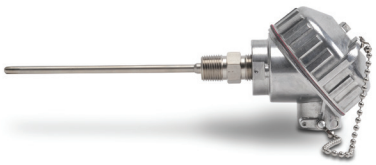
Load Impedance



RLmax = (Vpowersupply-8V) / 0.025A (current output)
e.g. (24V - 8V) / 0.025A = 640 Ω

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 - Head Mounted

Features - Non-programmable Models

XTH2

- Sensor Types:
  - Models for RTD Type Pt100 3-wire
- Select from a variety of pre-configured non-programmable (fixed) measuring ranges
- Transmitter is powered by 10-36 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

ProSense Head Mounted Temperature Transmitters						
Part Number	***Input Type***	***Non-programmable (Fixed) Measuring Range***	***Pcs/Pkg***	***Wt(lb)***	***Price***	***Drawing Link***
XTH2-N40140F-PT1	Pt100 RTD (to IEC 751) (a= 0.00385)	-40 to 140°F (-40 to 60°C)	1	0.15	$;5?qf:	PDF
XTH2-0100F-PT1		0 to 100°F (-17.8 to 37.8°C)	1	0.15	$5?qb:	PDF
XTH2-0200F-PT1		0 to 200°F (-17.8 to 93.3°C)	1	0.15	$5?qc:	PDF
XTH2-0300F-PT1		0 to 300°F (-17.8 to 148.9°C)	1	0.15	$5?qd:	PDF
XTH2-0500F-PT1		0 to 500°F (-17.8 to 260°C)	1	0.15	$5?qe:	PDF

Click on the thumbnail or go to https://www.automationdirect.com/VID-TE-0002 for a short video on DIN Rail Mounted Temperature Transmitters

Click on the thumbnail or go to https://www.automationdirect.com/VID-TE-0006 for a short video on Remote Temperature Sensing

Scan the QR Code above or click to view the Fixed Range XTH2 Series product insert.

ProSense® Temperature Transmitters - Head Mounted

ProSense Head Mounted Temperature Transmitters General Specifications		
		XTH2 (PT1 Series)
Output	***Output Signal***	4-20 mA
	Signal Transmission	Output linear to temperature
	Fault Signal	Under ranging / Standard / 3.8 mA Over ranging / Standard / 20.5 mA Sensor break; sensor short circuit upscale / To NAMUR NE 43 / ≤22.5 mA
	Max. Load Impedance	(Vpowersupply-10V) / 0.0225A (current output) e.g. (24V - 10V) / 0.0225A = 622.2 Ω
	Input Current Requirement	≤ 3.5 mA
	Current Limit	≤ 22.5 mA
	Switch on Delay	≤ 5 seconds (during powerup output current = 3.8 mA)
	Response Time	≤ 0.5 second
	Digital Filter	N/A
	Power Supply	10 to 36 VDC, polarity protected
	Allowable Ripple	≤ 5 V with power supply ≥ 13; Max. frequency = 1 kHz
Accuracy	***Reference Conditions***	Calibration temperature 77°F ±5.4°F (+25ºC, ±3ºC)
	Maximum Measuring Error	0.15 K or 0.07 % of span*
	Influence of Power Supply	≤ ± 0.01%/V deviation from 24 V
	Load Influence	≤ ± 0.02% / 100Ω
	Long Term Stability	0.05 K or 0.03% / 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	-58 to 212°F (-50 to 100°C)
	Climate Class	As per IEC 60 654-1, class C1
	Ingress Protection	IP00 / IP66 installed in appropriate housing
	Shock and Vibration	DIN EN 60068-2-27 : 30g, 18ms
	EMC Immunity	See Table
	Moisture Condensation	Allowable
Construction	***Materials***	Housing: Polycarbonate; Potting: SIL gel; Screw terminals: nickel-plated brass
	Terminals	Cable up to max. 1.5 mm² (16AWG), secure screws
Approvals		CE, cCSAus, File#: 601711, RoHS

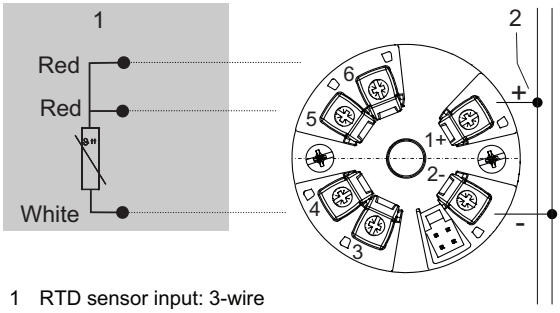
** Whichever is higher*

IEC Immunity			
Discharge of Static Electricity	IEC 61000-4-2	4kV cont., 8kV air	N/A
Electromagnetic Fields	IEC 61000-4-3	80MHz - 1GHz with 10V/m 1GHz - 6GHz with 3V/m	10V/m
Burst (Signal)	IEC 61000-4-4	1kV	N/A
Transient Voltage	IEC 61000-4-5	1kV unsym.	N/A
HF Coupling	IEC 61000-4-6	0.15 to 80MHz	3V

ProSense® Temperature Transmitters - Head Mounted

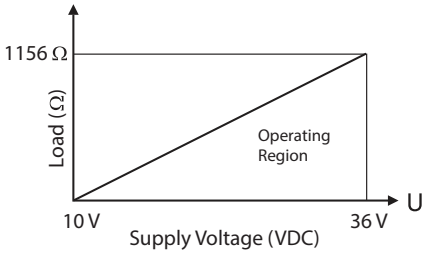
Wiring

XTH2 PT1 - Pt100 3-wire RTD Input



1 RTD sensor input: 3-wire
2 Power supply (10 to 36 VDC)

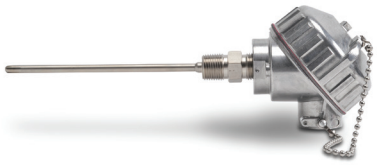
Load Impedance



RLmax = (Vpowersupply-10V) / 0.0225A (current output)
e.g. (24V - 10V) / 0.0225A = 622.2 Ω

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 XTH2 series transmitter and included mounting hardware.



Pre-Assembled ProSense Connection Head Temperature Probe

XTH2 Series Transmitter

Head Mounted Universal Temperature Transmitters - Programmable

XTH2-0-UNV-S

XTH2-0-UNV-P

Features - Programmable Models

- Sensor Types:
  - Thermocouple Types J, K, T, E, N, R, S, U, B, C, D, L, A
  - RTD Types Pt100, Pt200, Pt500, Pt1000, Pt50, Ni100, Ni120, Cu50, Cu100 (2, 3 or 4-wire)
  - Linear Resistance 10 to 400 Ohms, 10 to 2000 Ohms (2, 3 or 4-wire)
  - Millivolts -20 to 100 mV
- Measuring range configurable within the full range of the sensor type selected
- Selectable units of °F, °C, K, Ohm and mV
- Choose from internal, external, or user defined fixed value reference junction compensation for thermocouple inputs
- Wire resistance compensation for 2-wire RTDs
- Transmitter is powered by 10-36 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, XTH2-ENC-F, XTH2-ENC-P, DN-CLIP-FM4-5
- 2 kVAC isolation between input and output
- Quick and easy configuration with Free ProSense Field Device Configurator software and XT-USB cable (purchased separately) – NO decade box, meters, or signal generators needed!

Head Mounted Universal Temperature Transmitters - Programmable					
Part No.	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Drawing Link***	***Price***
XTH2-0-UNV-S	ProSense programmable temperature transmitter, isolated, Input: 1-channel, RTD/ thermocouple/voltage/potentiometer, deg F or deg C, Output: 1-channel, current, 10-36 VDC operating voltage, DIN Form B connection head mount, screw terminals.	1	0.20	PDF	$;05[nk:
XTH2-0-UNV-P	ProSense programmable temperature transmitter, isolated, Input: 1-channel, RTD/ thermocouple/voltage/potentiometer, deg F or deg C, Output: 1-channel, current, 10-36 VDC operating voltage, DIN Form B connection head mount, push-in terminals.	1	0.40	PDF	$;-05[nl:

Scan the QR Code above or click to view the XTH2 Series product insert.

Head Mounted Universal Temperature Transmitters - Programmable

Head Mounted Universal Temperature Transmitters - Programmable General Specifications			
	Input Type	***Programmable Measuring Range Limits***	***Min. Span***
Inputs	Pt100 RTD Pt200 RTD Pt500 RTD Pt1000 RTD (to IEC 751) a=0.003851)	-328 to 1562°F (-200 to 850°C) -328 to 1562°F (-200 to 850°C) -328 to 932°F (-200 to 500°C) -328 to 482°F (-200 to 250°C)	18°F (10°C)
	Pt100 RTD (to JIS C1604) (a=0.0039)	-328 to 950°F (-200 to 510°C)	18°F (10°C)
	Ni100 RTD Ni120 RTD (to DIN 43760) (a=0.006180)	-76 to 482°F (-60 to 250°C)	18°F (10°C)
	Ni100 RTD Ni120 RTD (to OIML, GOST) (a=0.006170)	-76 to 356°F (-60 to 180°C)	18°F (10°C)
	Pt50 RTD Pt100 RTD (to GOST) (a=0.00390)	-301 to 2012°F (-185 to 1100°C) -328 to 1562°F (-200 to 850°C)	18°F (10°C)
	Pt100 (Callendar van Dusen) Nickel polynomial Copper polynomial	The measuring range limits are specified by entering the limit values that depend on the coefficients A to C and R0.	18°F (10°C)
	Cu50 RTD Cu100 RTD (to OMIL, GOST) (a=0.004280)	-292 to 392°F (-180 to 200°C)	18°F (10°C)
	Cu50 RTD (to OMIL, GOST) (a=0.004260)	-58 to 392°F (-50 to 200°C)	18°F (10°C)

Head Mounted Universal Temperature Transmitters - Programmable

Head Mounted Universal Temperature Transmitters - Programmable General Specifications			
	Input Type	***Programmable Measuring Range Limits***	***Min. Span***
Inputs	RTDs: • Connection type: 2-, 3-, or 4-wire connection • Software compensation of cable resistance possible in the 2 wire system (0-30Ω) • Sensor cable resistance max. 50Ω per cable in the 3 and 4 wire system • Sensor current: ≤ 0.3mA		
	Resistance Ω	10 to 400 Ω 10 to 2000 Ω	10 Ω
	Thermocouples: Type A Type B Type E Type J Type K Type N Type R Type S Type T (to 60584, Part 1)	32 to 4532°F (0 to +2500°C) 104 to 3308°F (40 to +1820°C) -482 to 1832°F (-250 to +1000°C) -346 to 2192°F (-210 to +1200°C) -454 to 2501°F (-270 to +1372°C) -454 to 2372°F (-270 to +1300°C) -58 to 3214°F (-50 to +1768°C) -58 to 3214°F (-50 to +1768°C) -328 to 752°F (-200 to +400°C)	90°F (50°C)
	Thermocouples: Type C Type D (to ASTM E988)	32 to 4199°F (0 to +2315°C) 32 to 4199°F (0 to +2315°C)	90°F (50°C)
	Thermocouples: Type L Type U (to DIN 43710)	-328 to 1652°F (-200 to +900°C) -328 to 1112°F (-200 to +600°C)	90°F (50°C)
	Thermocouple: Type L (to GOST)	-328 to 1472°F (-200 to +800°C)	90°F (50°C)
	Thermocouples: • Internal cold junction (Pt100) or external programmable fixed value, -40 to 185°F (-40 to 85°C) • Accuracy of cold junction: ± 1.8°F (1°C) • Sensor current: 30nA • Maximum sensor wire resistance 10kΩ (If the sensor wire resistance is greater than 10 kΩ, an error message is output in accordance with NAMUR NE89.)		
	Millivolt (mV)	-20 to 100 mV	5 mV

ProSense® Head Mounted Universal Temperature Transmitters - Programmable

Head Mounted Universal Temperature Transmitters - Programmable General Specifications Cont.		
Output	*Output Signal*	4-20 mA, 20-4 mA programmable
	Signal Transmission	Output linear to temperature
	Fault Signal	Under ranging / Standard / 3.8 mA Over ranging / Standard / 20.5 mA Sensor failure; sensor short-circuit / To NAMUR NE43 / ≤ 3.6 mA (low) or ≥ 21 to 23 mA (high)
	Max. Load Impedance	(Vpowersupply- 10V) / 0.023 A e.g. (24v-10V) / 0.023A=608.7 Ω
	Galvanic Isolation	2 kV AC (input/output)
	Input Current Requirement	≤ 3.5 mA
	Current Limit	≤ 23 mA
	Switch on Delay	≤ 7 seconds (during power up output current = 3.8 mA)
	Response Time	1 second
	Digital Filter	0 to 120 seconds (programmable)
	Power Supply	10 to 36 VDC, polarity protected
Accuracy	*Reference Conditions*	Calibration temperature 77°F ±5.4 °F (25°C)
	Maximum Measuring Error	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	-58 to 212°F (-58 to 100°C)
	Climate Class	As per IEC 60 654-1, class C1
	Ingress Protection	IP00 with screw terminals, IP30 with push-in terminals/ IP66/68 when installed in NEMA Type 4x enclosure.
	Shock and Vibration	4g / 2 to 100 Hz (increased vibration stress) as per DNVGL-CG-0339 : 2015 and DIN EN 60068-2-27. Shock resistance as per KTA 3505 (section 5.8.4 Shock test)
	EMC Immunity	See Table 2
	Moisture Condensation	Permitted
Construction	*Materials*	Housing: Polycarbonate (PC); Potting: QSIL 553
	Terminals	Cable up to max. 1.75 mm² (16 AWG), secure screws
Approvals		CE, CSA, RoHS

Table 1 - Maximum Measuring Error

	Type	*Measurement Accuracy**
Resistance Thermometer (RTD)	Pt100 Pt1000	0.18°F (0.10°C) 0.14°F (0.08°C)
Thermocouple TC	K J T	1.15°F (0.64°C) 0.98°F (0.54°C) 0.95°F (0.53°C)
	Measurement Range	*Measurement Accuracy**
Resistance Transmitter (Ω)	10 to 400 Ω 10 to 2000 Ω	120.7 mΩ 623.4 mΩ
Voltage Transmitters (mV)	-20 to 100 mV	37.36 µV

** Maximum measured error for the specified measuring range.*
Note: For less common types see manual.

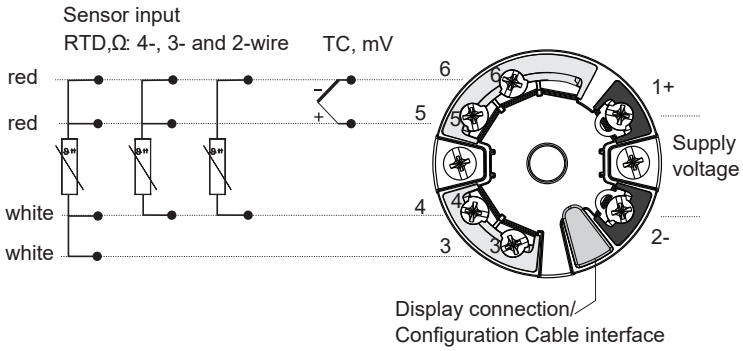
Table 2 - IEC Immunity

Discharge of Static Electricity	IEC 61000-4-2	6 kV cont., 8 kV air	N/A
Electromagnetic Fields	IEC 61000-4-3	0.08 to 2.7 GHz	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.	N/A
HF Coupling	IEC 61000-4-6	0.15 to 80 MHz	10V

*** self recovery*

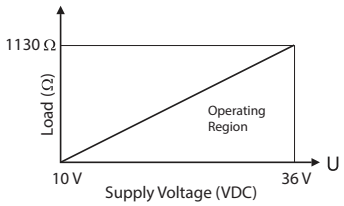
Head Mounted Universal Temperature Transmitters - Programmable

Wiring



Note: In the event of a thermocouple (TC) measurement, a 2-wire Pt100 RTD can be connected to measure the reference junction temperature. This is connected to terminals 4 and 6.

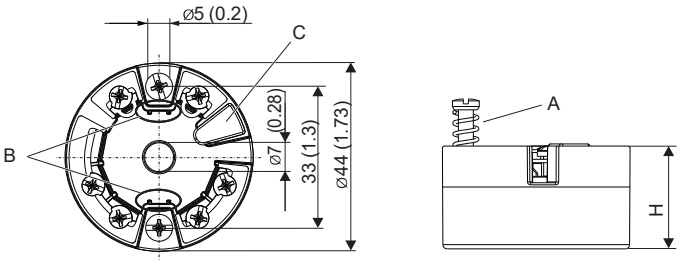
Load Impedance



RLmax = (Vpowersupply-10V) / 0.023A (current output) e.g. (24V - 10V) / 0.023A = 608.7 Ω

Dimensions

inches [mm]

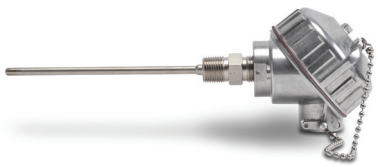


Head transmitter version with screw terminals.
Dimensions in mm (in)

- A Spring travel L ≥ 5 mm (not for US - M4 securing screws)
- B Mounting elements for attachable measured value display
- C Interface for contacting measured value display
- H The height of housing H varies depending on the terminal version:
  screw terminals = 24.1 mm (0.95 in)
  push-in terminals = 29.1 mm (1.15 in)

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

XTH2 Series Transmitter

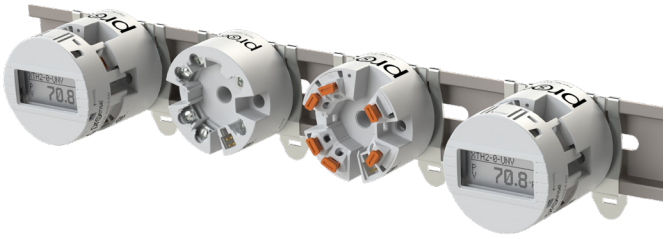
Head Mounted Universal Temperature Transmitters - Programmable Accessories

The **XTH2-UNV-DISP** is a convenient, easy to use display accessory for the XTH2 temperature transmitters. Simply clip the display on the XTH2 transmitter to get a digital readout of the transmitter scaled output. Transmitter configuration parameters are automatically read by the XTH2-UNV-DISP, so no additional configuration is required. A DIP switch setting is available to rotate the display reading 180 degrees.

The **XTH2-ENC-F** is a rugged aluminum NEMA 4X, IP66/68 rated field mount housing for the XTH2 temperature transmitters. The housing is designed to accommodate both the XTH2 transmitter and the XTH2-UNV-DISP, and includes a window to view the display reading from outside the housing. Two 1/2" female NPT ports are available for wiring access. The XHT2-ENC-F can be wall mounted using the XTH2-ENC-BKT1 wall mount bracket or pipe mounted using the XTH2-ENC-BKT2 pipe mount bracket.

The **XTH2-ENC-P** is a rugged aluminum NEMA 4X, IP66/68 rated probe connection head housing for the XTH2 temperature transmitters. The housing is designed to accommodate both the XTH2 transmitter and the XTH2-UNV-DISP, and includes a window to view the display reading from outside the housing. One 1/2" female NPT port is available for a temperature probe and another 1/2" female NPT port for wiring access.

For a low cost DIN rail mounted temperature transmitter with or without a display, the DN-CLIP-FM4-5 DIN rail clip can be used with the XTH2 transmitter and XTH2-UNV-DISP. Use the mounting hardware provided with the XTH2 temperature transmitter to attach two DN-CLIP-FM4-5 clips to the XTH2 transmitter and secure the assembly to DIN rail in a panel as shown in the image below.



Temperature transmitter, display, DIN rail, and DIN rail clips purchased separately.

XTH2-ENC-F

XTH2-ENC-P

XTH2-UNV-DISP

XTH2-ENC-BKT1

XTH2-ENC-BKT2

Note: Purchase XTH2-UNV-DISP separately

Head Mounted Universal Temperature Transmitters - Programmable Accessories

Part No.	Description	Pcs/Pkg	Wt (lb)	Drawing Link	Price
XTH2-UNV-DISP	ProSense display, polycarbonate. For use with programmable temperature transmitter XTH2-0-UNV-S and XTH2-0-UNV-P.	1	0.10	PDF	$;-5[nj:
XTH2-ENC-F	ProSense field housing, (2) 1/2in female NPT, -40 to +212 degrees F (-40 to 100 degrees C), aluminum, NEMA 4X, IP66 IP68. For use with programmable temperature transmitter XTH2-0-UNV-S and XTH2-0-UNV-P.	1	1.65	PDF	$;5[np:
XTH2-ENC-P	ProSense connection head, 1/2in female NPT probe connection, 1/2in female NPT, -40 to +212 degrees F (-40 to 100 degrees C), aluminum, NEMA 4X, IP66 IP68. For use with programmable temperature transmitter XTH2-0-UNV-S and XTH2-0-UNV-P.	1	1.65	PDF	$;5[nq:
XTH2-ENC-BKT1	ProSense wall mount bracket, 316L stainless steel. For use with field housing XTH2-ENC-F. Mounting hardware included.	1	0.22	PDF	$;5[ns:
XTH2-ENC-BKT2	ProSense pipe mount bracket, 316L stainless steel. For use with field housing XTH2-ENC-F. Mounting hardware included.	1	0.60	PDF	$;;5[nt:

ProSense® Temperature Transmitters - DIN Rail Mounted

XTD

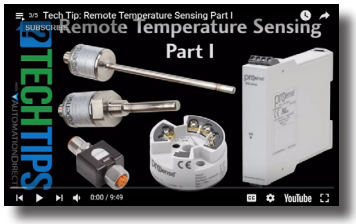
Features - Non-programmable Models

- 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

c UL us CE

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) (a= 0.00385)	-40 to 140°F (-40 to 60°C)	1	0.2	$;00d[y:
XTD-0100F-PT1		0 to 100°F (-17.8 to 37.8°C)	1	0.2	$;;00d[t:
XTD-0200F-PT1		0 to 200°F (-17.8 to 93.3°C)	1	0.2	$;00d[u:
XTD-0300F-PT1		0 to 300°F (-17.8 to 148.9°C)	1	0.2	$;00d[v:
XTD-0500F-PT1		0 to 500°F (-17.8 to 260°C)	1	0.2	$;00d[x:
XTD-0100F-J	J thermocouple (to NIST Monograph 175, IEC584)	0 to 100°F (-17.8 to 37.8°C)	1	0.2	$00d_v:
XTD-0200F-J		0 to 200°F (-17.8 to 93.3°C)	1	0.2	$;00d_]:
XTD-0300F-J		0 to 300°F (-17.8 to 148.9°C)	1	0.2	$00d_#:
XTD-0500F-J		0 to 500°F (-17.8 to 260°C)	1	0.2	$00d_?:
XTD-0800F-J		0 to 800°F (-17.8 to 426.7°C)	1	0.2	$00d#0:
XTD-01000F-J		0 to 1000°F (-17.8 to 537.8°C)	1	0.2	$;00d_t:
XTD-0100F-K	K thermocouple (to NIST Monograph 175, IEC584)	0 to 100°F (-17.8 to 37.8°C)	1	0.2	$00d_x:
XTD-0200F-K		0 to 200°F (-17.8 to 93.3°C)	1	0.2	$;00d_[:
XTD-0300F-K		0 to 300°F (-17.8 to 148.9°C)	1	0.2	$;00d_!:
XTD-0500F-K		0 to 500°F (-17.8 to 260°C)	1	0.2	$;00d_,:
XTD-0800F-K		0 to 800°F (-17.8 to 426.7°C)	1	0.2	$00d#1:
XTD-01000F-K		0 to 1000°F (-17.8 to 537.8°C)	1	0.2	$00d_u:
XTD-01500F-K		0 to 1500°F (-17.8 to 815.5°C)	1	0.2	$00d_y:
XTD-02000F-K		0 to 2000°F (-17.8 to 1093.3°C)	1	0.2	$00d_z:
XTD-N2000F-T	T thermocouple (to NIST Monograph 175, IEC584)	-200 to 0°F (-128.9 to -17.8°C)	1	0.2	$00d#3:
XTD-N100100F-T		-100 to 100°F (-73.3 to 37.8°C)	1	0.2	$00d#2:
XTD-0200F-T		0 to 200°F (-17.8 to 93.3°C)	1	0.2	$00d__:

Click on the thumbnail or go to https://www.automationdirect.com/VID-TE-0002 for a short video on DIN Rail Mounted Temperature Transmitters



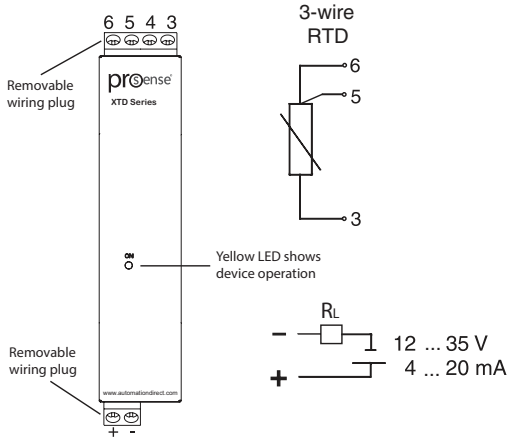
Click on the thumbnail or go to https://www.automationdirect.com/VID-TE-0006 for a short video on Remote Temperature Sensing

Scan the QR Code above or click to view the Fixed Range XTD Series product insert.

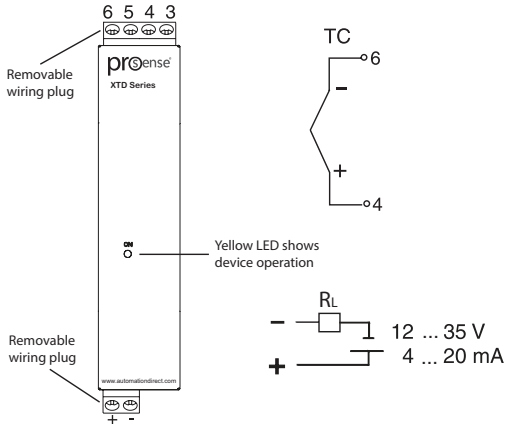
ProSense® Temperature Transmitters - DIN Rail Mounted

Wiring

XTD PT1

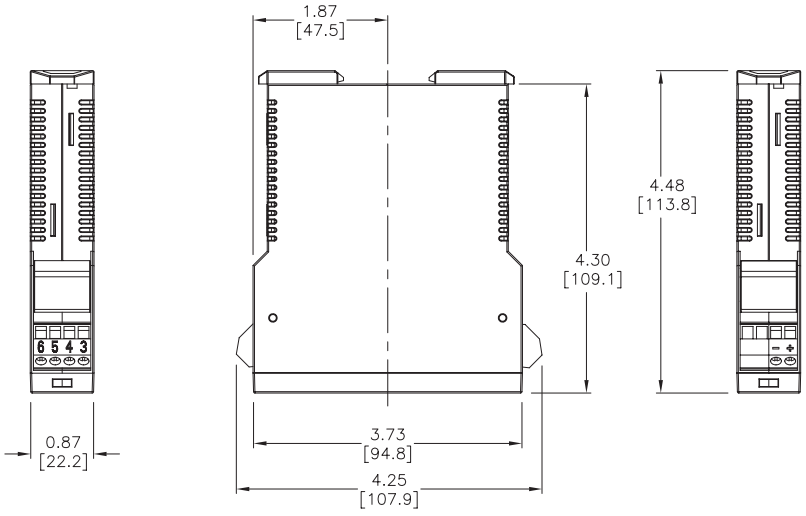


XTD J, K, & T



Dimensions

inches [mm]



DIN Rail Mounted Universal Temperature Transmitters - Programmable

XTD2-0-UNV-S

XTD2-0-UNV-P

Features - Programmable Models

- Sensor Types:
  - Thermocouple Types J, K, T, E, N, R, S, U, B, C, D, L, A
  - RTD Types Pt100, Pt200, Pt500, Pt1000, Pt50, Ni100, Ni120, Cu50, Cu100 (2, 3 or 4-wire)
  - Linear Resistance 10 to 400 Ohms, 10 to 2000 Ohms (2, 3 or 4-wire)
  - Millivolts -20 to 100 mV
- Measuring range configurable within the full range of the sensor type selected
- Selectable units of °F, °C, K, Ohm and mV
- Choose from internal, external, or user defined fixed value reference junction compensation for thermocouple inputs
- Wire resistance compensation for 2-wire RTDs
- Transmitter is powered by 11-36 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 on 35mm DIN rail in a control panel
- 2kVAC isolation between input and output
- Quick and easy configuration with Free ProSense Field Device Configurator software and XT-USB cable (purchased separately) – NO decade box, meters, or signal generators needed!

C US

DIN Rail Mounted Universal Temperature Transmitters - Programmable					
Part No.	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Drawing Link***	***Price***
XTD2-0-UNV-S	ProSense programmable temperature transmitter, isolated, Input: 1-channel, RTD/ thermocouple/voltage/potentiometer, deg F or deg C, Output: 1-channel, current, 11-36 VDC operating voltage, 35mm DIN rail mount, removable screw terminal plugs.	1	0.20	PDF	$;05[nn:
XTD2-0-UNV-P	ProSense programmable temperature transmitter, isolated, RTD, thermocouple, millivolt or potentiometer input, deg F or deg C, current output, 11-36 VDC operating voltage, 35mm DIN rail mount, removable push-in terminals.	1	0.40	PDF	$;05[no:

Scan the QR Code above or click to view the XTD2 Series product insert.

DIN Rail Mounted Universal Temperature Transmitters - Programmable

DIN Rail Mounted Universal Temperature Transmitters - Programmable General Specifications			
	Input Type	***Programmable Measuring Range Limits***	***Min. Span***
Inputs	Pt100 RTD Pt200 RTD Pt500 RTD Pt1000 RTD (to IEC 751) a=0.003851)	-328 to 1562°F (-200 to 850°C) -328 to 1562°F (-200 to 850°C) -328 to 932°F (-200 to 500°C) -328 to 482°F (-200 to 250°C)	18°F (10°C)
	Pt100 RTD (to JIS C1604) (a=0.0039)	-328 to 950°F (-200 to 510°C)	18°F (10°C)
	Ni100 RTD Ni120 RTD (to DIN 43760) (a=0.006180)	-76 to 482°F (-60 to 250°C)	18°F (10°C)
	Ni100 RTD Ni120 RTD (to OIML, GOST) (a=0.006170)	-76 to 356°F (-60 to 180°C)	18°F (10°C)
	Pt50 RTD Pt100 RTD (to GOST) (a=0.00390)	-301 to 2012°F (-185 to 1100°C) -328 to 1562°F (-200 to 850°C)	18°F (10°C)
	Pt100 (Callendar van Dusen) Nickel polynomial Copper polynomial	The measuring range limits are specified by entering the limit values that depend on the coefficients A to C and R0.	18°F (10°C)
	Cu50 RTD Cu100 RTD (to OMIL, GOST) (a=0.004280)	-292 to 392°F (-180 to 200°C)	18°F (10°C)
	Cu50 RTD (to OMIL, GOST) (a=0.004260)	-58 to 392°F (-50 to 200°C)	18°F (10°C)

DIN Rail Mounted Universal Temperature Transmitters - Programmable

DIN Rail Mounted Universal Temperature Transmitters - Programmable General Specifications			
	Input Type	***Programmable Measuring Range Limits***	***Min. Span***
Inputs	RTDs: • Connection type: 2-, 3-, or 4-wire connection • Software compensation of cable resistance possible in the 2 wire system (0-30Ω) • Sensor cable resistance max. 50Ω per cable in the 3 and 4 wire system • Sensor current: ≤ 0.3mA		
	Resistance Ω	10 to 400 Ω 10 to 2000 Ω	10 Ω
	Thermocouples: Type A Type B Type E Type J Type K Type N Type R Type S Type T (to 60584, Part 1)	32 to 4532°F (0 to +2500°C) 104 to 3308°F (40 to +1820°C) -482 to 1832°F (-250 to +1000°C) -346 to 2192°F (-210 to +1200°C) -454 to 2501°F (-270 to +1372°C) -454 to 2372°F (-270 to +1300°C) -58 to 3214°F (-50 to +1768°C) -58 to 3214°F (-50 to +1768°C) -328 to 752°F (-200 to +400°C)	90°F (50°C)
	Thermocouples: Type C Type D (to ASTM E988)	32 to 4199°F (0 to +2315°C) 32 to 4199°F (0 to +2315°C)	90°F (50°C)
	Thermocouples: Type L Type U (to DIN 43710)	-328 to 1652°F (-200 to +900°C) -328 to 1112°F (-200 to +600°C)	90°F (50°C)
	Thermocouple: Type L (to GOST)	-328 to 1472°F (-200 to +800°C)	90°F (50°C)
	Thermocouples: • Internal cold junction (Pt100) or external programmable fixed value, -40 to 185°F (-40 to 85°C) • Accuracy of cold junction: ± 1.8°F (1°C) • Sensor current: 30nA • Maximum sensor wire resistance 10kΩ (If the sensor wire resistance is greater than 10 kΩ, an error message is output in accordance with NAMUR NE89.)		
	Millivolt (mV)	-20 to 100 mV	5 mV

DIN Rail Mounted Universal Temperature Transmitters - Programmable

DIN Rail Mounted Universal Temperature Transmitters - Programmable General Specifications Cont.		
Output	Output Signal	4-20 mA, 20-4 mA programmable
	Signal Transmission	Output linear to temperature
	Fault Signal	Under ranging / Standard / 3.8 mA Over ranging / Standard / 20.5 mA Sensor failure; sensor short-circuit /To NAMUR NE43 / ≤ 3.6 mA (low) or ≥ 21 to 23 mA (high)
	Max. Load Impedance	(Vpowersupply- 11 V) / 0.023 A e.g. (24v-11V) / 0.023A=565.22Ω
	Galvanic Isolation	2 kV AC (input/output)
	Input Current Requirement	≤ 3.5 mA
	Current Limit	≤ 23 mA
	Switch on Delay	≤ 7 seconds (during power up output current = 3.8 mA)
	Response Time	1 second
	Digital Filter	0 to 120 seconds (programmable)
	Power Supply	11 to 36 VDC, polarity protected
Accuracy	Reference Conditions	Calibration temperature 77°F ±5.4 °F (25°C)
	Maximum Measuring Error	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 m 0.05% / Year
Installation	Orientation	Mount vertically to ensure maximum accuracy
Environmental	Ambient	-40 to 185°F (-40 to 85°C)
	Storage	-58 to 212°F (-50 to 100°C)
	Climate Class	As per IEC 60 654-1, class B2
	Ingress Protection	IP20
	Shock and Vibration	0.7g / 2 to 100 Hz (general vibration stress) as per DNVGL-CG-0339 : 2015 and DIN EN 60068-2-27. Shock resistance as per KTA 3505 (section 5.8.4 Shock test)
	EMC Immunity	See Table 2
	Moisture Condensation	Not Permitted
Construction	Materials	Housing: Polycarbonate (PC); Potting: Silgel612EH
	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 green power LED, Red status LED
Approvals		CE, CSA, RoHS

Table 1 - Maximum Measuring Error		
	Type	Measurement Accuracy*
Resistance Thermometer (RTD)	Pt100 Pt1000	0.18°F (0.10°C) 0.14°F (0.08°C)
Thermocouple TC	K J T	1.15°F (0.64°C) 0.98°F (0.54°C) 0.95°F (0.53°C)
	Measurement Range	Measurement Accuracy*
Resistance Transmitter (Ω)	10 to 400 Ω 10 to 2000 Ω	120.7 mΩ 623.4 mΩ
Voltage Transmitters (mV)	-20 to 100 mV	37.36 µV

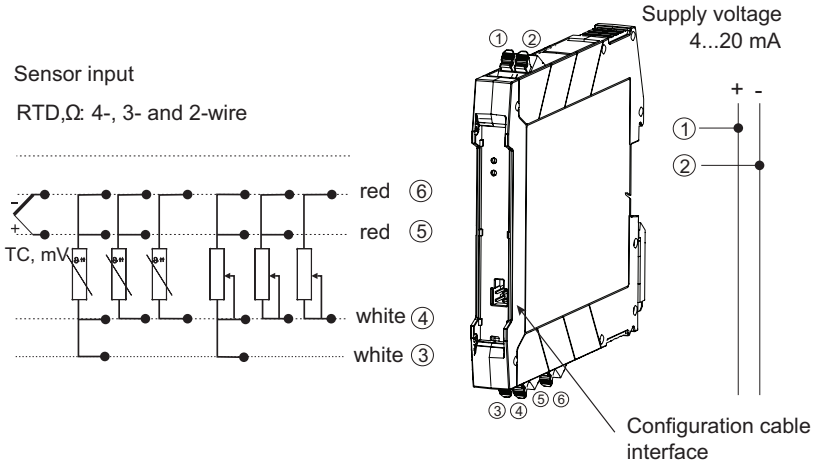
** Maximum measured error for the specified measuring range.*
Note: For less common types see manual.

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	0.08 to 2.7 GHz	10 V/m
Burst (Signal)	IEC 61000-4-4	1 kV (B)**	N/A
Transient Voltage	IEC 61000-4-5	1 kV unsym.	N/A
HF Coupling	IEC 61000-4-6	0.15 to 80 MHz	10V

*** self recovery*

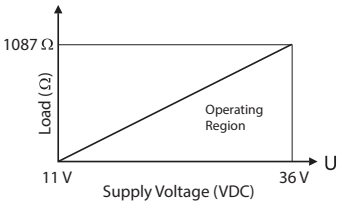
ProSense® Temperature Transmitters - DIN Rail Mounted

Wiring



** For convenient installation, wiring plugs are removable.*
Note: In the event of a thermocouple (TC) measurement, a 2-wire Pt100 RTD can be connected to measure the reference junction temperature. This is connected to terminals 4 and 6.

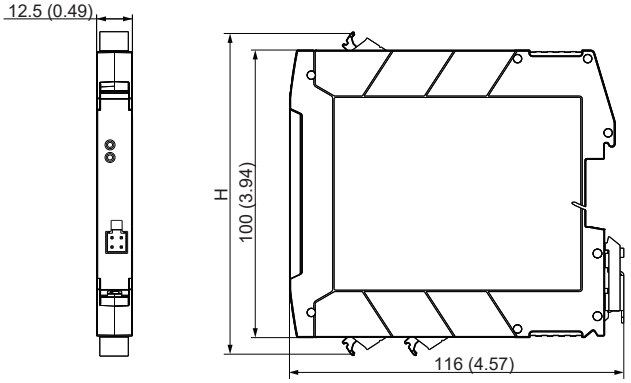
Load Impedance



RLmax = (Vpowersupply-11V) / 0.023A (current output)
e.g. (24V - 11V) / 0.023A = 565.22 Ω

Dimensions

inches [mm]



The height of housing H varies depending on the terminal version: screw terminals = 114 mm (4.49 in), push-in terminals = 111.5 mm (4.39 in)

ProSense® Temperature Transmitter Configuration Software

Quick and easy configuration with Free XT-SOFT and ProSense Field Device Configurator 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 XTD-0-UNV, and XTP series temperature transmitters and ETS series digital temperature sensors.

ProSense Field Device Configurator is a utility program that allows users to easily configure, monitor, and retrieve diagnostic information from the ProSense XTH2 and XTD2 series temperature transmitters.

Download your free copy of XT-SOFT and ProSense Field Device Configurator 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.

XT-SOFT System Requirements:

- Windows 10, 11
- 1 USB 2.0 Port
- 128 MB hard disk space

ProSense XT-SOFT

ProSense Field Device Configurator System Requirements:

- Windows 10, 11
- 1 USB 2.0 Port
- 25 MB hard disk space
- Microsoft .Net Framework ≥4.8
- PDF Reader

XTP Series Configuration Parameters (Requires XT-SOFT):

- 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: (Requires XT-SOFT)

- 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

ProSense® Temperature Transmitter Configuration Software

XTH2 & XTD2 Configuration Parameters (Requires Field Device Configurator):

- 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 -20 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, °C, K, Ohm and mV
- 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

XTH2 Series

XTD2 Series

ETS Series Configuration Parameters (Requires XT-SOFT):

- Basic Settings:
- Measuring unit (°C/°F/K)
- Offset: Configure zero point: ±18°F (±10°C/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)

ETS Series

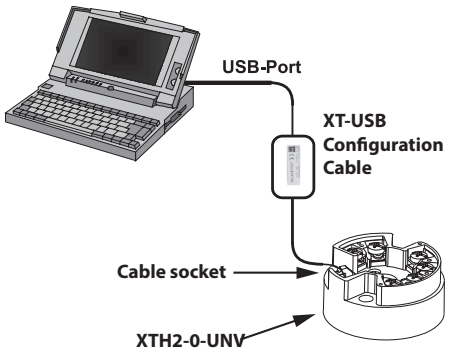
ProSense® Temperature Transmitter Configuration Software

XT-SOFT *XT-USB* *XT-M12*

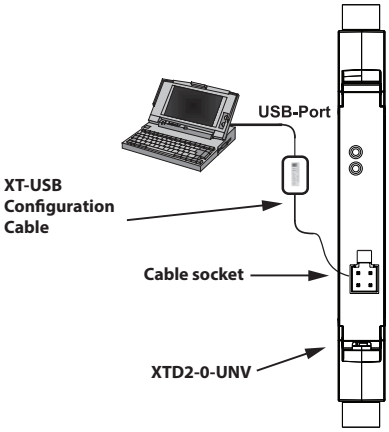
Part No.	Description	Pcs/Pkg	Wt(lb)	Price
XT-SOFT	ProSense configuration software, free download. For use with ProSense temperature transmitter XTP series, digital temperature sensor ETS series and models XTH-0-UNV, XTD-0-UNV.	1	N/A	Free Download
Field Device Configurator	ProSense configuration software, free download. For use with ProSense temperature transmitter series XTH2-0-UNV and XTD2-0-UNV.	1	N/A	Free Download
XT-USB	ProSense configuration cable, USB to keyed 4-pin male, 7.9 ft/2.4 m cable length. For use with XT-SOFT and Field Device Configurator software, ProSense temperature transmitter XTP series, digital temperature sensor ETS series and models XTH-0-UNV, XTD-0-UNV, XTH2-0-UNV, and XTD2-0-UNV.	1	0.4	$;004[c:
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	$;1g[q:

Connection Examples

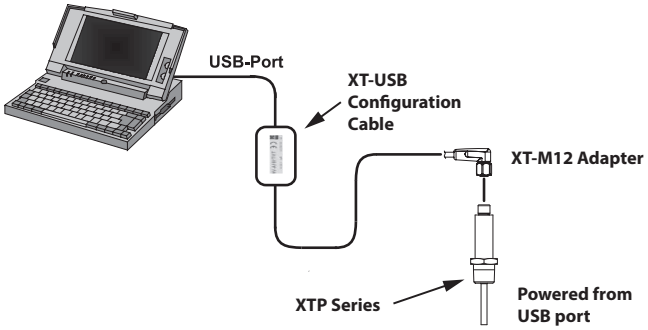
XTH2-0-UNV Connection (Requires Field Device Configurator)



XTD2-0-UNV Connection (Requires Field Device Configurator)

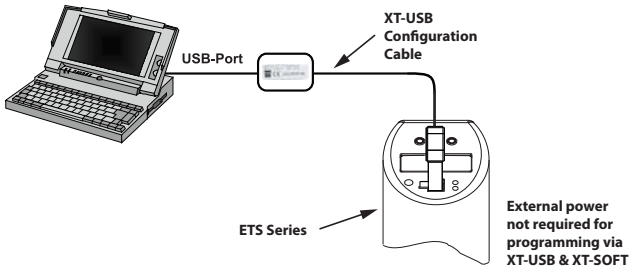


XTP Series Connection (Requires XT-SOFT)



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

ETS Series Connection (Requires XT-SOFT)



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

Scan the QR Code or click to view the help file for the XT-SOFT software.

Scan the QR Code or click to view the help file for the ProSense Field Device Configurator software.

ProSense® TTD Series Temperature Transmitters

Overview

- **Converts 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	$;0d!q:	CD12L-0B-020-A0 CD12L-0B-020-C0 CD12M-0B-070-A1 CD12M-0B-070-C1 CDP12-0B-010-AA CDP12-0B-030-AA CDP12-0B-010-BB CDP12-0B-030-BB
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	$;0d!s:	

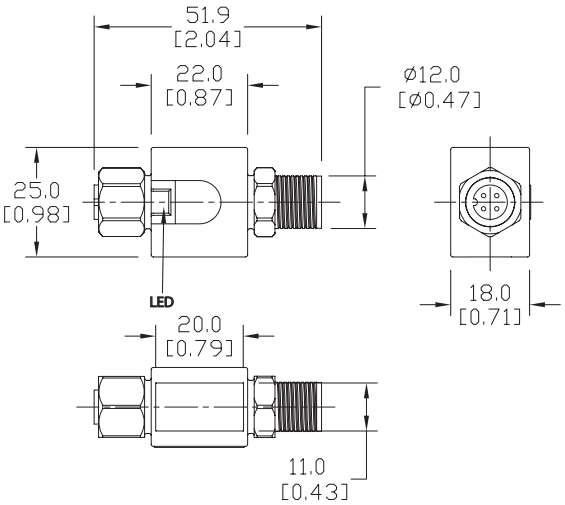
** Order separately - See proximity sensor section for cable specs.*

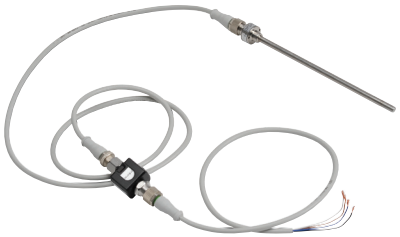
ProSense TTD Series Technical Specifications			
	TTD-20-N40160F-H	***TTD-20-N40300F-H***	***TTD-20-30300F-H***
Operating Voltage	20 to 32 VDC		
Electrical Connection	M12 connector; gold-plated contacts (torque 5 to 13 in/lbs)		
Short-Circuit Protection	Yes (non-latching)		
Overload Protection	Yes		
Reverse 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		

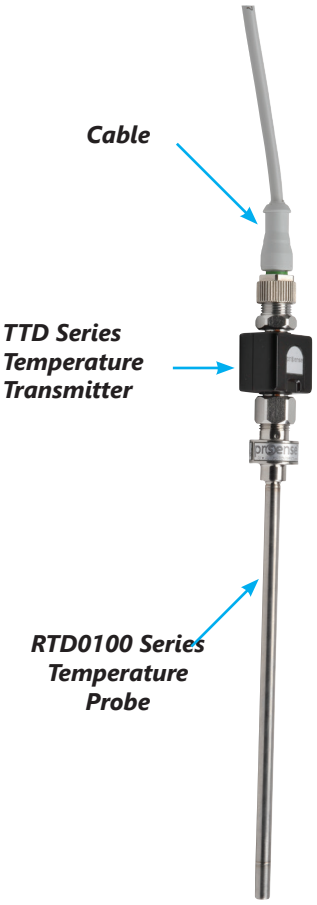
ProSense® TTD Series Temperature Transmitter

Dimensions

mm [inches]







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

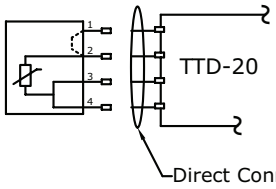
Wiring

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

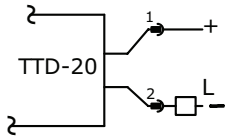
RTD0100-06-xxx-H



Direct Connection or Optional M12 Cable

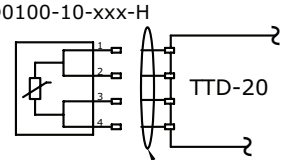
OUTPUT SIGNAL CONNECTION

2 Wire 4-20mA Output Signal



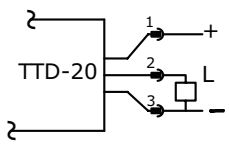
4 Wire RTD Sensor

RTD0100-10-xxx-H



Direct Connection or Optional M12 Cable

3 Wire 4-20mA Output Signal



Endress+Hauser
People for Process Automation

TMT36 iTEMP Programmable Temperature Transmitters with IO-LINK

Part No. TMT36-13A9/101

Part No. TMT36-13C0/101

The Endress+Hauser TMT36 iTEMP® programmable temperature transmitters work with Pt100 or Pt1000 RTD sensors. IO-Link communication output enables access to various temperature process variable, configuration, diagnostic, and logging parameters. These transmitters mount in a DIN Form B sensor connection head and are available with either screw or push-in terminals for electrical connection.

Features

- Sensor Types: RTD: Pt100 or Pt1000
- IO-Link communication output that enables access to various temperature process variable, configuration, diagnostic, and logging parameters.
- DIN Form B sensor connection head mounting
- Screw or push-in terminals
- Compatible with Endress+Hauser TID10-1009/0 display

IO-Link

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

Endress+Hauser TMT36 iTEMP Temperature Transmitter Selection

Part Number	Transmitter Type	Input	Output	Operating Voltage	Connection Head Mount	Electrical Connection	Weight (lb)	Price
TMT36-13A9/101	Non-isolated	1-channel, RTD	1-channel, IO-Link	18-30 VDC	DIN Form B connection head	Screw terminals	0.38	$;;06n!,:
TMT36-13C0/101						Push-in terminals	0.37	$06n?0:

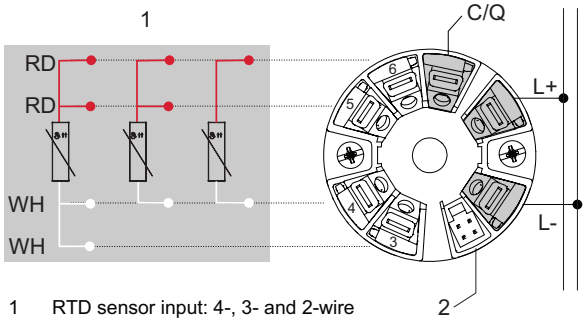
Endress+Hauser TMT36 Series iTEMP Programmable Temperature Transmitter Information

Part Number	Drawing Links	Manufacturer Tech Specs	Manufacturer Quick Start	Manufacturer Manual
TMT36-13A9/101	PDF	PDF	PDF	PDF
TMT36-13C0/101	PDF			

For complete technical information and installation see Manufacturer Tech Specs and Manual links.

TMT36 shown with optional TID10-1009/0 display

Wiring Information



1 RTD sensor input: 4-, 3- and 2-wire
2 Display connection
L+ Power supply 18 to 30 VDC
L- Power supply 0 VDC
C/Q IO-Link or switch output

Endress+Hauser
People for Process Automation

TMT72 iTEMP Programmable Temperature Transmitters with HART

Part No. TMT72-4LR3/142

Part No. TMT72-6XR7/101

Part No. TMT72-EQ74/115

Part No. TMT72-4H19/139

Download the free Endress+Hauser SmartBlue Mobile App for phone or tablet:

Download on the App Store | GET IT ON Google Play

Features

- Sensor Types:
  - Thermocouple Types J, K, T, E, N, R, S, U, B, C, D, L, A
  - RTD Types Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Cu50, Cu100 (2, 3, or 4-wire)
  - Linear Resistance 10 to 2000 Ohms (2, 3, or 4-wire)
  - Millivolts -20 to 100 mV
- Measuring range configurable within the full range of the sensor type selected
- Selectable units of °F, °C, K, Ohm and mV
- Choose from internal, external, or user defined fixed value reference junction compensation for thermocouple inputs
- Wire resistance compensation for 2-wire RTDs
- Head transmitter is powered by 10-36 VDC, and DIN rail transmitter is powered by 11-36 VDC
- Output is linearized 2-wire current loop and can be configured for 4-20 mA or 20-4 mA with HART Communications
- 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 DIN Form B sensor head or on 35mm DIN rail in a control panel
- 2kVAC isolation between input and output
- Screw or push-in terminals
- Compatible with Endress+Hauser TID10-1009/0 display
- Configured and monitored using HART communications or with its Bluetooth wireless interface on Android and iOS devices via the free Endress+Hauser SmartBlue App

HART COMMUNICATION PROTOCOL

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

Endress+Hauser TMT72 Series iTEMP Programmable Temperature Transmitter Selection

Part Number	Transmitter Type	Input	Output	Operating Voltage	Connection Head Mount	Electrical Connection	Weight (lb)	Price
TMT72-4LR3/142	Non-isolated	1-channel, RTD/ thermocouple/ bipolar voltage/ potentiometer, deg F or deg C	1-channel, 4-20 mA or 20-4 mA / HART	10-36 VDC	DIN Form B	Screw terminals	0.50	$;06n!#:
TMT72-6XR7/101						Push-in terminals	0.51	$;;06n!!:
TMT72-4H19/139				11-36 VDC	35mm DIN rail	Screw terminals	0.50	$;06n!?:
TMT72-EQ74/115						Push-in terminals	0.50	$;06n!_:

Endress+Hauser
People for Process Automation

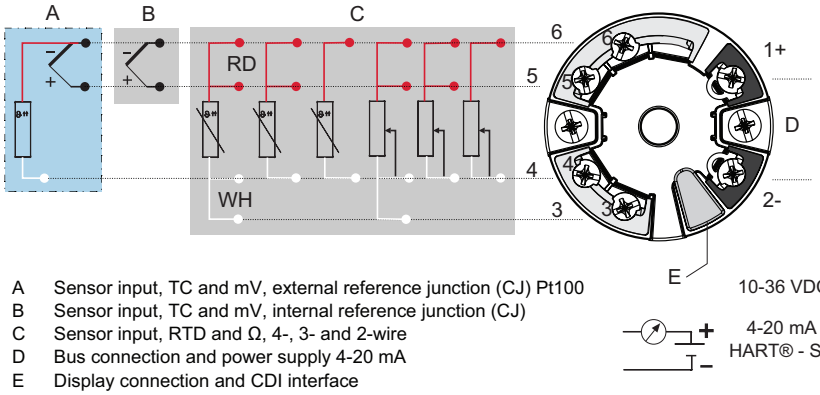
TMT72 iTEMP Programmable Temperature Transmitters with HART

Endress+Hauser TMT72 Series iTEMP Programmable Temperature Transmitter Information				
Part Number	***Drawing Links***	***Manufacturer Tech Specs***	***Manufacturer Quick Start***	***Manufacturer Manual***
TMT72-4LR3/142	PDF	PDF	PDF	PDF
TMT72-6XR7/101	PDF			
TMT72-4H19/139	PDF			
TMT72-EQ74/115	PDF			

For complete technical information and installation see Manufacturer Tech Specs and Manual links.

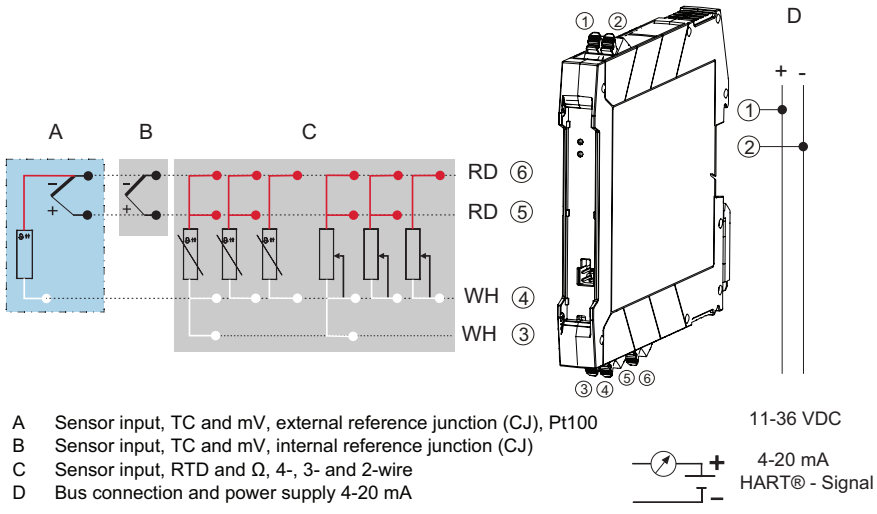
TMT72 shown with optional TID10-1009/0 display

Head Transmitter Wiring



A Sensor input, TC and mV, external reference junction (CJ) Pt100
B Sensor input, TC and mV, internal reference junction (CJ)
C Sensor input, RTD and Ω, 4-, 3- and 2-wire
D Bus connection and power supply 4-20 mA
E Display connection and CDI interface

DIN Rail Wiring Information



A Sensor input, TC and mV, external reference junction (CJ), Pt100
B Sensor input, TC and mV, internal reference junction (CJ)
C Sensor input, RTD and Ω, 4-, 3- and 2-wire
D Bus connection and power supply 4-20 mA

Endress+Hauser
People for Process Automation

TMT142B iTEMP Programmable Temperature Transmitter with HART

Part No. TMT142B-1E60/1W9

Download the free Endress+Hauser SmartBlue Mobile App for phone or tablet:

Download on the App Store | GET IT ON Google Play

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

Features

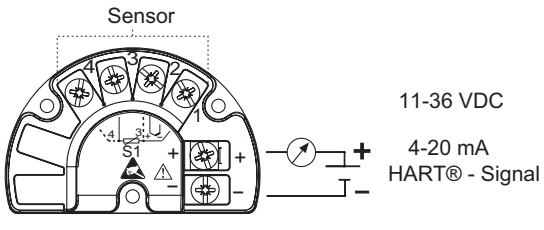
- Sensor Types:
  - Thermocouple Types J, K, T, E, N, R, S, U, B, C, D, L, A
  - RTD Types Pt50, Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Cu50, Cu100 (2, 3 or 4-wire)
  - Linear Resistance 10 to 2000 Ohms (2, 3, or 4-wire)
  - Millivolts -20 to 100 mV
- Measuring range configurable within the full range of the sensor type selected
- Selectable units of °F, °C, K, Ohm, and mV
- Choose from internal, external, or user defined fixed value reference junction compensation for thermocouple inputs
- Wire resistance compensation for 2-wire RTDs
- Powered by 11-36 VDC
- Output is linearized 2-wire current loop and can be configured for 4-20 mA or 20-4 mA with HART Communications
- 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
- 2kVAC isolation between input and output
- Die-cast aluminum IP67 housing
- Liquid crystal display of measured value with 20.5 mm digits, bar graph, engineering unit, and other information
- Configured and monitored using HART communications or with its Bluetooth wireless interface on Android and iOS devices via the free Endress+Hauser SmartBlue App

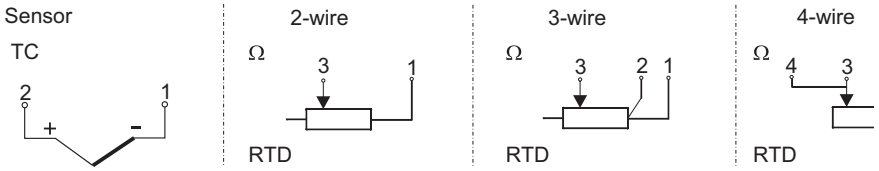
Endress+Hauser TMT142B Series iTEMP Programmable Temperature Transmitter			
Part Number	***Description***	***Weight (lb)***	***Price***
TMT142B-1E60/1W9	Endress+Hauser iTEMP programmable temperature transmitter, isolated, Input: 1-channel, RTD/thermocouple/bipolar voltage/potentiometer, deg F or deg C, Output: 1-channel, current/HART, 11-36 VDC operating voltage, IP66 and IP67, wall mount, (3) 1/2in female NPT.	4.25	$;006n?1:

Endress+Hauser TMT142B Series iTEMP Programmable Temperature Transmitter Information				
Part Number	***Drawing Links***	***Manufacturer Tech Specs***	***Manufacturer Quick Start***	***Manufacturer Manual***
TMT142B-1E60/1W9	PDF	PDF	PDF	PDF

For complete technical information and installation see Manufacturer Tech Specs and Manual links.

Wiring Information





Endress+Hauser
People for Process Automation

TMT36 & TMT72 iTEMP Programmable Temperature Transmitters Accessory

Part No. TID10-1009/0

The TID10-1009/0 is a convenient, easy to use display accessory for the Endress+Hauser TMT36 and TMT72 connection head temperature transmitters. Simply clip the display on the TMT36 or TMT72 transmitter to get a digital readout of the transmitter scaled output. Transmitter configuration parameters are automatically read by the TID10, so no additional configuration is required. A DIP switch setting is available to rotate the display reading 180 degrees.

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

Endress+Hauser TMT36 & TMT72 Programmable Temperature Transmitter Accessory

Part Number	Description	Weight (lb)	Price
TID10-1009/0	Endress+Hauser display, polycarbonate. For use with Endress+Hauser TMT36 and TMT72 programmable temperature transmitters.	0.36	$;06n[e:

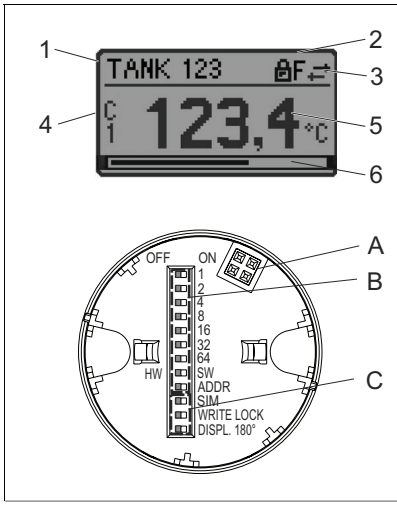
Display Information

Part Number	Drawing Links	Manufacturer Manual
TID10-1009/0	PDF	PDF

For complete technical information and installation see Manufacturer Manual link.

TID10-1009/0 shown mounted on a TMT72 transmitter.

Display Information



Pos.	Short description
1	Displays the TAG
2	Configuration locked
3	'Communication' symbol
4	Channel display C1, C2 (P1, S1)
5	Measured value and channel display or warning/ error message
6	Bargraph display (for HART® head transmitter)
A	Connection to head transmitter
B	DIP switch address setup
C	DIP switch device setup

DIP-Switches Default = OFF

ProSense® Thermowells

Overview

- Thermowells designed for use with ProSense thermocouple and RTD probes or ProSense Thermometers elminate the need for a separate probe mounting fitting or adapter

TW Series Thermowells

- 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
- 1-year warranty

RTDTW Series Thermowells

- Welded 316 stainless steel construction
- 1/2" NPT male process threads
- 3-year warranty

Thermowells for Thermocouples -TW Series

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	$08g2:	0.26"	2-3/4" / 1"	1/2" NPT	1/2" NPT	304 SS	304SS: 1000°F max; 3400psi max 316SS: 1000°F max; 5200psi max	See Sensor Compatibility Table
TW025-03	1	0.4	$08g3:			1/2" NPT		316 SS		
TW04-01	1	0.5	$08g4:		4-1/4" / 2-1/2"	1/2" NPT		304 SS		
TW04-02	1	0.5	$08g5:			3/4" NPT		304 SS		
TW04-03	1	0.5	$08g6:			1/2" NPT		316 SS		
TW04-04	1	0.5	$08g7:			3/4" NPT		316 SS		
TW06-01	1	0.7	$08g8:		6-1/4" / 4-1/2"	1/2" NPT		304 SS		
TW06-02	1	0.7	$08g9:			3/4" NPT		304 SS		
TW06-03	1	0.7	$08ga:			1/2" NPT		316 SS		
TW06-04	1	0.7	$08gb:			3/4" NPT		316 SS		
TW09-01	1	1.0	$08gc:		9-1/4" / 7-1/2"	1/2" NPT		304 SS		
TW09-03	1	1.0	$08gd:			1/2" NPT		316 SS		
TW12-01	1	1.2	$08ge:		12-1/4" / 10-1/2"	1/2" NPT		304 SS		
TW12-02	1	1.2	$;08gf:			3/4" NPT		304 SS		
TW12-03	1	1.2	$08gg:			1/2" NPT		316 SS		
TW12-04	1	1.2	$08gh:			3/4" NPT		316 SS		

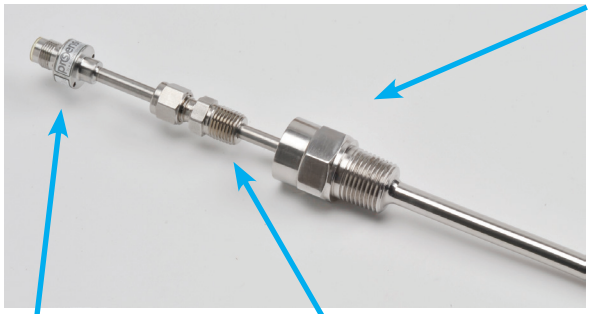
ProSense® Thermowells

Thermowells for Thermocouples -RTDTW Series										
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	$;08f_:	7 mm (0.28")	113mm (4.4")	1/2" NPT	1/4" NPT	316 SS	600°F (315°C) max; 232 psi (16 bar) max	XTP-160-N40140F XTP-160-0300F XTP-160-0100C RTD0100-06-010-H CF06-25N fitting
RTDTW-06-020-50N	1	0.20	$;08f#:		213mm (8.4")					XTP-260-N40140F XTP-260-0300F XTP-260-0100C RTD0100-06-020-H CF06-25N fitting
RTDTW-06-030-50N	1	0.30	$;;08f!:		313mm (12.3")					XTP-360-N40140F XTP-360-0300F XTP-360-0100C RTD0100-06-030-H CF06-25N fitting
RTDTW-10-010-50N	1	0.10	$;08f?:	11 mm (0.43")	92mm (3.62")		1/2" NPT			RTD0100-10-010-H CF10-50N fitting
RTDTW-10-030-50N	1	0.22	Retired		292mm (11.48")					CF10-50N fitting

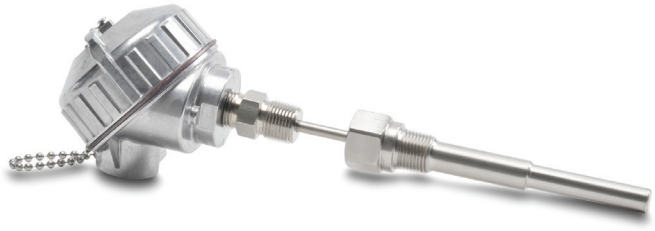
Note: Check the chemical compatibility of the thermowell's wetted parts with the medium to be measured.

Note: Response time will be slower 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

Probe & Thermowell Assembly Example



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.*

ProSense® Thermowells

Dimensions

inches [mm]

TW04-XX & TW025-XX

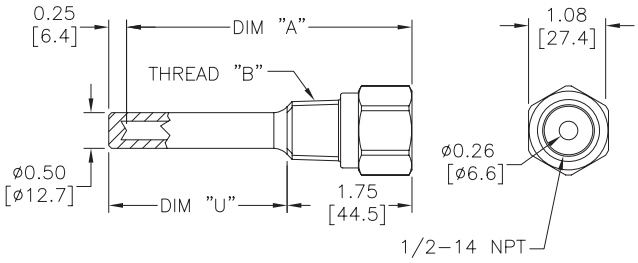


TABLE A			
PART NUMBER	DIM "A'	THREAD "B' NPT	DIM "U'
TW025–01	2.50[63.5]	1/2–14	1.00[25.5]
TW025–03	2.50[63.5]	1/2–14	
TW04–01	4.00[101.6]	1/2–14	2.50[63.5]
TW04–02	4.00[101.6]	3/4–14	
TW04–03	4.00[101.6]	1/2–14	
TW04–04	4.00[101.6]	3/4–14	

Dimensions

inches [mm]

TW06-XX
TW09-XX
TW12-XX

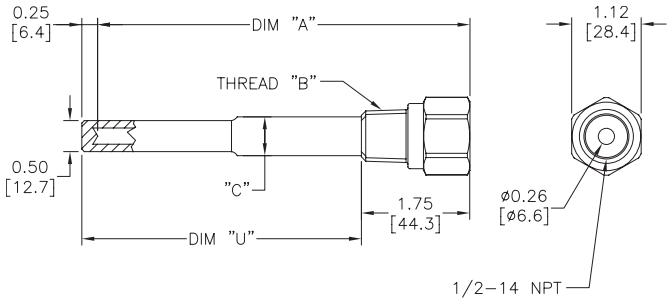


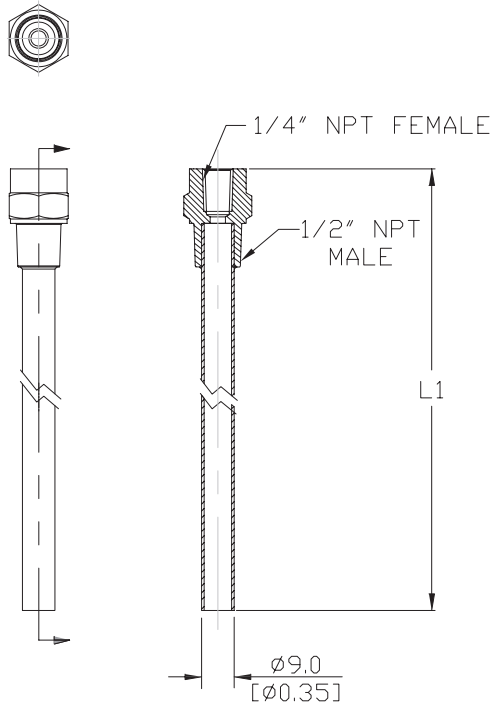
TABLE A				
PART NUMBER	DIM "A"	THREAD "B" NPT	DIM "C"	DIM "U"
TW06–01	6.00[152.4]	1/2–14	0.63[15.9]	4.50[14.3]
TW06–02	6.00[152.4]	3/4–14	0.75[19.1]	
TW06–03	6.00[152.4]	1/2–14	0.63[15.9]	
TW06–04	6.00[152.4]	3/4–14	0.75[19.1]	
TW09–01	9.00[228.6]	1/2–14	0.63[15.9]	7.50[190.5]
TW09–03	9.00[228.6]	1/2–14	0.63[15.9]	
TW12–01	12.00[304.8]	1/2–14	0.63[15.9]	10.50[266.7]
TW12–02	12.00[304.8]	3/4–14	0.75[19.1]	
TW12–03	12.00[304.8]	1/2–14	0.63[15.9]	
TW12–04	12.00[304.8]	3/4–14	0.75[19.1]	

ProSense® Thermowells

Dimensions

mm [inches]

RTDTW-06 Series

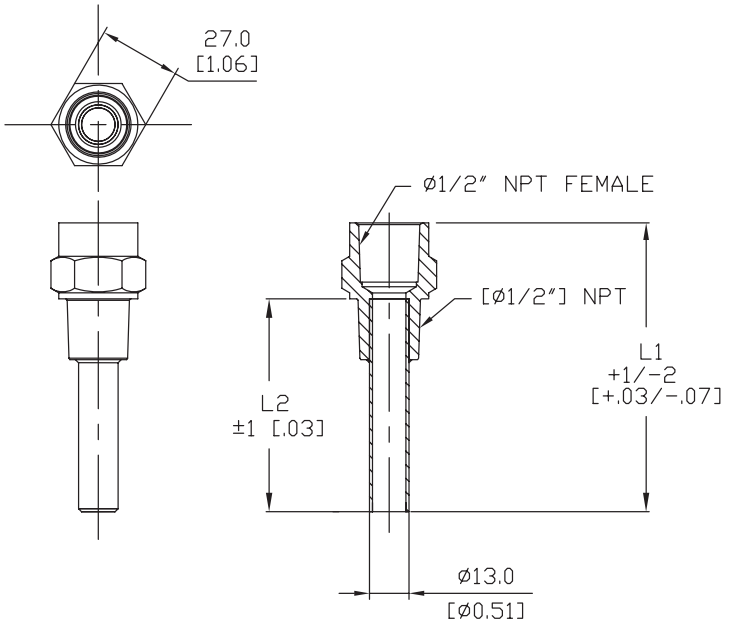


Part Number	L1
RTDTW-06-010-50N	113mm [4.4]
RTDTW-06-020-50N	213mm [8.4]
RTDTW-06-030-50N	313mm [12.3]

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.***

RTDTW-10 Series



Part Number	L1	L2
RTDTW-10-030-50N	92mm [3.62]	70mm [2.75]
RTDTW-10-050-50N	292mm [11.48]	270mm [10.6]

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

ProSense® Thermowells

TW Series Thermowells Sensor Compatibility Table

Thermowell	Junction Box	Connection Head	Hex Nipple	Attached Plug	Lead Wire Transition	M12	Thermometer
							
TW025-01 TW025-03	–	–	–	–	–	–	T30-N40160-25C T30-0250-25C T30-50500-25C T30-150750-25C T50-N40160-25A T50-0250-25A T50-50500-25A T50-150750-25A
TW04-01 TW04-02 TW04-03 TW04-04	NTC10K3-JB04-03	RTD1-C04-03 THMJ-C04-03 THMK-C04-03 NTC10K3-C04-03	RTD1-H04L01-02 THMJ-H04L01-02 THMK-H04L01-02 NTC10K3-H04L01-02	RTD1-P06-01 w/ CF14-50N THMJ-P06-02 w/ CF14-50N THMK-P06-02 w/ CF14-50N NTC10K3-P06-02 w/ CF14-50N	RTD1-T06L06-01 w/ CF14-50N THMJ-T06L06-02 w/ CF14-50N THMK-T06L06-02 w/ CF14-50N NTC10K3-T06L06-02 w/CF14-50N	RTD1-50N-100-H RTD0100-06-010-H w/CF14-50N XTP-160-N40140F w/CF14-50N XTP-160-0300F w/CF14-50N XTP-160-0100C w/CF14-50N XTP50N-100-N40140F XTP50N-100-0300F XTP50N-100-0100C ETS50N-100-1001 ETS50N-100-1003	T30-N40160-4C T30-0250-4C T30-50500-4C T30-150750-4C T50-N40160-4A T50-0250-4A T50-50500-4A T50-150750-4A
TW06-01 TW06-02 TW06-03 TW06-04	NTC10K3-JB06-03	RTD1-C06-03 THMJ-C06-03 THMK-C06-03 NTC10K3-C06-03	RTD1-H06L01-02 THMJ-H06L01-02 THMK-H06L01-02 NTC10K3-H06L01-02	RTD1-P12-01 w/ CF14-50N THMJ-P12-02 w/ CF14-50N THMK-P12-02 w/ CF14-50N NTC10K3-P12-02 w/ CF14-50N	RTD1-T12L06-01 w/ CF14-50N THMJ-T12L06-02 w/ CF14-50N THMK-T12L06-02 w/ CF14-50N NTC10K3-T12L06-02 w/CF14-50N	RTD1-50N-150-H RTD0100-06-020-H w/CF14-50N XTP-260-N40140F w/CF14-50N XTP-260-0300F w/CF14-50N XTP-260-0100C wCF14-50N XTP50N-150-N40140F XTP50N-150-0300F XTP50N-150-0100C ETS50N-150-1001 ETS50N-150-1003	T30-N40160-6C T30-0250-6C T30-50500-6C T30-150750-6C T50-N40160-6A T50-0250-6A T50-50500-6A T50-150750-6A
TW09-01 TW09-03	–	–	–	–	–	–	T50-N40160-9A T50-0250-9A T50-50500-9A T50-150750-9A
TW12-01 TW12-02 TW12-03 TW12-04	NTC10K3-JB12-03	RTD1-C12-03 THMJ-C12-03 THMK-C12-03 NTC10K3-C12-03	RTD1-H12L01-02 THMJ-H12L01-02 THMK-H12L01-02 NTC10K3-H12L01-02	RTD1-P18-01 w/ CF14-50N THMJ-P18-02 w/ CF14-50N THMK-P18-02 w/ CF14-50N NTC10K3-P18-02 w/ CF14-50N	RTD1-T18L06-01 w/ CF14-50N THMJ-T18L06-02 w/ CF14-50N THMK-T18L06-02 w/ CF14-50N NTC10K3-T18L06-02 w/CF14-50N	RTD0100-06-030-H w/CF14-50N XTP-360-N40140F w/CF14-50N XTP-360-0300F w/CF14-50N XTP-360-0100C w/CF14-50N	–

Note: Response time will be slower 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 Sanitary Clean-in-Place (CIP)

STW06-01

Overview

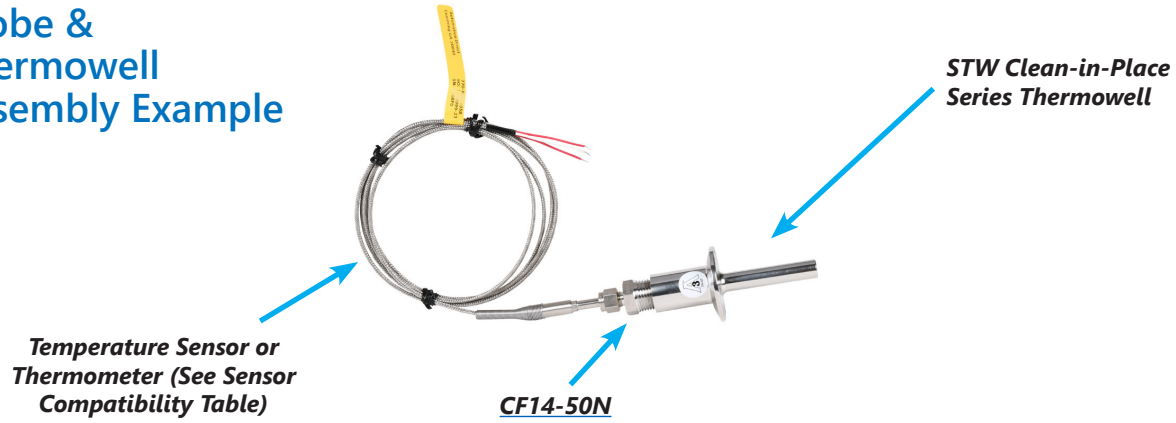
- Sanitary Clean-In-Place 3-A approved thermowells allow the use of standard temperature sensors in hygienic applications
- All wetted parts are 316 stainless steel
- Surface finish that meets or exceeds 32µin Ra
- Up to 1500/1200 psi (103/83 bar) at 70/250 °F (21/121 °C) dependent on clamp and seal assembly.
- Bore diameter of 0.260" to accommodate sensing probes with a 0.252" maximum diameter
- Probes with integral 1/2" male NPT process threads mount directly into the thermowell. Probes without threads require a compression fitting with 1/2" male NPT threads.

Thermowells Sanitary Clean-in-Place (CIP)									
Part Number	*Pcs/Pkg*	*Wt(lb)*	*Price*	*I.D.*	*Overall Length/"U" Length*	*Process Connection*	*Female Probe Threads*	*Wetted Material*	*Use With*
STW04-01	1	0.75	$054k7:	ø0.260	4-1/4" / 2-1/2"	1-1/2" tri-clamp	1/2" NPT	316 stainless steel	See Sensor Compatibility Table
STW06-01	1	0.88	$054kc:		6-1/4" / 4-1/2"				
STW12-01	1	1.13	$054ke:		12-1/4" / 10-1/2"				
STW04-02	1	0.75	$054k8:		4-1/4" / 2-1/2"	2" tri-clamp			
STW06-02	1	0.88	$054kd:		6-1/4" / 4-1/2"				
STW12-02	1	1.13	$;054kf:		12-1/4" / 10-1/2"				

Note: Check the chemical compatibility of the thermowell's wetted parts with the medium to be measured.

Note: Response time will be slower 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

Probe & Thermowell Assembly Example



ProSense® Thermowells Sanitary Clean-in-Place (CIP)

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]

STWXX-XX

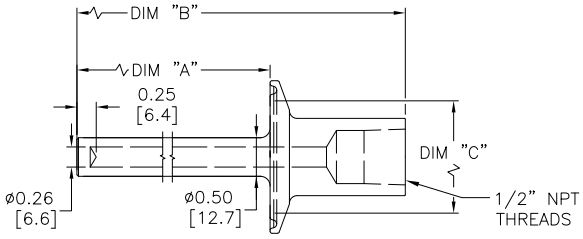


TABLE A			
PART NUMBER	DIM "A"	DIM "B"	DIM "C"
STW04–01	2.50[63.5]	4.25[108.0]	1.50[38.1]
STW06–01	4.50[114.3]	6.25[158.8]	1.50[38.1]
STW12–01	10.50[266.8]	12.25[311.3]	1.50[38.1]
STW04–02	2.50[63.5]	4.25[108.0]	2.00[50.8]
STW06–02	4.50[114.3]	6.25[158.5]	2.00[50.8]
STW12–02	10.50[266.8]	12.25[311.3]	2.00[50.8]

ProSense® Thermowells Sanitary Clean-in-Place (CIP)

Thermowells Sanitary Clean-in-Place (CIP) Sensors Compatibility Table

Thermowell	Junction Box	Connection Head Sensor	Hex Nipple Sensor	Attached Plug Sensor	Lead Wire Transition Sensor	M12 Sensor	Thermometer
							
STW04-01	NTC10K3-JB04-03	RTD1-C04-03 THMJ-C04-03 THMK-C04-03 NTC10K3-C04-03	RTD1-H04L01-02 THMJ-H04L01-02 THMK-H04L01-02 NTC10K3-H04L01-02	RTD1-P06-01 w/ CF14-50N THMJ-P06-02 w/ CF14-50N THMK-P06-02 w/ CF14-50N NTC10K3-P06-02 w/ CF14-50N	RTD1-T06L06-01 w/ CF14-50N THMJ-T06L06-02 w/ CF14-50N THMK-T06L06-02 w/ CF14-50N	RTD1-50N-100-H RTD0100-06-010-H w/CF14-50N XTP-160-N40140F w/CF14-50N XTP-160-0300F w/CF14-50N XTP-160-0100C w/CF14-50N XTP50N-100-N40140F XTP50N-100-0300F XTP50N-100-0100C ETS50N-100-1001 ETS50N-100-1003	T30-N40160-4C T30-0250-4C T30-50500-4C T30-150750-4C T50-N40160-4A T50-0250-4A T50-50500-4A T50-150750-4A
STW06-01	NTC10K3-JB06-03	RTD1-C06-03 THMJ-C06-03 THMK-C06-03 NTC10K3-C06-03	RTD1-H06L01-02 THMJ-H06L01-02 THMK-H06L01-02 NTC10K3-H06L01-02	RTD1-P12-01 w/ CF14-50N THMJ-P12-02 w/ CF14-50N THMK-P12-02 w/ CF14-50N NTC10K3-P12-02 w/ CF14-50N	RTD1-T12L06-01 w/ CF14-50N THMJ-T12L06-02 w/ CF14-50N THMK-T12L06-02 w/ CF14-50N	RTD1-50N-150-H RTD0100-06-020-H w/CF14-50N XTP-260-N40140F w/CF14-50N XTP-260-0300F w/CF14-50N XTP-260-0100C wCF14-50N XTP50N-150-N40140F XTP50N-150-0300F XTP50N-150-0100C ETS50N-150-1001 ETS50N-150-1003	T30-N40160-6C T30-0250-6C T30-50500-6C T30-150750-6C T50-N40160-6A T50-0250-6A T50-50500-6A T50-150750-6A
STW12-01	NTC10K3-JB12-03	RTD1-C12-03 THMJ-C12-03 THMK-C12-03 NTC10K3-C12-03	RTD1-H12L01-02 THMJ-H12L01-02 THMK-H12L01-02 NTC10K3-H12L01-02	RTD1-P18-01 w/ CF14-50N THMJ-P18-02 w/ CF14-50N THMK-P18-02 w/ CF14-50N NTC10K3-P18-02 w/ CF14-50N	RTD1-T18L06-01 w/ CF14-50N THMJ-T18L06-02 w/ CF14-50N THMK-T18L06-02 w/ CF14-50N	RTD0100-06-030-H w/CF14-50N XTP-360-N40140F w/CF14-50N XTP-360-0300F w/CF14-50N XTP-360-0100C w/CF14-50N	–
STW04-02	NTC10K3-JB04-03	RTD1-C04-03 THMJ-C04-03 THMK-C04-03 NTC10K3-C04-03	RTD1-H04L01-02 THMJ-H04L01-02 THMK-H04L01-02 NTC10K3-H04L01-02	RTD1-P06-01 w/ CF14-50N THMJ-P06-02 w/ CF14-50N THMK-P06-02 w/ CF14-50N NTC10K3-P06-02 w/ CF14-50N	RTD1-T06L06-01 w/ CF14-50N THMJ-T06L06-02 w/ CF14-50N THMK-T06L06-02 w/ CF14-50N	RTD1-50N-100-H RTD0100-06-010-H w/CF14-50N XTP-160-N40140F w/CF14-50N XTP-160-0300F w/CF14-50N XTP-160-0100C w/CF14-50N XTP50N-100-N40140F XTP50N-100-0300F XTP50N-100-0100C ETS50N-100-1001 ETS50N-100-1003	T30-N40160-4C T30-0250-4C T30-50500-4C T30-150750-4C T50-N40160-4A T50-0250-4A T50-50500-4A T50-150750-4A
STW06-02	NTC10K3-JB06-03	RTD1-C06-03 THMJ-C06-03 THMK-C06-03 NTC10K3-C06-03	RTD1-H06L01-02 THMJ-H06L01-02 THMK-H06L01-02 NTC10K3-H06L01-02	RTD1-P12-01 w/ CF14-50N THMJ-P12-02 w/ CF14-50N THMK-P12-02 w/ CF14-50N NTC10K3-P12-02 w/ CF14-50N	RTD1-T12L06-01 w/ CF14-50N THMJ-T12L06-02 w/ CF14-50N THMK-T12L06-02 w/ CF14-50N	RTD1-50N-150-H RTD0100-06-020-H w/CF14-50N XTP-260-N40140F w/CF14-50N XTP-260-0300F w/CF14-50N XTP-260-0100C wCF14-50N XTP50N-150-N40140F XTP50N-150-0300F XTP50N-150-0100C ETS50N-150-1001 ETS50N-150-1003	T30-N40160-6C T30-0250-6C T30-50500-6C T30-150750-6C T50-N40160-6A T50-0250-6A T50-50500-6A T50-150750-6A
STW12-02	NTC10K3-JB12-03	RTD1-C12-03 THMJ-C12-03 THMK-C12-03 NTC10K3-C12-03	RTD1-H12L01-02 THMJ-H12L01-02 THMK-H12L01-02 NTC10K3-H12L01-02	RTD1-P18-01 w/ CF14-50N THMJ-P18-02 w/ CF14-50N THMK-P18-02 w/ CF14-50N NTC10K3-P18-02 w/ CF14-50N	RTD1-T18L06-01 w/ CF14-50N THMJ-T18L06-02 w/ CF14-50N THMK-T18L06-02 w/ CF14-50N	RTD0100-06-030-H w/CF14-50N XTP-360-N40140F w/CF14-50N XTP-360-0300F w/CF14-50N XTP-360-0100C w/CF14-50N	–

Note: Response time will be slower 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® Connection Head and Ceramic Terminal Bases

Overview

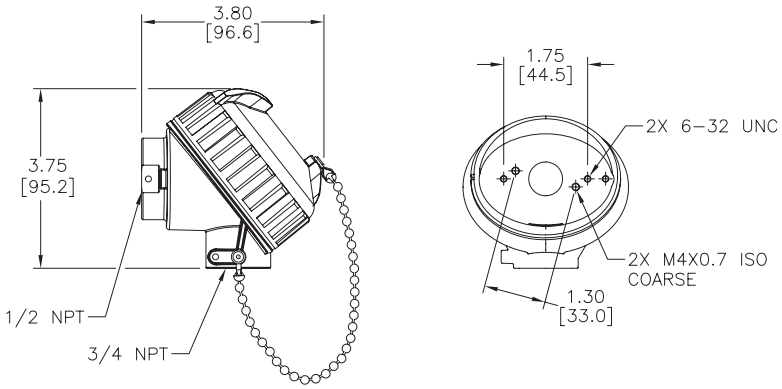
- Cast aluminum NEMA 4X, IP66 screw cover head with captive gasket
- One turn cover removal & installation eliminates cross threading and saves time
- 3/4" NPT conduit opening with internal stop to prevent overtightening and installation damage
- Gripping ribs on cover edge
- Stainless steel cover chain
- 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	$;06uf:

Dimensions

inches [mm]

CHSC-AL-1



CHTB-2

CHTB-3

Overview

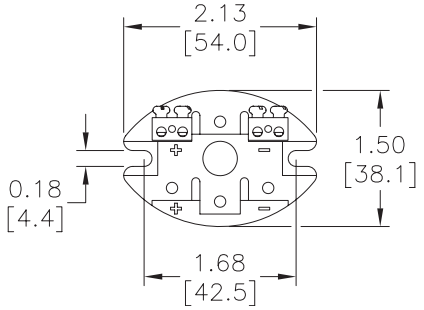
- Available with two terminals for thermocouples or three terminals for RTDs
- Fits CHSC-AL-1 connection heads
- Cermaic base with brass terminals and stainless steel screws
- Accepts up to 12 AWG wire

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	$;5]5:
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	$;5]6:

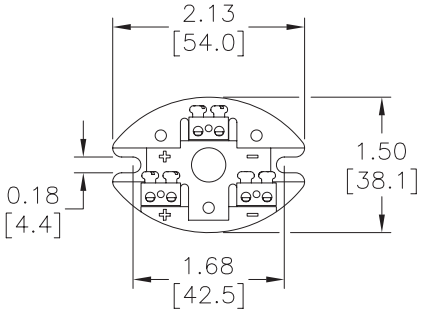
Dimensions

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	$eku:
BCF14-125N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	0.5	$ekq:
BCF18-25N	Compression fitting, brass, for 1/8 inch diameter temperature probes,1/4 inch NPT male thread	1	0.5	$ekv:
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	0.5	$eks:
BCF18-50N	Compression fitting, brass, for 1/8 inch diameter temperature probes,1/2 inch NPT male thread	1	0.5	$ekx:
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	0.5	$;ekt:
CF18-125N	Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/8 inch NPT male thread	1	0.5	$ek#:
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	0.5	$;ek]:
CF18-25N	Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/4 inch NPT male thread	1	0.5	$;ek!:
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	0.5	$;ek[:
CF18-50N	Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/2 inch NPT male thread	1	0.5	$0ek?:
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	0.5	$0ek_:
CFTF-18**	Teflon™ ferrule for brass or stainless steel compression fittings and 1/8 diameter temperature probes	5	0.5	$ea?:
CFTF-14**	Teflon ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes	5	0.5	$;ea!:
CF06-25N	1/4 NPT stainless steel compression fitting for 0.24 inch (6 mm) diameter RTD probe with M12 connector.	1	0.18	$0eky:
CF10-50N	1/2 NPT stainless steel compression fitting for 10 mm (0.4 inch) diameter RTD probe with M12 connector.	1	0.20	$0ekz:
CF18-BC	Bayonet compression fitting, for 1/8" diameter probe sheath sensors	1	0.1	$0ea#:
BB125N-50N	Reducing bushing, brass, 1/2 MNPT x 1/8 FNPT, hex head	1	0.1	$-el3:

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*
***Teflon has a max working temperature range of -400 to 500°F (-240 to 260°C)*

BCF18-125N

BCF18-25N

BCF18-50N

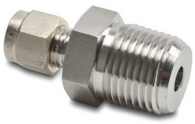
BB125N-50N

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

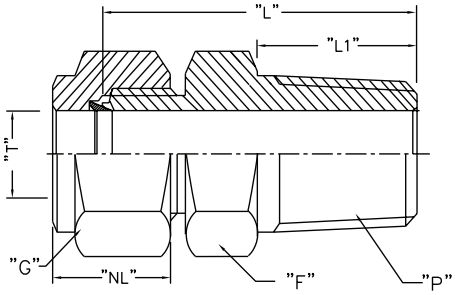
BCF14-50N

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
** w 0.07*
*** w 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*

Scan the QR Code or click to view the CF06 & CF10 Compression Fitting Installation Instructions

ProSense® Bayonet Mounting Adapter for Temperature Sensors

Bayonet Mounting Adapter for Temperature Sensors					
Part Number	**Description**	**Material**	**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	Stainless Steel (304)	1	0.5	$4bb:
BA-100	Bayonet adapter, 1 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT		1	0.5	$4bc:
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	$4be:
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	$4bd:
BA-200	Bayonet adapter, 2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT		1	0.5	$;4bf:
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	$4bg:
BA-300	Bayonet adapter, 3 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT		1	0.5	$4bh:
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	$-4bi:
CF18-BC	Adjustable bayonet compression fitting, for 1/8" diameter probe sheath sensors		1	0.1	$0ea#:
BB125N-50N	Reducing bushing, 1/2 MNPT x 1/8 FNPT, hex head	Brass	1	0.1	$-el3:

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

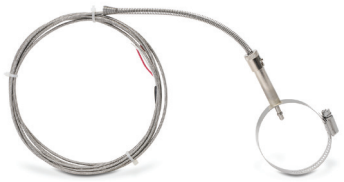
BA-212

ProSense® Pipe Clamp Adapters

PCA-300

Overview

- For use with ProSense adjustable immersion thermocouple and RTD sensors
- Available in adjustable diameters from 11/16 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, 11/16 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	$-04bj:
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	$04bk:
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	$-04bl:
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	$04bn:
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	$04bo:

Dimensions

inches [mm]

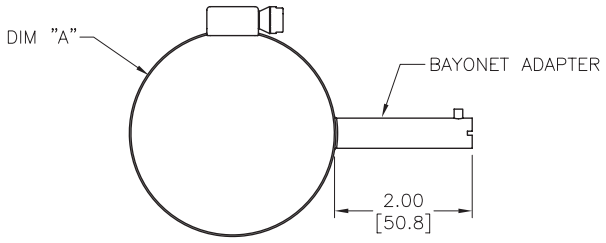


TABLE A		
PART NUMBER	DIM "A"	FITS PIPE SIZES
PCA–125	ø0.68–1.25 [ø17.2–31.7]	1/2 TO 3/4 NPS
PCA–200	ø1.06–2.00 [ø26.9–50.8]	1 TO 1–1/2 NPS
PCA–300	ø2.06–3.00 [ø52.3–76.2]	2 TO 2–1/2 NPS
PCA–425	ø3.31–4.25 [ø84.1–108.0]	3 TO 3–1/2 NPS
PCA–500	ø4.12–7.00 [ø104.6–177.8]	4 TO 6 NPS

ProSense® Thermocouple, RTD, and Thermistor 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
- 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

Thermocouple, RTD, and Thermistor 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	$-43i:	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	$43h:		Standard round pin jack				–
THMJ-SPJ	1	0.5	$-043j:		Standard round direct mount jack			40 AWG (0.08 mm) to 20 AWG maximum (0.8 mm)	WCB-M
THMJ-MP	1	0.5	$;43f:		Miniature flat pin plug				–
THMJ-MJ	1	0.5	$43e:		Miniature flat pin jack				
THMJ-MPJ	1	0.5	$43g:		Miniature round direct mount jack				
THMK-SP	1	0.5	$43s:	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	$43q:		Standard round pin jack				–
THMK-SPJ	1	0.5	$;043t:		Standard round direct mount jack			40 AWG (0.08 mm) to 20 AWG maximum (0.8 mm)	WCB-M
THMK-MP	1	0.5	$43o:		Miniature flat pin plug				–
THMK-MJ	1	0.5	$43n:		Miniature flat pin jack				
THMK-MPJ	1	0.5	$43p:		Miniature round direct mount jack				
THMK-HSP	1	0.5	$-043l:		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	$043k:		Standard hi-temp round pin jack				–
THMT-SP	1	0.5	$43z:	T	Standard round pin plug	Max continuous 400°F (200°C)	Blue	40 AWG (0.08 mm) to 20 AWG maximum (0.8 mm)	WCB-M
THMT-SJ	1	0.5	$43y:		Standard round pin jack				–
THMT-SPJ	1	0.5	$;043]:		Standard round direct mount jack				
THMT-MP	1	0.5	$43v:		Miniature flat pin plug				
THMT-MJ	1	0.5	$43u:		Miniature flat pin jack				
THMT-MPJ	1	0.5	$43x:		Miniature round direct mount jack				
RTD-SP	1	0.5	$42x:	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	$042v:		Standard round pin jack				
NTC-SJ	1	0.5	$;6a!q:	Thermistor	Standard round pin jack				

THMT-SP

THMT-SJ

THMK-SP

THMK-SJ

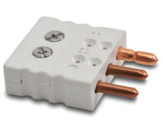
THMK-MP

THMJ-MJ

THMT-SPJ

THMT-MPJ

RTD-SP



RTD-SJ

THMK-HSP

THMK-HSJ

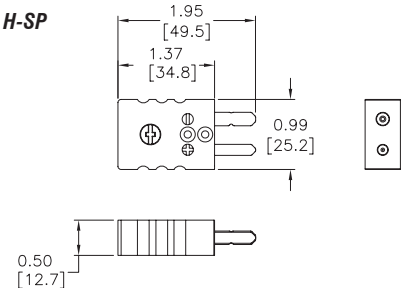
NTC-SJ

ProSense® Thermocouple, RTD, and Thermistor Connectors

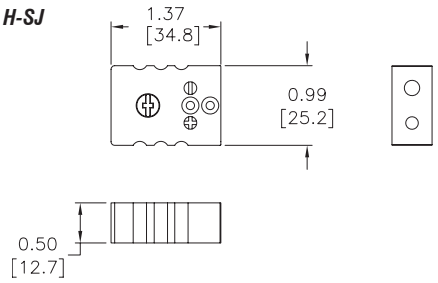
Dimensions

inches [mm]

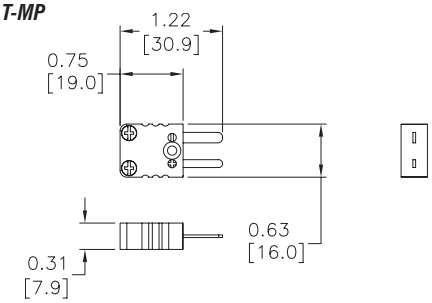
THMJ, K, T, & H-SP



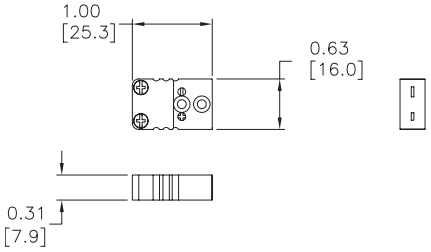
THMJ, K, T, & H-SJ



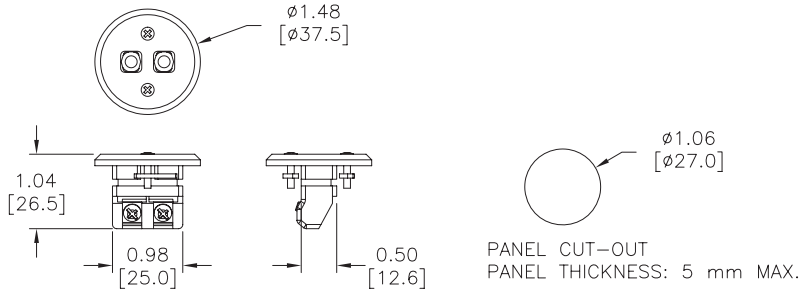
THMJ, K, & T-MP



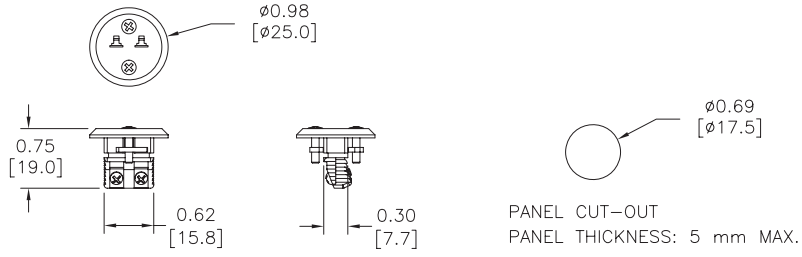
THMJ, K, & T-MJ



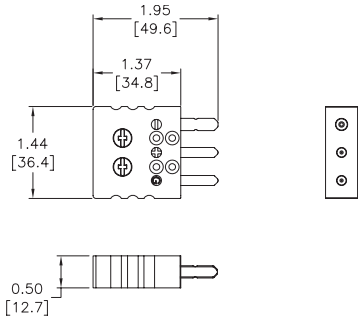
THMJ, K, & T-SPJ



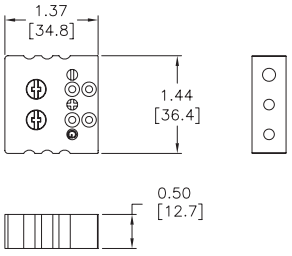
THMJ, K, & T-MPJ



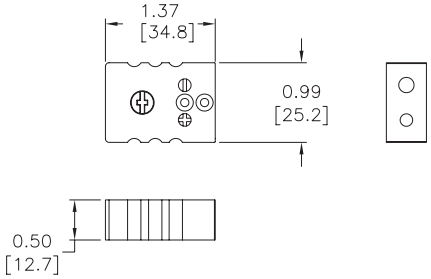
RTD-SP



RTD-SJ



NTC-SJ

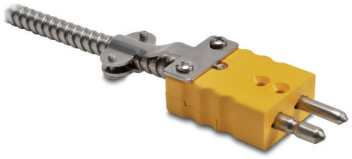


ProSense® Thermocouple and RTD Connectors

WCB-S

WCB-M

WCB-S Application



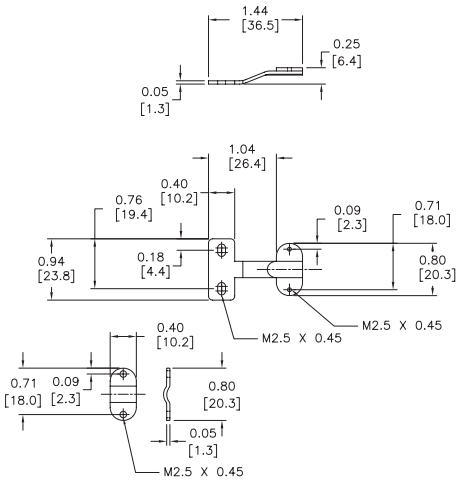
WCB-M Application

Thermocouple and RTD Connectors Accessories				
Part Number	***Pcs/ Pkg***	***Wt(lb)***	***Price***	***Description***
WCB-S	10	0.5	$05hp:	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors.
WCB-M	10	0.5	$05ho:	Wire / cable clamp bracket for use with miniature thermocouple connectors.

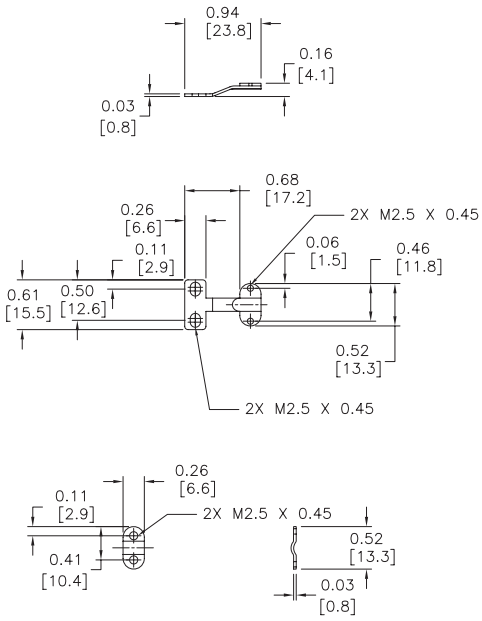
Dimensions

inches [mm]

WCB-S



WCB-M



ProSense® Bi-Metal Dial Thermometers

T50

T30

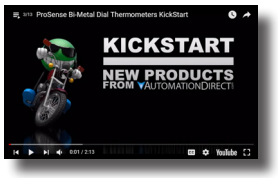
Features

- 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

Click on the thumbnail or go to https://www.automationdirect.com/VID-TE-0001 for a short video on Bi-Metal Dial Thermometers



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	$;07,a:	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	$;07,1:	
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	$;07,7:	
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	$;07,4:	
T30-N40160-4C	Thermometer, 3 in. dial, 4 in. stem, -40 to 160 °F (-40 to 70 °C), center back mount	1	0.50	$;07,b:	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	$;07,2:	
T30-50500-4C	Thermometer, 3 in. dial, 4 in. stem, 50 to 500 °F (10 to 260 °C), center back mount	1	0.50	$;07,8:	
T30-150750-4C	Thermometer, 3 in. dial, 4 in. stem, 150 to 750 °F (70 to 400 °C), center back mount	1	0.50	$;07,5:	
T30-N40160-6C	Thermometer, 3 in. dial, 6 in. stem, -40 to 160 °F (-40 to 70 °C), center back mount	1	0.50	$;07,c:	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	$;07,3:	
T30-50500-6C	Thermometer, 3 in. dial, 6 in. stem, 50 to 500 °F (10 to 260 °C), center back mount	1	0.50	$;07,9:	
T30-150750-6C	Thermometer, 3 in. dial, 6 in. stem, 150 to 750 °F (70 to 400 °C), center back mount	1	0.50	$;07,6:	

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	$;07,q:	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	$;07,d:	
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	$;-07,l:	
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	$;07,h:	
T50-N40160-4A	Thermometer, 5 in. dial, 4 in. stem, -40 to 160 °F (-40 to 70 °C), adjustable angle mount	1	1.30	$;07,s:	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	$;07,e:	
T50-50500-4A	Thermometer, 5 in. dial, 4 in. stem, 50 to 500 °F (10 to 260 °C), adjustable angle mount	1	1.30	$;07,n:	
T50-150750-4A	Thermometer, 5 in. dial, 4 in. stem,150 to 750 °F (70 to 400 °C), adjustable angle mount	1	1.30	$;-07,i:	
T50-N40160-6A	Thermometer, 5 in. dial, 6 in. stem, -40 to 160 °F (-40 to 70 °C), adjustable angle mount	1	1.30	$;;07,t:	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	$;;07,f:	
T50-50500-6A	Thermometer, 5 in. dial, 6 in. stem, 50 to 500 °F (10 to 260 °C), adjustable angle mount	1	1.30	$;07,o:	
T50-150750-6A	Thermometer, 5 in. dial, 6 in. stem, 150 to 750 °F (70 to 400 °C), adjustable angle mount	1	1.30	$;-07,j:	
T50-N40160-9A	Thermometer, 5 in. dial, 9 in. stem, -40 to 160 °F (-40 to 70 °C), adjustable angle mount	1	1.50	$;07,u:	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	$;07,g:	
T50-50500-9A	Thermometer, 5 in. dial, 9 in. stem, 50 to 500 °F (10 to 260 °C), adjustable angle mount	1	1.50	$;07,p:	
T50-150750-9A	Thermometer, 5 in. dial, 9 in. stem, 150 to 750 °F (70 to 400 °C), adjustable angle mount	1	1.50	$;07,k:	

** 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

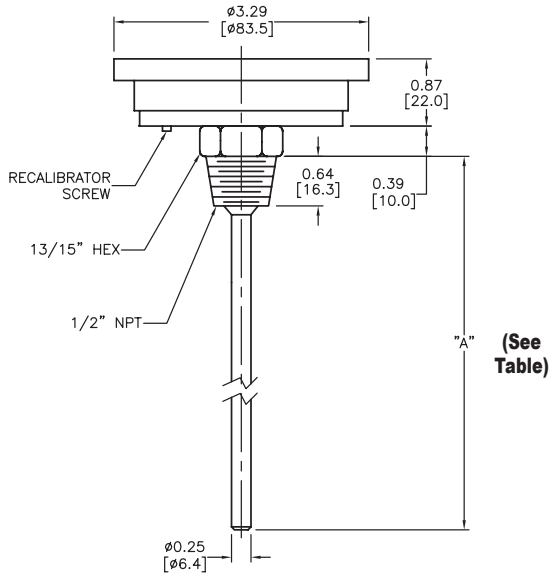
Technical Specifications		
Dial Size	3.0" [76.2 mm]	5.0" [127 mm]
Case	AISI 304 SS	
Stem	AISI 304 SS welded to socket, center back	AISI 304 center back, adjustable angle
Lens	Glass, hermetically sealed	
Ring	AISI 304 SS	
Connection	1/2" NPT	
Sensing Element	Bi-metallic coil	
Pointer	Aluminum, painted 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.

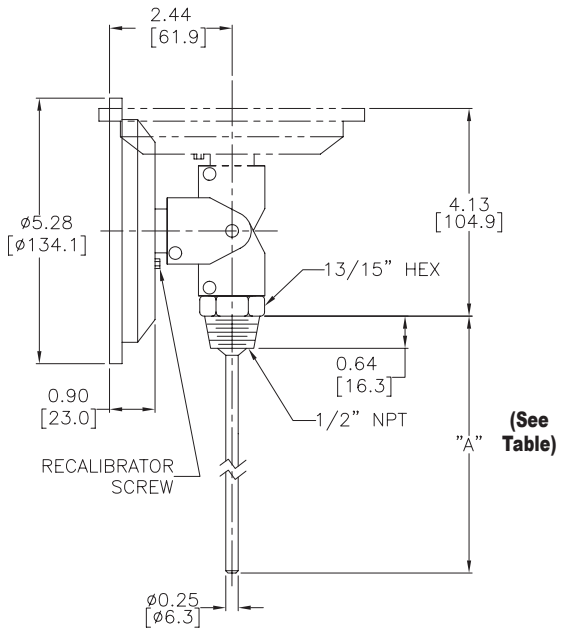
Dimensions

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

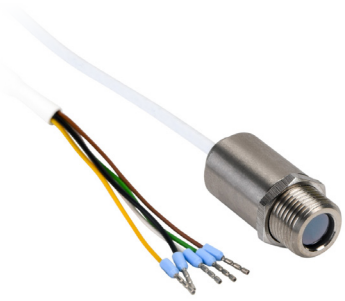
optris infrared measurements

CS LT and CSmicro Infrared Pyrometers

The Optris CS LT and CSmicro infrared pyrometer temperature sensors provide an accurate, non-contact way to measure temperature. Sensors come preconfigured and ready to use out of the box. They are available in different cable lengths and several output types, depending on model and configuration. CS LT models have a convenient Type K thermocouple or mV output for easy replacement of existing sensors*. The CSmicro series comes in either mA or mV versions, multiple temperature ranges, and models ideal for measuring metals and metallic surfaces. Wires from both series are ferrule terminated for easy installation in most applications. All sensors feature tough, stainless-steel construction; fast response times as low as 8ms and easy adjustment of settings via the free IRmobile Android App or Windows software (CompactConnect). The Optris configuration cable (ACCSMIACC) is required to make changes to the sensor settings. Non-contact temperature sensors, including the Optris pyrometers, are capable of measuring moving objects and can be used in applications in which traditional contact measurements are not possible, such as fast moving food products. Additionally, non-contact measurement can be used to count objects, like hot bottles passing by on a production line. Other advantages of non-contact temperature measurement include not influencing the actual temperature of the object, not causing damage or surface wear to the measuring location, and the ability to measure temperatures through glass with select models. Optris infrared temperature sensors are an excellent choice for applications that are moving, cannot be reached, are in areas that are too hot, or are near electrical interference.

Thermocouple output disabled by default. ACCSMIACC configuration cable required to make all configuration changes.

CS LT Series



CSmicro Series

Features

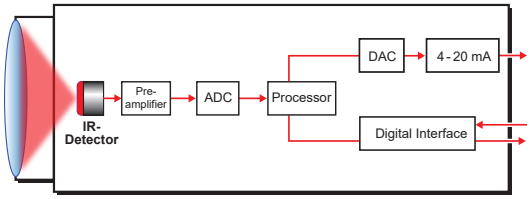
- Tough, stainless-steel construction
- German quality engineering and manufacturing
- Broad temperature sensing ranges
- Adjustable settings to fit many applications
- Fast response time: 8-150 ms dependent on model.
- Popular optical resolutions: 15:1, 22:1, 33:1 and 75:1 with spectral ranges of 8-14 µm, 1.6 µm, and 2.3 µm
- LED for alarm indication, aiming support, self-diagnostic or temperature code indication
- Wide power input range: 5-30 VDC
- Log and graph temperatures using free downloadable software

Applications

- Temperature readings:
  - Of moving materials like films, bottles or baked goods
  - Areas of high ambient heat through a protective window
  - Objects in areas of high electromagnetic noise or that are carrying a voltage or current
  - Of small areas, like the surfaces of microcontrollers or electrical components, without having an influence on the measured temperature
  - Measure temperatures through glass on select models
  - Temperature measurements of metals and metallic surfaces
- Counting objects based on temperature difference
- Monitoring for fast changes in temperature
  - Plastic processing industries
  - Metal processing industries

Pyrometer Operation

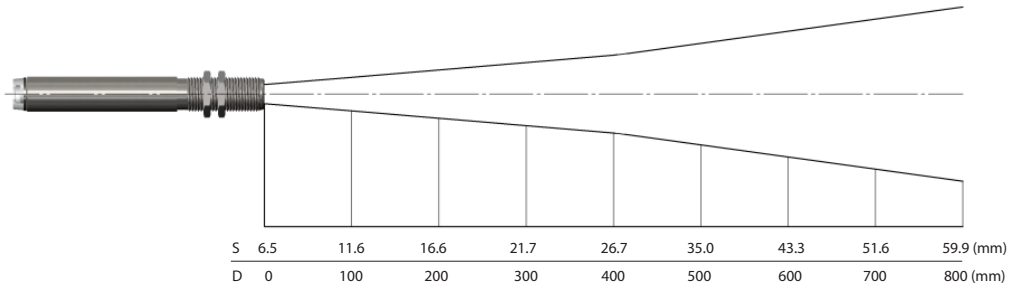
The Optris CS LT and CSmicro pyrometers input optics focus emitted infrared radiation onto an infrared detector. The detector generates an electrical signal that corresponds to the radiation, which is subsequently amplified and used for further processing. Digital signal processing transforms the signal into an output value proportional to the object's surface temperature, which is then provided as an analog output signal. The Optris pyrometers offered by AutomationDirect.com operate in the 8 to 14 µm wavelength for general applications ,1.6 µm wavelength for metal, and a 2.3 µm for metallic surfaces and can measure through glass. The CSmicro 2M sensor is ideal for measuring the temperatures of low emissivity materials like metals. For 8-14 µm wavelength sensors low emissivity materials may require a coating to increase their surface emissivity to measure the temperature accurately. Krylon® black high heat spray paint can be used to coat and provide a surface emissivity close to 0.95 and is heat resistant up to 600°F. In general, higher emissivity surfaces will provide a more accurate temperature reading when using a pyrometer. The area measured is given as a ratio of distance to spot diameter. The Optris CS LT and CSmicro pyrometers are available in a range of distance to spot diameters from 15:1 to 75:1. A close focus lens accessory is also available for the CS LT, CSmicro LT, and CSmicro LTH pyrometers for measuring small areas.



optris infrared measurements

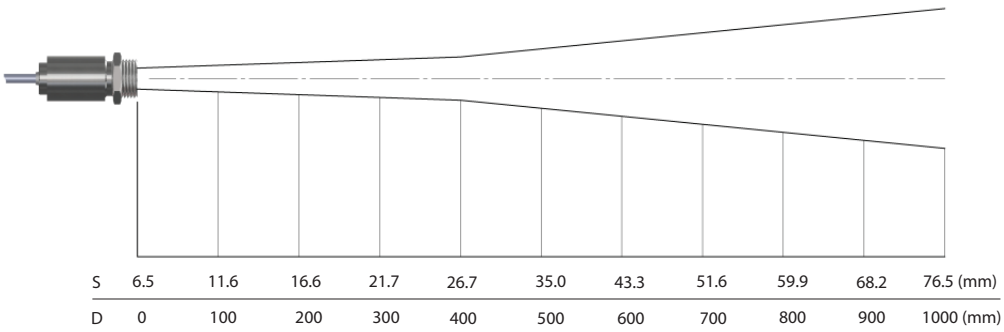
CS LT and CSmicro Infrared Pyrometers

D:S = 15:1 (26.7mm @ 400mm)



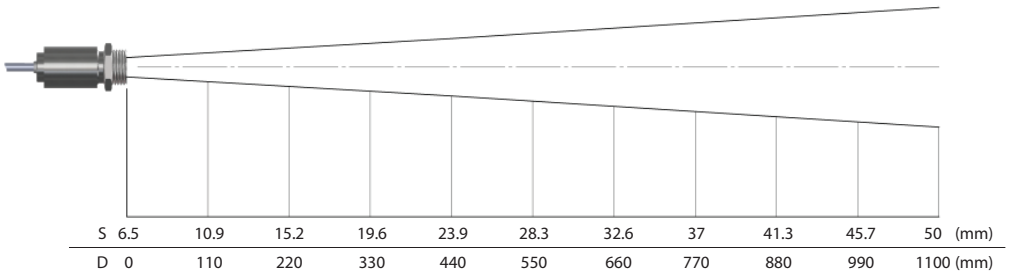
CS LT distance to spot size

D:S = 15:1 (26.7mm @ 400mm)



CSmicro LT distance to spot size

D:S = 22:1 (50mm @ 1100mm)

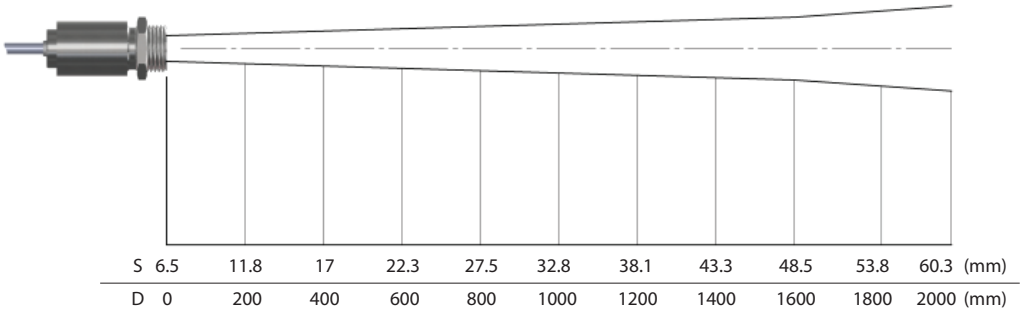


CSmicro LTH / 3ML distance to spot size

optris infrared measurements

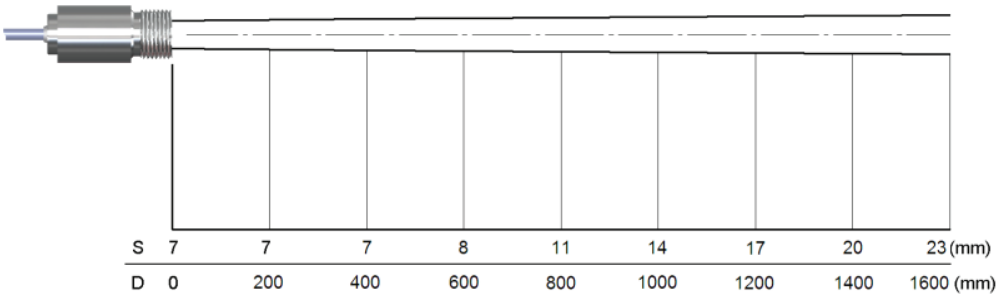
CS LT and CSmicro Infrared Pyrometers

D:S = 33:1 (48.5mm @ 1600mm)



CSmicro 3MH distance to spot size

D:S = 75:1 (16mm @ 1200mm)



CSmicro 2MH distance to spot size

optris infrared measurements

CS LT Series Infrared Pyrometers

Part No. OPTCSLT15SFCB8

Features

- Stainless-steel housing with M12x1 threaded end and two mounting nuts
- Up to 80°C (176°F) ambient temperature without cooling
- IP 63 environmental rating
- Selectable analog output 0 to 5/10 V scalable or thermocouple Type K
- Alarm output or digital output
- Green LED alarm indication, aiming support, self-diagnostic and temperature code indication
- Selectable signal processing (peak hold, valley hold, average or extended hold function with threshold and hysteresis)
- Easy configuration via IRmobile Android App and Windows software (CompactConnect)
- CE marked
- 2-year warranty

Optris CS LT Series Infrared Pyrometer Selection

Part Number	Description	Measurement Range*	Spectral Response	Optical Resolution	Ambient Temp	Analog Output	Digital Output	Operating Voltage	End Mount	Cable	Wt (lb)	Price
OPTCSLT15SFCB1	Optris CS LT infrared pyrometer	-50 to 1030°C (-58 to 1886°F)	8-14 µm	15:1 (26.7mm @ 400mm)	-20 to 80°C (-4 to 176°F)	0-5 VDC, 0-10 VDC, Type K thermocouple	Alarm or pulse output	5-30 VDC	M12x1 threaded	1m integral 7-conductor shielded	0.15	$05gy6:
OPTCSLT15SFCB8										8m integral 7-conductor shielded	0.59	$05gy7:

** Factory default range 0 to 350°C. ACCSMIACC configuration cable required to make all configuration changes.*

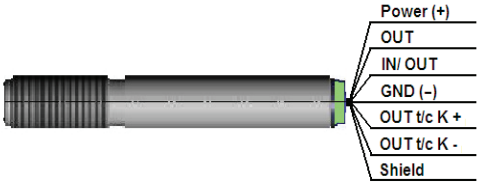
Optris CS LT Series Infrared Pyrometer Information Links

Part Number	Drawing Link	Manufacturer Specs	Manufacturer Quick Start	Manufacturer Manual
OPTCSLT15SFCB1	PDF	PDF	PDF	PDF
OPTCSLT15SFCB8	PDF	PDF	PDF	PDF

optris infrared measurements

CS LT Series Infrared Pyrometers

Wiring



Power supply [white]
Analog output/ TxD (5 V)/ Alarm output [yellow]
Analog input/ RxD (5 V)/ Open collector output [green]
Ground (⊥) [brown]
Thermocouple output type K (+) [green] 1)
Thermocouple output type K (-) [white] 1)
Shield [black]

1) The t/c wires are indicated with an additional cable marker to avoid wrong connections due to the identical cable colors of other wires (white, green). Thermocouple output disabled by default. ACCSMIACC configuration cable required to make all configuration changes.

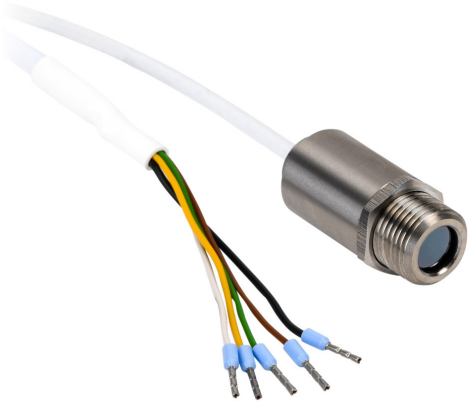
Pin Configuration

Used Pin		*Function*	
Out	*In/Out*		
X		Analog	0-5 V 1) or 0-10 V 2)/ scalable
X		Alarm	output voltage adjustable; N/O or N/C
X		Alarm	3-state alarm output (three voltage level for no alarm, pre-alarm, alarm)
	X	Analog	Programmable open collector output (NPN type) [0-30 VDC/ 50 mA] 4)
	X	Temp. Code	Temp. Code Output (open collector (NPN type)) [0-30 VDC/ 50 mA] 4)
	X	Input	Programmable functions: • external emissivity adjustment • ambient temperature compensation • triggered signal output and peak hold function 5)
X	*X*	Serial digital 3)	uni- (burst mode) or bidirectional

1) 0...4.6 V at supply voltage 5 VDC; also valid for alarm output
2) Only at supply voltage ≥ 11 V
3) Inverted RS232, TTL, 9600 Baud
4) Loadable up to 500 mA if the mV output is not used
5) High level: > 0.8 V/ Low level: < 0.8 V

optris infrared measurements

CSmicro Series Infrared Pyrometers



Part No. OPTCSMVLT15SF33

Features

- 5-30 VDC Operating voltage
- M12x1 threaded end mount
- Stainless-steel, 28mm long housing with M12x1 threaded end and mounting nut
- Very small sensor size for installation in tight spaces
- High ambient operating temperature up to 180°C (356°F) without cooling
- IP 65 (NEMA 4) environmental rating
- Scalable analog output: CSMV models: 0 to 5/10 V or CSMA models: 4 to 20 mA (two-wire); additional simultaneous alarm output
- Green LED alarm indication, aiming support, self-diagnostic, or temperature code indication
- Selectable signal processing (peak hold, valley hold, average, or extended hold function with threshold and hysteresis)
- Easy configuration via IRmobile Android App and Windows software (CompactConnect)
- CE marked
- 2-year warranty

Optris CSmicro Series Infrared Pyrometer Selection

Part Number	Description	Measurement Range	Factory Default Temp Range	Spectral Range Response	Optical Resolution	Ambient Temp		Analog Output	Digital Output	Cable	Wt (lb)	Price
						Sensing Head	Electronics*					
OPTCSMALT15SF0505	Optris CSmicro LT Series infrared pyrometer	-50 to 1030°C (-58 to 1886°F)	0 to 350°C (32 to 662°F)	8-14 µm	15:1 (26.7mm @ 400mm)	-20 to 120°C (-4 to 248°F)	-20 to 75°C (-4 to 167°F)	4-20 mA	Alarm or pulse output	1m integral 5-conductor shielded cable	0.11	$05gy8:
OPTCSMVLT15SF0505							-20 to 80°C (-4 to 176°F)	0-5 VDC, 0-10 VDC			0.11	$05gy9:
OPTCSMALT15SF33							-20 to 75°C (-4 to 167°F)	4-20 mA		6m integral 5-conductor shielded cable	0.35	$05gya:
OPTCSMVLT15SF33							-20 to 80°C (-4 to 176°F)	0-5 VDC, 0-10 VDC			0.35	$05gyb:
OPTCSMALT22HSF0505	Optris CSmicro LTH Series infrared pyrometer		0 to 500°C (32 to 932°F)		22:1 (50mm @ 1100mm)	-20 to 180°C (-4 to 356°F)	-20 to 75°C (-4 to 167°F)	4-20 mA**		1m integral 5-conductor shielded cable	0.15	$-05#i4:
OPTCSMVLT22HSF0505							-20 to 80°C (-4 to 176°F)	0-5 VDC, 0-10 VDC				$-05#i5:
OPTCSMALT22HSF33							-20 to 75°C (-4 to 167°F)	4-20 mA**		6m integral 5-conductor shielded cable	0.35	$-05#i6:
OPTCSMVLT22HSF33							-20 to 80°C (-4 to 176°F)	0-5 VDC, 0-10 VDC				$-05#i7:
OPTCSMA3MLSF0505	Optris CSmicro 3ML Series infrared pyrometer	50 to 350°C (122 to 662°F)	50 to 350°C (122 to 662°F)	2.3 µm		-20 to 85°C (-4 to 185°F)	-20 to 75°C (-4 to 167°F)	4-20 mA		1m integral 5-conductor shielded cable	0.10	$-05#i8:
OPTCSMV3MLSF0505							-20 to 80°C (-4 to 176°F)	0-5 VDC, 0-10 VDC				$-05#i9:
OPTCSMA3MLSF33							-20 to 75°C (-4 to 167°F)	4-20 mA		6m integral 5-conductor shielded cable	0.35	$-05#ia:
OPTCSMV3MLSF33							-20 to 80°C (-4 to 176°F)	0-5 VDC, 0-10 VDC				$-05#ib:

** For Vcc (supply voltage) 5-12VDC/ at Vcc > 12 VDC the max. ambient temperature of the electronics is 65°C*
*** See manual for grounding instructions based on installation.*
ACCSMIACC configuration cable required to make all configuration changes.

optris infrared measurements

CSmicro Series Infrared Pyrometers

Optris CSmicro Series Infrared Pyrometer Selection												
Part Number	*Description*	*Measurement Range*	*Factory Default Temp Range*	*Spectral Range Response*	*Optical Resolution*	*Ambient Temp*		*Analog Output*	*Digital Output*	*Cable*	*Wt (lb)*	*Price*
						Sensing Head	*Electronics**					
OPTCSMA3MHSF0505	Optris CSmicro 3MH Series infrared pyrometer	100 to 600ºC (212 to 1112ºF)	100 to 600ºC (212 to 1112ºF)	2.3 µm	33:1 (48.5mm @ 1600mm)	-20 to 85ºC (-4 to 185°F)	-20 to 75ºC (-4 to 167°F)	4-20 mA	Alarm or pulse output	1m integral 5-conductor shielded cable	0.10	$-05#ic:
OPTCSMV3MHSF0505							-20 to 80ºC (-4 to 176°F)	0-5 VDC, 0-10 VDC				$-05#id:
OPTCSMA3MHSF33							-20 to 75ºC (-4 to 167°F)	4-20 mA		6m integral 5-conductor shielded cable	0.35	$-05#ie:
OPTCSMV3MHSF33							-20 to 80ºC (-4 to 176°F)	0-5 VDC, 0-10 VDC				$;-05#if:
OPTCSMA2MHSF0505	Optris CSmicro 2MH Series infrared pyrometer	385 to 1600ºC (725 to 2912ºF)	385 to 1600ºC (725 to 2912ºF)	1.6 µm	75:1 (16mm @ 1200mm)	-20 to 125ºC (-4 to 257°F)	-20 to 75ºC (-4 to 167°F)	4-20 mA		1m integral 5-conductor shielded cable	0.10	$-05#ig:
OPTCSMV2MHSF0505							-20 to 80ºC (-4 to 176°F)	0-5 VDC, 0-10 VDC				$-05#ih:
OPTCSMA2MHSF33							-20 to 75ºC (-4 to 167°F)	4-20 mA		6m integral 5-conductor shielded cable	0.35	$--05#ii:
OPTCSMV2MHSF33							-20 to 80ºC (-4 to 176°F)	0-5 VDC, 0-10 VDC				$-05#ik:

** For Vcc (supply voltage) 5-12VDC/ at Vcc > 12 VDC the max. ambient temperature of the electronics is 65ºC*
ACCSMIACC configuration cable required to make all configuration changes.

optris infrared measurements

CSmicro Series Infrared Pyrometers

Optris CSmicro Series Infrared Pyrometer Information Links			
Part Number	*Drawing Link*	*Manufacturer Specs*	*Manufacturer Manual*
OPTCSMALT15SF0505	PDF	PDF	PDF
OPTCSMVLT15SF0505	PDF	PDF	PDF
OPTCSMALT15SF33	PDF	PDF	PDF
OPTCSMVLT15SF33	PDF	PDF	PDF
OPTCSMALT22HSF0505	PDF	PDF	PDF
OPTCSMVLT22HSF0505	PDF	PDF	PDF
OPTCSMALT22HSF33	PDF	PDF	PDF
OPTCSMVLT22HSF33	PDF	PDF	PDF
OPTCSMA3MLSF0505	PDF	PDF	PDF
OPTCSMV3MLSF0505	PDF	PDF	PDF
OPTCSMA3MLSF33	PDF	PDF	PDF
OPTCSMV3MLSF33	PDF	PDF	PDF
OPTCSMA3MHSF0505	PDF	PDF	PDF
OPTCSMV3MHSF0505	PDF	PDF	PDF
OPTCSMA3MHSF33	PDF	PDF	PDF
OPTCSMV3MHSF33	PDF	PDF	PDF
OPTCSMA2MHSF0505	PDF	PDF	PDF
OPTCSMV2MHSF0505	PDF	PDF	PDF
OPTCSMA2MHSF33	PDF	PDF	PDF
OPTCSMV2MHSF33	PDF	PDF	PDF

optris infrared measurements

CSmicro Series Infrared Pyrometers

Wiring

white	Power	Power supply
yellow	OUT	Analog output/ TxD/ Alarm output
green	IN/ OUT	Analog input/ RxD/ Open collector output
brown	GND	Ground (⊥)
black	Shield	Shield

white	Power	Current loop (+)/ Alarm output
yellow	OUT	TxD
green	IN/ OUT	Trigger input/ RxD/ Open collector output
brown	GND	Current loop (-)/ Ground (⊥)
black	Shield	Shield

Pin Configuration

Used Pin		*Function*	*CSMV*	*CSMA*
Out	*In/Out*			
X		Analog	0-5 V [1] or 0-10 V [2]/ scalable	4-20 mA/ scalable (current loop between Power and GND pin)
X		Alarm	Output voltage adjustable; N/O or N/C	Output current adjustable; N/O or N/C (current loop between Power and GND pin)
X		Alarm	3-state alarm output (three voltage level for no alarm, pre-alarm, alarm)	-
	X	Alarm	Programmable open collector output (NPN type) [0-30 V DC/ 50 mA] [4]	Programmable open collector (NPN type) [0-30 V DC/ 500 mA]
	X	Temp. Code	Temp. Code Output (open collector (NPN type)) [0-30 V DC/ 50 mA] [4]	Temp. Code Output (open collector (NPN type)) [0-30 V DC/ 500 mA]
	X	Input	Programmable functions: • external emissivity adjustment • ambient temperature compensation • triggered signal output and peak hold function [5] • reset of hold function [6]	Programmable functions: • triggered signal output and peak hold function [5] • reset of hold function [7]
X	*X*	Serial digital [3]	uni- (burst mode) or bidirectional	uni- (burst mode) or bidirectional

[1] 0...4.6 V at supply voltage 5 VDC; also valid for alarm output
[2] Only at supply voltage ≥ 11 V
[3] Inverted RS232, TTL, 9600 Baud
[4] 500 mA if the mV output is not used
[5] High level: > 0.8 V/ Low level: < 0.8 V
[6] Reset of peak or valley hold by High level at IN/ OUT pin (Low: open or GND / High: >2.4 V...11 V)
[7] Reset of peak or valley hold by Low level at IN/ OUT pin (Low: GND / High: open or >1 V...11 V)

optris infrared measurements

CS Series Infrared Pyrometer Accessories

Optris CS Series Infrared Pyrometer Accessories					
Item Photo	*Part No.*	*Description*	*Weight*	*Price*	*Drawing Link*
	***ACCTCF****	Optris close focus lens, for use with Optris CS LT and Optris CSmicro IR pyrometers.	0.03	$5gy0:	PDF
	***ACCTFB****	Optris swivel mounting bracket, for use with Optris CS LT and Optris CSmicro IR pyrometers.	0.04	$5gy1:	PDF
	***ACCTMB****	Optris mounting bolt, M12 x 1. For use with Optris CS LT and Optris CSmicro IR pyrometers and ACCTFB mounting bracket. M12x1 nut included.	0.08	$5gy2:	PDF
	***ACCSAP***	Optris standard air purge collar, for use with Optris CS LT and Optris CSmicro IR pyrometers. 3x5mm air hose connection.	0.07	$5gy3:	PDF
	***ACCTRAM****	Optris right angle mirror, for use with Optris CS LT and Optris CSmicro IR pyrometers.	0.04	$5gy4:	PDF
	***ACCSMIACC***	Optris configuration cable, USB-C to 5-pin terminal, 3.7ft/1.1m cable length. For use with Optris CS IR pyrometers and PC or Android configuration software.	0.12	$;660,:	PDF

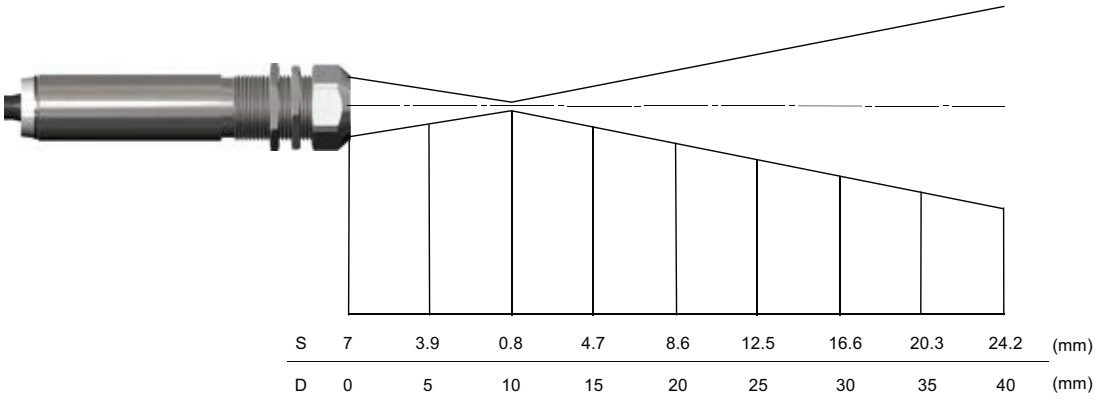
** Optical accessories require adjusting the sensors settings. See manual for parameter adjustment instructions.*
*** Mounting bracket and mounting bolt can be combined into a 2 axis mounting assembly.*

optris infrared measurements

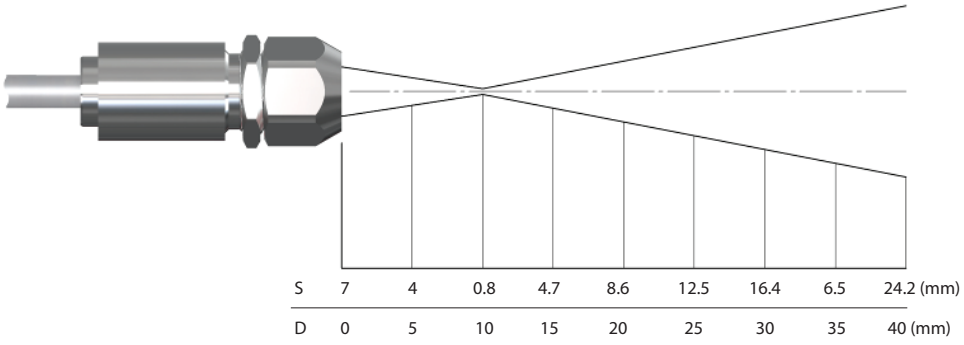
CS Series Infrared Pyrometer Accessories

Close Focus Lens Accessory (ACCTCF)

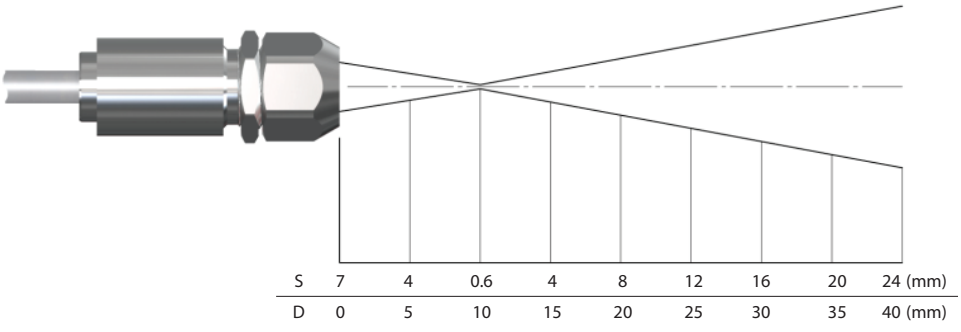
The Optris close focus lens accessory (ACCTCF) allows for focusing on a very small - less than 1mm - area and can be used on CS LT or the CSmicro LT and LTH series pyrometers. When the close focus lens is used, the sensor transmission setting must be set to 0.78. To change this value, the programming cable accessory (ACCSMIACC) is required (**sold separately**).



Optical chart CS LT(15:1) with CF-lens (0.8 mm @ 10mm)/ D:S Far field = 1.4:1



Optical chart CSmicro LT (15:1) with CF lens (0.8 mm @ 10mm)/ D:S Far field = 1.4:1



Optical chart CSmicro LTH (22:1) with CF lens (0.6 mm @ 10mm)/ D:S Far field = 1.5:1

optris infrared measurements

CS Series Infrared Pyrometer Accessories

Right Angle Mirror Accessory (ACCTRAM)

The right angle mirror allows measurements at a 90° angle. The mirror has a reflection of 96% (some deviation is possible) in combination with Optris CS LT or CSmicro series pyrometers. When using the mirror accessory, the emissivity value of the measurement object should be multiplied by 0.96. For example, an object with an emissivity of 0.85 would be multiplied by 0.96, giving a final emissivity of 0.816. In this example, the sensor emissivity should then be adjusted to 0.816. To change this value, the programming cable accessory ACCSMIACC is required (**sold separately**).

Air Purge Accessory (ACCSAP)

The air purge accessory should be used to keep the lens of the Optris CS LT or CSmicro sensors clean when there is heavy contamination in the air around the sensor. The Optris air purge accessory should be supplied approximately 2 to 10 liters per minute (l/min) of clean, oil-free air via the 3x5mm hose connection.

Configuration Cable (ACCSMIACC)

The Optris configuration cable (**sold separately**) provides a USB connection to either a Windows computer or an Android phone or tablet. Using either the IRmobile Android App or Windows software (CompactConnect), the Optris sensor can be configured, and the sensor values can be monitored and analyzed. The terminal block included with the configuration cable makes connecting the sensor and configuration cable easy by pressing the release with a screwdriver and inserting the wire of the sensor. When connecting the sensor to the configuration cable, match the wire color of the configuration cable with the sensor wire color. The configuration cable works on most Android devices running 5.0 or higher with a USB port that supports USB-OTG (On The Go). The free IRmobile Android App is available direct from the Google Play store and the CompactConnect Windows software can be downloaded from Automationdirect.com. See manual for additional information on data logging, graphing and serial communication.

Scan to download the free IRmobile Android App

available on Google Play

GET IT ON Google Play

optris infrared measurements

CSlaser Pyrometers

The Optris CSlaser infrared pyrometer temperature sensor provides an accurate, non-contact way to measure temperature. Sensors come preconfigured and ready to use out of the box. All CSlaser pyrometers provide double laser aiming to easily determine the measurement spot on the object surface and adjustable switches for setting the sensors emissivity value. The CSlaser series provides an analog 4-20mA output, multiple temperature ranges, and models ideal for measuring metals and ceramic materials. The CSlaser sensors feature a tough, stainless-steel construction with integrated electronics, fast response times as low as 10 ms, and easy adjustment of settings via the free IRmobile Android App or Windows software (CompactConnect). The Optris configuration cable ACCSMIACC is required to make changes to the sensor settings. Non-contact temperature sensors, including the Optris pyrometers, are capable of measuring moving objects and can be used in applications in which traditional contact measurements are not possible, such as fast moving food products. Additionally, non-contact measurement can be used to count objects, like hot bottles passing by on a production line. Other advantages of non-contact temperature measurement include not influencing the actual temperature of the object, not causing damage or surface wear to the measuring location. Optris infrared temperature sensors are an excellent choice for applications that are moving, cannot be reached, are in areas that are too hot, or are near electrical interference.

Part No. OPTCSLLTSF

Part No. OPTCSL2MLSF

Features

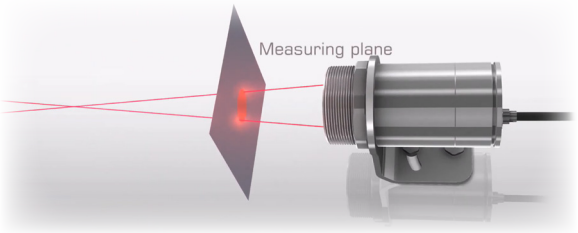
- Tough, stainless-steel construction
- German quality engineering and manufacturing
- Broad temperature sensing ranges
- Adjustable settings to fit many applications
- Fast response time: 10-150 ms dependent on model
- Popular optical resolutions: 50:1, 150:1, and 300:1 with spectral ranges of 8-14 µm and 1.6 µm
- Innovative double-laser sighting for exact marking of measurement targets without the need of lookup tables or graphs
- Wide power input range: 5-30 VDC
- Log and graph temperatures using free downloadable software
- 2 wire, loop powered for easy installation

Applications

- Temperature readings:
  - Of moving materials like films, bottles or baked goods
  - Areas of high ambient heat through a protective window
  - Objects in areas of high electromagnetic noise or that are carrying a voltage or current
  - Of small areas, like the surfaces of microcontrollers or electrical components, without having an influence on the measured temperature
  - Of metals and ceramic surfaces with 2M models
- Counting objects based on temperature difference
- Monitoring for fast changes in temperature
  - Plastic processing industries
  - Metal processing industries

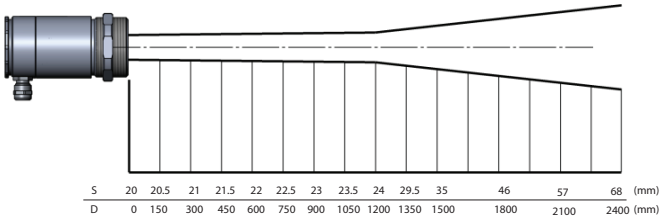
CSlaser Pyrometer Laser Aiming Operation

The Optris CSlaser pyrometers measure surface temperature the same way the CS LT and CSmicro series pyrometers do with the added advantage of a double laser aiming system. The dual lasers intersect at the focal point where the measurement area, or spot size, is smallest. This makes aiming and determining the focal point easy without referencing distance to spot size charts. The area measured is given as a ratio of distance to spot diameter. The Optris CSlaser pyrometers offered by AutomationDirect.com operate in the 8 to 14 µm wavelength for general applications or 1.6 µm wavelength for metal surfaces depending on model. The Optris CSlaser pyrometers are also available in spot sizes of 50:1, 150:1, and 300:1 depending on the model selected providing a greater distance range to the smallest point of measurement compared to the CS LT and CSmicro series pyrometers.

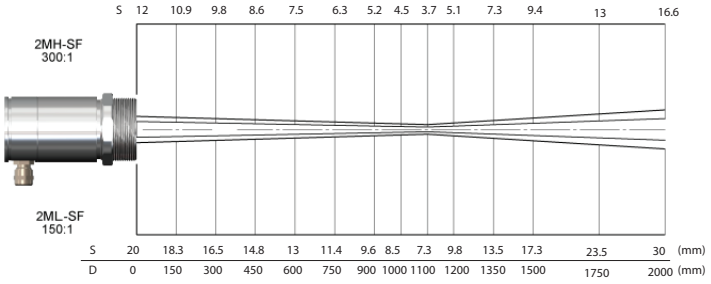


optris infrared measurements

CSlaser Pyrometers



Optical chart CSlaser LT 50:1 (24mm @ 1200mm)
D:S Far field = 20:1



Optical chart
CSlaser 2ML 150:1 (7.3 mm @ 1100mm)
D:S Far field = 42:1
CSlaser 2MH 300:1 (3.7 mm @ 1100mm)
D:S Far field = 48:1

Optris CSlaser Series Pyrometer Selection

Part Number	Description	Measurement Range	Factory Default Temp Range	Spectral Range Response	Optical Resolution	Ambient Temp	Analog Output	Digital Output	Operating Voltage	End Mount	Electrical Connection	Wt (lb)	Price
OPTCSLLTSF	Optris CSlaser LT Series Pyrometer	-30 to 1000ºC (-22 to 1832ºF)	0 to 500ºC	8-14 µm	50:1 (24mm @ 1200mm)	-20 to 85ºC (-4 to 185ºF)	4-20 mA	Alarm	5-30 VDC	M48 x 1.5mm	Removable terminal block	1.36	$--05#il:
OPTCSL2MLSF	Optris CSlaser 2ML Series Pyrometer	250 to 800ºC (482 to 1472ºF)	250 to 800ºC	1.6 µm	150:1 (7.3mm @ 1100mm)							1.36	$-05#in:
OPTCSL2MHSF	Optris CSlaser 2MH Series Pyrometer	385 to 1600ºC (725 to 2912ºF)	385 to 1600ºC		300:1 (3.7mm @ 1100mm)							1.36	$-05#io:

** For Vcc (supply voltage) 5-12VDC/ at Vcc > 12 VDC the max. ambient temperature of the electronics is 65ºC*
ACCSMIACC configuration cable required to make all configuration changes.

Optris CSlaser Series Pyrometer Information Links

Part Number	Drawing Link	Manufacturer Specs	Manufacturer Manual
OPTCSLLTSF	PDF	PDF	PDF
OPTCSL2MLSF	PDF	PDF	PDF
OPTCSL2MHSF	PDF	PDF	PDF

optris infrared measurements

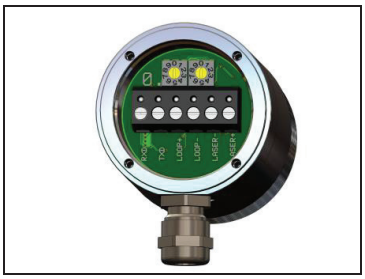
CSlaser Pyrometers

Wiring

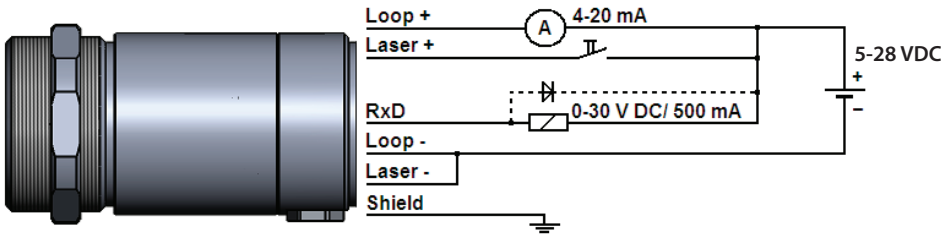
Designation (sensor terminal block)

RXD	Receive data (digital)
TXD	Transmit data (digital)
LOOP +	Current loop (+)
LOOP –	Current loop (–)
LASER –	Power supply laser (–)
LASER +	Power supply laser (+)

Above the terminal block you will find two rotary switches for emissivity setting.

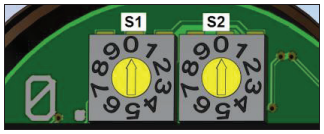


Sensor back side with terminal block



Emissivity

After opening of the sensor backplane both of the emissivity switches are accessible.

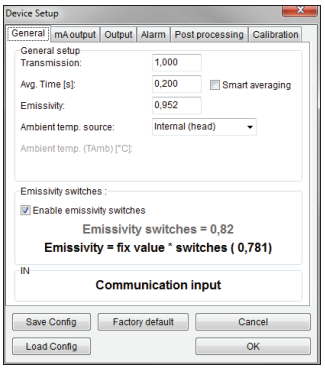


For an emissivity setting of **1.00** please turn both switches to **0**. Values below **0.10** are not adjustable. For all other switch positions the following applies: **0, S1 S2**.
Therefore the adjustment range is **0.10...1.09**.

Example: ε = 0.84 **S1=8**
S2=4

If you use the software (optional) please consider that the emissivity switches can be activated/ deactivated in the software menu **Device/ Device setup**. At time of delivery the switches are active.
The emissivity set in the software interacts as a factor to the emissivity set on the unit. Thus the adjustment range increases to **0.100...1,199**.

Example: $\varepsilon_{Software}$ = 0.952 x ε_{Sensor} = 0.82 (S1=8/ S2=2)
Therefore the effective emissivity is: 0.781.



optris infrared measurements

CSlaser Pyrometer Accessories

Optris CSlaser Series Pyrometer Accessories					
Item Photo	*Part No.*	*Description*	*Weight*	*Price*	*Drawing Link*
	***ACCTLAB***	Optris mounting bracket, two axis. For use with Optris CSlaser IR pyrometers.	1.1	$--05#ij:	PDF
	***ACCTLAP***	Optris air purge collar, for use with Optris CSlaser IR pyrometers.	1.2	$-05#ip:	PDF
	***ACCSMIAC***	Optris configuration cable, micro USB to 5-pin terminal. For use with Optris CS IR pyrometers and PC or Android configuration software. Comes with a USB A and USB C adapter.	0.12	Retired	PDF
	***ACCSMIACC***	Optris configuration cable, USB-C to 5-pin terminal, 3.7ft/1.1m cable length. For use with Optris CS IR pyrometers and PC or Android configuration software.	0.12	$;660,:	PDF

Air Purge Accessory (ACCTLAP)

The air purge accessory should be used to keep the lens of the Optris CSlaser clean when there is heavy contamination in the air around the sensor. The Optris air purge accessory should be supplied approximately 2 to 10 liters per minute (l/min) of clean, oil-free air via the 6x8mm hose connection.

Configuration Cable (ACCSMIAC)

The Optris configuration cable (**sold separately**) provides a USB connection to either a Windows computer or an Android phone or tablet. Using either the IRmobile Android App or Windows software (CompactConnect), the Optris sensor can be configured, and the sensor values can be monitored and analyzed. The terminal block included with the configuration cable makes connecting the sensor and configuration cable easy by pressing the release with a screwdriver and inserting the wire of the sensor. When connecting the sensor to the configuration cable, match the wire color of the configuration cable with the sensor wire color. The configuration cable works on most Android devices running 5.0 or higher with a USB port that supports USB-OTG (On The Go). The free IRmobile Android App is available direct from the Google Play store and the CompactConnect Windows software can be downloaded from Automationdirect.com. See manual for additional information on data logging, graphing and serial communication.

Configuration Cable (ACCSMIACC)

The Optris configuration cable (**sold separately**) provides a USB connection to either a Windows computer or an Android phone or tablet. Using either the IRmobile Android App or Windows software (CompactConnect), the Optris sensor can be configured, and the sensor values can be monitored and analyzed. The terminal block included with the configuration cable makes connecting the sensor and configuration cable easy by pressing the release with a screwdriver and inserting the wire of the sensor. When connecting the sensor to the configuration cable, match the wire color of the configuration cable with the sensor wire color. The configuration cable works on most Android devices running 5.0 or higher with a USB port that supports USB-OTG (On The Go). The free IRmobile Android App is available direct from the Google Play store and the CompactConnect Windows software can be downloaded from Automationdirect.com. See manual for additional information on data logging, graphing and serial communication.

Scan to download the free IRmobile Android App

available on Google Play

GET IT ON Google Play