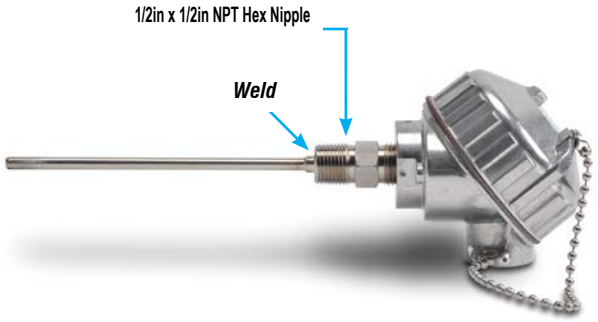
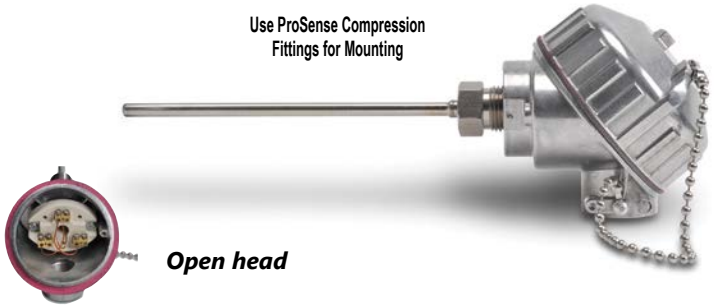
ProSense® RTD Probes with Connection Head

RTD1-CXX-01



RTD1-CXX-02



Open head

Overview

- Probe
  - 100 ohm platinum RTD 3-wire element
  - Class A accuracy
  - 1/4in diameter, 316 SS sealed sheath to protect against harsh environments
  - RTD element encased in alumina powder insulation provides excellent vibration dampening and heat transfer
  - 6in, 12in or 18in 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	$104.00	PT 100, 3-wire	1/4in	6in	-50 to +300 °C (-58 to +572 °F)	Integral 1/2in x 1/2in NPT Hex Nipple, 316 SS
RTD1-C12-01			$108.00			12in		
RTD1-C18-01			$111.00			18in		
RTD1-C06-02			$100.00			6in		ProSense compression fitting (see accessories - purchased separately)
RTD1-C12-02			$99.00			12in		
RTD1-C18-02			$103.00			18in		

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	ø1/4in, 316 stainless steel sheath, single RTD is embedded in alumina powder
Minimum Installation Depth	3in (76mm)
Connection Head	Die-cast aluminum, screw cover with stainless steel chain, compressed graphite gasket, NEMA 4X, IP66, 3/4in 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

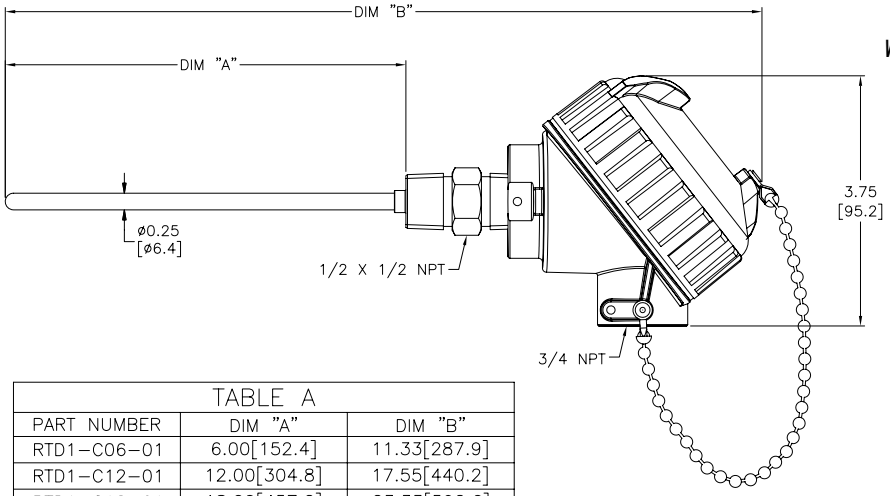


TABLE A		
PART NUMBER	DIM "A"	DIM "B"
RTD1-C06-01	6.00[152.4]	11.33[287.9]
RTD1-C12-01	12.00[304.8]	17.55[440.2]
RTD1-C18-01	18.00[457.2]	23.33[592.6]

RTD1-CXX-02

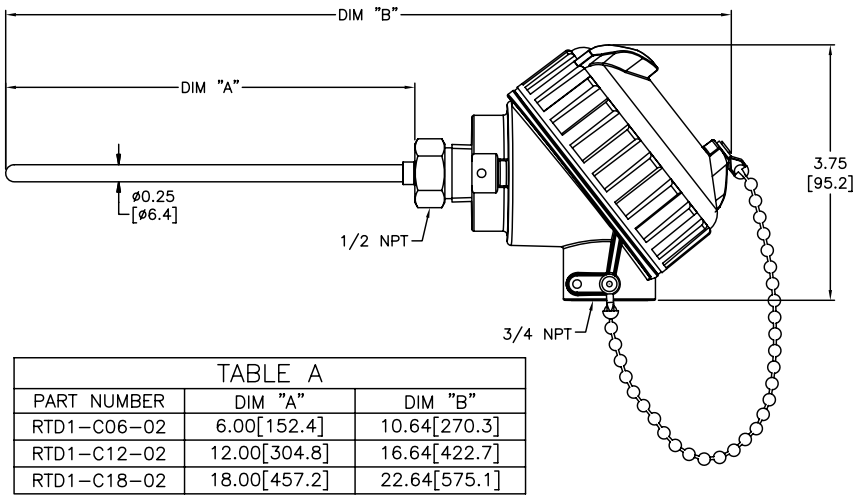
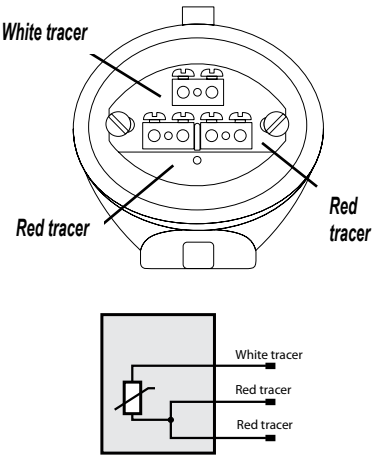


TABLE A		
PART NUMBER	DIM "A"	DIM "B"
RTD1-C06-02	6.00[152.4]	10.64[270.3]
RTD1-C12-02	12.00[304.8]	16.64[422.7]
RTD1-C18-02	18.00[457.2]	22.64[575.1]

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	$4.00
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$5.25
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$7.75
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	$10.50
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	$11.50
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	$17.50
CFTF-14	Teflon ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes	5	$10.00

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

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	$4.00
BCF14-125N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	0.5	$4.00
BCF18-25N	Compression fitting, brass, for 1/8 inch diameter temperature probes,1/4 inch NPT male thread	1	0.5	$5.25
BCF14-25N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	0.5	$5.25
BCF18-50N	Compression fitting, brass, for 1/8 inch diameter temperature probes,1/2 inch NPT male thread	1	0.5	$7.25
BCF14-50N	Compression fitting, brass, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	0.5	$7.75
CF18-125N	Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/8 inch NPT male thread	1	0.5	$10.50
CF14-125N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/8 inch NPT male thread	1	0.5	$10.50
CF18-25N	Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/4 inch NPT male thread	1	0.5	$12.00
CF14-25N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/4 inch NPT male thread	1	0.5	$11.50
CF18-50N	Compression fitting, 316 stainless steel, for 1/8 inch diameter temperature probes,1/2 inch NPT male thread	1	0.5	$16.50
CF14-50N	Compression fitting, 316 stainless steel, for 1/4 inch diameter temperature probes,1/2 inch NPT male thread	1	0.5	$17.50
CFTF-18**	Teflon™ ferrule for brass or stainless steel compression fittings and 1/8 diameter temperature probes	5	0.5	$9.75
CFTF-14**	Teflon ferrule for brass or stainless steel compression fittings and 1/4 diameter temperature probes	5	0.5	$10.00
CF06-25N	1/4 NPT stainless steel compression fitting for 0.24 inch (6mm) diameter RTD probe with M12 connector.	1	0.18	$33.50
CF10-50N	1/2 NPT stainless steel compression fitting for 10mm (0.4 inch) diameter RTD probe with M12 connector.	1	0.20	$34.50
CF18-BC	Bayonet compression fitting, for 1/8in diameter probe sheath sensors	1	0.1	$11.00
BB125N-50N	Reducing bushing, brass, 1/2 MNPT x 1/8 FNPT, hex head	1	0.1	$7.25

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

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

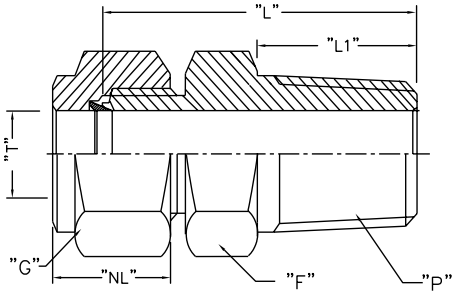
BCF14-50N

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	1/8in OD x 1/8in NPT(M)	0.128/0.132	1/8in NPT(M)	0.909"	0.393in	0.5in	0.433in	0.492in
BCF14-125N/ CF14-125N	0.5	1/4in OD x 1/8in NPT(M)	0.253/0.257	1/8inNPT(M)	1.0"	0.393in	0.5in	0.559"	0.5in
BCF18-25N/ CF18-25N	0.5	1/8in OD x 1/4in NPT(M)	0.128/0.132	1/4in NPT(M)	1.114in	0.551"	0.551"	0.433in	0.492in
BCF14-25N/ CF14-25N	0.5	1/4in OD x 1/4in NPT(M)	0.253/0.257	1/4in NPT(M)	1.188in	0.551"	0.551"	0.559"	0.5in
BCF18-50N/ CF18-50N	0.5	1/8in OD x 1/2in NPT(M)	0.128/0.132	1/2in NPT(M)	1.377"	0.748in	0.866in	0.433in	0.492in
BCF14-50N/ CF14-50N	0.5	1/4in OD x 1/2in NTP(M)	0.253/0.257	1/2in NPT(M)	1.437"	0.748in	0.866in	0.559"	0.5in
CF06-25N	0.18	6mm OD x 1/4in NPT(M)	0.236/0.240	1/4in NPT(M)	1.174in	0.59"	0.67"	0.55in	0.587"
CF10-50N	0.20	10mm OD x 1/2in NPT(M)	0.394/0.399	1/2in NPT(M)	1.458in	0.55in	1.06in	0.75in	0.608in

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	$2.25
BA-100	Bayonet adapter, 1 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT		1	0.5	$2.25
BA-114	Bayonet adapter, 1-1/4 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT		1	0.5	$3.00
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	$3.00
BA-200	Bayonet adapter, 2 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT		1	0.5	$3.25
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	$3.50
BA-300	Bayonet adapter, 3 inch long, 7/16 inch outside diameter, 9/32 inch inside diameter, 1/8 inch MNPT		1	0.5	$3.75
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	$4.50
CF18-BC	Adjustable bayonet compression fitting, for 1/8in diameter probe sheath sensors		1	0.1	$11.00
BB125N-50N	Reducing bushing, 1/2 MNPT x 1/8 FNPT, hex head	Brass	1	0.1	$7.25

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

BA-078

BA-100

BA-114

CF18-BC

BA-300

BA-112

BB125N-50N

BA-312

BA-200

BA-212

ProSense® Pipe Clamp Adapters

PCA-300

Overview

- For use with ProSense adjustable immersion thermocouple and RTD sensors
- Available in adjustable diameters from 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	$19.50
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	$20.00
PCA-300	ProSense pipe clamp adapter with 2-1/16 to 3 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors.	1	0.1	$21.50
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	$25.00
PCA-500	ProSense pipe clamp adapter with 4-1/8 to 7 inch adjustable diameter, 2-inch attached bayonet adapter with 7/16 inch outside diameter and 9/32 inch inside diameter. Use with Prosense adjustable immersion sensors.	1	0.1	$24.00

Dimensions

inches [mm]

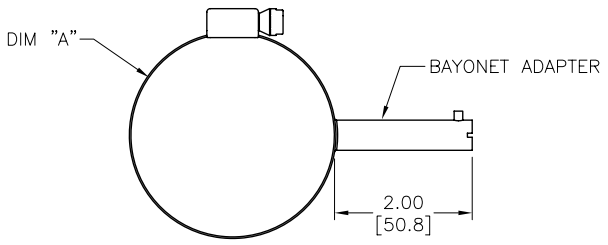


TABLE A		
PART NUMBER	DIM "A"	FITS PIPE SIZES
PCA–125	ø0.68–1.25 [ø17.2–31.7]	1/2 TO 3/4 NPS
PCA–200	ø1.06–2.00 [ø26.9–50.8]	1 TO 1–1/2 NPS
PCA–300	ø2.06–3.00 [ø52.3–76.2]	2 TO 2–1/2 NPS
PCA–425	ø3.31–4.25 [ø84.1–108.0]	3 TO 3–1/2 NPS
PCA–500	ø4.12–7.00 [ø104.6–177.8]	4 TO 6 NPS

ProSense® Thermocouple, 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	$5.25	J	Standard round pin plug	Max continuous 400 °F (200 °C)	Black	32 AWG (0.2mm) to 14 AWG maximum (2.0mm)	WCB-S
THMJ-SJ	1	0.5	$6.50		Standard round pin jack				
THMJ-SPJ	1	0.5	$12.50		Standard round direct mount jack				–
THMJ-MP	1	0.5	$3.75		Miniature flat pin plug			40 AWG (0.08mm) to 20 AWG maximum (0.8mm)	WCB-M
THMJ-MJ	1	0.5	$4.25		Miniature flat pin jack				
THMJ-MPJ	1	0.5	$9.75		Miniature round direct mount jack				–
THMK-SP	1	0.5	$5.50	K	Standard round pin plug		Yellow	32 AWG (0.2mm) to 14 AWG maximum (2.0mm)	WCB-S
THMK-SJ	1	0.5	$6.75		Standard round pin jack				
THMK-SPJ	1	0.5	$12.00		Standard round direct mount jack				–
THMK-MP	1	0.5	$4.00		Miniature flat pin plug			40 AWG (0.08mm) to 20 AWG maximum (0.8mm)	WCB-M
THMK-MJ	1	0.5	$4.25		Miniature flat pin jack				
THMK-MPJ	1	0.5	$10.50		Miniature round direct mount jack				–
THMK-HSP	1	0.5	$16.50		Standard hi-temp round pin plug	Max continuous 662 °F (350 °C)	Brown	32 AWG (0.2mm) to 14 AWG maximum (2.0mm)	WCB-S
THMK-HSJ	1	0.5	$19.50		Standard hi-temp round pin jack				
THMT-SP	1	0.5	$5.50	T	Standard round pin plug	Max continuous 400 °F (200 °C)	Blue		
THMT-SJ	1	0.5	$7.00		Standard round pin jack				
THMT-SPJ	1	0.5	$12.00		Standard round direct mount jack				–
THMT-MP	1	0.5	$4.00		Miniature flat pin plug			40 AWG (0.08mm) to 20 AWG maximum (0.8mm)	WCB-M
THMT-MJ	1	0.5	$4.50		Miniature flat pin jack				
THMT-MPJ	1	0.5	$11.50		Miniature round direct mount jack				–
RTD-SP	1	0.5	$11.00	RTD	Standard round pin plug		White	32 AWG (0.2mm) to 14 AWG maximum (2.0mm)	WCB-S
RTD-SJ	1	0.5	$14.00		Standard round pin jack				
NTC-SJ	1	0.5	$7.25	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

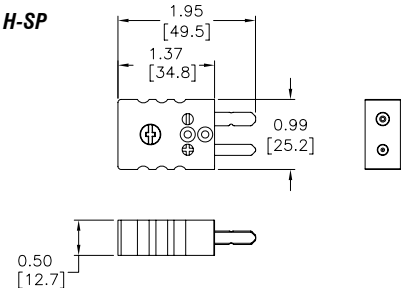
NTC-SJ

ProSense® Thermocouple, RTD, and Thermistor Connectors

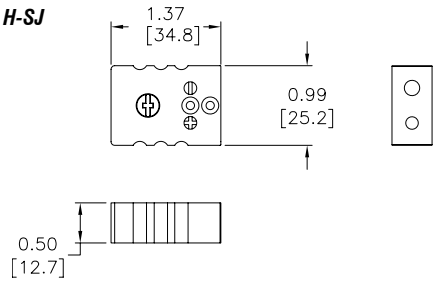
Dimensions

inches [mm]

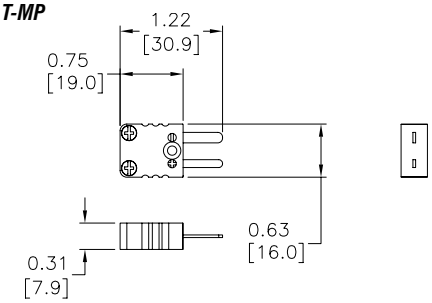
THMJ, K, T, & H-SP



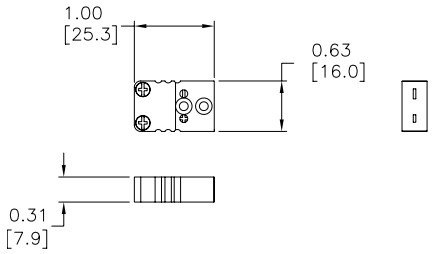
THMJ, K, T, & H-SJ



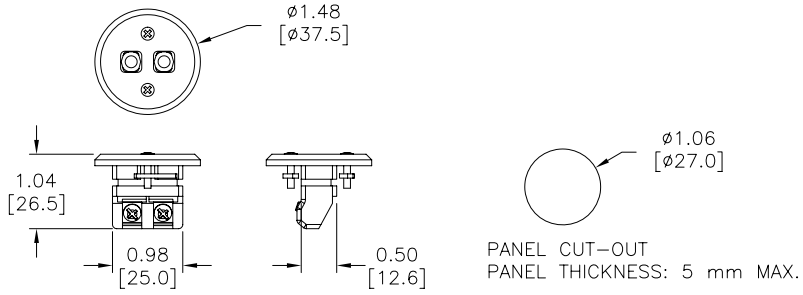
THMJ, K, & T-MP



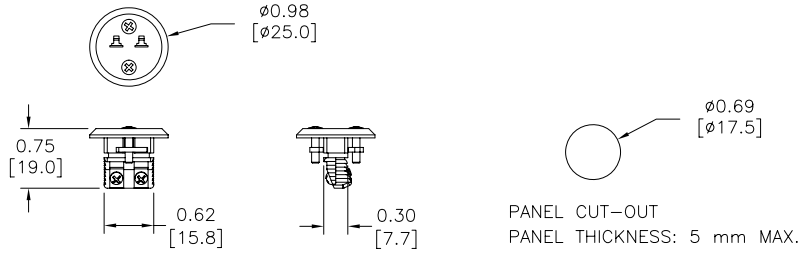
THMJ, K, & T-MJ



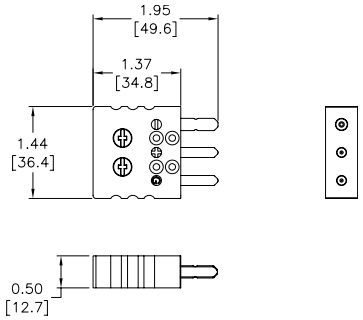
THMJ, K, & T-SPJ



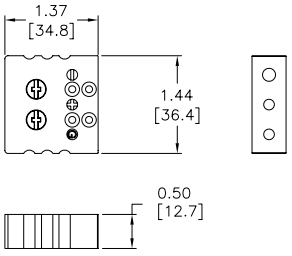
THMJ, K, & T-MPJ



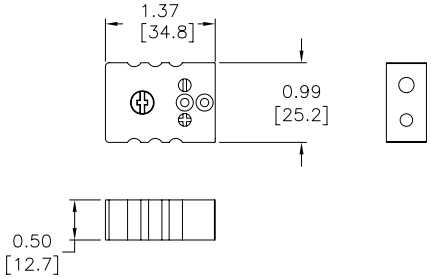
RTD-SP



RTD-SJ



NTC-SJ



ProSense® Thermocouple and RTD Connectors

WCB-S

WCB-M

WCB-S Application

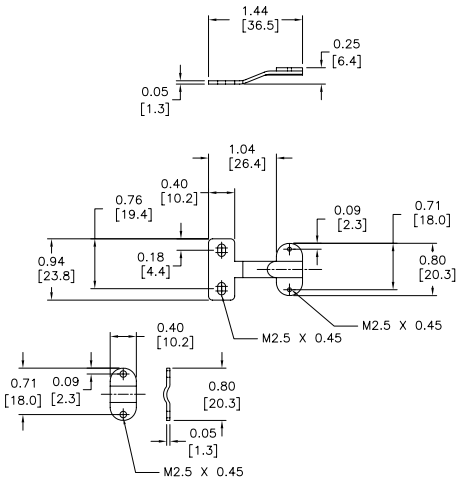
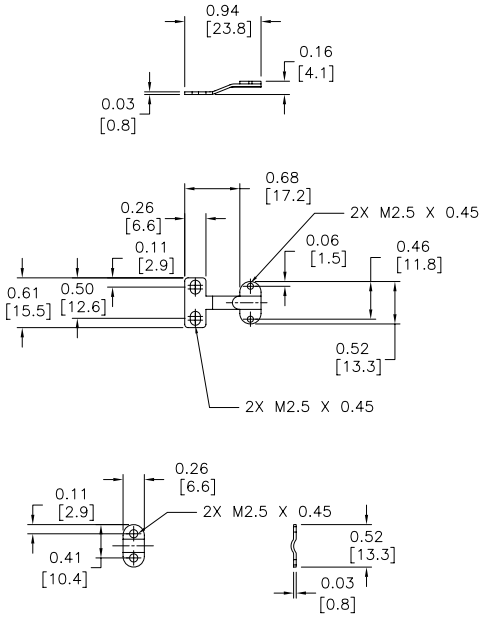
WCB-M Application

Thermocouple and RTD Connectors Accessories				
Part Number	***Pcs/ Pkg***	***Wt(lb)***	***Price***	***Description***
WCB-S	10	0.5	$12.00	Wire / cable clamp bracket for use with standard thermocouple and RTD connectors.
WCB-M	10	0.5	$14.00	Wire / cable clamp bracket for use with miniature thermocouple connectors.

Dimensions

inches [mm]

WCB-S



WCB-M