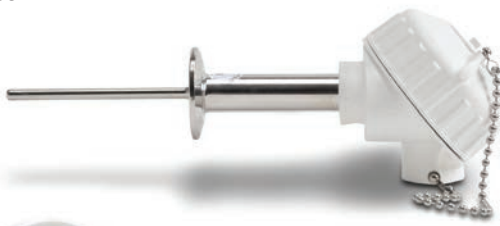


# pro<sup>sense</sup>® RTD Sanitary Clean-in-Place (CIP) Probes

RTD1-S04-XX



Open head

## Overview

- All temperature sensors are pre-built stock items
- 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



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		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					2" tri-clamp			
RTD1-S04-03					1" or 1-1/2" tri-clamp			
RTD1-S04-04					2" tri-clamp			

Technical Specifications	
<b>Sensing Element</b>	Single 100 ohm platinum (Pt 100), 3-wire; TCR = 0.00385 ohm/ohm/°C
<b>Initial Accuracy</b>	Class A $\pm[0.15+0.002  t ]$ °C
<b>Probe &amp; Process Connection</b>	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
<b>Connection Head</b>	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)
<b>Response Time</b>	<4 seconds, 63% of 25 to 77°C step change (ASTM E1137)
<b>Wiring</b>	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.**

# pro<sup>sense</sup> RTD Sanitary Clean-in-Place (CIP) Probes

## Dimensions

inches [mm]

### RTD1-S04-01 and 02

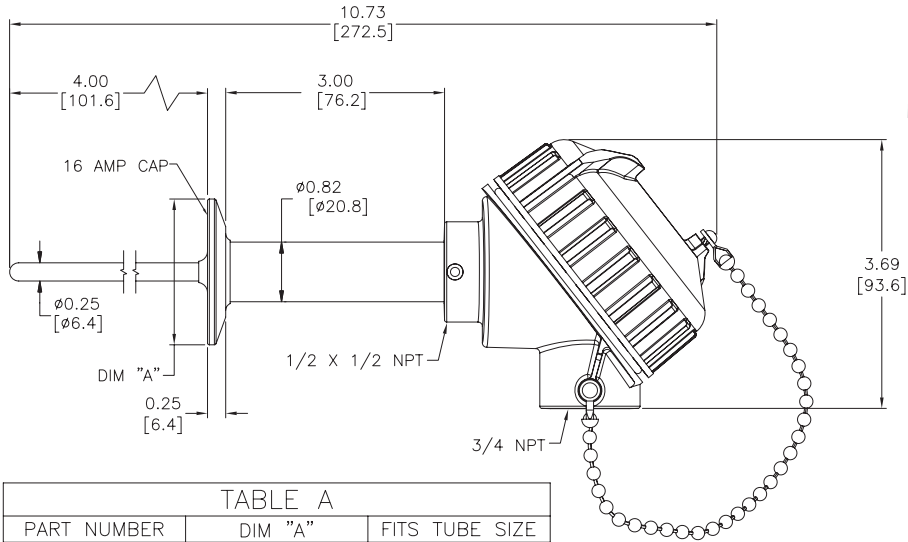
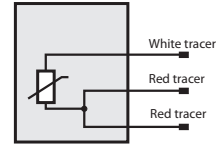
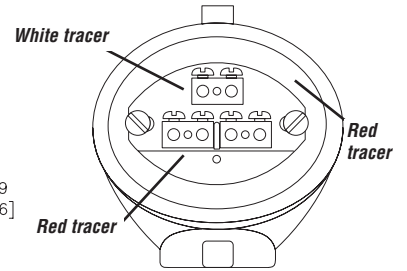


TABLE A		
PART NUMBER	DIM "A"	FITS TUBE SIZE
RTD1-S04-01	1.98[50.3]	1" OR 1-1/2"
RTD1-S04-02	2.51[63.8]	2"

## 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

### RTD1-S04-03 and 04

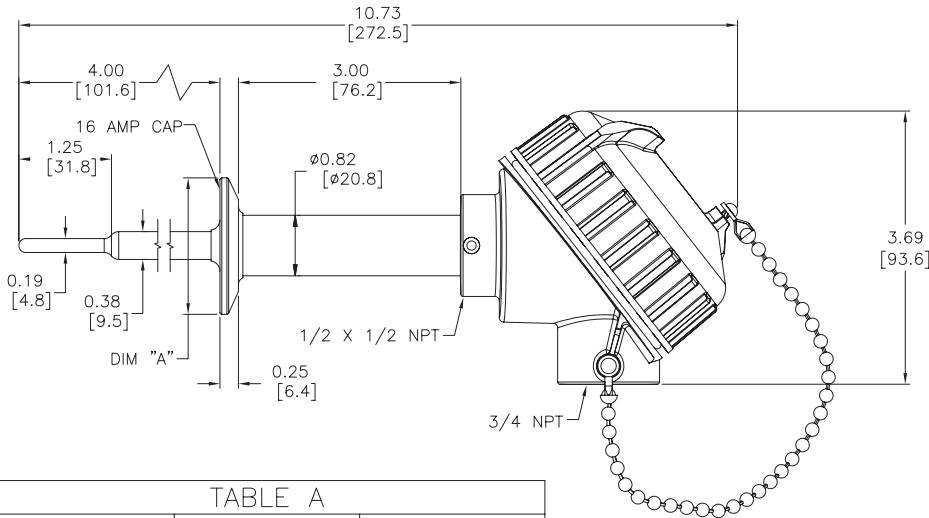


TABLE A		
PART NUMBER	DIM "A"	FITS TUBE SIZE
RTD1-S04-03	1.98[50.3]	1" OR 1-1/2"
RTD1-S04-04	2.51[63.8]	2"

## Accessories

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

# pro<sup>sense</sup> Thermocouple and RTD Connectors

## Overview

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



Thermocouple and RTD Connectors									
Part Number	Pcs/ Pkg	Wt(lb)	Price	Sensor Type	Connector Type	Temperature Rating	Body Color	Wire Size	Wire Cable Clamp Bracket
<b>THMJ-SP</b>	1	0.5		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
<b>THMJ-SJ</b>	1	0.5	Standard round pin jack		–				
<b>THMJ-SPJ</b>	1	0.5	Standard round direct mount jack		–				
<b>THMJ-MP</b>	1	0.5	Miniature flat pin plug		40 AWG (0.08 mm) to 20 AWG maximum (0.8 mm)			WCB-M	
<b>THMJ-MJ</b>	1	0.5	Miniature flat pin jack					–	
<b>THMJ-MPJ</b>	1	0.5	Miniature round direct mount jack					–	
<b>THMK-SP</b>	1	0.5		K	Standard round pin plug	Max continuous 662°F (350°C)	Yellow	32 AWG (0.2 mm) to 14 AWG maximum (2.0 mm)	WCB-S
<b>THMK-SJ</b>	1	0.5	Standard round pin jack		–				
<b>THMK-SPJ</b>	1	0.5	Standard round direct mount jack		–				
<b>THMK-MP</b>	1	0.5	Miniature flat pin plug		40 AWG (0.08 mm) to 20 AWG maximum (0.8 mm)			WCB-M	
<b>THMK-MJ</b>	1	0.5	Miniature flat pin jack					–	
<b>THMK-MPJ</b>	1	0.5	Miniature round direct mount jack					–	
<b>THMK-HSP</b>	1	0.5		RTD	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
<b>THMK-HSJ</b>	1	0.5	Standard hi-temp round pin jack		–				
<b>THMT-SP</b>	1	0.5		T	Standard round pin plug	Max continuous 400°F (200°C)	Blue	32 AWG (0.2 mm) to 14 AWG maximum (2.0 mm)	WCB-S
<b>THMT-SJ</b>	1	0.5	Standard round pin jack		–				
<b>THMT-SPJ</b>	1	0.5	Standard round direct mount jack		–				
<b>THMT-MP</b>	1	0.5	Miniature flat pin plug		40 AWG (0.08 mm) to 20 AWG maximum (0.8 mm)			WCB-M	
<b>THMT-MJ</b>	1	0.5	Miniature flat pin jack					–	
<b>THMT-MPJ</b>	1	0.5	Miniature round direct mount jack					–	
<b>RTD-SP</b>	1	0.5		RTD	Standard round pin plug	White	32 AWG (0.2 mm) to 14 AWG maximum (2.0 mm)	WCB-S	
<b>RTD-SJ</b>	1	0.5	Standard round pin jack		–				

**THMT-SP**



**THMT-SJ**



**THMK-SP**



**THMK-SJ**



**THMJ-MP**



**THMJ-MJ**



**THMT-SPJ**



**THMT-MPJ**



**RTD-SP**



**RTD-SJ**



**THMK-HSP**



**THMK-HSJ**

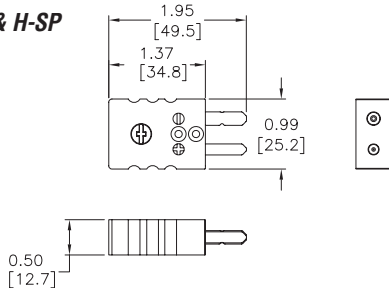


# pro<sup>sense</sup> Thermocouple and RTD Connectors

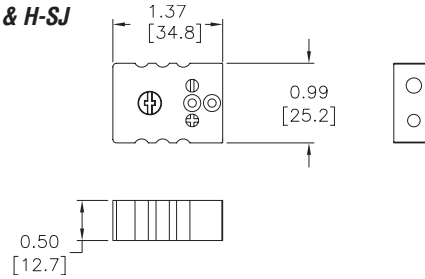
## Dimensions

inches [mm]

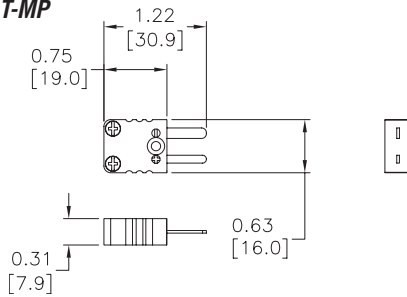
**THMJ, K, T, & H-SP**



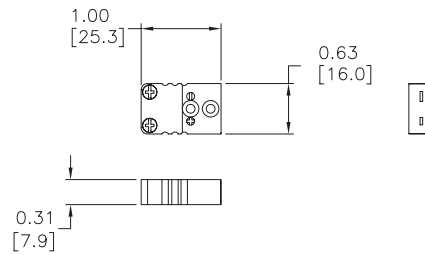
**THMJ, K, T, & H-SJ**



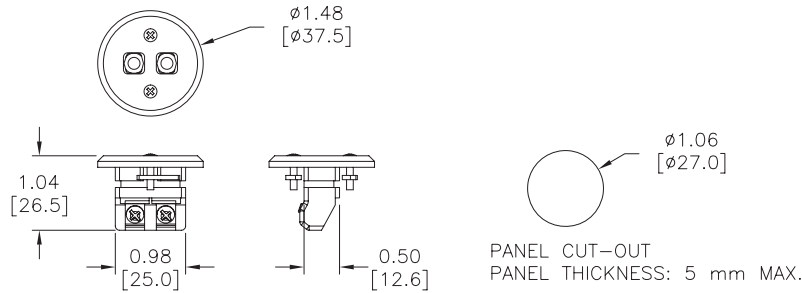
**THMJ, K, & T-MP**



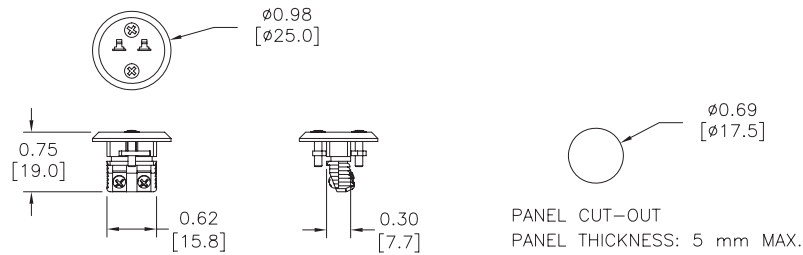
**THMJ, K, & T-MJ**



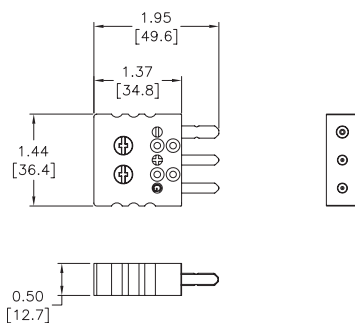
**THMJ, K, & T-SPJ**



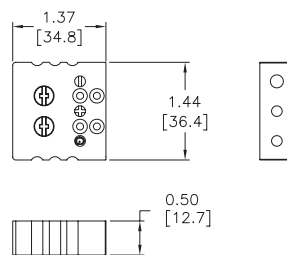
**THMJ, K, & T-MPJ**



**RTD-SP**



**RTD-SJ**



# pro<sup>sense</sup> Thermocouple and RTD Connectors

**WCB-S**



**WCB-M**



**WCB-S Application**



**WCB-M Application**

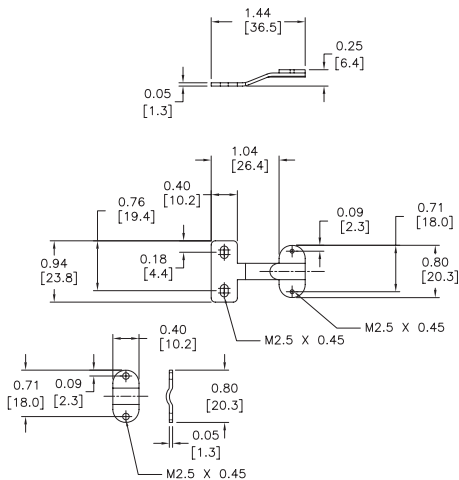


Thermocouple and RTD Connectors Accessories				
Part Number	Pcs/ Pkg	Wt(lb)	Price	Description
<b>WCB-S</b>	4	0.5		Wire / cable clamp bracket for use with standard thermocouple and RTD connectors.
<b>WCB-M</b>	4	0.5		Wire / cable clamp bracket for use with miniature thermocouple connectors.

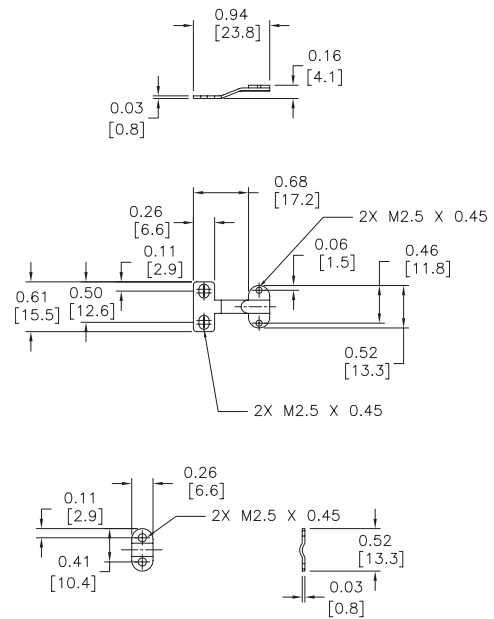
## Dimensions

inches [mm]

**WCB-S**



**WCB-M**



# pro<sup>ense</sup>® Thermocouple and RTD Temperature Range

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

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

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

### J, K, & T Thermocouple Color Code

	White	+
J	Red	-
	Yellow	+
K	Red	-
	Blue	+
T	Blue	+
	Red	-