

# prosense<sup>®</sup> TTD25 Series Temperature Transmitter



TTD25C

## Features

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

## Agency Approvals

- cULus File number E 324411
- CE
- RoHS



ProSense Temperature Transmitter Series						
Part Number	Description	Pcs/Pkg	Wt(lb)	Price	Use With	Cable Assemblies
TTD25C-20-0100C-H	4-20 mA output, 6 mm (0.24") dia. probe, 4-pin micro M12 plug. Temperature range: 0 to 100°C.	1	0.30	\$126.00	CF06-25N	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 (order separately - See Proximity Sensor section for cable specs)

ProSense TTD25 Series Technical Specifications	
Part Number	TTD25C-20-0100C-H
Operating Voltage	10 to 30 VDC
Electrical Connection	M12 connector; gold-plated contacts
Process connection	Use CF06-25N
Short-Circuit Protection	Yes (non-latching)
Overload Protection	Yes
Reverse Polarity Protection	Yes
Analog Output	4 to 20 mA (min/max 3.85 to 22 mA)
Maximum Load	720Ω at 24 VDC; Rmax = (Supply voltage - 9.6)*50
Pressure Rating	725 psi (50 bar) (This value applies to the sensor only. For installation in adapters, use the adapter data sheet indications)
Accuracy	± 0.3°C
Resolution	<0.02°C
Measuring Element	1 x Pt 1000, to DIN EN 60751, class A
Measuring Range	32 to 212°F (0 to 100°C)
Dynamic Response (DIN EN 60751)	*to.5 = 1 sec/ to.9 = 3 sec
Minimum Installation Depth	0.6 in (15 mm)
Housing Material	Stainless steel (316S12); stainless steel (304S15); stainless steel (303S22); PA
Materials (wetted parts)	Stainless steel (316S12)
Ambient Temperature	-13 to 158°F (-25 to 70°C)
Storage Temperature	-40 to 212°F (-40 to 100°C)
Protection	IP 68 / IP 69K, Class III
Insulation Resistance	> 100 MΩ (500 VDC)
Shock Resistance	50g (DIN / IEC 68-2-27, 11ms)
Vibration Resistance	20g (DIN / EN 68-2-6, (10 to 2000 Hz)
<b>EMC</b>	
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

\* to.5 = a 50% of full scale change in output when immersed in water at 0.4m/s, to.9 = a 90% FS change.



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

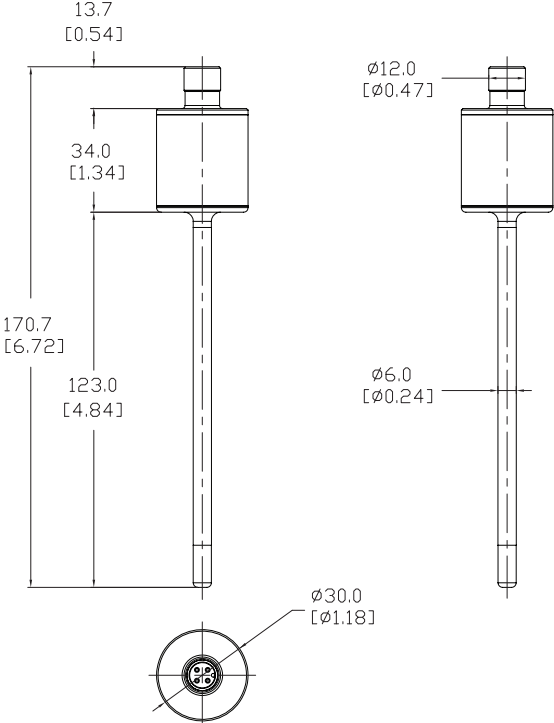
[www.automationdirect.com/static/specs/prosensechemresistance.pdf](http://www.automationdirect.com/static/specs/prosensechemresistance.pdf)

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

# pro<sup>o</sup>sense® TTD25 Temperature Transmitters

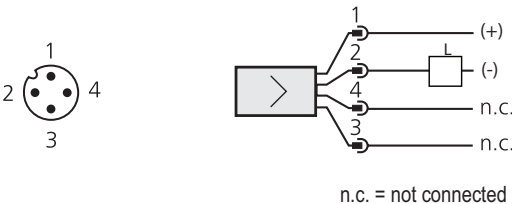
## TTD25C Series Dimensions

mm [inches]



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

## 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.*

# pro<sup>ense</sup>® Compression Mounting Fittings for Temperature Probes

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

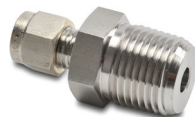
**NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.**

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

**CF14-125N**



**CF14-50N**



**CF14-25N**



**CF18-BC**



**CF06-25N**



**CF10-50N**



**BCF18-125N**



**BCF18-25N**



**BCF18-50N**



**BB125N-50N**



**CFTF-14**



**CFTF-18**



# pro<sup>sense</sup>® Compression Mounting Fittings for Temperature Probes

**BCF14-125N**



**BCF14-25N**



**BCF14-50N**



**CF18-25N**



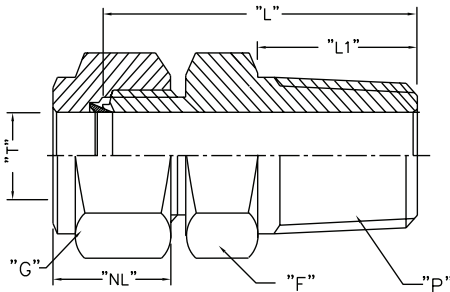
**CF18-50N**



**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**
<b>BCF18-125N/ CF18-125N</b>	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"
<b>BCF14-125N/ CF14-125N</b>	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"
<b>BCF18-25N/ CF18-25N</b>	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"
<b>BCF14-25N/ CF14-25N</b>	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"
<b>BCF18-50N/ CF18-50N</b>	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"
<b>BCF14-50N/ CF14-50N</b>	0.5	1/4" OD x 1/2" NPT(M)	0.253/0.257	1/2" NPT(M)	1.437"	0.748"	0.866"	0.559"	0.5"
<b>CF06-25N</b>	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"
<b>CF10-50N</b>	0.20	10 mm OD x 1/2" NPT(M)	0.394/0.399	1/2" NPT(M)	1.458"	0.55"	1.06"	0.75"	0.608"

*Note: All dimensions are in inches*

\* ± 0.07

\*\* ± 0.03

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

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

# pro<sup>sense</sup> Bayonet Mounting Adapter for Temperature Sensors

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



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

**BA-078**



**BA-100**



**BA-114**



**CF18-BC**



**BA-300**



**BA-112**



**BB125N-50N**



**BA-312**



**BA-200**



**BA-212**



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

Thermocouple Temperature Range		
THMJ-T06L06-02	32 to 1330°F (0 to 720°C) lead wire transition rated to 400 °F (204 °C)	
THMJ-T12L06-02		
THMJ-T18L06-02		
THMJ-P06-02	32 to 1330°F (0 to 720°C) plug rated to 400 °F (204 °C)	
THMJ-P12-02		
THMJ-P18-02		
THMK-C04-03	32 to 1700°F (0 to 927°C)	
THMK-C04R-03		
THMK-C06-01		
THMK-C06-02		
THMK-C06-03		
THMK-C06R-03		
THMK-C12-01		
THMK-C12-02		
THMK-C12-03		
THMK-C12R-03		
THMK-C18-01		
THMK-C18-02		
THMK-H04L01-02		
THMK-H06L01-01		
THMK-H06L01-02		
THMK-H12L01-01		
THMK-H12L01-02		
THMK-H18L01-01		
THMK-T06L06-01		32 to 1700°F (0 to 927°C) lead wire transition rated to 400 °F (204 °C)
THMK-T06L06-02		
THMK-T12L06-01		
THMK-T12L06-02	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		
TSD25N-AP-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		-58 to 572°F (-50 to 300°C)
RTD1-C12-02		
RTD1-C12-03		
RTD1-C12R-03		
RTD1-C18-01		
RTD1-C18-02		
RTD1-H04L01-02		
RTD1-H06L01-01		
RTD1-H06L01-02		
RTD1-H12L01-01		
RTD1-H12L01-02		
RTD1-H18L01-01		
RTD1-P06-01	-58 to 572°F (-50 to 300°C) Plug rated to 400°F (204°C)	
RTD1-P12-01		
RTD1-P18-01	-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		
J	White	+
	Red	-
K	Yellow	+
	Red	-
T	Blue	+
	Red	-