



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



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	\$100.00	PDF	
XTP-260-N40140F			260mm (10.24")	RTDTW-06-020-50N CF06-25N	0.34	\$102.00	PDF	
XTP-360-N40140F			360mm (14.17")	RTDTW-06-030-50N CF06-25N	0.37	\$104.00	PDF	
XTP25N-030-N40140F		1/4" Male NPT	None	30mm (1.18")	None	0.2	\$127.00	PDF
XTP25N-050-N40140F				50mm (1.97")		0.2	\$128.00	PDF
XTP25N-100-N40140F				100mm (3.94")		0.3	\$130.00	PDF
XTP25N-150-N40140F				150mm (5.91")		0.3	\$133.00	PDF
XTP50N-030-N40140F				30mm (1.18")		0.3	\$127.00	PDF
XTP50N-050-N40140F				50mm (1.97")		0.3	\$128.00	PDF
XTP50N-100-N40140F		1/2" Male NPT	None	100mm (3.94")	TW04-0x	0.4	\$130.00	PDF
XTP50N-150-N40140F				150mm (5.91")	TW06-0x	0.4	\$133.00	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
XTP-260-0300F	260mm (10.24")	RTDTW-06-020-50N CF06-25N	0.27			\$102.00	PDF	
XTP-360-0300F	360mm (14.17")	RTDTW-06-030-50N CF06-25N	0.37			\$104.00	PDF	
XTP25N-030-0300F	1/4" Male NPT	None	30mm (1.18")		None	0.2	\$127.00	PDF
XTP25N-050-0300F			50mm (1.97")			0.2	\$128.00	PDF
XTP25N-100-0300F			100mm (3.94")			0.3	\$130.00	PDF
XTP25N-150-0300F			150mm (5.91")			0.3	\$133.00	PDF
XTP50N-030-0300F			30mm (1.18")			0.3	\$127.00	PDF
XTP50N-050-0300F			50mm (1.97")			0.3	\$128.00	PDF
XTP50N-100-0300F	1/2" Male NPT	None	100mm (3.94")		TW04-0x	0.4	\$130.00	PDF
XTP50N-150-0300F			150mm (5.91")		TW06-0x	0.4	\$133.00	PDF

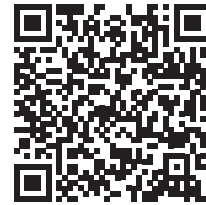
* Free ProSense XT-SOFT software can be used to program custom measuring ranges and change other configuration parameters. An XT-USB programming cable and XT-M12 adapter are also required and purchased separately.



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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	\$100.00	PDF		
XTP-260-0100C			260mm (10.24")	RTDTW-06-020-50N CF06-25N	0.34	\$102.00	PDF		
XTP-360-0100C			360mm (14.17")	RTDTW-06-030-50N CF06-25N	0.37	\$104.00	PDF		
XTP25N-030-0100C		1/4" Male NPT	None	30mm (1.18")	None	0.2	\$127.00	PDF	
XTP25N-050-0100C				50mm (1.97")		0.2	\$128.00	PDF	
XTP25N-100-0100C				100mm (3.94")		0.3	\$130.00	PDF	
XTP25N-150-0100C				150mm (5.91")		0.3	\$133.00	PDF	
XTP50N-030-0100C		1/2" Male NPT	None	30mm (1.18")	None	0.3	\$127.00	PDF	
XTP50N-050-0100C				50mm (1.97")		0.3	\$128.00	PDF	
XTP50N-100-0100C				100mm (3.94")		TW04-0x	0.4	\$130.00	PDF
XTP50N-150-0100C				150mm (5.91")		TW06-0x	0.4	\$133.00	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	\$167.00	PDF	
XTPS15-050-0300F				50mm (1.97")		0.45	\$168.00	PDF	
XTPS15-100-0300F				100mm (3.94")		0.47	\$169.00	PDF	
XTPS15-150-0300F	150mm (5.91")			0.48		\$170.00	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 (U _{powersupply} - 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.

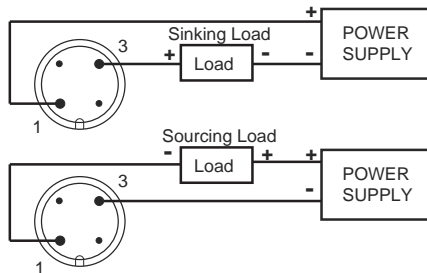
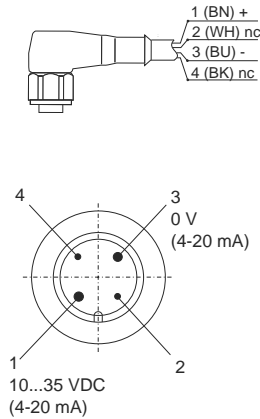
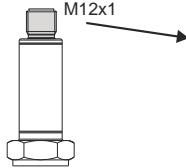
pro^{ense}® XTP Series Temperature Transmitter Probes

Wiring

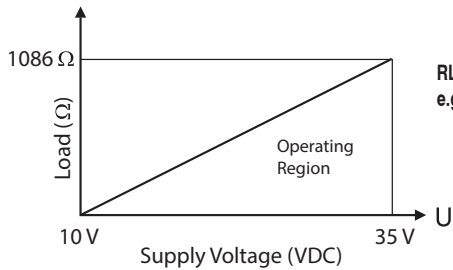
Cable Assembly Wiring Colors:

- Pin 1 - Brown
- Pin 2 - White
- Pin 3 - Blue
- Pin 4 - Black

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



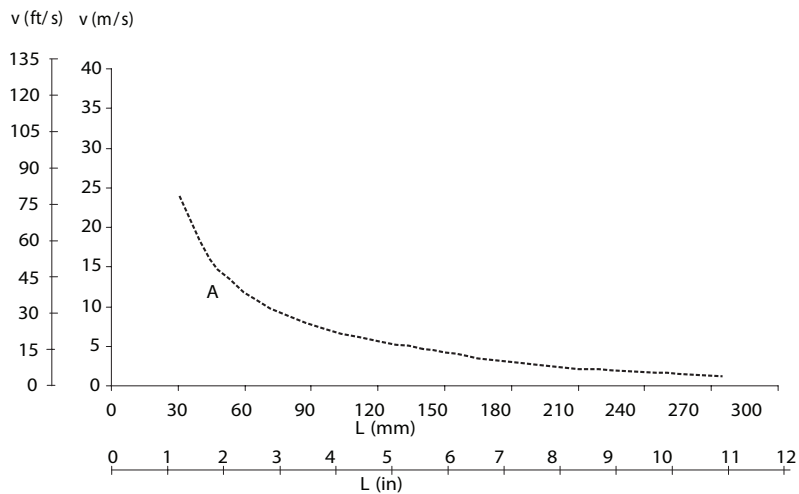
Load Impedance



$$RL_{max} = (V_{powersupply} - 10V) / 0.023 \text{ A (current output)}$$

e.g. $(24V - 10V) / 0.023A = 608\Omega$

Maximum Flow Velocity Per insertion Length



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

pro^{sense} Temperature Transmitter Configuration Software

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

Overview

XT-SOFT PC software is a utility program that allows users to easily configure ProSense XTH-0-UNV, XTD-0-UNV and XTP series

temperature transmitters and ETS series digital temperature sensors. Download your free copy of XT-SOFT at www.AutomationDirect.com and connect your transmitter to the PC through an XT-USB configuration cable (purchased separately). An XT-M12 adapter is also required when connecting to an XTP series transmitter.

System Requirements:

- Windows 10
- Windows 7 (32 and 64 bit)
- Windows Vista (64 bit)
- Windows XP
- 1 USB 2.0 Port
- 128 MB hard disk space

XTP Series Configuration Parameters:

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



XTP Series

XTH & XTD Configuration Parameters:

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



XTH Series



XTD Series

ETS Series Configuration Parameters:

- Basic Settings:
 - Measuring unit (°C/°F/K)
 - Offset: Configure zero point: $\pm 18^\circ\text{F}$ ($\pm 10^\circ\text{C/K}$)
 - 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 CD



XT-USB



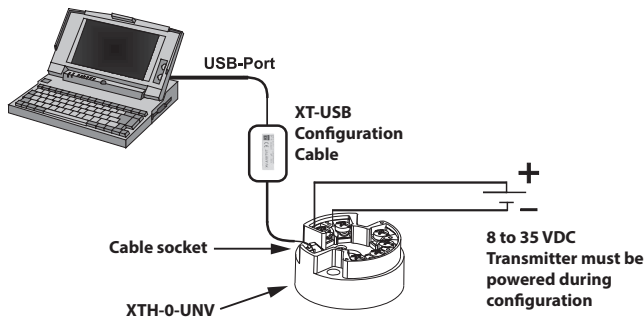
XT-M12

Part No.	Description	Pcs/Pkg	Wt(lb)	Price
XT-SOFT	ProSense configuration software, CD or free download. For use with ProSense temperature transmitter XTP series, digital temperature sensor ETS series and models XTH-0-UNV, XTD-0-UNV.	1	0.1	\$9.50
XT-USB	ProSense configuration cable, USB to keyed 4-pin male, 7.9 ft/2.4 m cable length. For use with XT-SOFT configuration software, ProSense temperature transmitter XTP series, digital temperature sensor ETS series and models XTH-0-UNV, XTD-0-UNV.	1	0.4	\$95.00
XT-M12	ProSense adapter, keyed 4-pin female to 4-pin M12. For use with ProSense temperature transmitter XTP series and XT-USB cable.	1	0.1	\$16.00

Connection Examples

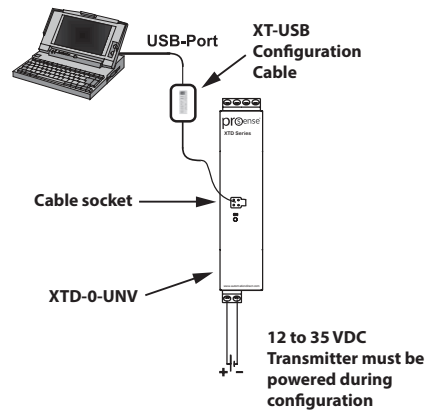
XTH-0-UNV Connection

XT-SOFT PC configuration software

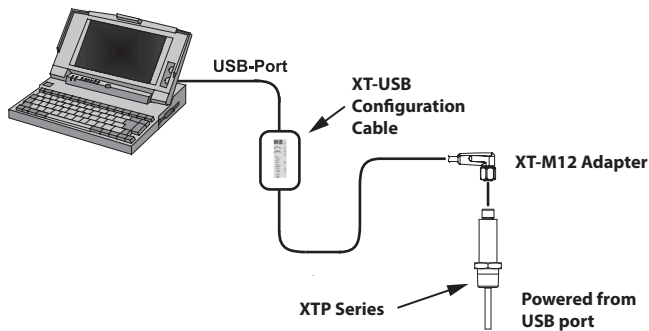


XTD-0-UNV Connection

XT-SOFT PC configuration software

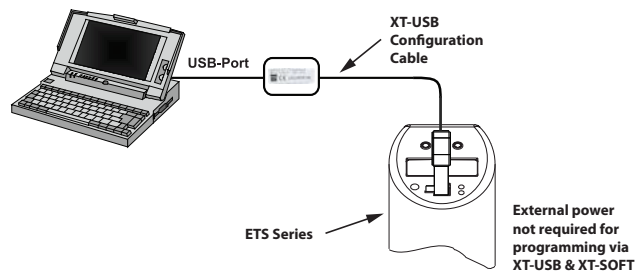


XTP Series Connection



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

ETS Series Connection



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



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