UNITED ELECTRIC CONTROLS

exida CERTIFIED IEC 61508 SIL 3 CAPABLE

ONE Series

Explosion-proof pressure and temperature smart transmitter + switch & electronic switch

HART COMMUNICATION PROTOCOL

DUAL SEAL CERTIFIED

United Electric Controls is ISO 9001:2015 certified

SYSTEM CERTIFICATION ISO 9001 SGS

RoHS compliant

1 X - B 07

Table of Contents

Use the following pages to determine the best device for your application then build your part number.

Building a Part Number

EXAMPLE: 1XSWLL - P10 - M401

Type: Select type from table below:

Electronic Switch, SIL 2 Certified	
1XSWLL	Switches **low** voltage, **low** current. Best used with PLC or DCS; replaces mechanical switch or new install.
1XSWHL	Switches **high** voltage, **low** current. Best used with PLC or DCS; replaces mechanical switch or new install.
1XSWHH	Switches **high** voltage, **high** current. Best used for direct switching of final element.
HART® Transmitter	
1XTX00	Loop-powered 4-20mA output, Best used with PLC or DCS.
HART® Transmitter+Switch "ALL-in-ONE"	
1XTXSW	Loop-powered HART® Transmitter with 2-independently switched outputs. Best used with PLC and DCS.

Model: Select the range and measurement parameter for your application

Options: Select any of available options for your device

GLOSSARY OF TERMS:

Set Point	The value at which the switch is set to actuate. Switches may be set to actuate on rising or falling pressure or temperature.
Deadband	The difference in pressure or temperature between which the switch is set to actuate and de-actuate. Deadband is fully programmable within the Adjustable Set Point Range.
Adjustable Set Point Range	The pressure or temperature range within which the set point can be adjusted.

Over Range Pressure	The maximum pressure that may be applied continuously. Exceeding the Over Range Pressure will cause a fault to occur.
Proof Pressure	The maximum pressure that may be occasionally applied without causing damage. May cause changes to the sensor output requiring Offset and Span adjustments.
Differential Proof Pressure	The maximum pressure difference that may be applied between the high and low ports without causing damage. May cause changes to the sensor output requiring Offset and Span adjustments.
Working Pressure	The maximum pressure that may be applied simultaneously to the high and low ports. **Note**: In addition to the Working Pressure limit, the Adjustable Set point Range must be maintained.

Specifications

Power input/ Switch capacity:					
Model	Maximum Power Ratings / Output Signal	Set Point Switch Ratings (SPST)	Min. Load in Closed State	Max. Open State Current	IAW™ Switch Ratings (SPST)
1XSWLL	2-wire 7.8 – 50 VDC @ 0.75 mA discrete input powered	7.8 – 50 VDC @ 0.1 A MOSFET derate @ 1 mA per °C > 25 °C	2.7 mA	0.8 mA	7.8 – 50 VDC @ 0.1 A MOSFET derate @ 1 mA per °C > 25 °C
1XSWHL	2-wire 70 – 240 VAC & VDC @ 1 mA discrete input powered	70 – 240 VAC/VDC @ 0.1 A	6.0 mA	1 mA	7.8 – 50 VDC @ 0.1 A
1XSWHH	4-wire 70 – 240 VAC @ 6 mA external power supply	70 – 240 VAC @ 0.15 – 10 A	150 mA	0.1 mA	7.8 – 50 VDC @ 0.1 A
1XTXSW	2-wire 20 – 40 VDC* @ 21 mA / Loop powered 4-20 mA analog output with HART® version 7	SW1 & SW2: 0 – 280 VAC & VDC @ 0.3 A derate 8% per 10 °C > 21 °C	0 mA	0.01 mA	0 – 30 VDC @ 0.020 A MOSFET
1XTX00	2-wire 20 – 40 VDC* @ 21 mA / Loop powered 4-20 mA analog output with HART® version 7	N/A	N/A	N/A	N/A

* A series resistor is required for supply voltage above 24 VDC. Reference installation instructions.

Accuracy	0.5% of full range span, at room temperature
Repeatability	0.1% of full range span

	Approved Ambient Operating Temperature Range
Model	cULus, IECx & ATEX
1XSWLL	-40 °F to 185 °F (-40 °C TO 85 °C)
1XSWHL	-40 °F to 176 °F (-40 °C to 80 °C)
1XSWHH	
1XTXSW	
1XTX00	

Display visibility temperature range: 10 °F (-12 °C) to 158 °F (70 °C) all models

Long-term Stability	±0.25% of range/year maximum
Temperature Drift	0.03% of full scale per °C (0.12% for the P10 and K10 range)
Switch Response Time	≤ 100 mS for detection of full step change and change of output state with Trip Delay and Filter turned off
Analog output response time	250 mS maximum with FILTER set to OFF, pressure models only
Display response time	400 mS (updated 2.5 times per second)
Filter (transient filtering to prevent nuisance trips)	Programmable time constants for 0.25*, 0.5*, 1, and 2 seconds, default OFF for pressure models and 0.5 seconds for temperature models.
Trip Delay (switch decision delay)	0 to 999.9 seconds in 1/10th second increments

*Pressure Models Only

Set 4 MA (scale the 4 mA output)	Programmable from -3 to 15% of the sensor's range. Values are in the units of measure selected and are range dependent
Set 20 MA (scale the 20 mA output) **	Programmable from 25 to 103% of the sensor's range. Values are in the units of measure selected and are range dependent
IAW® (I Am Working) Diagnostics	Upon detecting a fault, the local display will show a fault code, the set point switch will change to the as-programmed tripped state, the normally-closed IAW® Output switch will fail-safe-open and the NAMUR NE 43 standard 4-20 mA output will indicate ≤ 3.6 mA. See installation manual for a complete listing of detectable faults and codes.

** For scaling low pressure ranges P10-P11, consult UE.

Specifications (continued)

Switch Control modes (N/A for 1XTX00)		
Mode	Set Point Switch Action	IAW™ Output (on fault)
Open Rise	Normally closed, opens at set point on rising media and fault	Open
Open Fall	Normally closed, opens at set point on falling media and fault	Open
Close Rise	Normally open, closes at set point on rising media and fault	Open
Close Fall	Normally open, closes at set point on falling media and fault	Open
Open Out of Window	Normally closed, opens above set point high and below set point low and fault, closes below deadband high and above deadband low	Open
Close Out of Window	Normally open, closes above set point high and below set point low and fault, opens below deadband high and above deadband low	Open

Analog output (1XTX models only)	4-20 mA NAMUR NE 43 compliant and HART® version 7 compatible current output, 363.6 ohms max. at 24 VDC, field scalable 4:1 turn down. Faults are indicated at ≤ 3.6 mA. See installation manual for details.
Enclosure and cover	Type 4X/IP66 certified epoxy-coated aluminum alloy 360 with tempered glass window. See Dimensional Drawings for more detail.
Electrical Connection	Two 3/4" NPT conduit openings with terminal block

Electrical Characteristics		
Model	Switch State	
	Voltage Open (Max.)	Voltage Closed (Max.)
1XSWLL	7.8 – 50 VDC @ 0.75 mA	4.7 VDC @ 0.1 A
1XSWHL	70 – 240 VAC/VDC @ 1 mA	14 VAC/VDC nominal
1XSWHH	70 – 240 VAC @ 6 mA	
1XTXSW	0 – 280 VAC/VDC	

Display is 4 digit x 0.5" (12.7 mm) LCD* and displays the following variables:	
Process variable	MAX/MIN process values
IAW® (I Am Working) status	Units of measure
Switch status	Latch status
Set point values	Deadband values
Trip counts	Fault codes
Offset indication	

* backlit on 1XTX models only

Set point & deadband	Programmable over the device's entire range
Memory	Programming and data protected by non-volatile FRAM
Effective transmission distance	2,000 feet (610 meters) at rated voltage for 1XSW models
Sensors	**Gauge Pressure**: 316L stainless steel wetted parts, welded diaphragm, 1/2" NPT (female) process connection, micro-machined piezo-resistive strain gauge silicon element, 0.25 mL silicone oil fill, maximum diaphragm displacement: 0.00053 inches. Maximum media temperature: -40 to 257 °F (-40 to 125 °C). Consider use of an instrument siphon when the media temperature exceeds the ONE Series ambient operating temperature range (as shown on page 3). Consult UE for guidance. **Vacuum**: All gauge pressure sensors withstand deep vacuum with no calibration effects. For compound vacuum ranges, see page 5. **Differential Pressure**: 316L stainless steel, welded diaphragms, 1/4" NPT (male) process connections, piezo-resistive strain gauge silicon element, silicone oil fill. Maximum media temperature: -40 to 257 °F (-40 to 125 °C). Consider use of an instrument siphon when the media temperature exceeds the ONE Series ambient operating temperature range (as shown on page 3). Consult UE for guidance. **Temperature**: 316 stainless steel 0.25" OD sheath containing a 100 ohm 4-wire platinum RTD element available with powder fill (local low temp) or powder fill (remote high temp). Media temperature limits: • -40 to 1000 °F, intermittent to 1100 °F (-40 to 538 °C, int. to 593 °C) for TH • -40 to 450 °F, intermittent to 495 °F (-40 to 232 °C, int. to 257 °C) for TL, TR • -300 to 200 °F, intermittent to 220 °F (-184 to 93 °C, int. to 105 °C) for TC • -40 to 900 °F (-40 to 482 °C) for TT

Specifications (continued)

EMI/RFI	Compliance to CE EMC requirements: EN 61000-6-2, EN 61000-6-4
Emission	EN 61000-6-4 Class A
Immunity	EN 61000-4-2 Immunity to Electrostatic Discharge EN 61000-4-3 Immunity to Continuous Radiated Disturbances EN 61000-4-4 Immunity to Electrical Fast Transients EN 61000-4-5 Immunity to Surges EN 61000-4-6 Immunity to Continuous Conducted Disturbances EN 61000-4-11 Immunity to Voltage Dips and Interruptions

Weight	4.5 - 6.0 lbs (2,0 - 2,7 kg) depending on sensor. Add 1.9 lbs. (0,9 kg) for option M041
Shock	per MIL-STD-810G method 516.6 – when device is subjected to 15 g (10 mSec) and 40 g (6 mSec); 3 drops/axis. Effects: less than +/- 0.40% of range
Vibration	per IEC 61298-3 (field and pipeline applications with high vibration level, 10-1000 Hz range, 0.014" displacement peak amplitude, 5 g acceleration amplitude). Effects: less than +/- 0.40% of range

Pressure Models

Pressure models

All models are 316L stainless steel wetted material with ½" NPT female process connection; piezo-resistive strain gauge sensor with silicone oil fill.

Model	Adjustable Set Point Range[1]		Max Over Range Pressure [2]		Proof Pressure [3]		Display Resolution [4]			
	(psig)	(bar)	(psig)	(bar)	(psig)	(bar)	("wc)	(bar)	(KPa)	(kg/cm²)
P06	-14.70 to 30.00	-1014 to 2068 mbar	52.35	3609 mbar	60	4136 mbar	831	2068 mbar	206,8	2,109
P08	-14.70 to 100.0	-1 to 6,89	157.3	10,84	200	13,79 mbar	2771	6,89	689	7,03
P10	0 to 5.000	0 to 344,7 mbar	7.500	517,1 mbar	10	689,5 mbar	138.5	344,7 mbar	34,47	0,352
P11	0 to 15.00	0 to 1034 mbar	22.50	1551 mbar	30	2068 mbar	415.5	1034 mbar	103,4	1,055
P12	0 to 30.00	0 to 2068 mbar	45.00	3103 mbar	60	4137 mbar	831	2068 mbar	206,8	2,109
P13	0 to 50.00	0 to 3447 mbar	75.00	5171 mbar	100	6895 mbar	1385	3447 mbar	344,7	3,515
P14	0 to 100.0	0 to 6,89	150.0	10,30	200	13,80	2771	6,89	689	7,03
P15	0 to 300.0	0 to 20,68	450.0	31,00	600	41,40	-	20,70	2068	21,09
P16	0 to 500.0	0 to 34,47	750.0	51,70	1000	68,95	-	34,47	3447	35,16
P17	0 to 1000	0 to 68,9	1500	103,4	2000	137,9	-	68,9	6,89 MPa	70,3
P18	0 to 3000	0 to 206,8	4500	310,3	6000	413,7	-	206,8	20,68 MPa	210,9
P19	0 to 4500	0 to 310,3	6750	465,4	9000	620,5	-	310,3	31,03 MPa	316,4
P20	0 to 6000	0 to 413,7	9000	620,5	12000	827,4	-	413,7	41,37 MPa	421,8

[1] The upper and lower limits between which the set point can be fully (100%) adjusted.
[2] The pressure or temperature value that models will operate up to before indicating an over range pressure or temperature has been reached, and executing the safe shutdown feature.
[3] The maximum pressure to which a sensor may be occasionally subjected which causes no permanent damage to the sensor.
[4] The resolution of the display for set point value and decimal place for standard (psig, psid) and optional ('wc, "wcd, bar, bar d, KPa, KPa d, kg/cm², kg/cm² d) units of measure. Please note units of measure exceptions in the range tables above.

Differential Pressure Models

Differential pressure models												
All models are 316L stainless steel wetted material with (2) ¼" NPT male process connections; piezo-resistive strain gauge sensor with silicone oil fill.												
Model	Adjustable Set Point Range [1]		Differential Over Range Pressure [2]		Differential Proof Pressure [3]		Max Working Pressure [5]		Display Resolution [4]			
	(psid)	(bar d)	(psid)	(bar d)	(psid)	(bar d)	(psig)	(bar)	("wcd)	(bar d)	(KPa d)	(kg/cm^2 d)
K10	0 to 5.000	0 to 344,7 mbar	7.500	517,1 mbar	10	689,5 mbar	50	3447 mbar	138.5	344,7 mbar	34,47	0,352
K11	0 to 50.00	0 to 3447 mbar	75.00	5171 mbar	100	6895 mbar	500	34,47	1385	3447 mbar	344,7	3,515
K12	0 to 100.0	0 to 6,89	150.0	10,30	200	13,80	1500	103,4	2771	6,89	689	7,03
K13	0 to 200.0	0 to 13,8	300.0	20,70	400	27,60	1500	103,4	NA	13,8	1379	14,06

Temperature Models

Temperature models					
All models include a 4-wire, 100 Ω platinum RTD/DIN 0.00385 with 0.25" OD, 316 stainless steel sheath					
Model	Adjustable Set Point Range [1]		Max Over Range Temperature [2]		Sensor Description
	°F	°C	°F	°C	
TL1	-40 to 450	-40 to 232	495	257	Local (stem) mounted rigid to enclosure, 4" (101,6 mm) sheath length
TL2					Local (stem) mounted rigid to enclosure, 6" (152,4 mm) sheath length
TL3					Local (stem) mounted rigid to enclosure, 10" (254 mm) sheath length
TR1					Remote mounted, 6' (1.8 m) fixed-length MI extension with 2.5" (63,5 mm) bulb
TRC					Remote mounted, 1 to 60' (0.3 to 18,3 m) MI extension (SPECIFY LENGTH) with 2.5" (63,5 mm) bulb
TH1	-40 to 1000	-40 to 538	1100	593	Remote mounted, 6' (1,8 m) fixed-length MI extension with 2.5" (63,5 mm) bulb
THC					Remote mounted, 1 to 60' (0,3 to 18,3 m) MI extension (SPECIFY LENGTH) with 2.5" (63,5 mm) bulb
TC1*	-300 to 200	-184 to 93	220	105	Remote mounted, 6' (1,8 m) fixed-length MI extension with 2.5" (63,5 mm) bulb
TCC*					Remote mounted, 1 to 60' (0,3 to 18,3 m) MI extension (SPECIFY LENGTH) with 2.5" (63,5 mm) bulb
TTC	-40 to 900	-40 to 482	[7]	[7]	Local (stem) mounted spring-loaded, NUN connection lengths from 4 to 10" (101,6 to 254 mm) in 1" (25,4 mm) increments and with variable sheath length (L) up to 36" (0,91 m) [6] – SPECIFY NUN AND SHEATH LENGTH. A thermowell is required.

*Calibration certificate is not available for these models.

[1] The upper and lower limits between which the set point can be fully (100%) adjusted.

[2] The pressure, differential pressure or temperature value that models will operate up to before indicating an over range pressure, differential pressure or temperature has been reached, and executing the safe shutdown feature.

[3] The maximum pressure or differential pressure to which a sensor may be occasionally subjected which causes no permanent damage to the sensor.

[4] The resolution of the display for set point value and decimal place for standard (psig, psid) and optional ('wc, "wcd, bar, bar d, KPa, KPa d, kg/cm^2, kg/cm^2 d) units of measure. Please note units of measure exceptions in the range tables above.

[5] The maximum pressure that may be applied to both the low and high side process ports simultaneously. Differential pressure between the low and high side process ports should not exceed the differential over range pressure.

[6] For lengths over 36", contact UE.

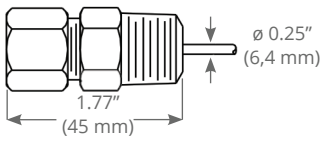
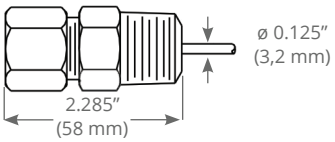
[7] Not recommended to exceed the upper limit of range.

Option Codes

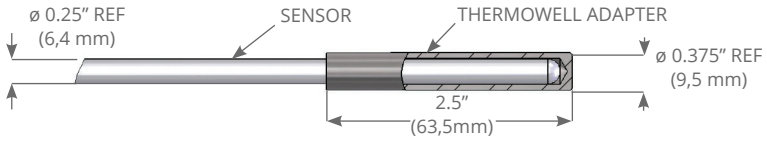
<table>
<tr><th>Options #</th><th>Description</th></tr>
<tr><td>M041</td><td>Dual Seal - Provides secondary process seal for all pressure and differential pressure models</td></tr>
<tr><td>M201</td><td>Factory programmable set point, deadband and switch mode for one switch (1XSW Models Only). See example below:
<table>
<tr><th>Relay</th><th>Set Point [1]</th><th>Deadband [1]</th><th>Relay Mode</th></tr>
<tr><td>SW1</td><td>040.3</td><td>001.5</td><td>OPEN ON FALL</td></tr>
</table></td></tr>
<tr><td>M202</td><td>Factory programmable set point, deadband and switch mode for two relays (Model 1XTXSW Only)
All 6 settings are required when ordering - see example below:
<table>
<tr><th>Relay</th><th>Set Point [1]</th><th>Deadband [1]</th><th>Relay Mode</th></tr>
<tr><td>SW1</td><td>040.3</td><td>001.5</td><td>OPEN ON FALL</td></tr>
<tr><td>SW2</td><td>050.0</td><td>005.0</td><td>CLOSE ON RISE</td></tr>
</table>
For WINDOW modes, all 10 settings are required when ordering - see example below:
<table>
<tr><th>Relay</th><th>Set Point High [1]</th><th>Deadband High [1]</th><th>Set Point Low [1]</th><th>Deadband Low [1]</th><th>Relay Mode</th></tr>
<tr><td>SW1</td><td>60.00</td><td>12.00</td><td>18.50</td><td>10.25</td><td>OPEN WINDOW</td></tr>
<tr><td>SW2</td><td>30.50</td><td>06.25</td><td>09.00</td><td>04.75</td><td>CLOSE WINDOW</td></tr>
</table>
IMPORTANT: When ordering option M201 or M202, please observe the decimal point resolution for the range specified and provide the set point and deadband settings with the same number of decimal places as found in the sensor tables on the previous pages.</td></tr>
<tr><td>M270</td><td>Display units, degrees C for temperature models</td></tr>
<tr><td>M275</td><td>Display units, inches of water column</td></tr>
<tr><td>M276</td><td>Display units, bar or mbar</td></tr>
<tr><td>M277</td><td>Display units, kPa or MPa</td></tr>
<tr><td>M278</td><td>Display units, kg/cm^2</td></tr>
<tr><td>M438 [2]</td><td>EN 10204 type 2.1 Declaration of Material Compliance [2]</td></tr>
<tr><td>M439 [2]</td><td>EN 10204 type 3.1 Declaration of Material Compliance with specific Material Certifications [2]</td></tr>
<tr><td>M444</td><td>Paper tag</td></tr>
<tr><td>M446</td><td>Stainless Steel tag</td></tr>
<tr><td>M449</td><td>Mounting bracket for pipe or wall. Use part number 6361-704 if ordered separately. See page 9 for additional information.</td></tr>
<tr><td>M550</td><td>Oxygen service cleaning in accordance with ASTM G93, verification type 1, tests 1-3.</td></tr>
<tr><td>W073</td><td>1/2” NPT male compression fitting for use with all TL sensors, see page 8 for additional information.</td></tr>
<tr><td>W074</td><td>1/2” NPT male union connector for use with all TR, TH and TC sensors, see page 8 for additional information.</td></tr>
<tr><td>W081</td><td>Thermowell adapter - Adapts 3/8" Thermowell to 1/4" sensor sheath, see page 8 for additional information.</td></tr>
<tr><td>W930</td><td>1/2” NPT male to G1/2 male adapter for use with gauge pressure sensors P06-P20. Use part number 6361-762 if ordered separately.</td></tr>
<tr><td>W932</td><td>1/4” NPT female to G1/2 male adapter for use with differential pressure sensors K10-K13. Use part number 6361- 763 if ordered separately (2 required)</td></tr>
<tr><td>6361-752</td><td>Replacement cover assembly</td></tr>
</table>

[1] Four digits must be entered for each set point and deadband. Please refer to the display resolution chart on pages 5 & 6 for the correct number of decimal places allowed for the sensor range and units of measure selected.
[2] Consult UE for availability with wetted material option.

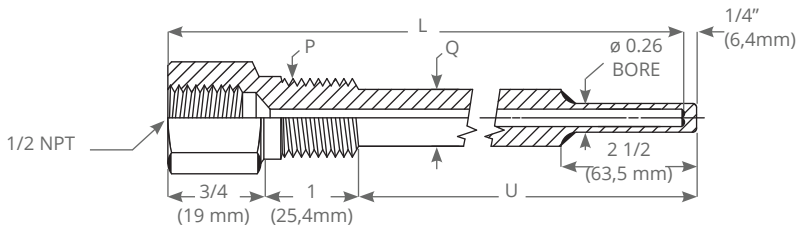
Union Connector Options

	W073	W074
		
MODEL	1/2" NPT compression fitting with ferrule to fit 0.25" sensor sheath	1/2" NPT union connection to fit 0.125" sensor extension cable
1XSW, 1XTX	TLx	TRx , THx, TCx

Thermowell Adapter Option W081

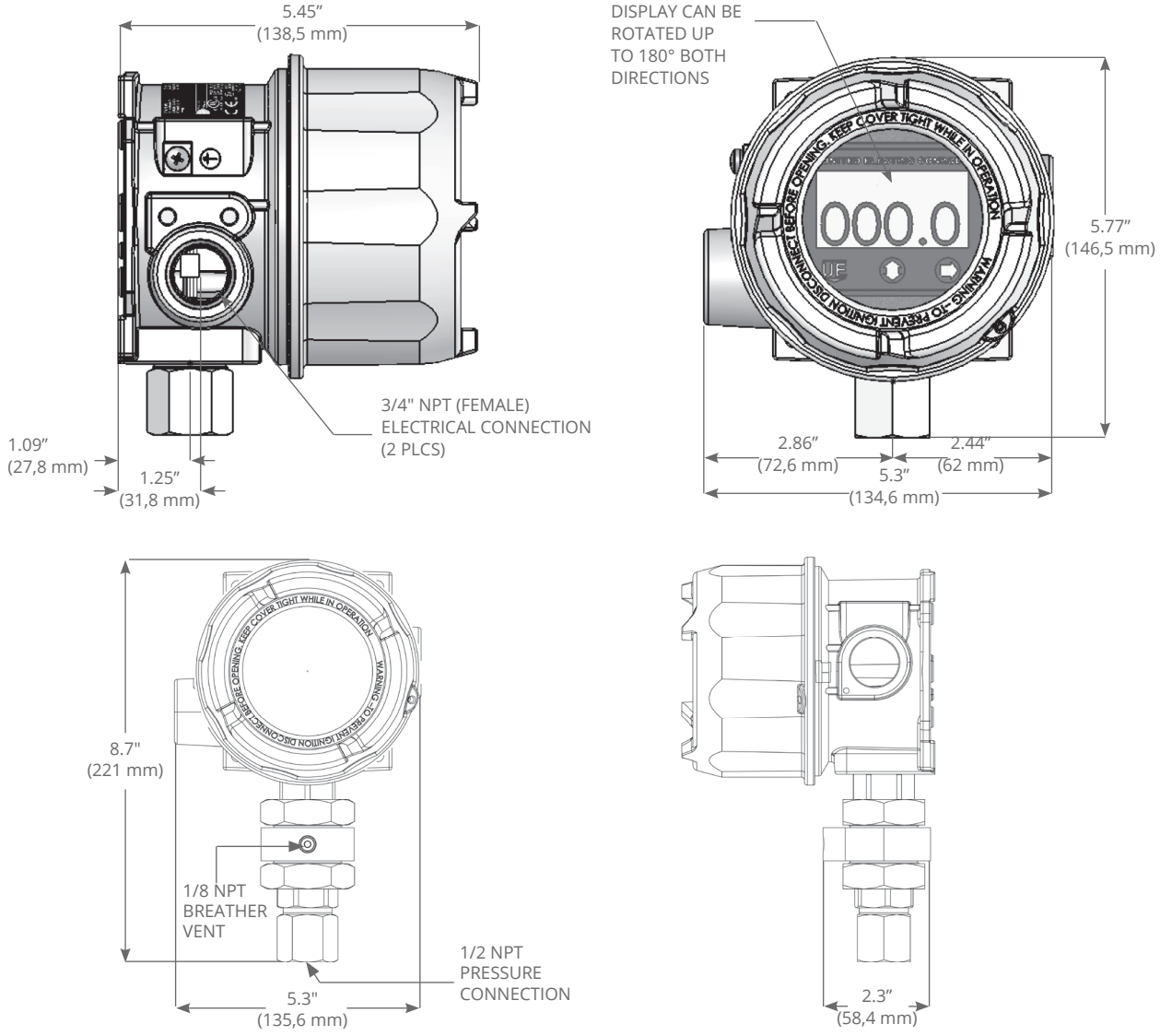


Thermowells



					Local Temperature Sensors w/ 0.25" Sensor Sheath			Remote Temperature Sensors w/ 0.125" Diameter MI Cable
Thermowell UE Part #	Length (L) Inches	P (NPT)	Q	U	TL1 (4")	TL2 (6")	TL3 (10")	TR, TH & TC
1S260 L2.5-316	2.5	1/2	5/8	1	W073	W073	W073	W074
1S260 L4-316	4	1/2	5/8	2.5	-	W073	W073	W074
1S260 L4.5-316	4.5	1/2	5/8	3	-	W073	W073	W074
1S260 L5.5-316	5.5	1/2	5/8	4	-	-	W073	W074
1S260 L6-316	6	1/2	5/8	4.5	-	-	W073	W074
1S260 L6.5-316	6.5	1/2	5/8	5	-	-	W073	W074
1S260 L9-316	9	1/2	5/8	7.5	-	-	-	W074
1S260 L9.5-316	9.5	1/2	5/8	8	-	-	-	W074
1S260 L12-316	12	1/2	5/8	10.5	-	-	-	W074
1S260 L15-316	15	1/2	5/8	13.5	-	-	-	W074
1S260 L18-316	18	1/2	5/8	16.5	-	-	-	W074
1S260 L24-316	24	1/2	5/8	22.5	-	-	-	W074
2S260 L2.5-316	2.5	3/4	3/4	1	W073	W073	W073	W074
2S260 L4-316	4	3/4	3/4	2.5	-	W073	W073	W074
2S260 L6-316	6	3/4	3/4	4.5	-	-	W073	W074
2S260 L9-316	9	3/4	3/4	7.5	-	-	-	W074
2S260 L12-316	12	3/4	3/4	10.5	-	-	-	W074
2S260 L15-316	15	3/4	3/4	13.5	-	-	-	W074
2S260 L18-316	18	3/4	3/4	16.5	-	-	-	W074
2S260 L24-316	24	3/4	3/4	22.5	-	-	-	W074

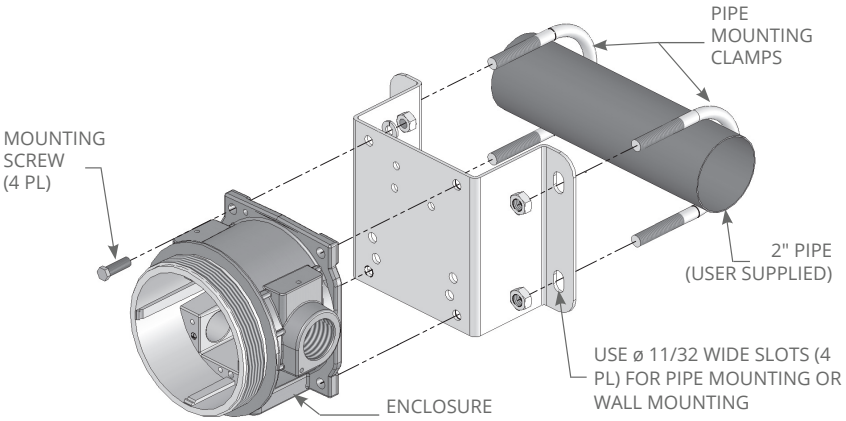
Dimensional Drawings



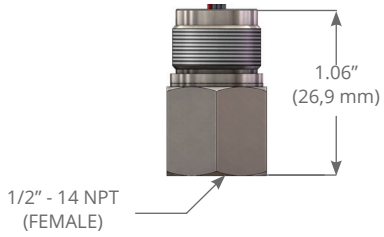
Dual Seal option M041 and gauge pressure sensor

Wall or Pipe Mounting Bracket
Option M449 or part #6361-704

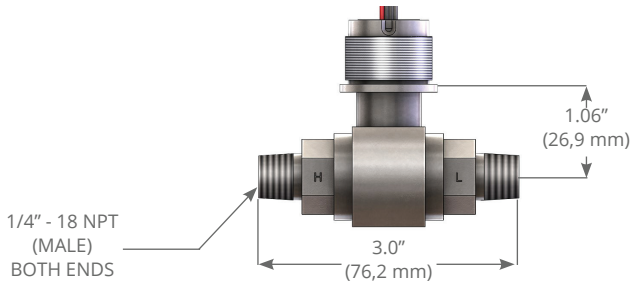
WARNING: The One Series unit must be secured to a wall or pipe. Do not use the sensor to support the instrument.



Pressure Sensors

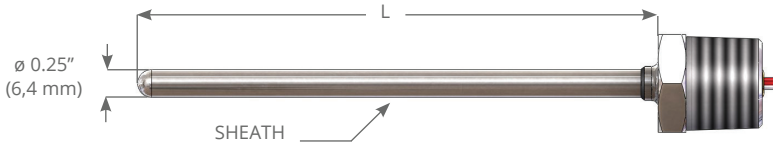


Gauge Pressure Sensors



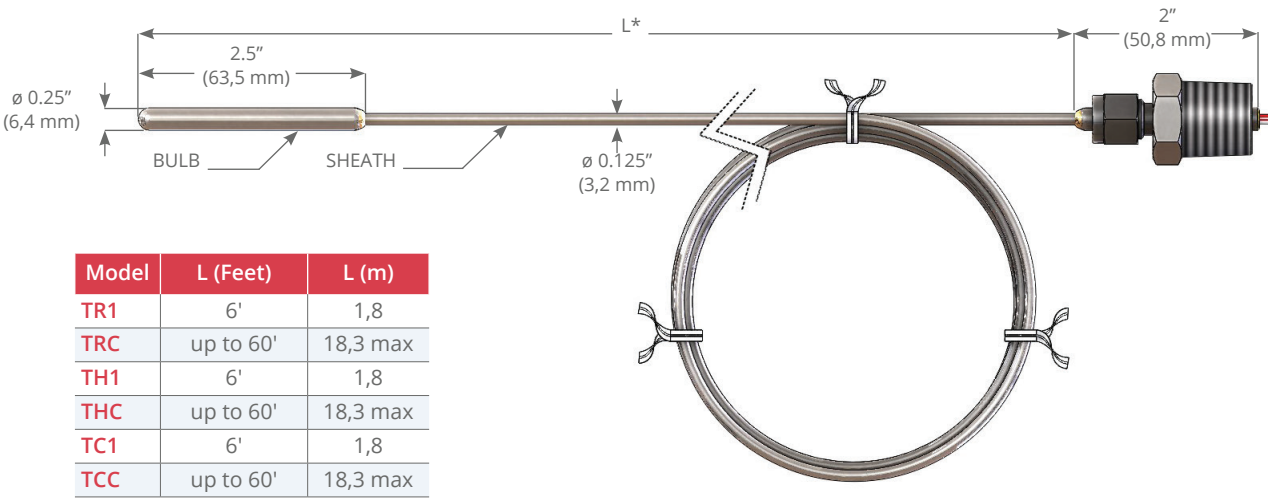
Differential Pressure Sensors

Temperature Sensors



TL1 to TL3

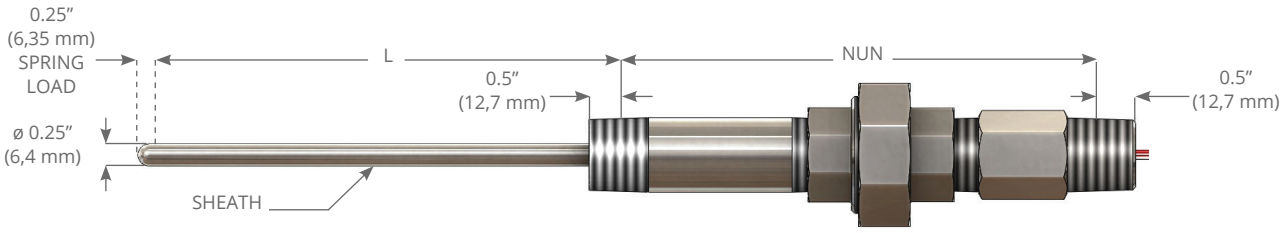
Model	L (Inches)	L (mm)
TL1	4″	101,6
TL2	6″	152,4
TL3	10″	254



Model	L (Feet)	L (m)
TR1	6'	1,8
TRC	up to 60'	18,3 max
TH1	6'	1,8
THC	up to 60'	18,3 max
TC1	6'	1,8
TCC	up to 60'	18,3 max

* Length includes loop

Remote Sensors



TTC Sensors

L = 36" max., NUN = 4 to 10″ (101,6 to 254 mm) in 1″ (25,4 mm) increments

Certifications

Agency	Region	Classification	
		Models 1XSWLL	Models 1XTXSW, 1XTX00, 1XSWHL, 1XSWHH
UL/CSA	North America	Class I, Groups A, B, C, & D; Class II, Groups E, F, & G; Class III for Explosion Proof or Intrinsic Safety; Intrinsically safe when installed in accordance with Control Drawing No. A-62174-64. Class I, Groups B, C, & D; Class II, Groups E, F, & G; Class III for Explosion Proof (Dual Seal models). Class I, Div. 2, Groups A, B, C, & D; Class II, Div. 2, Groups F, & G; Class III Div. 2, for Non-incendive. Class I, Zone 0, AEx ia IIC T4 Ga — Ex ia IIC T4 Ga Class I, Zone 1, AEx d IIC T3/T5 Gb [1] — Ex d IIC T3/T5 Gb Class I, Zone 2, AEx nA IIC T4 Gc — Ex nA IIC T4 Gc	Class I, Groups A, B, C, & D; Class II, Groups E, F & G; Class III for Explosion Proof. Class I, Groups B, C, & D; Class II, Groups E, F, & G; Class III for Explosion Proof (Dual Seal models). Class I, Div. 2, Groups A, B, C, & D; Class II, Div. 2, Groups F, & G; Class III Div. 2, for Non-incendive. Class I, Zone 1, AEx db IIC T3/T5 Gb [1] Class I, Zone 2, AEx nA IIC T5 Gc Ex d IIC T3/T5 Gb [1] Ex nA IIC T5 Gc
ATEX	Europe	II 1 G Ex ia IIC T4 Ga II 1 D Ex ia IIIC T135 °C Da II 3 G Ex nA IIC T4 Gc II 2 G Ex db IIC T3/T5 Gb [1] II 2 D Ex tb IIIC T90 °C Db, IP66 -40 °C to +85 °C	II 2 G Ex db IIC T3/T5 Gb [1] II 2 D Ex tb IIIC T90 °C Db, IP66 II 3 G Ex nA IIC T4 Gc -40 °C to +80 °C
IECEx	International	Ex ia IIC T4 Ga Ex ia IIIC T135°C Da Ex db IIC T3/T5 Gb [1] Ex tb IIIC T90 °C Db Ex nA IIC T4 Gc -40 °C to +85 °C	Ex db IIC T3/T5 Gb [1] Ex tb IIIC T90 °C Db Ex nA IIC T4 Gc -40 °C to +80 °C
		SIL certified to IEC 61508*. Meets the requirements of SIL 2 for random integrity at HFT=0, SIL 3 for random integrity at HFT=1 and SIL 3 for systematic capability when used with IAW terminal connected.	

* Excludes 1XTX transmitters models

Optional Certifications

Agency	Region	Option	Classification	
			Models 1XSWLL	Models 1XTXSW, 1XTX00, 1XSWHL, 1XSWHH
PESO	India	N/A	II 1 G Ex ia IIC T4 Ga II 1 D Ex ia IIIC T135 °C Da II 2 G Ex db IIC T3/T5 Gb [1] II 2 D Ex tb IIIC T90 °C Db -40 °C to +85 °C	II 2 G Ex db IIC T3/T5 Gb [1] II 2 D Ex tb IIIC T90 °C Db -40°C to +80°C
INMETRO	Brazil	M391	Ex ia IIC T4 Ga Ex ia IIIC T135°C Da Ex db IIC T3/T5 Gb [1] Ex tb IIIC T90 °C Db Ex ec IIC T4 Gc -40 °C to +85 °C	Ex db IIC T3/T5 Gb [1] Ex tb IIIC T90 °C Db Ex ec IIC T4 Gc -40 °C to +80 °C
KCS	Korea	M395	Ex ia IIC T4 Ga Ex db IIC T3/T5 Gb [1] -40 °C to +85 °C	Ex db IIC T3/T5 Gb [1] -40 °C to +80 °C
EAC	Eurasian Economic Union	M406	0Ex ia IIC T4 Ga X Ex ia IIIC T135 °C Da X Ex db IIC T5 Gb X Ex tb IIIC T90 °C Db X 2Ex nA IIC T4 Gc X, IP66 -40 °C to +85 °C	1Ex db IIC T3/T5 Gb X [1] Ex tb IIIC T90 °C D X 2Ex nA IIC T4 G X IP66 -40 °C to +80 °C
CCC	China	M408	Ex ia IIC T4 Ga Ex ia IIIC T_{200} 135 °C Da Ex db IIC T3/T5 Gb [1] Ex tb IIIC T90 °C Db Ex ec IIC T4 Gc -40 °C to +85 °C	Ex db IIC T3/T5 Gb [1] Ex tb IIIC T90 °C Db Ex ec IIC T4 Gc -40 °C to +80 °C
UKCA	United Kingdom	M462	II 1 G Ex ia IIC T4 Ga II 1 D Ex ia IIIC T135 °C Da II 2 G Ex db IIC T3/T5 Gb [1] II 2 D Ex tb IIIC T90 °C Db -40 °C to +85 °C	II 2 G Ex db IIC T3/T5 Gb [1] II 2 D Ex tb IIIC T90 °C Db -40 °C to +80 °C
MoIAT (ECAS)	United Arab Emirates	M463	Ex ia IIC T4 Ga Ex ia IIIC T135 °C Da Ex db IIC T3/T5 Gb [1] Ex tb IIIC T90 °C Db Ex nA IIC T4 Gc Ta = -40 °C to +85 °C	Ex db IIC T3/T5 Gb [1] Ex tb IIIC T90 °C Db Ex nA IIC T4 Gc Ta = -40 °C to +80 °C

[1] T3 for pressure sensor models P06-P16 only

TERMS AND CONDITIONS OF SALE

UE specifications subject to change without notice.

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