

Data Sheet

# UE ONE SERIES

Explosion-Proof Pressure and  
Temperature Smart Transmitter + Switch & Electronic Switch



Supplied by

**247able.com**

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# ONE Series

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



United Electric Controls is  
ISO 9001:2015 certified



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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 <b>low</b> voltage, <b>low</b> current. Best used with PLC or DCS; replaces mechanical switch or new install.
1XSWHL	Switches <b>high</b> voltage, <b>low</b> current. Best used with PLC or DCS; replaces mechanical switch or new install.
1XSWHH	Switches <b>high</b> voltage, <b>high</b> 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 \_\_\_\_\_

PRESSURE	.....	page 5
DIFFERENTIAL PRESSURE	.....	page 6
TEMPERATURE	.....	page 6

**Options:** Select any of available options for your device \_\_\_\_\_

OPTION LIST	.....	page 7-8
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### GLOSSARY OF TERMS:

<b>Adjustable Set Point</b>	The upper and lower limits between which the set point can be fully (100%) adjusted.
<b>Max Over Range Pressure</b>	The maximum pressure to which a pressure sensor may be continuously subjected without causing damage and maintaining set point repeatability.
<b>Max Working Pressure Range</b>	The pressure range in which two opposing sensors can be safely operated and still maintain set point provided the difference in pressure between the low and high side does not exceed the designated adjustable range.
<b>Display Resolution</b>	The sensor range tables provide the display and set-point decimal point resolution along with units of measure and are specific for each range.

# 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

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

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

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
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 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, 360 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) backlit* LCD and displays the following:	
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	<p><b>Gage Pressure:</b> 316L stainless steel wetted parts, welded diaphragm, 1/2" NPT (female) process connection, micro-machined piezo-resistive strain gage 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)</p> <p><b>Vacuum:</b> All gage pressure sensors withstand deep vacuum with no calibration effects. For compound vacuum ranges, see page 5.</p> <p><b>Differential Pressure:</b> 316L stainless steel, welded diaphragms, 1/4" NPT (male) process connections, piezo-resistive strain gage silicon element, silicone oil fill. Maximum media temperature: -40 to 257°F (-40 to 125°C)</p> <p><b>Temperature:</b> 316 stainless steel 0.25" OD sheath containing a 100 ohm 4-wire platinum RTD element available with epoxy fill (local low temp) or powder fill (remote high temp). Media temperature limits:</p> <ul style="list-style-type: none"> <li>-328 to 1000 °F, intermittent to 1100 °F (-200 to 538 °C, int. to 593 °C) for TC, TH and TT ranges</li> <li>-40 to 500 °F (-40 to 260 °C) for TR and TL ranges</li> </ul>

# Specifications (continued)

<b>EMI/RFI</b>	Compliance to CE EMC requirements: EN 61000-6-2, EN 61000-6-4
<b>Emission</b>	EN 61000-6-4 Class A
<b>Immunity</b>	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

<b>Weight</b>	4.5 - 6.0 lbs (2,0 - 2,7 kg) depending on sensor. Add 1.9 lbs. (0,9 kg) for option M041
<b>Shock</b>	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
<b>Vibration</b>	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 gage sensor with silicone oil fill.

Model	Adjustable Set Point Range		Max Over Range Pressure		Proof Pressure		Display Resolution			
	(psig)	(bar)	(psig)	(bar)	(psig)	(bar)	("wc)	(bar)	(KPa)	(kg/cm <sup>2</sup> )
<b>P06</b>	-14.7 to 30	-1014 to 2068 mbar	45	3103 mbar	60	4137 mbar	831	2068 mbar	206,8	2,109
<b>P08</b>	-14.7 to 100	-1,0 to 6,89	150	10,3	200	13,8	2771	6,89	689	7,03
<b>P10</b>	0 to 5	0 to 344,7 mbar	7.5	517,1 mbar	10	689,5 mbar	138.5	344,7 mbar	34,47	0,352
<b>P11</b>	0 to 15	0 to 1034 mbar	22.5	1551 mbar	30	2068 mbar	415.5	1034 mbar	103,4	1,055
<b>P12</b>	0 to 30	0 to 2068 mbar	45	3103 mbar	60	4137 mbar	831	2068 mbar	206,8	2,109
<b>P13</b>	0 to 50	0 to 3447 mbar	75	5171 mbar	100	6895 mbar	1385	3447 mbar	344,7	3,515
<b>P14</b>	0 to 100	0 to 6,89	150	10,3	200	13,8	2771	6,89	689	7,03
<b>P15</b>	0 to 300	0 to 20,68	450	31,0	600	41,4	-	20,7	2068	21,09
<b>P16</b>	0 to 500	0 to 34,47	750	51,7	1000	68,95	-	34,47	3447	35,16
<b>P17</b>	0 to 1000	0 to 68,95	1500	103,4	2000	137,9	-	68,95	6895	70,31
<b>P18</b>	0 to 3000	0 to 206,8	4500	310,3	6000	413,7	-	206,8	20,68 MPa	210,9
<b>P19</b>	0 to 4500	0 to 310,3	6750	465,4	9000	620,5	-	310,3	31,03 MPa	316,4
<b>P20</b>	0 to 6000	0 to 413,7	9000	620,5	12000	827,4	-	413,7	41,37 MPa	421,8

# Differential Pressure Models

## Differential pressure models

All models are 316L stainless steel wetted material with (2) ¼" NPT male process connections; piezo-resistive strain gage sensor with silicone oil fill.

Model	Adjustable Set Point Range [1]		Max Over Range Differential Pressure [2]		Proof Differential 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 <sup>2</sup> d)
<b>K10</b>	0 to 5	0 to 344,7 mbar	7.5	517,1 mbar	10	689,5 mbar	50	3447 mbar	138.5	344,7 mbar	34,47	0,352
<b>K11</b>	0 to 50	0 to 3447 mbar	75	5171 mbar	100	6895 mbar	500	34,47	1385	3447 mbar	344,7	3,515
<b>K12</b>	0 to 100	0 to 6,89	150	10,3	200	13,8	1500	103,4	2771	6,89	689	7,03
<b>K13</b>	0 to 200	0 to 13,8	300	20,7	400	27,6	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	
<b>TL1</b>	-40 to 450	-40 to 232	495	257	Local (stem) mounted rigid to enclosure, 4" (101,6 mm) sheath length
<b>TL2</b>					Local (stem) mounted rigid to enclosure, 6" (152,4 mm) sheath length
<b>TL3</b>					Local (stem) mounted rigid to enclosure, 10" (254 mm) sheath length
<b>TR1</b>					Remote mounted, 6' (1.8 m) fixed-length Teflon® extension with 6" (152,4 mm) sheath
<b>TRC</b>					Remote mounted, 1 to 30' (0.3 to 9.1 m) Teflon extension (SPECIFY LENGTH) with 6" (152,4 mm) sheath
<b>TH1</b>	-40 to 1000	-40 to 538	1100	593	Remote mounted, 6' (1.8 m) fixed-length MI extension with 2.5" (63,5 mm) sheath
<b>THC</b>					Remote mounted, 1 to 30' (0.3 to 9.1 m) MI extension (SPECIFY LENGTH) with 2.5" (63,5 mm) sheath
<b>TC1*</b>	-300 to 200	-184 to 93	220	105	Remote mounted, 6' (1.8 m) fixed-length MI extension with 2.5" (63,5 mm) sheath
<b>TCC*</b>					Remote mounted, 1 to 30' (0,3 to 9,1 m) MI extension (SPECIFY LENGTH) with 2.5" (63,5 mm) sheath
<b>TTC</b>	-40 to 900	-40 to 482			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 60" (1,5 m) – 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<sup>2</sup>, kg/cm<sup>2</sup> 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.

# Option Codes

Options #	Description																	
M041	Dual Seal - Provides secondary process seal for all pressure models, P06 to P20																	
M201	Factory programmable set point, deadband and switch mode for one switch (1XSW Models Only)																	
	<table border="1"> <thead> <tr> <th>Relay</th> <th>Set Point [1]</th> <th>Deadband [1]</th> <th>Relay Mode</th> </tr> </thead> <tbody> <tr> <td>SW1</td> <td>040.3</td> <td>001.5</td> <td>OPEN ON FALL</td> </tr> </tbody> </table>	Relay	Set Point [1]	Deadband [1]	Relay Mode	SW1	040.3	001.5	OPEN ON FALL									
Relay	Set Point [1]	Deadband [1]	Relay Mode															
SW1	040.3	001.5	OPEN ON FALL															
M202	Factory programmable set point, deadband and switch mode for two relays (Model 1XTXSW Only) All 6 settings are required when ordering - see <b>example</b> below:																	
	<table border="1"> <thead> <tr> <th>Relay</th> <th>Set Point [1]</th> <th>Deadband [1]</th> <th>Relay Mode</th> </tr> </thead> <tbody> <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> </tbody> </table>	Relay	Set Point [1]	Deadband [1]	Relay Mode	SW1	040.3	001.5	OPEN ON FALL	SW2	050.0	005.0	CLOSE ON RISE					
	Relay	Set Point [1]	Deadband [1]	Relay Mode														
	SW1	040.3	001.5	OPEN ON FALL														
SW2	050.0	005.0	CLOSE ON RISE															
For WINDOW modes, all 10 settings are required when ordering - see <b>example</b> below:																		
<table border="1"> <thead> <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> </thead> <tbody> <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> </tbody> </table>	Relay	Set Point High [1]	Deadband High [1]	Set Point Low [1]	Deadband Low [1]	Relay Mode	SW1	60.00	12.00	18.50	10.25	OPEN WINDOW	SW2	30.50	06.25	09.00	04.75	CLOSE WINDOW
Relay	Set Point High [1]	Deadband High [1]	Set Point Low [1]	Deadband Low [1]	Relay Mode													
SW1	60.00	12.00	18.50	10.25	OPEN WINDOW													
SW2	30.50	06.25	09.00	04.75	CLOSE WINDOW													
	<b>IMPORTANT:</b> 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.																	
M270	Display units, degrees C for temperature models																	
M275	Display units, inches of water column																	
M276	Display units, bar or mbar																	
M277	Display units, kPa or MPa																	
M278	Display units, kg/cm <sup>2</sup>																	
M444	Paper tag																	
M446	Stainless Steel tag																	
M449	Mounting bracket for pipe or wall. Use part number 6361-704 if ordered separately. See page 9 for additional information.																	
M550	Oxygen cleaning service. Cleaned in accordance with ASTM G93.																	
W073	1/2" NPT male compression fitting for use with all TL sensors, see page 8 for additional information.																	
W074	1/2" NPT male union connector for use with all TR, TH and TC sensors, see page 8 for additional information.																	
W081	Thermowell adapter - Adapts 3/8" Thermowell to 1/4" sensor sheath, see page 8 for additional information.																	
W930	1/2" NPT male to G1/2 male adapter for use with gage pressure sensors P06-P20. Use part number 6361-762 if ordered separately.																	
W932	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)																	
6361-752	Replacement cover assembly																	

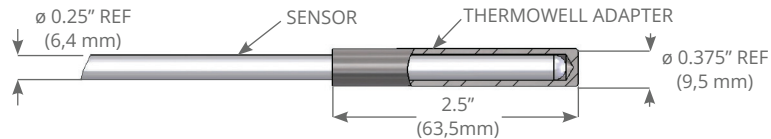
[1] Four digits must be entered for each set point and deadband. Please refer to the display resolution chart on pages 5 & 6 for the correct number of decimal places allowed for the sensor range and units of measure selected.



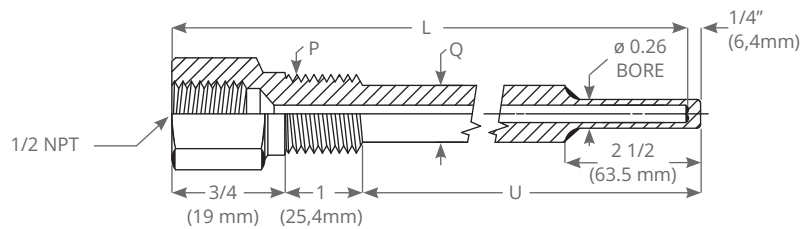
# Union Connector Options

	W073	W074
<b>MODEL</b>	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
<b>1XSW, 1XTX</b>	TLx	TRx, THx, TCx

## Thermowell Adapter Option W081

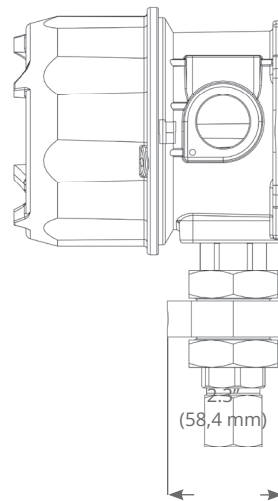
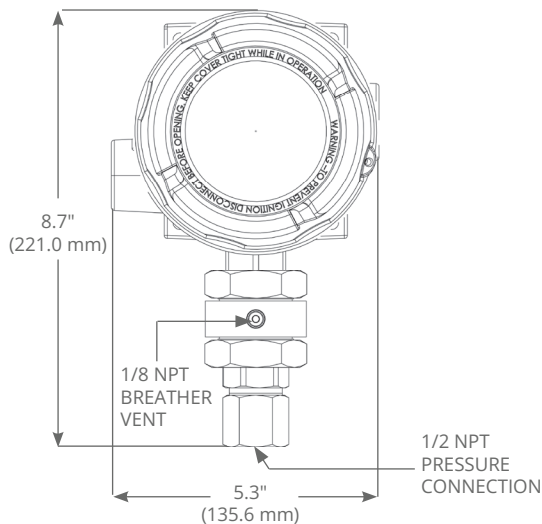
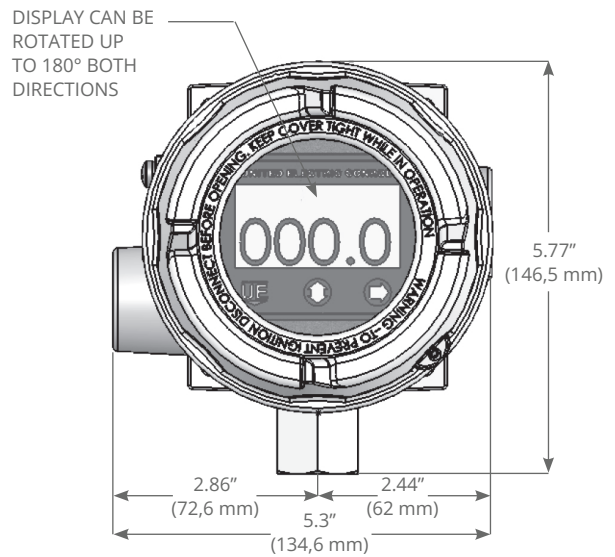
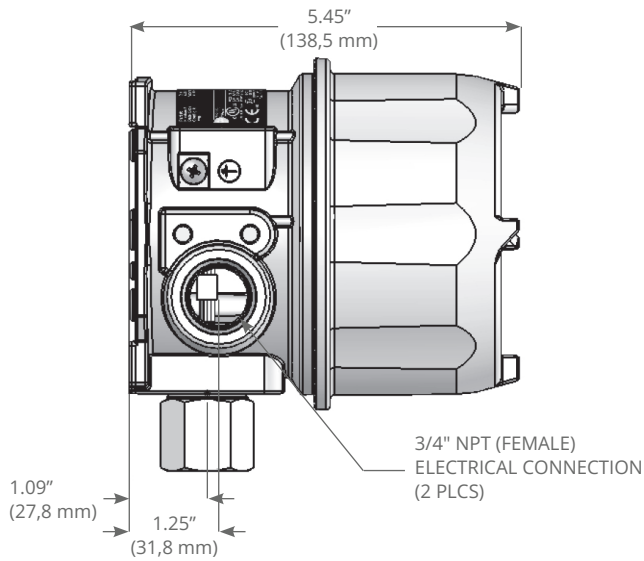


# Thermowells



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

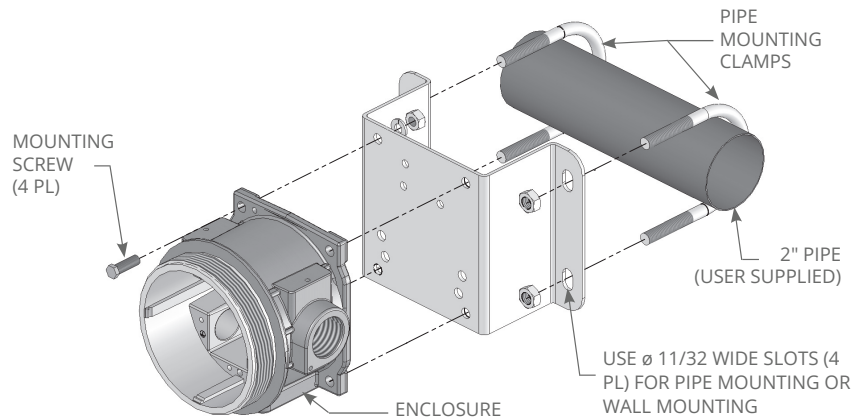
# Dimensional Drawings



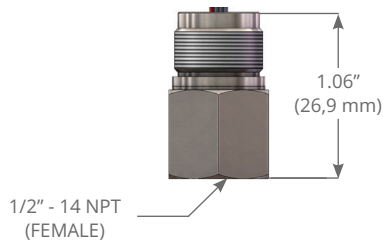
Dual Seal option M041 and gage pressure sensor

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

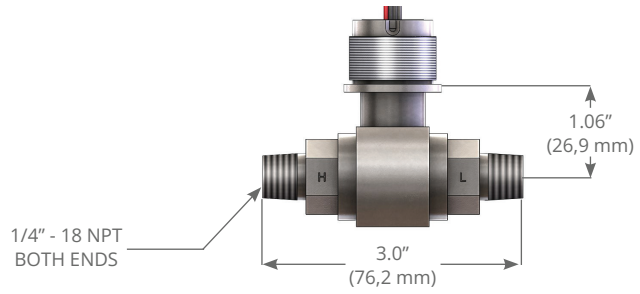
**WARNING:** The One Series unit must be secured to a wall or pipe. Do not use the sensor to support the instrument.



# Pressure Sensors

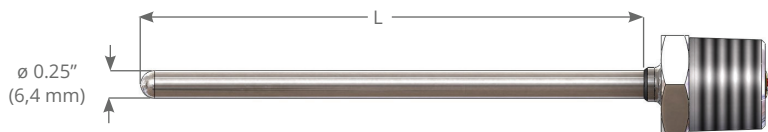


**Gage Pressure Sensors**



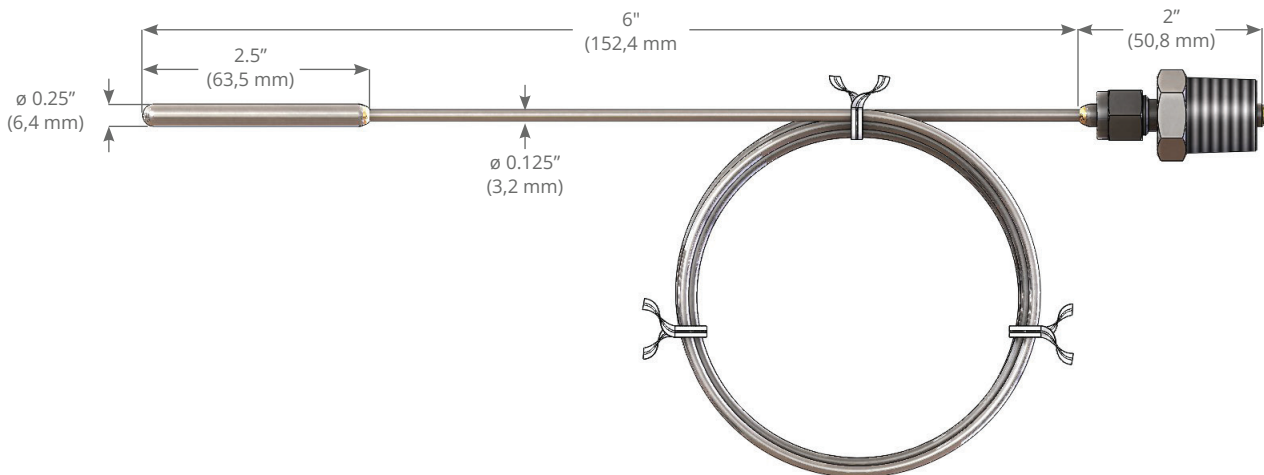
**Differential Pressure Sensors**

# Temperature Sensors

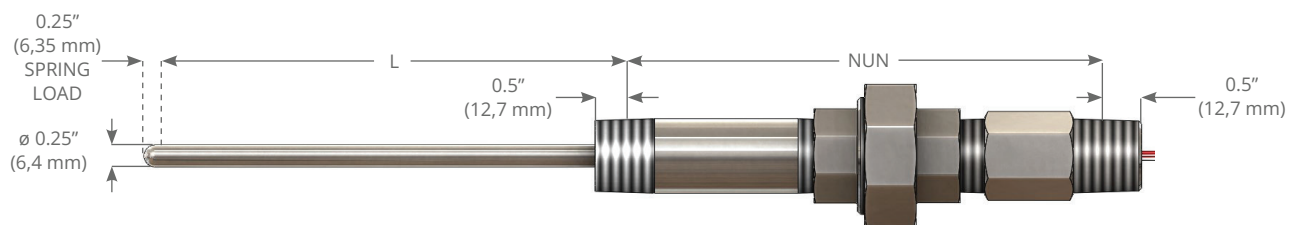


**TL1 to TL3**

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






**Remote Sensors**









**TTC Sensors**

L = 60" 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, and D; Class II, Groups E, F, and 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, and D; Class II, Groups E, F, and G; Class III for Explosion Proof dual seal. Class I, Division 2, Groups A, B, C, and D; Class II, Division 2, Groups F, and G; Class III Division 2, for Non-incendive. Class I, Zone 0, AEx ia IIC T4 Ga when installed in accordance with Control Drawing No. A62174-64; Class I, Zone 1, AEx d IIC T3/T5 Gb Hazardous Locations (T3 for pressure sensor models P06-P16 only); Class I, Zone 2, AEx nA IIC T4 Gc Hazardous Locations;	Class I, Groups A, B, C, and D; Class II, Groups E, F, and G; Class III (single seal models). Class I, Groups B, C, and D; Class II, Groups E, F, and G; Class III for Explosion Proof dual seal (models ending in M-041). Class I, Division 2, Groups A, B, C, and D; Class II, Division 2, Groups F, and G; Class III Division 2, for Non-incendive. Class I, Zone 1, AEx db IIC T3/T5 Gb Hazardous Locations; Class I, Zone 2, AEx nA IIC T5 Gc Hazardous Locations
 ATEX	Europe	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 (T3 for pressure sensor models P06-P16 only) II 2 D Ex tb IIIC T90 °C Db -40 °C to +85 °C	II 2 G Ex db IIC T3/T5 Gb (T3 for pressure sensor models P06-P16 only) II 2 D Ex tb IIIC T90 °C Db -40 °C to +80 °C
 IECEX	International	Ex ia IIC T4 Ga Ex ia IIIC T135°C Da Ex db IIC T3/T5 Gb (T3 for pressure sensor models P06-P16 only) Ex tb IIIC T90 °C Db Ex nA IIC T4 Gc -40 °C to +85 °C	Ex db IIC T3/T5 Gb (T3 for pressure sensor models P06-P16 only) Ex tb IIIC T90 °C Db Ex nA IIC T4 Gc -40 °C to +80 °C

# Optional certifications

Agency	Region	Option	Classification	
			Models 1XSWLL	Models 1XTXSW, 1XTX00, 1XSWHL, 1XSWHH
 CCC	China	M408	Ex ia IIC T4 Ga Ex ia IIIC T 200 135 °C Da Ex db IIC T3/T5 Gb (T3 for pressure sensor models P06-P16 only) Ex tb IIIC T90C Db Ex ec IIC T4 Gc -40 °C to +85 °C	Ex db IIC T3/T5 Gb (T3 for pressure sensor models P06-P16 only) Ex tb IIIC T90 °C Db Ex ec IIC T4 Gc -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 (T3 for pressure sensor models P06-P16 only) Ex tb IIIC T90 °C Db Ex nA IIC T4 Gc -40 °C to +85 °C	Ex db IIC T3/T5 Gb (T3 for pressure sensor models P06-P16 only) Ex tb IIIC T90 °C Db Ex nA IIC T4 Gc -40 °C to +80 °C
 KCS	Korea	M395	Ex ia IIC T4 Ga Ex db IIC T3/T5 Gb (T3 for pressure sensor models P06-P16 only) -40 °C to +85 °C	Ex db IIC T3/T5 Gb (T3 for pressure sensor models P06-P16 only) -40 °C to +80 °C
 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 (T3 for pressure sensor models P06-P16 only) II 2 D Ex tb IIIC T90 °C Db -40 °C to +85 °C	II 2 G Ex db IIC T3/T5 Gb (T3 for pressure sensor models P06-P16 only) II 2 D Ex tb IIIC T90 °C Db -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 (T3 for pressure sensor models P06-P16 only) II 2 D Ex tb IIIC T90 °C Db -40 °C to +85 °C	II 2 G Ex db IIC T3/T5 Gb (T3 for pressure sensor models P06-P16 only) II 2 D Ex tb IIIC T90 °C Db -40 °C to +80 °C
 EAC	Russia, Belarus, Kazakhstan, Kyrgyzstan, and Armenia	M406	0Ex ia IIC T4 Ga X Ex ia IIIC T135 °C Da X 1 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 (T3 for pressure sensor models P06-P16 only) Ex tb IIIC T90 °C D X 2Ex nA IIC T4 G X IP66 -40 °C to +80 °C

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180 Dexter Avenue  
Watertown, MA 02472 - USA  
Telephone: 617 926-1000 - Fax: 617 926-2568  
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