



# UNITRANS Universal Pressure Transmitter

Vacuum to 15,000 PSI

Type UT-10 - Pressure Transmitter

Type UT-11 - Flush Diaphragm Pressure Transmitter

## Tronic

- Accuracy to 0.05% B.F.S.L.
- User adjustable turndown of up to 1:20
- All stainless steel wetted parts
- 4-20 mA 2-wire output signal
- Large, easy to read LCD includes bar graph and trend display

The UniTrans pressure transmitter is designed for a variety of pressure measurement applications. The 20:1 turndown capability provides flexibility when wide changes in measuring ranges are encountered. Digital signal processing provides excellent accuracy specifications.

The durable construction includes all stainless steel wetted parts for compatibility with a variety of media. The case is made of high impact fiberglass-reinforced PBT plastic. The Type UT-10 is supplied with a 1/2" male NPT process connection. The Type UT-11 features a flat, non-clogging flush diaphragm process connection for use with highly viscous or crystallizing media, or media containing solids.

The high contrast liquid crystal display provides excellent readability. The transmitter is shipped with the display mounted to the front of the housing, and is adjustable to provide the best viewing angle. The display can be changed to be read from above, and rotated in 90 degree increments to meet specific installation requirements.

User-selectable parameters include display language, engineering units, zero point, span, and reversed output signal. Text display prompts aid the operator with the setup procedure. Language settings include English, German, French, Spanish, or Italian. Engineering units can be set to PSI, bar, millibar, mA, % of span, millimeters, meters, inch, feet, Pa, or kPa. The display can be set to show two additional lines of text including minimum and maximum pressure readings and sensor temperature. The program keys are located behind the display and can be password protected to prevent unauthorized program changes.

Multi-segment linearization can be set for up to 32 data points corresponding to liquid level and volume, allowing the UniTrans to monitor volumes in non-symmetrical tanks.



Pressure Range	Minimum Range	UT-10 Part #	UT-11 Part #	Maximum* Pressure	Burst** Pressure
5 PSI	0.25 PSI	4292333	4292006	30 PSI	30 PSI
25 PSI	1.25 PSI	4292341	4292014	150 PSI	150 PSI
100 PSI	5 PSI	4292350	4292022	500 PSI	500 PSI
250 PSI	12.5 PSI	4292368	4292031	1100 PSI	1100 PSI
500 PSI	25 PSI	4292376	4292040	1100 PSI	5800 PSI
1500 PSI	75 PSI	4292384	4292058	2900 PSI	11,600 PSI
3000 PSI	150 PSI	4292392	4292066	7200 PSI	17,400 PSI
7500 PSI	375 PSI	4292406	4292074	17,400 PSI	35,000 PSI
15000 PSI	750 PSI	4292414	(N/A)	21,750 PSI	43,500 PSI

Absolute pressure ranges are available up to 250 PSIA.

Transient pressure peaks up to the maximum pressure shown in the table at left causes no permanent sensor damage. Pressure spikes greater than the burst pressure results in destruction of the transmitter, and possible loss of media.

Future versions of the UniTrans will include intrinsically safe approvals, HART, and Profibus PA. Contact the factory for availability.

Notes:

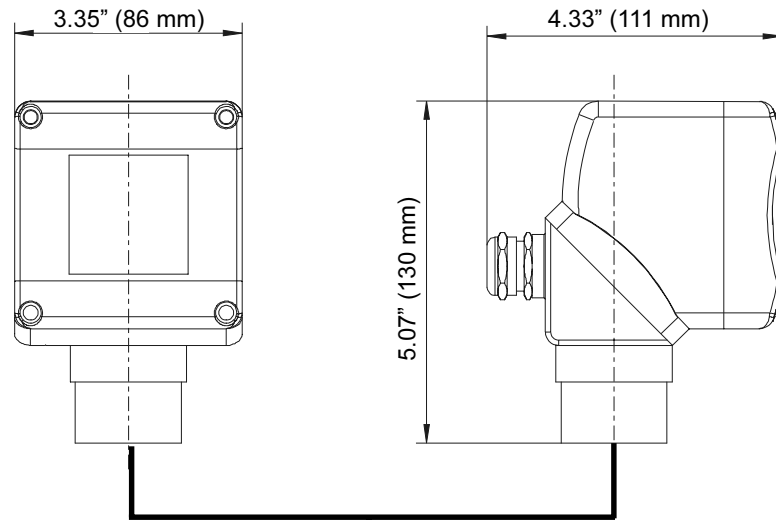
\* Maximum pressure, causing no permanent changes in specifications but may lead to adjustable zero and span shifts.

\*\* Burst pressure, leading to destruction of transmitter.

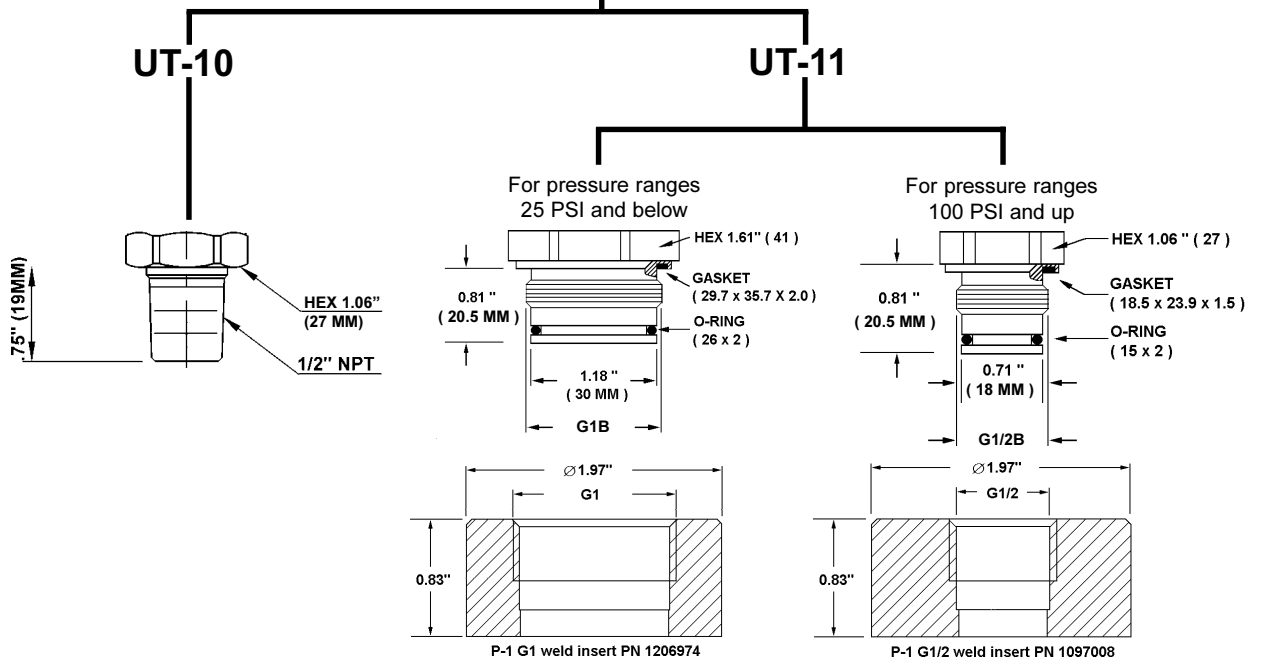
**APE UT-10**  
**(APE 82.06)**

Specifications	Units	Type UT-10 / UT-11
<b>Pressure connection:</b> Type UT-10 Type UT-11  <b>Material:</b> -Case -UT-10 pressure connection -UT-11 pressure connection -Transmitting liquid		1/2 NPT male Flush diaphragm with O-ring (Ranges 0-25 PSI: G1B, 100-7500 PSI G1/2B)  Fiberglass reinforced PBT plastic (polybutene terephthalate) 316 and PH 17-4 stainless steel 316 stainless steel {Hastelloy C4} Silicone oil {Halocarbonoil for oxygen applications};{vegetable oil}
<b>Supply voltage</b> $U_B$  <b>Adjustability:</b> -zero point -span  <b>Output and load limitations:</b> Output signal Maximum load Response time  Display  Damping (display and signal)	DC Volts  %  milliseconds  seconds	12 -36  0 to 99 Turn down of 1:20  4-20 mA 2-wire $R_A \leq (U_B - 12V) / 0.023 A$ , with $R_A$ in Ohms and $U_B$ in volts $\leq 10$  1.75" square 4 digit liquid crystal display with bar graph, trend display, and 2 additional text display lines.  user-adjustable from 0 to 40
<b>Accuracy</b> <sup>1</sup> ( linearity, including hysteresis and repeatability )  Effect with turn down -turn down up to 1 : 5 -turn down 1 : 5 to 1 : 20  Hysteresis Repeatability 1 year stability	% of span  % of span % of span % of span	$\leq 0.10$ for ranges $\geq 600$ PSI $\leq 0.15$ for ranges $< 600$ PSI  no change to accuracy multiply the accuracy by (turn down / 5) for example if turndown is 1 : 15 then accuracy = $0.10 \times (15 / 5) = 0.3$  $\leq 0.04$ $\leq 0.05$ $\leq 0.1$ (under reference conditions)
<b>Temperature</b> Media Ambient Storage  Temperature error on zero point on span  Overall deviation (+50°F to +104°F)	% of span / 18°F (10°C) change  %	-22°F to +221°F (-30°C to +105°C) -4°F to +158°F (-20°C to +70°C) -31°F to +176°F (-35°C to +80°C)  $\leq 0.1$ (NOTE: temperature error between +50°F and +104°F are already included in the above accuracy specification) $\leq 0.1$  $\leq 0.15$ for ranges $\geq 600$ PSI $\leq 0.20$ for ranges $< 600$ PSI
<b>CE</b> conformity		Interference emission per EN 50 081-1 (March 1993) and EN50 081-2 (March 1994), Interference immunity per EN 50 082-2 (February 1996)
Shock resistance Vibration resistance	g g	100 per IEC 770 for mechanical shock 5 per IEC 770 for vibration under resonance conditions
Electrical connection Electrical protection Environmental protection Weight	lb	locking plug M20 x 1.5 with internal terminal block accepts cable diameter from .25" to .5", diameter to .1" protected against reverse polarity, short circuit, and overvoltage IP 65 {IP 67 (NEMA 4)} 1.5 (.7 kg)
Notes: Items in curved brackets { } are available as special order options <sup>1</sup> Transmitter is calibrated in a vertical mounting position with the process connection facing down		

## Dimensions



## Process connections



## Alternative mounting options

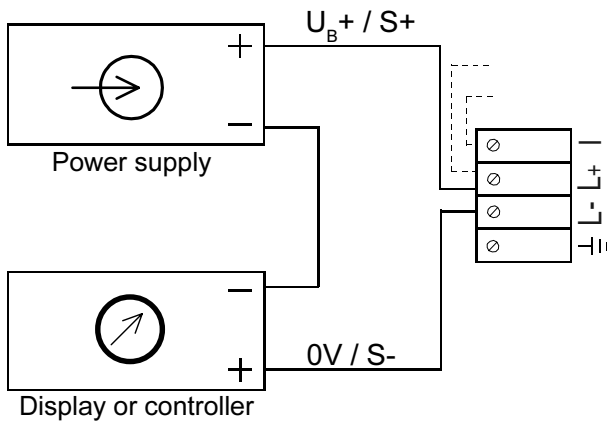


UniTrans mounted to 3A  
sanitary Tri-Clamp seal



UniTrans mounted to 3A  
sanitary INLINE SEAL™

## Wiring Diagram



## 2-wire system

Wire	Coding	Terminal block
Supply +	$U_B+ / S+$	L+
Signal -	$0V / S-$	L-



View of terminal block with front cover removed

## LCD Display



## Sample programming steps

To manually set the pressure range use the following steps:

-Press the [ESC] and [OK] keys at the same time for about 2 seconds to enter the programming mode.

### LCD display shows:

"DISPLAY OPTIONS"  
 "CALIBRATE RANGE"  
 "CALIBRATE WITH PRESSURE"  
 "CALIBRATE WITHOUT PRESSURE"  
 "CALIBRATE - DEFINE ZERO"  
 "CALIBRATE - DEFINE SPAN"  
 "SPAN DEFINE 20MA = ???"

### User Action:

Press [Zero] key to continue  
 Press [OK] to select  
 Press [Zero] to continue  
 Press [OK] to select  
 Press [Zero] to continue  
 Press [OK] to select  
 Press the up and down arrow keys to set the span to the desired level. Then press [ESC] to return to the normal operation mode.

## Ordering Information:

State computer part number (if available) / type number / range / output / process connection / electrical connection / other required options.

Specifications given in this data sheet represent the state of engineering at the time of printing. Modifications may take place and the specified materials may change without prior notice.

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