



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.

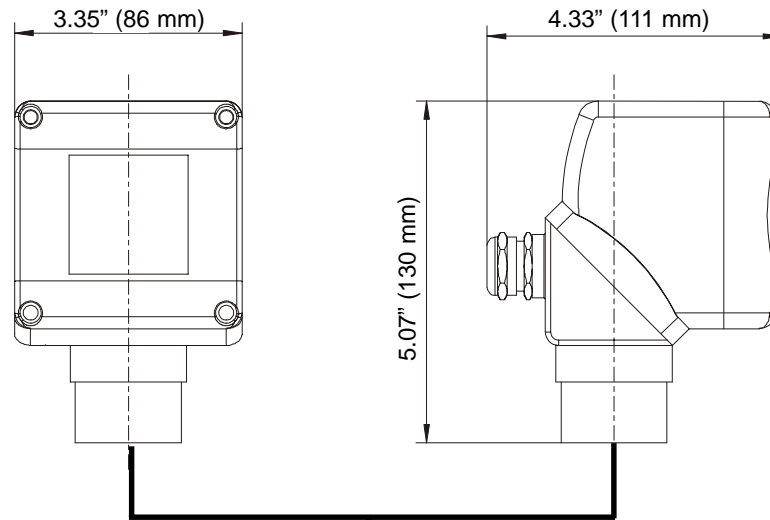
Notes:

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

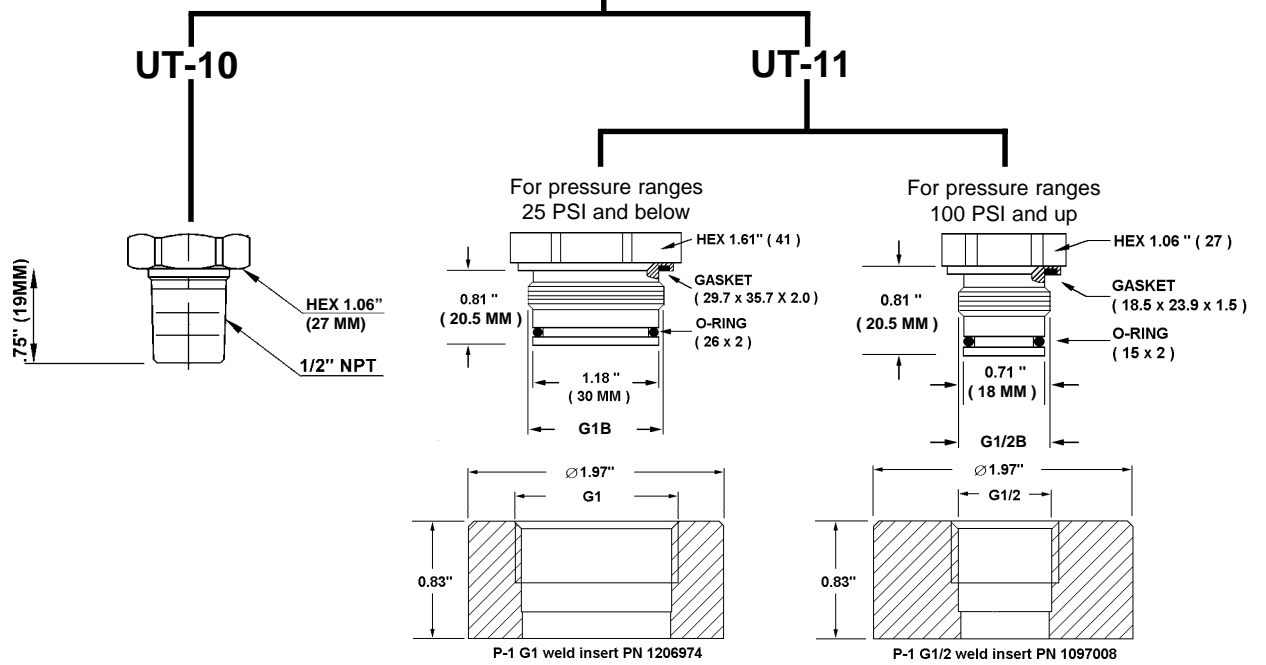
** Burst pressure, leading to destruction of transmitter.

| Specifications | Units | Type UT-10 / UT-11 |
|--|--|---|
| Pressure connection: Type UT-10 Type UT-11 Material: -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} |
| Supply voltage U_B Adjustability: -zero point -span Output and load limitations: 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 ≤ 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 |
| Accuracy ¹ (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 | ≤ 0.10 for ranges ≥ 600 PSI ≤ 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 = $0.10 \times (15 / 5) = 0.3$ ≤ 0.04 ≤ 0.05 ≤ 0.1 (under reference conditions) |
| Temperature 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) ≤ 0.1 (NOTE: temperature error between +50°F and +104°F are ≤ 0.1 already included in the above accuracy specification) ≤ 0.15 for ranges ≥ 600 PSI ≤ 0.20 for ranges < 600 PSI |
| CE 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 ¹ Transmitter is calibrated in a vertical mounting position with the process connection facing down | | |

Dimensions



Process connections



Alternative mounting options

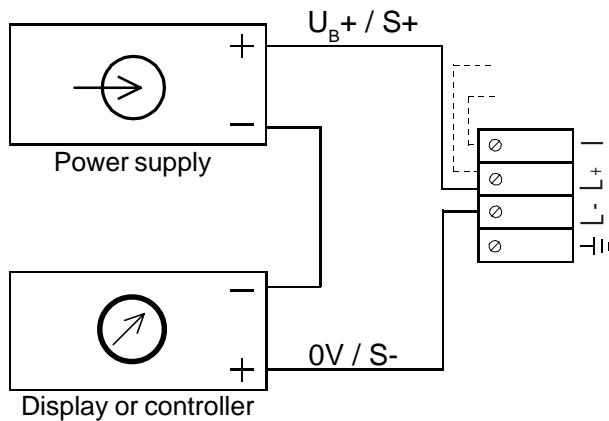


UniTrans mounted to 3A sanitary Tri-Clamp seal



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.

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Total Performance™

Ordering Information:

State computer part number (if available) / model number / range / output / process connection required. See price sheet for a complete list of special order options.

WIKA reserves the right to make design changes without prior notice.

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