

# KTE6000 / KTU6000 Series

## OEM pressure transmitters for industrial media



### FEATURES

- 0...-1 to 0...400 bar  
0...-15 to 0...6000 psi  
gage<sup>1</sup> or absolute
- For many industrial gases and liquids
- 0...10 V, 0.5...4.5 V, 0...5 V and  
4...20 mA output
- Field interchangeable
- For industrial use

### MEDIA COMPATIBILITY

Wetted materials:  
stainless steel 1.4404 (316L), ceramic Al<sub>2</sub>O<sub>3</sub>, NBR<sup>9</sup>,  
TPE<sup>9</sup>

Housing:  
stainless steel, protection class IP 65 (according to  
DIN EN 60529) respectively NEMA 4X<sup>1</sup>

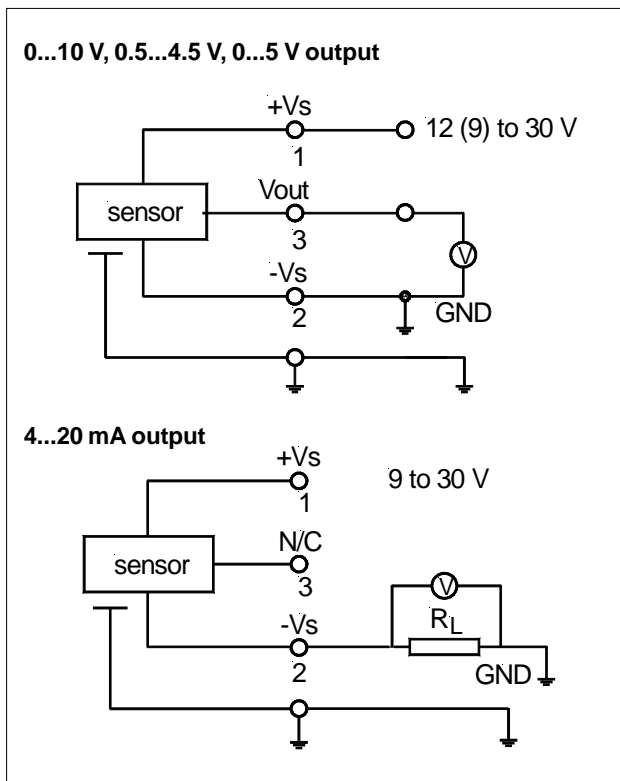


### SPECIFICATIONS<sup>11,12</sup>

#### Maximum ratings

|  |                      |                     |
|--|----------------------|---------------------|
| Supply voltage (reverse polarity protection) |                      |                     |
| KTx6...0                                     | 12...30 V            |                     |
| KTx6...6, KTx6...7                           | 9...30 V             |                     |
| KTx6...4 <sup>2</sup>                        | 9...30 V             |                     |
| Maximum load current (source)                |                      | 1 mA                |
| KTx6...0, KTx6...6, KTx6...7                 |                      |                     |
| Temperature limits                           |                      |                     |
| Storage                                      | -55 to 100°C         |                     |
| Operating                                    | -40 to 100°C         |                     |
| Compensated                                  | 0 to 70°C            |                     |
| Humidity limits                              |                      | 0 - 95 %RH          |
| Vibration (5 to 500 Hz)                      |                      | 10 g <sub>RMS</sub> |
| Mechanical shock                             |                      | 50 g                |
| Proof pressure <sup>3</sup>                  |                      |                     |
| 400 bar (6000 psi)                           | 1.5 x rated pressure |                     |
| all others                                   | 2 x rated pressure   |                     |

### ELECTRICAL CONNECTION



# KTE6000 / KTU6000 Series

## OEM pressure transmitters for industrial media

### COMMON PERFORMANCE CHARACTERISTICS

$V_s = 15\text{ V}$ ,  $R_L > 100\text{ k}\Omega$ ,  $t_{amb} = 25^\circ\text{C}$

| Characteristics   |                      | Min.                 | Typ.  | Max. | Unit    |     |
|---|----------------------|----------------------|-------|------|---------|-----|
| Operating pressure  | KTE6001...           | 0                    |       | 1    | bar     |     |
|   | KTE6N01G...          | -1                   |       | 1    |         |     |
|   | KTE6P01G...          | -1                   |       | 0    |         |     |
|   | KTE6002...           | 0                    |       | 2    |         |     |
|   | KTE6005...           | 0                    |       | 5    |         |     |
|   | KTE6010...           | 0                    |       | 10   |         |     |
|   | KTE6016...           | 0                    |       | 16   |         |     |
|   | KTE6020...           | 0                    |       | 20   |         |     |
|   | KTE6025...           | 0                    |       | 25   |         |     |
|   | KTE6035...           | 0                    |       | 35   |         |     |
|   | KTE6050...           | 0                    |       | 50   |         |     |
|   | KTE6070...           | 0                    |       | 70   |         |     |
|   | KTE6100...           | 0                    |       | 100  |         |     |
|   | KTE6150...           | 0                    |       | 150  |         |     |
|   | KTE6200...           | 0                    |       | 200  |         |     |
|   | KTE6300...           | 0                    |       | 300  |         |     |
|   | KTE6400...           | 0                    |       | 400  |         |     |
|   | KTU6015...           | 0                    |       | 15   |         | psi |
|   | KTU6N15G...          | -15                  |       | 15   |         |     |
|   | KTU6P15G...          | -15                  |       | 0    |         |     |
|   | KTU6030...           | 0                    |       | 30   |         |     |
|   | KTU6050...           | 0                    |       | 50   |         |     |
|   | KTU6100...           | 0                    |       | 100  |         |     |
|   | KTU6200...           | 0                    |       | 200  |         |     |
| KTU6300...  | 0                    |                      | 300   |      |         |     |
| KTU6500...  | 0                    |                      | 500   |      |         |     |
| KTU61K0...  | 0                    |                      | 1000  |      |         |     |
| KTU61K5...  | 0                    |                      | 1500  |      |         |     |
| KTU62K0...  | 0                    |                      | 2000  |      |         |     |
| KTU63K0...  | 0                    |                      | 3000  |      |         |     |
| KTU64K5...  | 0                    |                      | 4500  |      |         |     |
| KTU66K0...  | 0                    |                      | 6000  |      |         |     |
| Thermal effects<br>(0 to 70°C) <sup>4</sup>                       | Offset               |                      | 0.02  | 0.05 | %FSO/°C |     |
|   | Span                 |                      | 0.02  | 0.05 |         |     |
| Thermal effects<br>(-40 to 0°C, 70 to 100°C)                      | Offset               |                      | 0.03  |      |         |     |
|   | Span                 |                      | 0.03  |      |         |     |
| Non-linearity, hysteresis (BSL)<br>and repeatability <sup>5</sup> | > 200 bar (3000 psi) |                      | ±0.2  | ±0.4 | %FSO    |     |
|   | all others           |                      | ±0.1  | ±0.3 |         |     |
| Long term stability <sup>6</sup>                                  |                      |                      | ±0.3  |      |         |     |
| Output noise (0 < f < 1 kHz)                                      |                      |                      | ±0.04 |      |         |     |
| Response time (10 to 90 %)  |                      |                      | 1     | 5    | ms      |     |
| Power supply rejection  | Offset               | KTx6...0, ...6, ...7 | 0.002 |      | %FSOV   |     |
|   |                      | KTx6...4             | 0.05  |      |         |     |
|   | Span                 | KTx6...0, ...6, ...7 | 0.002 |      |         |     |
|   |                      | KTx6...4             | 0.08  |      |         |     |

# KTE6000 / KTU6000 Series

## OEM pressure transmitters for industrial media

### INDIVIDUAL PERFORMANCE CHARACTERISTICS

**0...10 V output** ( $V_s = 15\text{ V}$ ,  $R_L > 100\text{ k}\Omega$ ,  $t_{amb} = 25^\circ\text{C}$ )

| Characteristics               |            | Min. | Typ. | Max. | Unit     |
|-------------------------------|------------|------|------|------|----------|
| Zero pressure offset          | KTx6N...   | 4.9  | 5    | 5.1  | V        |
|                               | all others |      | 0.03 | 0.1  |          |
| Full scale span <sup>7</sup>  | KTx6N...   | 4.9  | 5    | 5.1  | V        |
|                               | all others | 9.9  | 10   | 10.1 |          |
| Output impedance              |            |      |      | 25   | $\Omega$ |
| Current consumption (no load) |            |      | 3    | 5    | mA       |

**0.5...4.5 V output** ( $V_s = 15\text{ V}$ ,  $R_L > 100\text{ k}\Omega$ ,  $t_{amb} = 25^\circ\text{C}$ )

| Characteristics               |            | Min.  | Typ. | Max.  | Unit     |
|-------------------------------|------------|-------|------|-------|----------|
| Zero pressure offset          | KTx6N...   | 2.450 | 2.5  | 2.550 | V        |
|                               | all others | 0.450 | 0.5  | 0.550 |          |
| Full scale span <sup>7</sup>  | KTx6N...   | 1.950 | 2    | 2.050 | V        |
|                               | all others | 3.950 | 4    | 4.050 |          |
| Output impedance              |            |       |      | 25    | $\Omega$ |
| Current consumption (no load) |            |       | 3    | 5     | mA       |

**0...5 V output** ( $V_s = 15\text{ V}$ ,  $R_L > 100\text{ k}\Omega$ ,  $t_{amb} = 25^\circ\text{C}$ )

| Characteristics               |            | Min. | Typ. | Max. | Unit     |
|-------------------------------|------------|------|------|------|----------|
| Zero pressure offset          | KTx6N...   | 2.45 | 2.5  | 2.55 | V        |
|                               | all others |      | 0.03 | 0.08 |          |
| Full scale span <sup>7</sup>  | KTx6N...   | 2.45 | 2.5  | 2.55 | V        |
|                               | all others | 4.95 | 5.0  | 5.05 |          |
| Output impedance              |            |      |      | 25   | $\Omega$ |
| Current consumption (no load) |            |      | 3    | 5    | mA       |

**4...20 mA output** ( $V_s = 15\text{ V}$ ,  $R_L = 100\ \Omega$ ,  $t_{amb} = 25^\circ\text{C}$ )

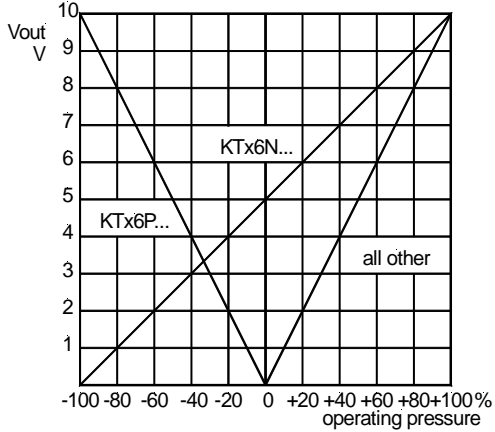
| Characteristics                            |            | Min. | Typ. | Max. | Unit |
|--|------------|------|------|------|------|
| Zero pressure offset                       | KTx6N...   | 11.9 | 12.0 | 12.1 | mA   |
|  | all others | 3.9  | 4.0  | 4.1  |      |
| Full scale span <sup>7</sup>               | KTx6N...   | 7.9  | 8.0  | 8.1  | mA   |
|  | all others | 15.9 | 16.0 | 16.1 |      |
| Power consumption ( $I_L = 20\text{ mA}$ ) |            |      | 250  |      | mW   |

# KTE6000 / KTU6000 Series

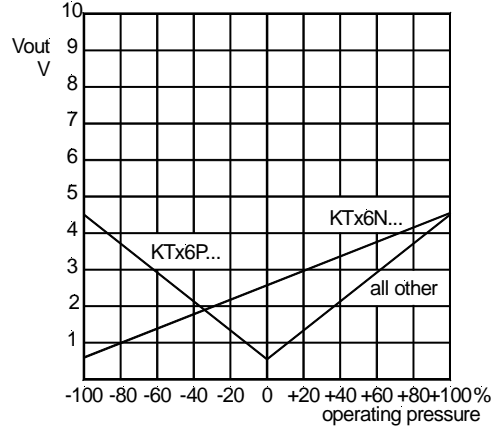
## OEM pressure transmitters for industrial media

### OUTPUT CHARACTERISTICS

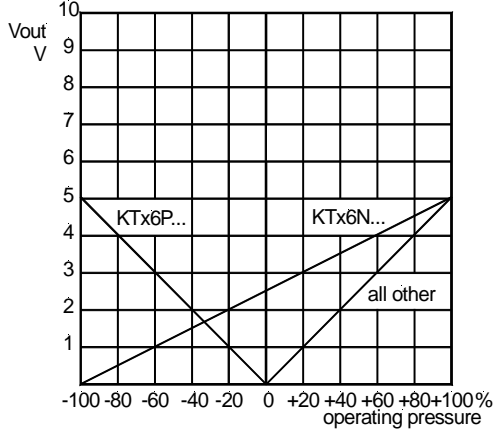
#### 0...10 V output version



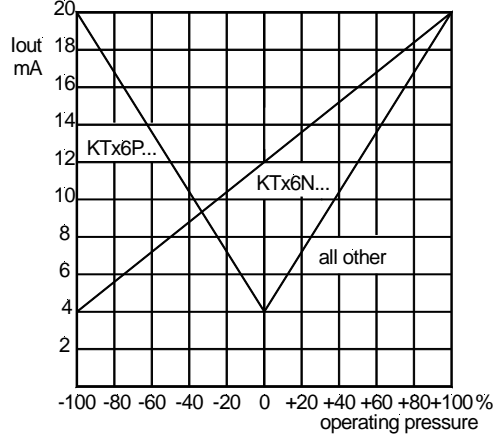
#### 0.5...4.5 V output version



#### 0...5 V output version

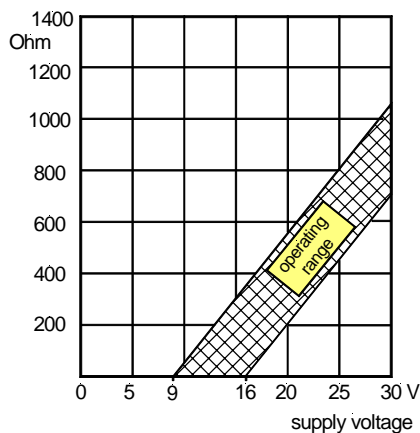


#### 4...20 mA output version



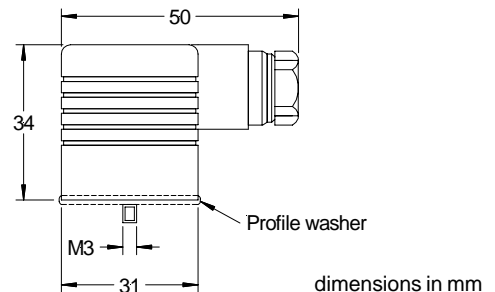
### LOAD LIMITATION

#### 4...20 mA output version



### RECOMMENDED ACCESSORY

Plug **DIN EN 175301-803 A** and profile washer included in delivery. For a complete connector/cable assembly use order no. **ZK000110-x** (x=cable lengths in m).



#### Note:

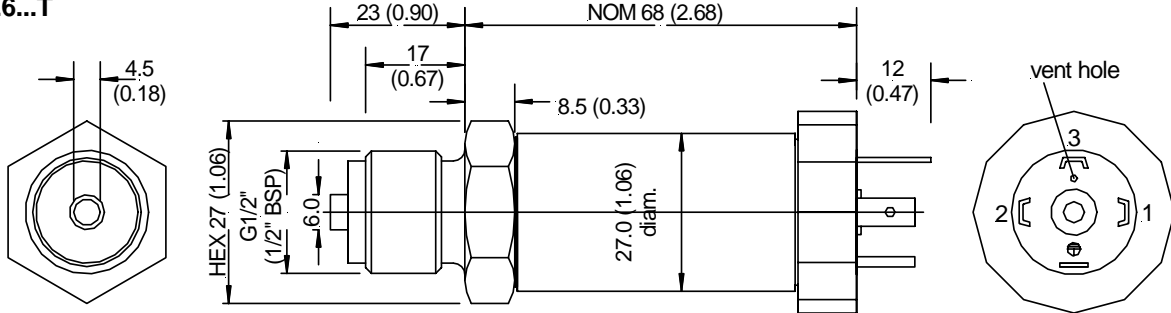
For proper function of all gage devices the gage port must be vented to the atmosphere through the connector/cable assembly.

# KTE6000 / KTU6000 Series

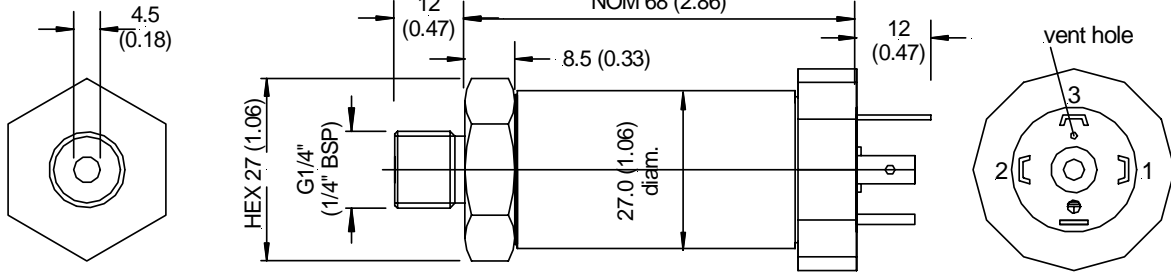
## OEM pressure transmitters for industrial media

### OUTLINE DRAWING

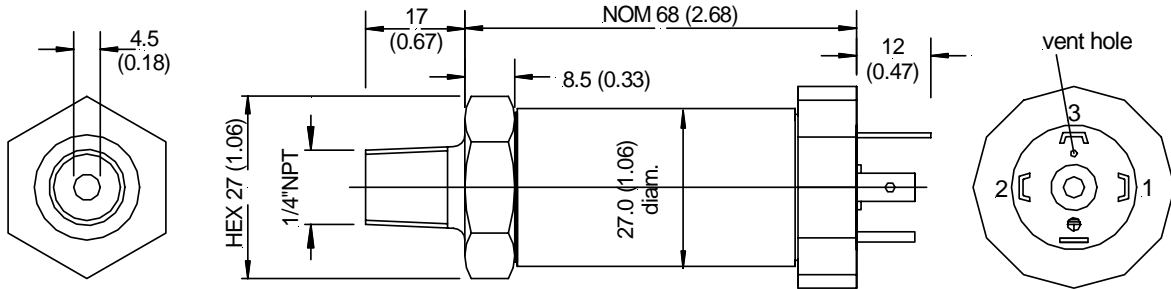
**KTE6...T**



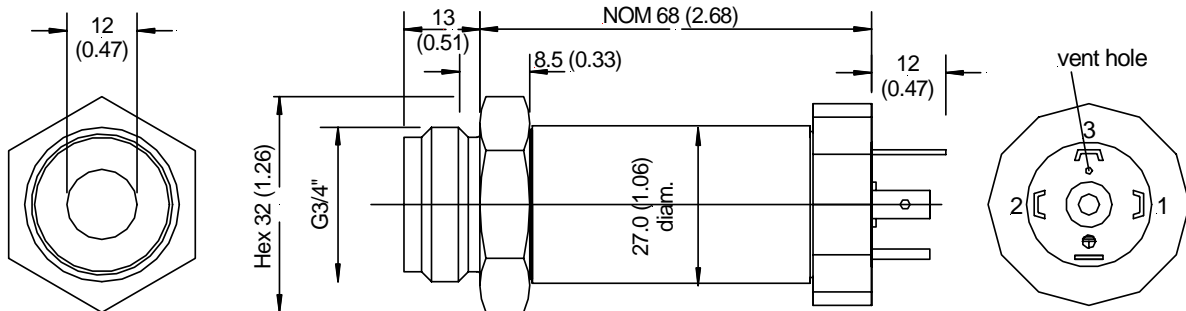
**KTE6...Q**



**KTE6...L**



**KTE6...O (flush mount)**



mass: 210 g

dimensions in mm (inches)

# KTE6000 / KTU6000 Series

## OEM pressure transmitters for industrial media

### ELECTROMAGNETIC CAPABILITY<sup>8</sup>

|  | Test conditions  | Criterion | Interference |
|--|--|-----------|--------------|
| Radiated, radio frequency electromagnetic field immunity (RFI)       | EN61000-4-3: Grade 3, 10 V/m, 80 to 1000 MHz<br>80 % AMC (1 kHz) | A         | <1 %FSO      |
| Electrical fast transient / burst immunity (EFT)                     | EN61000-4-4: Grade 3, ±2 kV                                      | B         | <1 %FSO      |
| Electrostatic discharge immunity test (ESD)                          | EN61000-4-2: Grade 4, ±8 kV, contact discharge                   | B         | <1 %FSO      |
| Immunity to conducted disturbances induced by radio-frequency fields | EN61000-4-6: Grade 3, 0.15 to 80 MHz<br>10 V, 80 % AMC (1 kHz)   | A         | <1 %FSO      |

#### Specification notes:

1. IP 65 protection is given when the connector is locked with a rubber washer. For proper function the gage port is vented to the atmosphere through the connector/cable assembly. Thus the cable end must have access to the ambient pressure.
2. The minimum supply voltage is directly proportional to the load resistance seen by the transmitter. For more details see the load limitation diagram.
3. Proof pressure is the maximum pressure which may be applied without causing damage to the sensing element.
4. Thermal effects tested and guaranteed from 0 to 70°C relative to 25°C. All specifications shown are relative to 25°C.
5. Non-linearity refers to the **Best Straight Line** fit measured for offset, full scale span and 1/2 full scale span.
6. Long term stability is the change in output after one year or 1 million pressure cycles.
7. Span is the arithmetic difference in transmitter output signal measured at zero pressure and the maximum operating pressure.
8. Test are in accordance with EN61000-6-2, April 1999.
9. Other sealing materials on special request.
10. Other fittings on special request.
11. CE-labelling is in accordance with 89/336/EEC.
12. The pressure transmitters must not be used as safety accessories according to article 1, 2.1.3 of the directive 97/23/EC.

### ORDERING INFORMATION

|                       |                       |            |          |          |          |                                  |
|-----------------------|-----------------------|------------|----------|----------|----------|----------------------------------|
|                       | <b>KTx6</b>           | <b>xxx</b> | <b>X</b> | <b>X</b> | <b>X</b> |                                  |
| E: bar calibration    |                       |            |          |          |          | <b>Output signal</b>             |
| U: psi calibration    |                       |            |          |          |          | 0: 0...10 V                      |
|                       |                       |            |          |          |          | 4: 4...20 mA                     |
|                       |                       |            |          |          |          | 6: 0.5...4.5 V                   |
|                       |                       |            |          |          |          | 7: 0...5 V                       |
| <b>KTE6000 series</b> | <b>KTU6000 series</b> |            |          |          |          | <b>Fitting size<sup>10</sup></b> |
| 001: 0 to 1 bar       | 015: 0 to 15 psi      |            |          |          |          | L: 1/4" NPT male                 |
| N01: -1 to +1 bar     | N15: -15 to +15 psi   |            |          |          |          | O: G 3/4" (3/4" BSP)             |
| P01: -1 to 0 bar      | P15: -15 to 0 psi     |            |          |          |          | only up to 16 bar/200 psi        |
| 002: 0 to 2 bar       | 030: 0 to 30 psi      |            |          |          |          | Q: G 1/4" (1/4" BSP) male        |
| 005: 0 to 5 bar       | 050: 0 to 50 psi      |            |          |          |          | T: G 1/2" (1/2" BSP)             |
| 010: 0 to 10 bar      | 100: 0 to 100 psi     |            |          |          |          |                                  |
| 016: 0 to 16 bar      | 200: 0 to 200 psi     |            |          |          |          | <b>Pressure mode</b>             |
| 020: 0 to 20 bar      | 300: 0 to 300 psi     |            |          |          |          | G: gage pressure <sup>1</sup>    |
| 025: 0 to 25 bar      | 500: 0 to 500 psi     |            |          |          |          | (up to 50 bar/750 psi)           |
| 035: 0 to 35 bar      | 1K0: 0 to 1000 psi    |            |          |          |          | S: sealed gage                   |
| 050: 0 to 50 bar      | 1K5: 0 to 1500 psi    |            |          |          |          | (above 50 bar/750 psi)           |
| 070: 0 to 70 bar      | 2K0: 0 to 2000 psi    |            |          |          |          | A: absolute pressure             |
| 100: 0 to 100 bar     | 3K0: 0 to 3000 psi    |            |          |          |          | (up to 50 bar/750 psi)           |
| 150: 0 to 150 bar     | 4K5: 0 to 4500 psi    |            |          |          |          |                                  |
| 200: 0 to 200 bar     | 6K0: 0 to 6000 psi    |            |          |          |          |                                  |
| 300: 0 to 300 bar     |                       |            |          |          |          |                                  |
| 400: 0 to 400 bar     |                       |            |          |          |          |                                  |

**Note:** Other pressure ranges and options are widely available.  
Please contact your nearest Sensortech sales representative.

Sensortech reserves the right to make changes to any products herein. Sensortech does not assume any liability arising out of the application or use of any product or circuit described herein, neither does it convey any license under its patent rights nor the rights of others.