T2 Pressure Transmitter

FEATURES
- Numerous ranges, process connections/electrical terminations, and outputs available (STD.)
- All stainless steel wetted parts
- Proven polysilicon film sensor
- All welded construction

TYPICAL USES
- Process automation
- Compressor control
- Hydraulic systems
- Engine monitoring
- Pump control
- Pneumatics
- Refrigeration equipment
- Presses
- Machine tools
- Other general industrial applications

PERFORMANCE SPECIFICATIONS

Reference Temperature: 72 °F (22 °C)

Accuracy Class (BFSL): ±0.25% of span

Total Error Band Accuracy (TEB):
- ±1% of Span: From –20 to 85 °C (–4 to 185 °F)
- ±1.5% of Span: From –40 to –20 °C (–40 to –4 °F)
- ±1.5% of Span: From 85 to 125 °C (185 to 257 °F)

Includes the combined effects of non-linearity (Terminal Point Method), hysteresis, non-repeatability, temperature and zero offset and span setting errors

Durability: 50 million cycles
Stability: ≤±0.25% span/year at reference conditions

ENVIRONMENTAL SPECIFICATIONS

Temperature Limits:
- Storage: –40 °F to 257 °F (–40 °C to 125 °C)
- Operating: –40 °F to 257 °F (–40 °C to 125 °C)
- Compensated: –40 °F to 257 °F (–40 °C to 125 °C)

Humidity Effects: No performance effects from 0-100% R.H.

FUNCTIONAL SPECIFICATIONS

Response Time: <1 ms
Pressure Ranges: Compound and gauge pressure, 30 to 20,000 psi
Shock: 100 gs, 6 ms
Vibration: Random vibration (20 g) over temperature range –40 °F to 257 °F (–40 °C to 125 °C).
Exceeds typical MIL. (STD.) requirements
Position Effect: <±0.01% span, typical
Overpressure:
- Proof: 2 X Range
- Burst: 10 X Range
- ≤750 psi 2 X Range
- >1,000 to ≤4,000 psi 2 X Range
- >5,000 to ≤7,500 psi 1.2 X Range
- >10,000 to ≤20,000 psi 1.2 X Range

Drop Test: Withstands 1 meter on concrete 3 axis
Warm-up Time: <500 msec, typical

KEY BENEFITS
- Broad temperature capability
- High EMI/RFI immunity ratings
- High performance ASIC based electronics
- Superior long-term stability and repeatability
T2 Pressure Transmitter

ELECTRICAL SPECIFICATIONS

Output: 
<table>
<thead>
<tr>
<th>Supply Voltage</th>
<th>Supply Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 Vdc (3 Wire)</td>
<td>9 Vdc to 36 Vdc</td>
</tr>
<tr>
<td>0-10 Vdc (3 Wire)</td>
<td>14 Vdc to 36 Vdc</td>
</tr>
<tr>
<td>1-5 Vdc, 1-6 &amp; 0.5-4.5 Vdc (3 Wire)</td>
<td>9 Vdc to 36 Vdc</td>
</tr>
<tr>
<td>0.5-4.5 Vdc, 3 Wire (Ratiometric)</td>
<td>5 Vdc ±0.5 Vdc</td>
</tr>
<tr>
<td>4-20 mA (2 Wire)</td>
<td>9 Vdc to 36 Vdc</td>
</tr>
</tbody>
</table>

Insulation Breakdown Voltage: >100 MΩ @ 100 Vdc

Circuit Protection: Reverse polarity and mis-wire protected

Insulation Resistance: 100 MΩ @ 30 Vdc

PHYSICAL SPECIFICATIONS

Environmental Ingress rating NEMA 4X, IP65 Rating:

WETTED MATERIAL

| Diaphragm          | 17-4PH Stainless Steel |
| Process Connection | 304 Stainless Steel |

NON-WETTED

| Housing                      | 20% Glass Reinforced Nylon, Fire retardant to UL94 V1 |

OPTIONAL FEATURES

Calibration Report: 9 pt. Traceable calibration certificate
Consult factory for: Throttle plugs and Cleaned for Oxygen services

LOAD LIMITATIONS 4-20 mA OUTPUT ONLY

To Determine Min. loop supply voltage: 

\[
L_{SV_{min}} = 9(V) + [0.022(A) \times R_L]
\]

Where:

- \( L_{SV} \) = Loop Supply Voltage (Vdc)
- \( R_i \) = Input Resistance (ohms)
- \( R_L \) = Loop Resistance (ohms)
- \( R_s \) = Sense Resistance (ohms) [Measuring Instrument]
- \( R_w \) = Wiring Resistance (ohms)

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T2 Pressure Transmitter

ORDERING CODE

Example: T2 7 M01 42 DN 60# G XTU

Model
T27 - T2 Series, 1.0% Total Error Band (-20°C/85°C), 1.5% Total Error Band (-40°C/-20°C, 85°C/125°C)

Pressure Connection Size
M01 - 1/8 NPT Male
M02 - 1/4 NPT Male
MEK - 7/16 20 SAE #4 Male, not UL recognized over 10,000 psi range
MEV - 3/8-18 SAE #6 Male w/Buna-N O-ring, not UL recognized over 10,000 psi range
MG2 - G 3/8 B Male

Output Signal
05 - 0-5 Vdc
10 - 0-10 Vdc
15 - 1-5 Vdc
16 - 1-6 Vdc
42 - 4-20 mA
RM - 0.5-4.5 Vdc Ratiometric to 5 Vdc supply

Electrical Termination
EN 175301-803, Form A (DIN 43650 Form A - Mates to Hirschmann® GDM 3009 or similar)
DN - No mating connector
D0 - W/mating connector, no cable
D2 - W/mating connector, 3 feet of shielded cable

Electrical Connection
M12 (4-Pin) - Mates to Hirschman 933-172-100 or similar
EW - No mating connector
EO - W/mating connector, no cable
E2 - W/mating connector, 3 feet of shielded cable
Circular 4 Pin - Mates to Bendix® PT06A-8-4S-SR or similar
B4 - No mating connector
H1 - W/mating connector, no cable
L1 - W/mating connector, 3 feet of shielded cable
P1 - Customer specified length

Pressure Range (see range table on page 4)
60# - 60 psi

Measurement Type
G - Gauge

Option (if including an option(s) must include an "X")
X __
TU - Throttle Plug

TOTAL ERROR BAND (TEB)

Error limits of all points (0-100% of range)
T2 Pressure Transmitter

<table>
<thead>
<tr>
<th>Range</th>
<th>Code</th>
<th>Notes</th>
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<tbody>
<tr>
<td>30 psi/-14.7 psi</td>
<td>30# &amp; vac</td>
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</tr>
<tr>
<td>45 psi/-14.7 psi</td>
<td>45# &amp; vac</td>
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</tr>
<tr>
<td>60 psi/-14.7 psi</td>
<td>60# &amp; vac</td>
<td></td>
</tr>
<tr>
<td>85 psi/-14.7 psi</td>
<td>85# &amp; vac</td>
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</tr>
<tr>
<td>100 psi/-14.7 psi</td>
<td>100# &amp; vac</td>
<td></td>
</tr>
<tr>
<td>150 psi/-14.7 psi</td>
<td>150# &amp; vac</td>
<td></td>
</tr>
<tr>
<td>200 psi/-14.7 psi</td>
<td>200# &amp; vac</td>
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</tr>
<tr>
<td>300 psi/-14.7 psi</td>
<td>300# &amp; vac</td>
<td></td>
</tr>
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<td>15000#</td>
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<tr>
<td>20,000 psi</td>
<td>20000#</td>
</tr>
</tbody>
</table>

For reference only, consult Ashcroft for specific dimensional drawings.

**Shielded Cable**
PVC Jacket, 3' Length
Standard, 24 AWG Leads

**Din Form-A**
Mates to Hirschmann GDM 3009 or similar

bar, kPa, and mPa ranges also available