General Purpose OEM Pressure Transmitters
Type OT-1

Applications
- General purpose high-volume OEM applications

Special Features
- Pressure ranges from 100 psi to 8,000 psi
- Compound ranges available
- Durable thin film sensor technology
- Environmental protection to IP67 / NEMA 4X
- MTTF values over 100 years

OT-1 pressure transmitters are precision engineered for applications where performance and durability are critical. Many different process and electrical connections are available allowing the OT-1 to be easily integrated with a wide variety of applications.

The all-welded thin film measuring cell eliminates the need for additional soft sealing materials that may deteriorate over time. The thin film sensor uses sputtered technology that provides excellent long-term stability in applications producing frequent pressure cycles. The glass reinforced PBT plastic case has been used in under hood automotive applications for many years. A metal sleeve inside the case provides excellent EMI protection to 100v/m. The electrical connections meet NEMA 4X / IP 67 environmental protection ratings.

The OT-1 is manufactured on a fully automated production line providing consistent quality and highly competitive pricing in large quantities. Custom modifications are available for large quantity requirements.
## Specifications

<table>
<thead>
<tr>
<th>Pressure range</th>
<th>Type OT-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>-30 InHG/100 psi</td>
<td>-30 InHG/200 psi</td>
</tr>
<tr>
<td>100 psi</td>
<td>150 psi</td>
</tr>
<tr>
<td>Maximum pressure*</td>
<td>290 psi</td>
</tr>
<tr>
<td>Burst pressure**</td>
<td>1,450 psi</td>
</tr>
<tr>
<td>Pressure range</td>
<td>1,000 psi</td>
</tr>
<tr>
<td>Maximum pressure*</td>
<td>1,740 psi</td>
</tr>
<tr>
<td>Burst pressure**</td>
<td>7,970 psi</td>
</tr>
</tbody>
</table>

*Pressure applied up to the maximum rating will cause no permanent change in specifications but may lead to zero and span shifts.

**Exceeding the burst pressure may result in destruction of the transmitter and possible loss of media.

### Materials:
- **Wetted parts:** Stainless steel
- **Case:** Fiberglass-reinforced polybutylene terephthalate (PBT)

### Signal output and Power supply

<table>
<thead>
<tr>
<th>Signal output</th>
<th>Power supply $U_a$</th>
<th>Power supply $U_b$</th>
<th>Maximum load $R_a$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$U_a$ in DC V</td>
<td>$R_a$ in Ohm</td>
<td>$U_b$ in 8...36 DC V</td>
<td>$R_a$ (5 - $U_b$) / 0.02 A</td>
</tr>
<tr>
<td>4...20 mA, 2-wire</td>
<td>9...36 DC V</td>
<td>$R_a &gt; 2,500$</td>
<td></td>
</tr>
<tr>
<td>1...6 V, 3-wire</td>
<td>8...36 DC V</td>
<td>$R_a &gt; 2,500$</td>
<td></td>
</tr>
<tr>
<td>1...5 V, 3-wire</td>
<td>14...36 DC V</td>
<td>$R_a &gt; 5,000$</td>
<td></td>
</tr>
<tr>
<td>0...10 V, 3-wire</td>
<td>14...36 DC V</td>
<td>$R_a &gt; 5,000$</td>
<td></td>
</tr>
<tr>
<td>0.5...4.5 V, ratiometric</td>
<td>5 ± 0.5 DC V</td>
<td>$R_a &gt; 240$</td>
<td></td>
</tr>
</tbody>
</table>

### Response time (10% ... 90%)
- ms ≤ 2

### Isolation voltage
- DC V 500

### Accuracy
- % of span ≤ 0.5 (B.F.S.L)
- % of span ≤ 1.0 (B.F.S.L) for pressure ranges ≤ 150 psi
- % of span ≤ 0.5 (terminal method)
- % of span ≤ 1.0 (terminal method) for pressure ranges ≤ 150 psi

(Includes non-linearity, non-repeatability, zero point and full scale error per IEC 61298-2)

### Non-repeatability
- % of span ≤ 0.2

### Non-linearity
- % of span ≤ 0.4 (B.F.S.L) according to SEC 61298-2

### 1-year stability
- % of span ≤ 0.3 (at reference conditions)

### Permissible temperature range:
- **Media**
  - -40 ... +257 °F
  - -40 ... +125 °C
- **Ambient**
  - -40 ... +212 °F
  - -40 ... +100 °C
- **Storage**
  - -40 ... +248 °F
  - -40 ... +120 °C

With cable version limited temperature range from (-40 ... +194 °F) -40 ... +90 °C

### Compensated temperature range
- +32 ... +176 °F
- 0 ... + 80 °C

### Temperature coefficients (TC)

| Mean TC of zero | % of span ≤ 0.15 / 10 K (special pressure ranges may have increased zero TC) |
| Mean TC of range | % of span ≤ 0.15 / 10 K |

### CE conformity
- Pressure equipment directive 97/23/EC
- EMC directive 2004/108/EC, EN 61 326 Emission (Group 1, Class B) and Immunity (industrial locations)

### Wiring protection
- Short-circuit protection
- Reverse polarity protection
- Sig+ towards $U_b$-
- $U_b$+ towards $U_b$- (not with ratiometric signal output)

### Weight
- oz Approximately 2.1
**Dimensions in inches (mm)**

**Electrical connections**
- **Circular connector**
  - M12x1, 4 pin
  - IP 67
  - Order code: M4

**Ingress Protection IP per IEC 60 529**
- **Connector**
  - Metri Pack Series 150
  - IP 67
  - Order code: R3

**Cable with free ends**
- IP 67
- Order code: DL

**Pressure connections**
- **1/4 NPT male**
  - Order code: NB

- **SAE #4 7/16-20 UNF-2A**
  - male o-ring boss
  - Order code: MV

- **G 1/4**
  - EN 837
  - Order code: GB

- **M 14x1.5**
  - per DIN 3852-E
  - Order code: HN

- **G 1/4**
  - DIN 3852-E
  - Order code: HD

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## Wiring details

<table>
<thead>
<tr>
<th>Circular connector M 12x1</th>
<th>2-wire</th>
<th>3-wire</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><img src="image1" alt="2-wire Wiring Diagram" /></td>
<td><img src="image2" alt="3-wire Wiring Diagram" /></td>
</tr>
</tbody>
</table>

**Legend:**
- **power supply**
- **load (e.g. display)**
- **Sig+** output signal positive
- **UB+** power supply positive
- **0V** power supply negative
- **Sig -** output signal negative

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