Tronic

- 4-20 mA 2-wire or 0-10 V 3-wire output signal
- Available in ranges down to 0.2 INWC
- Optional digital LCD display
- Square root output and alarm contacts available

The WIKA DP-10 pressure transmitter is designed for the measurement of extremely low gauge and differential pressures of clean, dry, inert gaseous media. The transmitter uses a linear variable differential transformer (LVDT sensor) for exceptional sensitivity and performance at extremely low pressures. The built-in signal conditioning circuitry provides a 0-10 volt 3-wire output signal. 4-20 mA 2-wire signals are available. Other options include single or dual built-in programmable relays, 3.5 digit local LCD readout, AC line adapter, improved accuracy, and enhanced overpressure protection.

Computer controlled assembly and factory calibration provides excellent accuracy and long term stability. The durable construction is virtually maintenance free.

Applications for the DP-10 include HVAC draft flow control and monitoring, pollution control monitoring systems, dust collection systems, and medical equipment.

<table>
<thead>
<tr>
<th>WORKING RANGE</th>
<th>MAXIMUM SINGLE END OVERLOAD ¹</th>
<th>MAXIMUM STATIC OVERLOAD ²</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.2 INWC</td>
<td>1.2 INWC</td>
<td>200 INWC</td>
</tr>
<tr>
<td>0-0.5 INWC</td>
<td>2.0 INWC</td>
<td>200 INWC</td>
</tr>
<tr>
<td>0-1 INWC</td>
<td>5 INWC</td>
<td>200 INWC</td>
</tr>
<tr>
<td>0-2 INWC</td>
<td>12 INWC</td>
<td>200 INWC</td>
</tr>
<tr>
<td>0-5 INWC</td>
<td>20 INWC</td>
<td>200 INWC</td>
</tr>
<tr>
<td>0-10 INWC</td>
<td>50 INWC</td>
<td>200 INWC</td>
</tr>
<tr>
<td>0-20 INWC</td>
<td>80 INWC</td>
<td>200 INWC</td>
</tr>
<tr>
<td>0-30 INWC</td>
<td>120 INWC</td>
<td>200 INWC</td>
</tr>
<tr>
<td>0-60 INWC</td>
<td>320 INWC</td>
<td>200 INWC</td>
</tr>
<tr>
<td>0-100 INWC</td>
<td>400 INWC</td>
<td>200 INWC</td>
</tr>
<tr>
<td>0-200 INWC</td>
<td>400 INWC</td>
<td>200 INWC</td>
</tr>
</tbody>
</table>

Notes:
¹ Maximum overload differential between the two pressure ports.
² Maximum static line pressure when both ports are pressurized during differential pressure measurement.
Specifications

Input
19-30 VDC
(12-30 VDC for 4-20 mA output signal)

Output & load limitations

<table>
<thead>
<tr>
<th>Voltage</th>
<th>3-wire</th>
<th>2-wire</th>
<th>0-10 V 3-wire</th>
<th>0-20 mA 3-wire</th>
<th>4-20 mA 2-wire</th>
<th>0+/−5 V 3-wire</th>
</tr>
</thead>
<tbody>
<tr>
<td>R (min)</td>
<td>2 k Ohm</td>
<td></td>
<td></td>
<td>500 Ohm</td>
<td></td>
<td>2 k Ohm</td>
</tr>
<tr>
<td>R (max)</td>
<td></td>
<td>(V−−12V)/0.02 A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Accuracy

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linearity (B.F.S.L.)</td>
<td>≤ 1.0% of span</td>
</tr>
<tr>
<td>Hysteresis</td>
<td>≤ 0.1% of span</td>
</tr>
<tr>
<td>Repeatability</td>
<td>≤ 0.2% of span</td>
</tr>
<tr>
<td>1 yr. stability</td>
<td>≤ 0.5% of span</td>
</tr>
<tr>
<td>Response time</td>
<td>≤ 0.02 sec</td>
</tr>
<tr>
<td>(10-90% full scale)</td>
<td>+/- 5.0% full scale</td>
</tr>
<tr>
<td>Zero &amp; span adjustment</td>
<td>1.0% of span</td>
</tr>
<tr>
<td>Square root signal</td>
<td>1.0% of span</td>
</tr>
</tbody>
</table>

Temperature

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature compensated</td>
<td>+50 °F to 122 °F</td>
</tr>
<tr>
<td>Media</td>
<td>+50 °F to 122 °F</td>
</tr>
<tr>
<td>Ambient</td>
<td>+50 °F to 122 °F</td>
</tr>
<tr>
<td>Storage</td>
<td>+14 °F to 158 °F</td>
</tr>
</tbody>
</table>

Temperature error (reference temperature 70 °F)

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>On zero (% of span/18 °F)</td>
<td>≤ 0.3</td>
</tr>
<tr>
<td>On span (% of span/18 °F)</td>
<td>≤ 0.3</td>
</tr>
</tbody>
</table>

Process connection

6.6 mm dia. x 11 mm long hose barbs fits 1/4" I.D. hose

Electrical connection

Inside solderless screw terminals with PG 7 gland entry (IP 54 / NEMA 5)

Material

Housing Fiberglass reinforced ABS plastic
Wetted parts Aluminum, silicone rubber, brass, CuBe

Suitable media Dry, noncorrosive gases
Sensor volume approximately 5 ml (<1"WC~7ml)
Dispacement approximately 1 ml (full span)
Weight approximately 1 lb

Options

Local readout
Digital LCD display, 3.5 digit, 0.4" high
Analog 0-100% of scale

Relays
(available with 3-wire system only)
1 or 2 SPDT, adjustable 0-100% of span
Hysteresis adjustable 0-15% of span
Accuracy % of span
Repeatability 0.2% of span typical
Rating 250 mA / 230V inductive load
960 mA, 230V ohmic load

Dimensions

Wiring

3-wire with relay option
2-wire system
Built-in AC converter

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.

5/2000