Ex-proof pressure transducers type E-ATRA-7
analog, for open and closed loop systems - ATEX and IECEx

Ex-proof E-ATRA-7 pressure transducers measure the static and dynamic pressure of the hydraulic fluid, supplying a current output signal.

The sensor is composed by a thin-film circuit (1), with high resistance to overloads and pressure peaks.

The integrated electronic circuit (2) supplies an amplified voltage or current output signal, proportional to the hydraulic pressure, with thermal drift compensation.

The transducer housing and electronics housing are designed to contain the possible explosion which could be caused by the presence of the gas mixture inside the housing, thus avoiding dangerous propagation in the external environment.

They are also designed to limit the external temperature according to the certified class to avoid the self ignition of the explosive mixture present in the environment.

E-ATRA-7 equip ex-proof pressure control digital proportional valves with integral transducer and electronics, RES execution.

They are also used in association with other Atos ex-proof digital proportionals to perform closed loop pressure controls:

- directional control valves with additional closed loop pressure control, BP and SF options (see tech table GS002)

Features:

- Factory preset and calibrated
- 5 m cable connection (1)
- 1/4" GAS - DIN 3852 Hydraulic connection (pressure port orifice Ø 0,6 mm)
- IP67 protection degree
- CE mark according to EMC directive

1 MODELL CODE

<table>
<thead>
<tr>
<th>E-ATRA-7 / 400 / I</th>
<th>Series number</th>
</tr>
</thead>
</table>

Pressure transducer amplified type for ex-proof applications

Pressure measuring range:
- 60 = 0 ÷ 60 bar
- 160 = 0 ÷ 160 bar
- 250 = 0 ÷ 250 bar
- 400 = 0 ÷ 400 bar

I = current output signal 4 ÷ 20 mA (1)

(1) available only with current output signal 4 ÷ 20 mA

2 EXPLOSION PROOF CERTIFICATION MAIN DATA

<table>
<thead>
<tr>
<th>ATEX certification</th>
<th>II 2G Ex db IIC T6...T1 Gb</th>
<th>IECEx certification</th>
<th>Ex db IIC T6...T1 Gb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature class</td>
<td>T6</td>
<td>≤ 85 °C</td>
<td>≤ 100 °C</td>
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<tr>
<td></td>
<td>(only for Group II)</td>
<td>≤ 135 °C</td>
<td></td>
</tr>
<tr>
<td>Surface temperature</td>
<td>-40 ÷ +60 °C</td>
<td>-40 ÷ +70 °C</td>
<td>-40 ÷ +102 °C</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>Flame proof housing classified Ex d, according to EN 60079-0: 2012, EN 60079-1: 2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical connection</td>
<td>Type: 5 m cable 2 wires + shield</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special features</td>
<td>Available on request with FM, CSA, EAC, INMETRO and KAZINMETR certification For further details, please contact Atos technical department</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3 MAIN CHARACTERISTICS OF EX-PROOF PRESSURE TRANSDUCER

Pressure measuring range 0 ÷ 60/160/250/400 bar; other values available on request

Note: negative pressure can damage the pressure transducer

Overload pressure 2 x FS without exceeding 600 bar

Burst pressure 5 x FS without exceeding 1700 bar

Response time ≤ 1 ms

Temperature compensated 0 ÷ +80 °C

Thermal drift @ zero: ± 0,025 % FS/°C max; @ FS: ± 0,025 % FS/°C max

Accuracy ≤ ±0,5 % FS

Non-Linearity ≤ ±0,2 % of FS (BFSL) as per IEC 61298-2

Fluid Compatibility Hydraulic oil as per DIN51524...535 for other fluid please contact Atos technical department

Power supply 24 VDC nominal; maximum range 10 ÷ 30 VDC

Output signal Current output signal 4 ÷ 20 mA (2 wire); for max load see section 2

Wiring protections Against reverse polarity on power supply and short-circuit on output signal

Materials Wetted parts: stainless steel and Elgiloy®; seals: FPM

Mass Approx. 240 g

Electromagnetic compatibility (EMC) EN 61326 emission (group 1, class B) and immunity (industrial application)

Vibration resistance 20 g according to DIN EN 60068-2-6

Shock resistance 1000 g according to DIN EN 60068-2-27

Protection class IP67

Notes: FS = Full Scale; BFSL = Best Fit Straight Line
4 INSTALLATION AND COMMISSIONING

4.1 Warning
E-ATRA-7 transducers have to be installed as near as possible to the point where the pressure have to be measured, taking care that the oil flow is not turbulent.

4.2 Commissioning
Install the transducer in the hydraulic circuit.
Switch-off the power supply before connecting and disconnecting the transducer cable as shown in scheme [3].

5 ELECTRONIC CONNECTIONS

The max resistance $RL [\Omega]$ is calculated:

$$RL = \frac{System\ supply - 10[V]}{0.02[A]}$$

6 OVERALL DIMENSIONS [mm]

[Diagram showing dimensions]