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

Ex-proof E-ATRA-7 are pressure transducers used to measure the static and dynamic pressure.

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

The integrated electronic circuit b 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.

E-ATRA-7 equip ex-proof proportional pressure control valves, RES execution.

They are also used in association with directional proportional with option /SP, /SF to perform closed loop pressure controls:

Features:
- Factory preset and calibrated
- 5 m cable connection
- 1/4" GAS - DIN 3852 hydraulic connection (pressure port orifice Ø 0.6 mm)
- IP67 protection degree
- CE mark according to EMC directive

1 MODEL CODE

E-ATRA-7 / 400 / I *

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 EXPLOSION PROOF CERTIFICATION MAIN DATA

ATEX certification
IECEx certification

<table>
<thead>
<tr>
<th>Temperature class (only for Group II)</th>
<th>T6</th>
<th>T5</th>
<th>T4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface temperature</td>
<td>≤ 85 °C</td>
<td>≤ 100 °C</td>
<td>≤ 135 °C</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>-40 ÷ +60 °C</td>
<td>-40 ÷ +75 °C</td>
<td>-40 ÷ +102 °C</td>
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<tr>
<td>Mechanical construction</td>
<td>Flame proof housing classified Ex d, according to EN 60079-0: EN 60079-1</td>
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</tr>
<tr>
<td>Electrical connection</td>
<td>Type: 5 m cable 2 wires + shield</td>
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<td></td>
</tr>
<tr>
<td>Special features</td>
<td>Available on request with FM, CSA, EAC, INMETRO and KA2INMETR certification</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For further details, please contact Atos technical department

2 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 DIN 51524...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 5

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

Table GX800-0/E
Replaces G466-4/E
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]