HEAVY-DUTY ELECTROPNEUMATIC CONVERTERS

Current to Pressure (I/P) and Voltage to Pressure (E/P) Models

IP510 Series

- Hazardous Location and Intrinsically Safe Ratings
- NEMA 4X (IP66)
- 0.1% Accuracy Typical
- Closed-Loop Pressure Feedback Control
- Built-In Volume Booster Provides Flow Up to 12 SCFM
- Easy Access to Zero and Span
- Damping Pot Prevents Overshoot and Hunting
- Low Air Consumption
- Mount at Any Angle
- Compact and Lightweight
- Virtually No Sensitivity to Supply Pressure Changes
- Removable Orifice for Easy Maintenance
- Buna-N Seals Standard
- Fluorocarbon Seals Optional

This design incorporates closed-loop sensing of the output pressure to achieve excellent accuracy and vibration stability. It also features a unique damping circuit that can be adjusted to prevent overshoot and actuator “hunting.” Model selection includes general purpose NEMA 1 (IP00) and watertight/corrosion-resistant NEMA 4X (IP66). All models carry hazardous location and intrinsically safe ratings.

SPECIFICATIONS

Accuracy:
Typical: ±0.1% of output span
Maximum: ±0.25% of output span

Hysteresis:
Typical: ±0.01% of output span
Maximum: ±0.10% of output span

Deadband: No effect
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Operating Temperature Range:
Buna-N Elastomers:
-29 to 71°C (-20 to 160°F)
Fluorocarbon Elastomers:
-18 to 71°C (0 to 160°F)

Storage Temperature:
Buna-N Elastomers:
-40 to 93°C (-40 to 200°F)
Fluorocarbon Elastomers:
-26 to 93°C (-15 to 200°F)

Vibration Effects: Less than 0.5% of span per 1 g 5 to 2000 Hz, 3 g maximum, 3 axes
Mounting Position Effect: Not measurable
Loop Load, I/P Transducer:
Less than 10 Vdc drop at 20 mA
Less than 10 Vdc drop at 50 mA
Supply Voltage, E/P Transducer:
Intrinsically Safe/Non-Incendive:
9 to 28 Vdc, less than 20 mA
General Purpose: 9 to 40 Vdc, less than 20 mA

Supply Voltage Effect: No effect
Signal Impedance E/P Transducer: 6000 Ω minimum

RFI/EMI Effect NEMA 4X (IP66):
Less than 0.25% of span change in output 10 V/meter, 20 to 1000 MHz
(Reference SAMA PML 33.1 to 1978, 2 to abc)

Supply Pressure Sensitivity: No effect

Effective Air Consumption: 0.07 SCFM (2 LPM) maximum

Supply Pressure:
100 psig (6.9 bar) maximum

Port Sizes:
Pneumatic: ¼ FNPT
Electrical: ½ FNPT

Agency Approvals—All 510 and 511 electropneumatic converters are approved by FM and CSA as intrinsically safe Class I, Division 1, Groups A, B, C, D hazardous locations.

The 511 (NEMA 4X) models are also approved for FM and CSA explosion-proof service: Class I, Division 1 and 2, Groups B, C, D. Dust ignition-proof service: Class II, Division 1 and 2, Groups E, F, G.

NEMA 4X units are also suitable for Class III, Division 1 and 2.

Warning: These ratings are valid ONLY WHEN the cover is fully installed and the electrical connections conform to required standards.

To Order

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>INPUT RANGE</th>
<th>OUTPUT RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEMA 1 (IP00) ENCLOSURE</td>
<td></td>
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</tr>
<tr>
<td>IP510-X15</td>
<td>4 to 20 mA</td>
<td>3 to 15 psig</td>
</tr>
<tr>
<td>IP510-X27</td>
<td>4 to 20 mA</td>
<td>3 to 27 psig</td>
</tr>
<tr>
<td>IP510-X30</td>
<td>4 to 20 mA</td>
<td>6 to 30 psig</td>
</tr>
<tr>
<td>IP510-060</td>
<td>4 to 20 mA</td>
<td>0 to 60 psig</td>
</tr>
<tr>
<td>IP510-0120</td>
<td>4 to 20 mA</td>
<td>0 to 120 psig</td>
</tr>
<tr>
<td>EP510-X15</td>
<td>1 to 5 Vdc</td>
<td>3 to 15 psig</td>
</tr>
<tr>
<td>EP510-X27</td>
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NEMA 4X (IP66) ENCLOSURE

<table>
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<td>IP511-X15</td>
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ACCESSORY

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<tr>
<th>MODEL NO.</th>
<th>DESCRIPTION</th>
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<tr>
<td>TX4-100</td>
<td>4-conductor shielded wire</td>
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Comes complete with operator’s manual

Note: To order fluorocarbon seals, add suffix “-F” to model numbers and additional cost to price.
Ordering Example: IP511-X30, electropneumatic converter, 4 to 20 mA input/6 to 30 psi output with NEMA 4X (IP66) enclosure, TX4-100, 4-conductor shielded cable.