Engineered for the Harshest Environments where your Power Supply may be Interrupted

When your application demands precision pressure control in tough, wet conditions, where power to the unit may be lost, you can rely on Fairchild’s Fail Freeze T6100 Transducer to maintain control. With its lock in place design and superior sealing features, the T6100 is also impervious to dampness and moisture in the surrounding environment.

Specify a T6100 when you need dependable and reliable performance from your instrumentation system.

Contact your local distributor or Fairchild’s Application support Team today at (336) 659-3400 to discuss the T6100 Transducers and our complete line of precise and reliable process and control products.

Fairchild’s T6100 Transducers’ high tech positive locking mechanism (in the event of power loss) provide years of trouble free operation in your facility.

- Locks in “Last Position”
- Accurately captures setpoint
- Very Low Drift after power loss
- IP65 Rating
- Handles moist applications
- One P/N covers all your needs
- Superior Construction
- Moisture resistant PCB
- Zinc coated components

Ordering Information

Catalog No.: T 6100

Electrical Connection
1/2" NPT Conduit Fitting
DIN 43650 Connection

Input
4-20 mA

Output*
3-15 psig
0.2-1.0 BAR
20-100 kPa

Options:
BSPT Thread**

* Special Ranges Available Upon Request
** Standard Pneumatic Connections are 1/4" NPT

TYPICAL APPLICATIONS:

- Damper Control
- Steam Process Control
- Valve Control
- Fuel Supply Louver Control
- Nitrogen Tank Blanketing
- Emission Control
- Process Control
- Clean Room Air Pressure Control
- Fuel Oil Pump Control

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SS-T6100
02/2008

SS-T6100 02/2008

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Fairchild's Fail Freeze T6100 I/P Transducer

T6100
Mounting Brackets

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Additional Information

- Additional technical information available on our website at www.fairchildproducts.com.
- Solidworks and CAD drawings available upon request.

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- Principles of Operation of the T6100 Lock in Place Transducer -

Fairchild’s T6100 transducer is an accurate, robust, refined flap—nozzle controlled transducer, standing on a proven 18 year history of reliable performance in wide ranging aggressive industrial environments. Uniquely, the T6100 “Lock in Last Place” feature now provides flexibility, reliability and safety in applications requiring protection from signal failures to critical control system instruments.

Design of the T6100 relies on a proprietary integrated solenoid valve module interposed between the flap—nozzle pilot and the booster section. Upon signal failure, an electrical charge stored within the active electronic circuit controlling the integrated solenoid valve module maintains the current to the voice coil at its last setpoint. Simultaneously, a high energy pulse closes the solenoid valve, trapping the signal pressure within the signal chamber at the last setpoint. The booster continues to provide its normal forward and exhaust flow, with the constant signal pressure now captured and maintained within the signal chamber.

The electronic circuit activates the solenoid valve immediately upon detection of a signal that falls below a base value of 3.5mA. Upon restoration of the signal, the electronic circuit sends a high energy pulse to open the solenoid valve, restoring the pilot section’s pressure control of the signal pressure to the booster as in a typical transducer. The electronic detection circuit, in series with the T6100’s signal conditioning circuit, merely adds an additional voltage drop to the T6100’s normal control loop. Advanced valve on/off design of the T6100 increases its forward flow capacity to a minimum of 5-scfm at 21-psig supply pressure.

### Technical Specifications: (PNEUMATIC)

<table>
<thead>
<tr>
<th>Output Range (psig)</th>
<th>3-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Pressure (psig)</td>
<td>20-40</td>
</tr>
<tr>
<td>Minimum Span (BAR)</td>
<td>4 (0.35)</td>
</tr>
<tr>
<td>Impedance</td>
<td>197</td>
</tr>
<tr>
<td>Air Consumption (per ISA S51.1)</td>
<td>5.0 (.14 m/HR)</td>
</tr>
<tr>
<td>Independent Linearity (per ISA S51.1)</td>
<td>0.5% FS</td>
</tr>
<tr>
<td>Hysteresis &amp; Repeatability (per ISA S51.1)</td>
<td>0.50% FS</td>
</tr>
<tr>
<td>Supply Pressure Effect on Output</td>
<td>0.25 psig, [0.17 BAR], (1.7 kPa) for a 25 psig, [1.7 BAR], (170 kPa) supply change</td>
</tr>
<tr>
<td>Flow Rate (SCFM)</td>
<td>5 (8.5 m3/HR) @ 21 psig, [1.7 BAR], (170 kPa) Supply &amp; 9 psig, [0.6 BAR], (60 kPa) Output</td>
</tr>
</tbody>
</table>

### Physical Specifications

#### Temperature Range (per ISA S51.1)
-20 °F to +150°F, (-30°C to +65°C)

#### Materials of Construction

- Body and Housing: Aluminum
- Trim: Zinc Plated Steel
- Diaphragm: Nitrile
- Orifice: Nickel Plated Brass
- Electro Magnetic Compatibility: EN50082-2
- Weight: 1000 grammes

#### Degree of Protection

- IP 65 Rating

#### Electrical Specifications

- Input Signal: 4-20 mA two wire, 7 Volt drop maximum at 20 mA
- Failure Mode: Output Pressure locks at last value when signal fails
- Drift Rate: 2% per hour Maximum
- Electrical Connection: 33mm square DIN 43650 connector mountable in four directions

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**T6100 Outline Dimensions**

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**T6100 Standard Range Transducers**