Flowserve Corporation
Flow Control Division
www.flowserve.com

1350 N. Mountain Springs Parkway
Springville, Utah 84663-3004
Phone: 801 489 8611

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APEX 6100 Current-to-Pressure Transducer (I/P Module)

Introduction:

The APEX 6100 I/P module provides accurate 3-15 psi pneumatic signals for the APEX 6000 positioner (shown). The housing is constructed from highly corrosion resistant resin, making it suitable for a wide range of corrosive applications. It receives 4-20 mA current input and only requires six volts to operate. The 6100 I/P has many advanced features including: RFI protection, internal closed loop control, integral filter (for start-up protection), and automatic temperature compensation.

Applications:

The APEX 6100 I/P module's internal closed loop control system makes it insensitive to installed position. In addition, this feature enables steady output under the most severe vibration. This transducer may only be used with the **A**PEX **M**odular **P**ositioning **S**ystem (AMPS).

The APEX 6100 is designed to NEMA 4 specifications. It requires only 6 volts minimum DC power, enabling series operation with other devices on 24 VDC current loops.

The I/P housing is constructed from corrosion resistant resin for protection against the toughest chemical applications in process industries including:

1. Chemical and Petrochemical
2. Food and Beverage
3. Pharmaceutical
4. Wastewater Treatment

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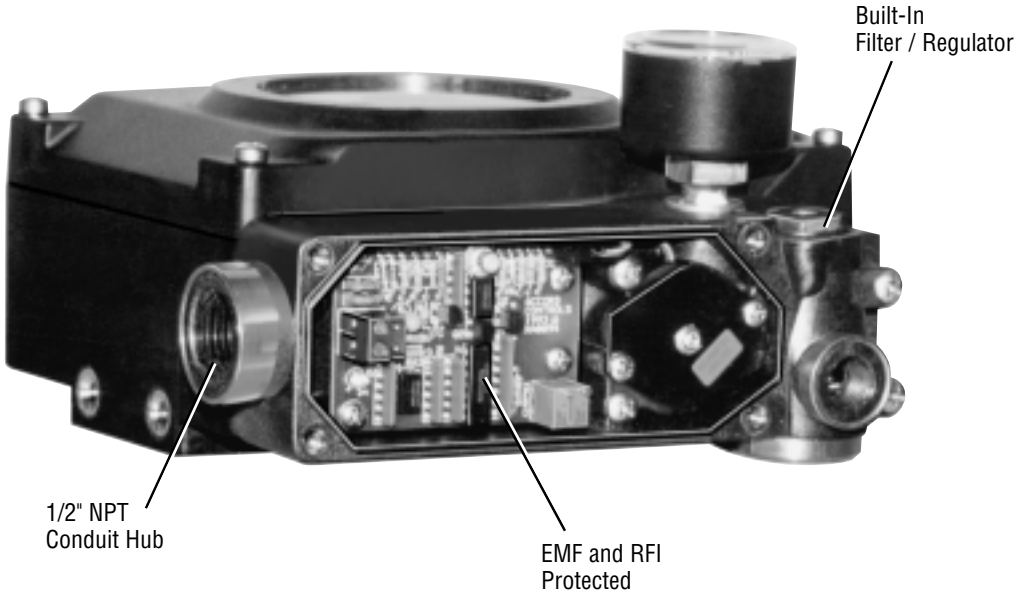

Features:

1. RFI immunity to both externally radiated RF and cable-conducted RF is provided by a conductive housing and signal input filters.

2. Current loop connections are highly accessible and deplugable simplifying installation.

3. LED loop power indication simplifies troubleshooting.

4. Sensors automatically compensate for temperature fluctuations.

5. Internal regulator compensates for supply pressure changes.

6. Pressure feedback for precise output control, regardless of position, even under heavy vibration.

7. Internal zero and span calibration.

8. Integral filter provides initial startup protection against tubing scale or dirt.
   Note: *the integral filter is* ***not*** *designed to act as a permanent source of clean, dry air.*

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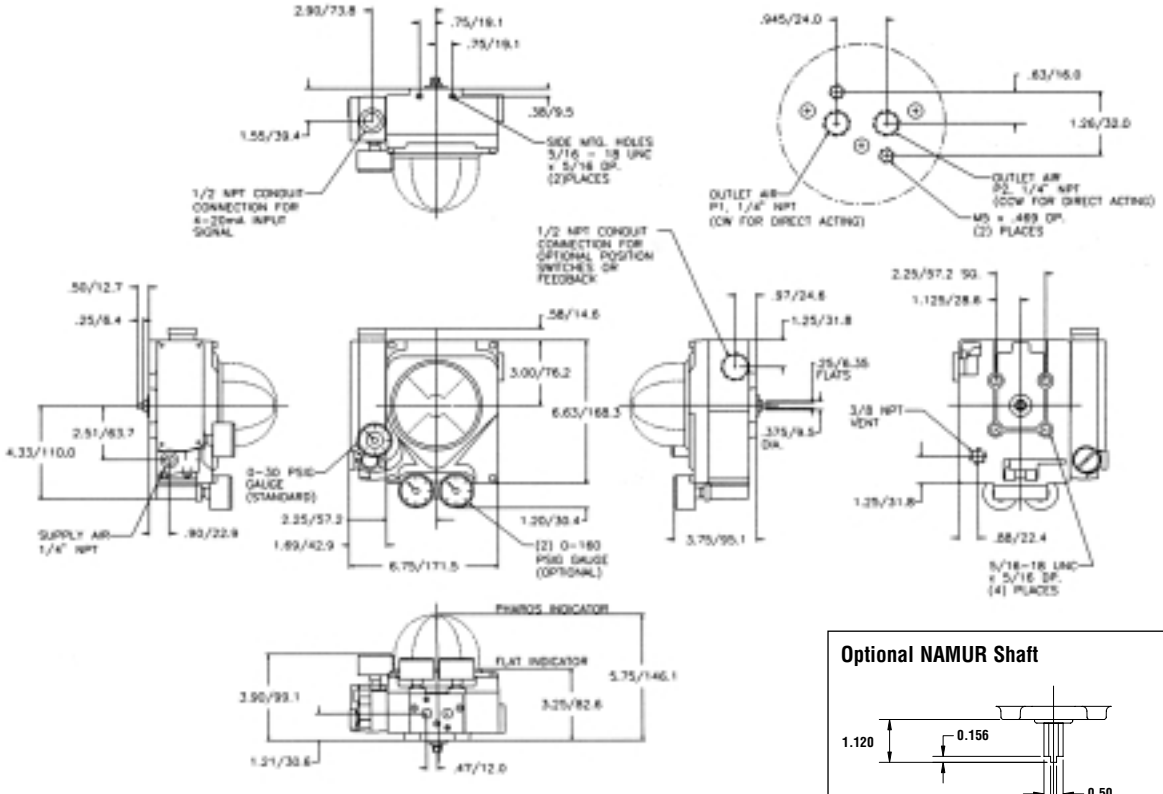
Materials of Construction:

Part	Materials
Housing/Cover	Engineering Resin
Regulator	Plated Steel
Regulator and Filter Covers	Stainless Steel
Coil/Nozzle Assembly	Plated Steel
Coil Retainer	Anodized Aluminum
All Fasteners	Stainless Steel
All O-Ring Seals & Gaskets	Nitrile Rubber
Thread Inserts	Nickel-Plated Brass
Reinforcing Rings	Stainless Steel

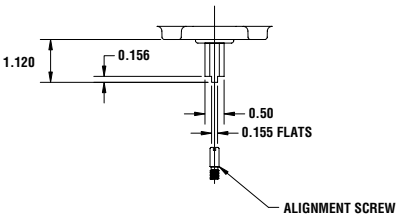
Performance Specs: APEX 6000 w/ 6100 I/P Module

Parameter	Units	Value
Resolution	% Full Scale	0.5
Deadband	% Full Scale	0.5
Repeatability	% Full Scale	0.5
Hysteresis	% Full Scale	0.5
Linearity	% Full Scale	1
Gain - Low Flow	%/%	50
High Flow	%/%	110
Max Flow	%/%	150
Supply Pressure Effect	%/1 PSIG	0.05
Supply Pressure Range	PSIG	30-120
Air Consumption	SCFM	0.3
Ambient Temp. Range	Degrees F	-40 to 180
Temperature Effect	%/1 Deg. F	0.5
Input Signal	mA	4-20
Signal Voltage	VDC	6-30

Dimensions: APEX 6000 w/ 6100 I/P Module



Optional NAMUR Shaft



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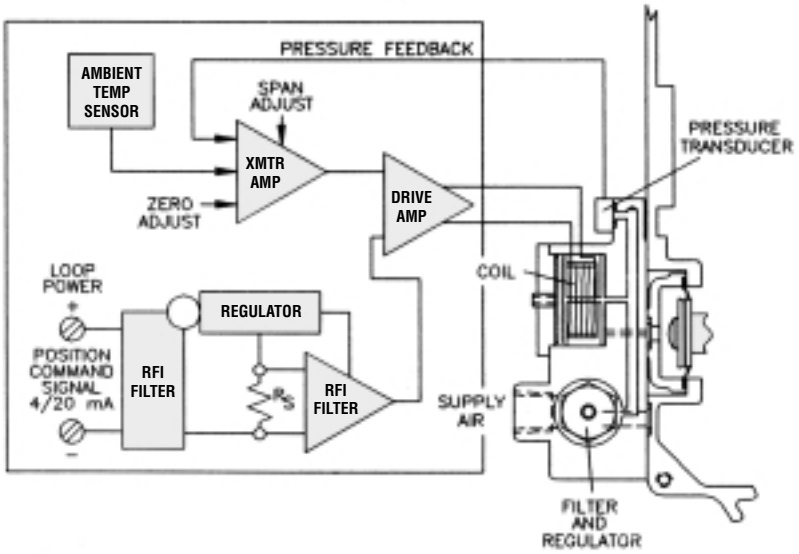
Principles of Operation:



The APEX 6100 I/P module converts 4-20 mA current signals into 3-15 psi pneumatic signals needed by the APEX 6000 positioner. A controller card compares the input signal with an electrical pressure feedback signal and outputs voltage, which is applied to a coil.

The coil voltage varies a magnetic field strength which influences a metallic diaphragm. This diaphragm throttles air flow out of the positioner input chamber (supplied by the internal regulator). As voltage and field strength increase, the diaphragm moves closer to the coil nozzle, reducing air flow and increasing positioner input chamber pressure.

The controller circuit board features temperature compensation and input signal filtration to provide accurate 3-15 psi output signals.

Representative: