MODEL STD 6131 and 6141

EXPLOSION PROOF BRANDT I/P TRANSDUCER

The Brandt Series STD 6000 is a current-to-pneumatic (I/P) transducer for use in explosion proof installations. Using a "Patented Solid State" design, the STD 6000 converts an electronic signal into a proportional pneumatic signal. With its internal feedback network, the STD 6000 responds quickly to step input changes.

FEATURES

- Explosion proof capability.
- Vibration resistant.
- Low air consumption.
- Mount in any position.
- Intrinsically safe capability.
- Balanced supply & exhaust dynamics.

SPECIFICATIONS

Input Signal: 4-20 mA.

Output Pressure: STD 6131- 3-15 psig (.21-1.03 barg).
STD 6141- 1-17 psig (.07-1.17 barg).

Accuracy: ± 0.15% of span.

Repeatability: ± 0.05% of span.

Deadband: ± 0.02% of span.

Vibration Effect: < 0.25% from 1-200 Hz/1g.

Loop Load: 3.8 Vdc +5 ohms (195 ohm load at 20 mA).

Supply Pressure: STD 6131- 20 psig (1.4 Barg).
STD 6141- 35 psig (2.4 Barg).

Electrical Classification for Intrinsically Safe:

USA-Factory Mutual - FM
Enclosure: NEMA 4X, Hazardous Outdoors Locations, weatherproof.
Explosion Protection: Intrinsically safe, when installed with FM approved and properly rated safety barriers (not provided).

Electrical Classification for Intrinsically Safe (cont.):

Approvals: 4-20 mA input ONLClass I, II and III, Div. 1, Applicable Group A, B, C, D, E, F and G. Class I, Div. 2, Groups A, B, C and D, non-incendive. Class II, Div. 2, Groups F and G. Class III, Div. 2.

Canada-Canadian Stds. Assoc.-CSA
Enclosure: Enc 4.
Explosion Protection: Intrinsically safe, when installed with CSA approved and properly rated safety barriers (not provided).
Approvals: Class I, Groups A, B, and D, Temp Code T3. Class II, Groups E, F and G.

Electrical Classifiction for Explosion Proof and Dust Ignititionproof:

USA-Factory Mutual-FM
Enclosure: NEMA 4X, Hazardous Outdoors Locations, weatherproof.
Explosion Proof: Approvals-Class I, Div. 1 and 2, Applicable Groups B, C and D.
Dust Ignitionproof: Approvals-Class II, Div. 1 and 2, Applicable Groups E, F and G.

(continued)

Electrical Classification for Explosion Proof and Dust Ignitionproof (cont.):

Canada-Canadian Stds. Assoc.-CSA

Enclosure: Enc 4.

Explosion Proof: Approvals-ClassI, Groups B, C & D; Class II, Groups E, F and G; Class III, Hazardous Locations Outdoors. Class I, Div. 2, Groups A, B, C & D, Hazardous Locatins Outdoors.

Output Capacity: 4.0 SCFM (7 SM^3/Hr) supply and exhaust characteristics are balanced to within ± 10%.

Connections: Pneumatic-1/4" NPT, Supply and Output.
Electrical-1/2" conduit connection.

Materials: Enclosure cap and body-aluminum.

Air Consumption: 0.04 SCFM (0.07 SM^3/Hr) Steady State Average, 0.06 SCFM (0.10 SM^3/Hr) Maximum.

Operating Temperature: -20°to+150°F (-29°to+66°C).

Temperature Effect: < 1% per 100°F (55°C) change.

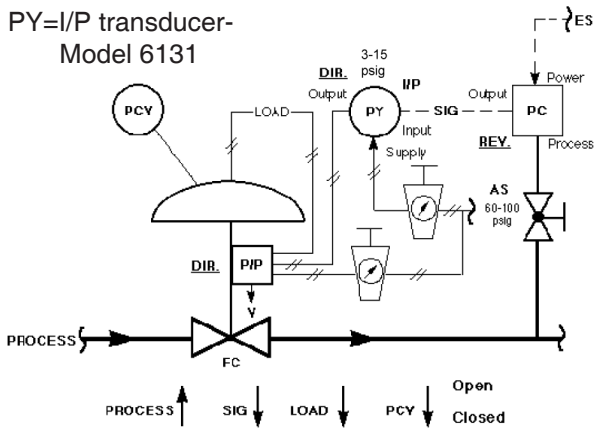
Failure Mode: Transducer always fails to the direct mode, i.e. if input current drops below 3.7 mA dc, the output will drop to 1-2 psig (.07-.14 Barg) for 3-15 psig output, to 0.5-1 psig (.003-.07 Barg) for 1-17 psig output regardless of direct or reverse mode selection.

Painting: Chromate primer, powder coat epoxy final finish.

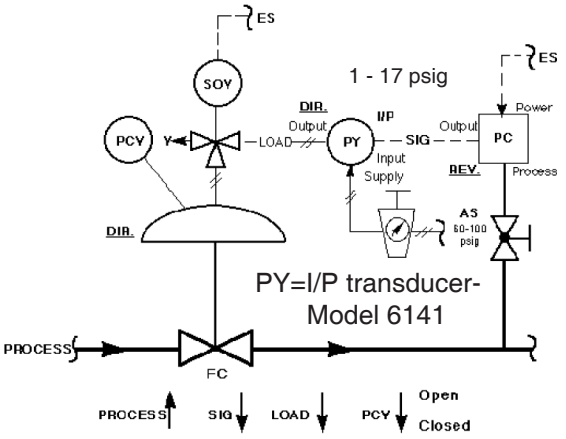
TYPICAL PIPING SCHEMATICS FOR CONTROL VALVE WITH I/P TRANSDUCER

I/P DIRECT TO VALVE POSITIONER

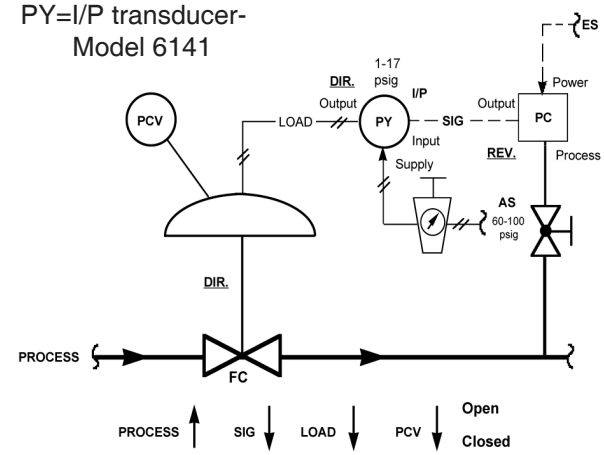
PY=I/P transducer-
Model 6131



I/P DIRECT TO SOLENOID VALVE



PY=I/P transducer-
Model 6141



I/P DIRECT TO ACTUATOR

Rotary valve tight shutoff could be compromised with this arrangement. Because of pressure from the transducer, the control valve's actuator pressure is not able to be fully unloaded. Consider using a valve positioner or a solenoid valve if tight shutoff is required.

Reference IPTDP-TB technical bulletin for maximum pressure drop capability of the control valve installed in conjunction with the I/P transducer.

A portion of the mA "SIG" will be lost as the control valve's bench set range is overcome.

NOTE: Use "99" Product Coder to specify model and mounting.

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