



# MODEL STD 5131 and 5141

## BRANDT I/P TRANSDUCER



The Brandt Series STD 5000 is a current-to-pneumatic (I/P) transducer for use in intrinsically safe installations. Using a "Patented Solid State" design, the STD 5000 converts an electronic signal into a proportional pneumatic signal. With its internal feedback network, the STD 5000 responds quickly to step input changes.

### FEATURES

- 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 5131- 3-15 psig (.21-1.03 barg).  
STD 5141- 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 5131; 20 psig (1.4 Barg).  
STD 5141; 35 psig (2.4 Barg).

**Electrical Classification (continued):**

safe, when installed with FM approved and properly rated safety barriers (not provided).

Approvals: 4-20 mA input ONLY. Class I, II and III, Div. 1, Applicable Groups 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, C and D, Temp Code T3. Class II, Groups E, F and G.

**Electrical Classification:** **USA-Factory Mutual - FM**  
Enclosure: NEMA 4X, Hazardous Outdoors Locations, weatherproof.  
Explosion Protection: Intrinsically

**Output Capacity:** 4.0 SCFM (7 SM<sup>3</sup>/Hr supply and exhaust characteristics are balanced to within ± 10%.

**Air Consumption:** 0.04 SCFM (0.07 SM<sup>3</sup>/Hr) Steady State Average, 0.06 SCFM (0.10 SM<sup>3</sup>/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 out-

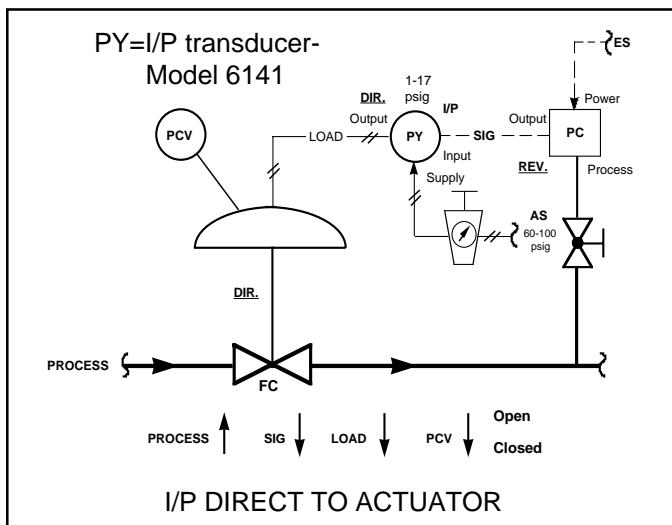
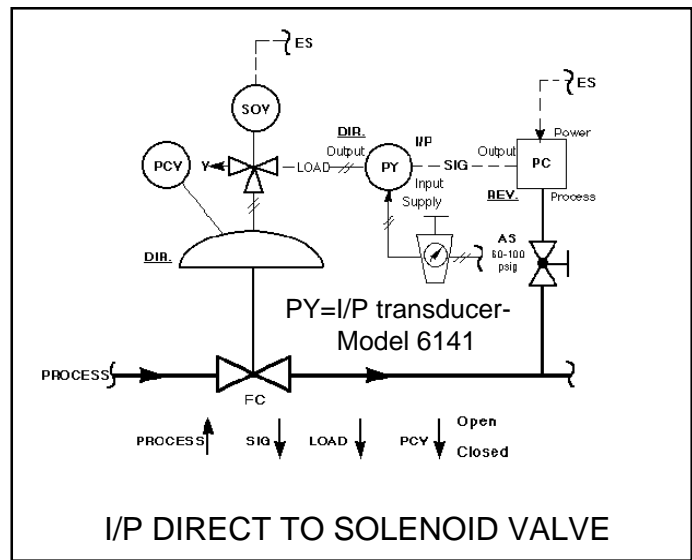
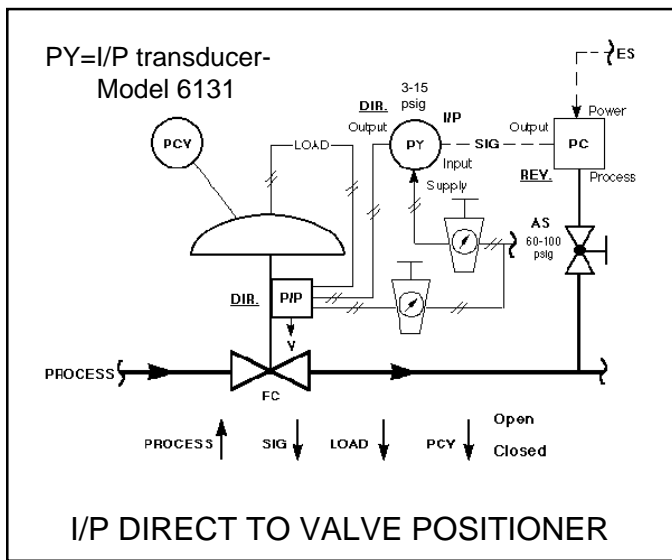
**Failure Mode (continued):** put will drop to 1-2 psig (.07-.14 Barg) for 3-15 psig output, to 0.5-1 psig (.003-.07 Barg) for 1-17 psig output regardless of direct or reverse mode selection.

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

**Materials:** Enclosure cap and body- aluminum.

**Painting:** Chromate primer, powder coat epoxy final finish.

### TYPICAL PIPING SCHEMATICS FOR CONTROL VALVE WITH I/P TRANSDUCER



**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.