

Air and Gas Pressure Transducers



I-851D

DESCRIPTION

Low range gage and differential pressure transducers.

APPLICATION

Measure gage or differential pressure of air or inert non-conductive gases in VAV, fan-coil, duct systems, and other air conditioning equipment, and transmit to any compatible electronic analog controller, DDC/PLC control or automation system.



certified
ISO 9001

FEATURES

- Eight (8) selectable pressure ranges
- Three (3) selectable output signals
- Signal conditioned
- Temperature compensated
- Long life sensor
- Compact size
- Low power consumption
- Calibrated, traceable to NIST
- High overpressure
- Pluggable terminal block

SPECIFICATIONS

Electrical

Power supply 24 VDC (18 to 24 VDC),
24 VAC, $\pm 15\%$, 50 to 60 Hz

Power consumption
- VDC signal 10 mA, max.
- mA signal 30 mA, min.

Sensor Performance

Media sensed Air, gases and liquids, limited only to media that will not attack PPS, PEI, Silicon, Silicon RTV, or Fluorosilicone

Sensor element Piezoresistive, with silicon diaphragm

Compensation Built-in temperature and signal conditioning

- range 50°F to 122°F (10°C to 50°C)
Accuracy $\pm 1\%$ F.S.O.

incl. non-linearity, hysteresis, and non-repeatability at a fixed temperature
Stability $\pm 1\%$ F.S.O./yr.

Thermal effects
- zero $\pm 0.042\%$ F.S.O./°F
- span $\pm 0.003\%$ F.S.O./°F

Adjustment
- zero offset Screw adjustable
Pressure ranges Eight (8) various selectable "WC ranges, incl. split ranges per transducer, refer to ordering information

Overpressure 20 PSI or two times full scale pressure, whichever is greater

Type of Control

General Continuous proportional analog sensor signal output

Analog output

Selectable: 4-20 mA, 3-wire, 1-5 VDC, or 1-10 VDC

Load requirement
- current output

Max loop resistance 500 Ω
@ 24 VDC power
(= wire resistance plus controller input resistance)
Min load 2K Ω

- voltage output

Environmental

Permissible ambient
- humidity 0 to 90% RH, non-condensing
- working temperature 32°F to 149°F (0°C to 65°C)
- storage temperature -13°F to 158°F (-25°C to 70°C)

Physical

Enclosure
- material High impact ABS, UL94-HB Black
- color
- protection NEMA 1
- installation Surface mounted or DIN rail mounted

Dimensions

3.4 x 2.7 x 1.4 in. (87 x 68 x 35 mm), with mounting flanges
Pluggable screw terminal block
Barbed fittings for 1/8" I.D. tubing
Positive or high pressure
Negative or low pressure
0.20 lb. (0.09 kg)
Two years material and workmanship

Wire connections
Pressure connection

- P1. high port
- P2. low port

Weight

Warranty

OPTIONS

N4
D

NEMA 4 enclosure
Enclosure w/DIN rail mounting

ORDERING INFORMATION

I-851D - 040

Pressure Group	Rotary Switch Selectable Ranges
0	• 0-0.5" WC • 0-1" WC • 0-2" WC • 0-4" WC • -0.25 to +0.25" WC • -0.5 to + 0.5" WC • -1 to +1" WC • -2 to + 2" WC
1	• 0-1.5" WC • 0-3" WC • 0-6" WC • 0-12" WC • -0.75 to 0.75" WC • -1.5 to 1.5" WC • -3 to 3" WC • -6 to +6" WC
Signal Ranges Built-in, Switch Selectable • 4-20 mA • 1-5 VDC • 1-10 VDC	

Sample order number I-851D-040
 Differential or gage** pressure transducer, eight (8) selectable pressure ranges (see table, Pressure Group 0), for 18-24 VDC or 24 VAC power supply, and output signal selectable at the transducer between 4-20 mA, 1-5 VDC, and 1-10 VDC

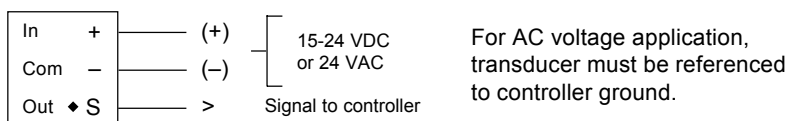
** With gage application, the low pressure port is vented to atmosphere.

With NEMA 4 enclosure add "N4" to the ordering part number.

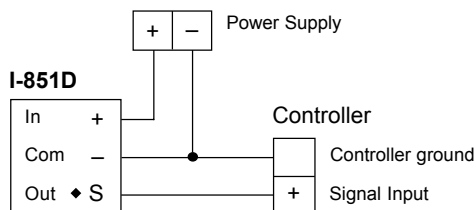
WIRING CONFIGURATION

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3-Wire to 2-Wire Connection



◆ Be Alert: Do not apply voltage to S terminal as permanent damage will occur.