

# Air and Gas Pressure Transducers, mA or VDC

Specifications subject to change without notice. | USA 200204 | Page 1 of 2



860D

## 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.

## FEATURES

- *Signal conditioned*
- *Temperature compensated*
- *Long life sensor*
- *Compact size*
- *Low power consumption*
- *Calibrated, traceable to NIST*
- *High overpressure*
- *Pluggable terminal block*



certified  
ISO 9001

## 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  $\pm 0.5\%$  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, up to 60% of F.S.O.

Pressure ranges 0-0.5" WC to 0-40 PSI (split ranges available), 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

- current version 4-20 mA
- voltage versions 1-5 VDC, 1-6 VDC, or 1-10 VDC

### Load requirement

- current output Max loop resistance 250 or 500  $\Omega$  (review ordering selection) @ 24 VDC power (= wire resistance plus controller input resistance)
- voltage output Min load 2K  $\Omega$

### Environmental

#### Permissible ambient

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

### Physical

#### Enclosure

- material High impact ABS, UL94-HB
- color Black
- 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

NEMA 4 enclosure

D

Enclosure w/DIN rail mounting

## ORDERING INFORMATION

### 860D - 3 0 - 03"

Signal Range		Pressure Group		Pressure Range	
0	1-5 VDC	0	0.5 to 5.0" WC	0.5"S	-0.25 to 0.25" WC
1	1-6 VDC	1	5.1 to 13.0" WC	00.5"	0-0.5" WC
2	1-10 VDC	2	> 0.5 to 1.0 PSI	1"S	-0.5 to +0.5" WC
3	4-20 mA (250 $\Omega$ load)	3	> 1.0 to 5.0 PSI	1.5"S	-0.75 to +0.75" WC
4	4-20 mA (500 $\Omega$ load) ♦	4	> 5.0 to 15.0 PSI	2"S	-1.0 to +1.0" WC
		5	> 15.0 to 30.0 PSI	2.5"S	-1.25 to +1.25" WC
		6	> 30.0 to 40.0 PSI	01"	0-1" WC
				04"	to 0-4" WC
				05"	0-5" WC
				012"	to 0-12" WC
				00.5P	0-0.5 PSI
				00.9P	to 0-0.9 PSI
				01P	0-1 PSI
				04P	to 0-4 PSI
				05P	0-5 PSI
				014P	to 0-14 PSI
				015P	0-15 PSI
				029P	to 0-29 PSI
				030P	0-30 PSI
				040P	to 0-40 PSI

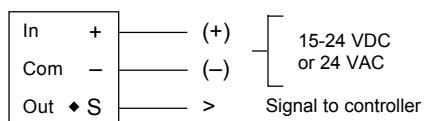
**Sample order number** 860D-30-03"  
 Differential or gage\*\* pressure transducer,  
 0-3" WC pressure range, for 15-24 VDC or 24 VAC  
 power supply, 4-20 mA (250  $\Omega$  load) output signal  
 \*\* With gage application, the low  
 pressure port is vented to atmosphere.  
 ♦ For 500  $\Omega$  load version, a power supply of  
 24 VAC/VDC is required.

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

## WIRING CONFIGURATION

### 860D...

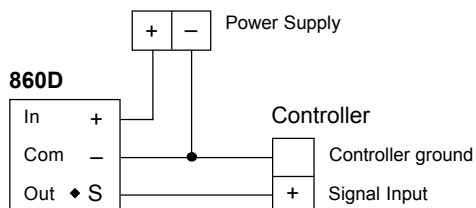
#### 860D



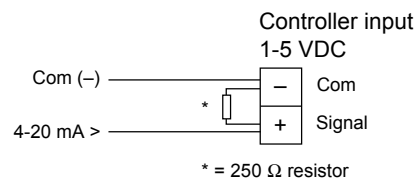
For AC voltage application,  
 transducer must be referenced  
 to controller ground.

Custom split ranges are  
 available on request.

#### 3-Wire to 2-Wire Connection



Add 250  $\Omega$  resistor at controller  
 input to convert transducer signal  
 4-20 mA to 1-5 VDC.



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