

## 865 Series – Very Low Differential Pressure Transducers

- ▶ For Air or Non-Conductive Gas
- ▶ 0.25 to 100 Inches in W.C.(differential)/  
±0.1 to ±50 Inches in W.C. (bidirectional)
- ▶ High Proof Pressure

The 865 Series are very low-pressure transducers for ranges as low 0.25" W.C. and feature ±1% full scale static accuracy. Primarily used in Building Energy Management, these transducers are capable of measuring pressures and flows with the accuracy necessary for proper building pressurization and air flow control. 865 Series transducers utilize an all-stainless steel micro-tig welded sensor that allows up to 10 psi overpressure (in either direction) with no damage to the unit. All sensor components have thermally matched coefficients, which promote improved temperature performance and excellent long-term stability.

### Common Specifications

<b>Input</b>	
<b>Pressure Range</b>	0.25" to 100" WC
<b>Proof Pressure</b>	10 psi
<b>Fatigue Life</b>	10 psi, max.
<b>Performance</b>	
<b>Supply Voltage (Vs)</b>	9-30 VDC
<b>Accuracy</b>	±1.0% FS (Standard); .4% & .25% versions available
<b>Thermal Error Zero</b>	±0.033% FS/°F (±0.06% FS/°C)
<b>Thermal Error Span</b>	±0.033% FS/°F (±0.06% FS/°C)
<b>Compensated Temperatures</b>	0°F to +150°F (-18°C to +65°C)
<b>Operating Temperatures</b>	0°F to +150°F (-18°C to +65°C)
<b>Storage Temperatures</b>	-40°F to +185°F (-40°C to +85°C)
<b>Zero Tolerance</b>	1% (.5% for high accuracy option)
<b>Span Tolerance</b>	1% (.5% for high accuracy option)
<b>Mechanical Configuration</b>	
<b>Pressure Port</b>	1/4" Fitting
<b>Wetted Parts</b>	Stainless Steel and Glass-Filled Polyester
<b>Electrical Connection</b>	Screw Terminal Strip
<b>Enclosure</b>	Fire Retardant Glass-Filled Polyester; Option A1 Conduit Enclosure Available
<b>Approvals</b>	CE
<b>Weight</b>	3 oz

### Individual Specifications

<b>Voltage Output Units</b>	
<b>Output</b>	0-5 VDC (see ordering chart)
<b>Min. Load Resistance</b>	5000 kohms
<b>Current Output Units</b>	
<b>Output</b>	4-20 mA (2 wire)
<b>Max. Loop Resistance</b>	(Vs-9) x 50 ohms



### Applications

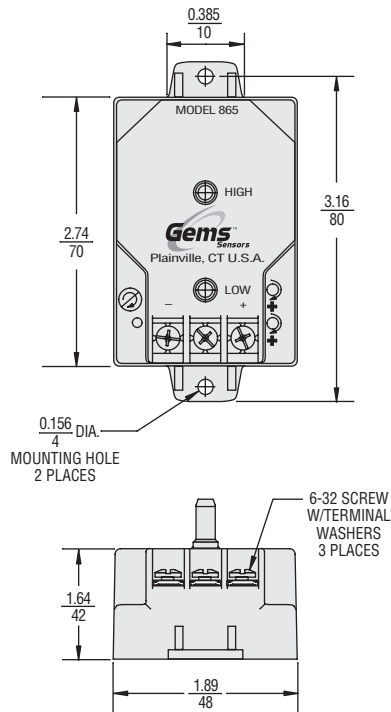
- HVAC
- Energy Management Systems
- Variable Air Volume and Fan Control (VAV)
- Environmental Pollution Control
- Static Duct and Clean Room Pressures
- Oven Pressurization and Furnace Draft Controls

### How They Operate

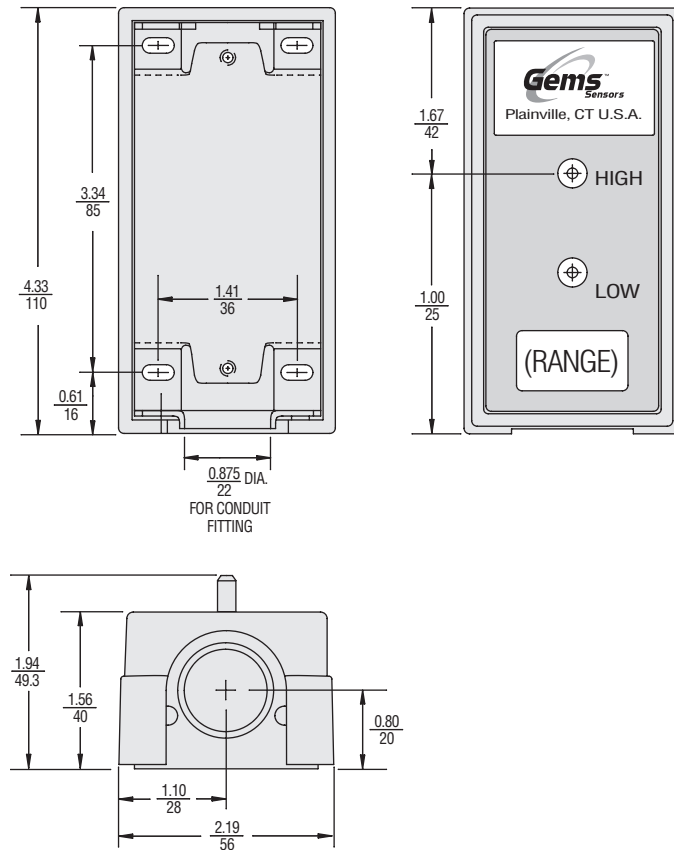
A tensioned stainless steel diaphragm and insulated stainless steel electrode, positioned close to the diaphragm, form a variable capacitor. Positive pressure moves the diaphragm toward the electrode, increasing the capacitance. A decrease in pressure moves the diaphragm away from the electrode, decreasing the capacitance. The change in capacitance is detected and converted to a linear DC electrical signal by Gems' unique electronic circuitry.

## Dimensions

### Standard 865 Series



### Optional Conduit Enclosure – Code A1



## How to Order

Use the **bold** characters from the chart below to construct a product code.

### SELECT

Series  
**8651** - 865 Series

Pressure Range Code

<u>Unidirectional</u>		<u>Bidirectional</u>	
Code	Range (Inches W.C.)	Code	Range (Inches W.C.)
<b>R25WD</b>	0 to 0.25	<b>OR1WB</b>	±0.1
<b>OR5WD</b>	0 to 0.5	<b>R25WB</b>	±0.25
<b>001WD</b>	0 to 1.0	<b>OR5WB</b>	±0.5
<b>2R5WD</b>	0 to 2.5	<b>001WB</b>	±1.0
<b>005WD</b>	0 to 5.0	<b>2R5WB</b>	±2.5
<b>010WD</b>	0 to 10.0	<b>005WB</b>	±5.0
<b>025WD</b>	0 to 25.0	<b>010WB</b>	±10.0
<b>050WD</b>	0 to 50.0	<b>025WB</b>	±25.0
<b>100WD</b>	0 to 100.0	<b>050WB</b>	±50.0

Output  
**11** - 4-20 mA (9-30 VDC excitation)  
**2B** - 0-5 VDC (9-30 VDC excitation)

**8651 - OR5WD - 2B - T1 - C**

Accuracy

**C** - ±1% FS (Standard)

Options:

**E** - ±0.4% FS – Calibration Certificate supplied

**F** - ±0.25% FS – Calibration Certificate supplied

**G** - ±1% FS – Calibration Certificate supplied

Electrical Connection

**T1** - Terminal Strip

**A1** - Supplied with Optional 7/8" Knock-Out Hole for 1/2" Conduit Enclosure