

# 876 Series – Barometric Pressure Transducers

- ▶ Instant Warm-Up
- ▶ Barometric Pressure: 600 to 1100 or 800 to 1100 hPa/mb
- ▶ Low Power Consumption (for Battery or Solar Power)

The 876 Series features an extremely accurate and stable ceramic sensor to deliver a great value in environmental pressure measurement. Gems' glass-fused ceramic capacitive sensing capsule offers inherent thermal stability and low hysteresis in a proven, simple design. A custom ASIC used in the 876 Series achieves long-term stability and high accuracy, and its low power requirements (as low as 5 VDC) allow the sensor to operate in remote battery or solar powered applications. An integrated mounting bracket and 1/8" tube pressure connection ease installation.

## Common Specifications

<b>Input</b>	
<b>Pressure Range</b>	See ordering chart
<b>Proof Pressure</b>	20 psia (30 psia for 20 psia range)
<b>Fatigue Life</b>	>1 million cycles
<b>Performance</b>	
<b>Long Term Drift</b>	0.25% FS/6 months
<b>Accuracy</b>	±0.25% FS
<b>Thermal Error Zero</b>	1% FS
<b>Thermal Error Span</b>	1% FS
<b>Compensated Temperatures</b>	30°F to +130°F (0°C to +55°C)
<b>Operating Temperatures</b>	0°F to +175°F (-18°C to +79°C)
<b>Storage Temperatures</b>	-65°F to +250°F (-55°C to +121°C)
<b>Zero Tolerance</b>	±25 mV
<b>Span Tolerance</b>	±50 mV
<b>Mechanical Configuration</b>	
<b>Pressure Port</b>	1/8" Tube Fitting
<b>Wetted Parts</b>	Stainless Steel, Alumina Ceramics, Gold, Elastomer
<b>Electrical Connection</b>	2 ft. Multiconductor Cable
<b>Enclosure</b>	Stainless Steel with Mounting Bracket
<b>Vibration</b>	2g from 5 Hz to 400 Hz
<b>Acceleration</b>	10g
<b>Shock</b>	50g (operating, 1/2 sine 10mg)
<b>Approvals</b>	CE
<b>Weight</b>	3.5 oz.

## Individual Specifications

Supply Voltage (Vs)	Excitation	Output (3-wire)
9.0-14.5 VDC	12 VDC	0.1-5.1 VDC
21.6-26.0 VDC	24 VDC	0.1-5.1 VDC
4.9-7.1 VDC	5 VDC	0.5-4.5 VDC



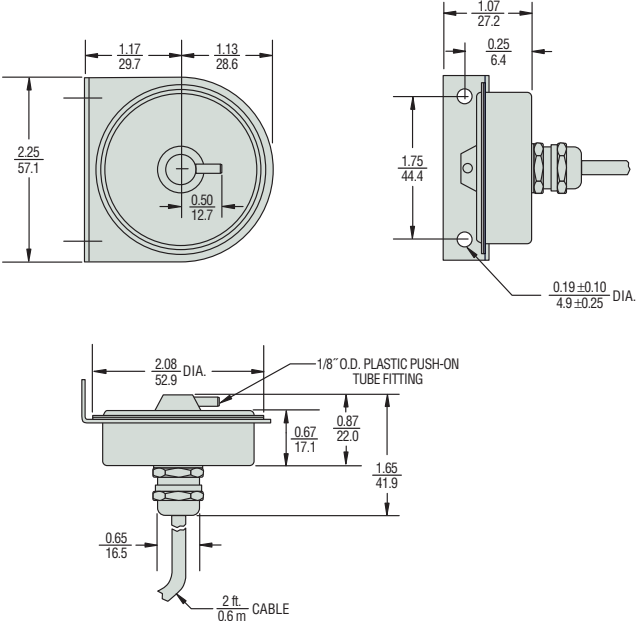
## Applications

- Environmental Monitoring Systems
- Weather Measurement Systems
- Weather and Environmental Data Logging
- Barometric Pressure Compensation for Internal Combustion Engine Performance
- Cleanroom Barometric Pressure Compensation
- Automotive Emissions Test Equipment

## How They Operate

A glass-fused ceramic sensing capsule detects changes in barometric pressure. As pressure increases or decreases, the capacitance changes. This change in capacitance is detected and converted to a linear analog signal by Gems' custom ASIC-based circuit, producing an output signal proportional to applied pressure.

**Dimensions**



**How to Order**

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

**SELECT** **876** - **6-11mb** - **12 V** - \* - \* - \* - \*

- 1. Series \_\_\_\_\_ **876** - 876 Series
- 2. Pressure Range Code \_\_\_\_\_ **6-11mb** - 600 to 1100 mb  
 Barometric:  
**8-11mb** - 800 to 1100 mb  
**0-20P** - 0 to 20 psia
- 3. Excitation/Output \_\_\_\_\_ **12 V** -  

Code	Excitation	Output
12 V	12 VDC	0.1-5.1 VDC
24 V	24 VDC	0.1-5.1 VDC
5 V	5 VDC	0.5-4.5 VDC
- 4. Options (\*Add as suffix to base part code as needed) \_\_\_\_\_ **\* - \* - \* - \***  
**715** - 0.1% FS accuracy.  
**839** - 1/8" NPT pressure port.  
 Cable Length:  
**803-810** - For cable length of 3 to 10 feet (2 ft. is standard).  
 Please specify cable length by code (e.g., 810 for 10 ft. cable).  
 Consult factory for cable longer than 10 ft.  
 Calibration Certification:  
**901** - 11-point calibration certificate.