

# Model 278

## Barometric Pressure Transducer

Setra's Model 278 is the ideal solution for measuring barometric pressure for remote environmental applications. The 278 is designed using the SETRACERAM™ ceramic sensor, enabling it to meet stringent accuracy requirements over wide operating temperatures in remote applications. The small footprint and removable terminal block on the 278 makes installation fast and easy. The 278 is ideal for solar powered applications because of its low power consumption and sleep mode feature. Under normal operation, this feature minimizes current draw when readings are not being taken.

### Designed For Remote Sensing Applications

The Model 278 pressure transducer is designed to be used in remote applications that require low power consumption. Its sleep mode feature allows for instant startup and fast readings.

### Improved Performance With Ceramic Sensor

The 278 utilizes a variable capacitance sensor that is made using ceramic material fused together with glass and gold to form the SETRACERAM™ pressure element. This stable material and design offers class leading thermal performance and low hysteresis, allowing it to be integrated into demanding installations. The ceramic sensor enables improved performance compared to other stainless steel sensors, enabling the 278 to give accurate measurements and better test results.

### Flexibility in Installation

The Model 278 is designed with a compact footprint for quick installation. The removable terminal block provides easy wiring. Its mounting holes are designed to fit industry standard grid systems to maximize the use of panel space while minimizing your time at the job site.



- Ideal For Automated Weather Stations
- Low Power Consumption
- Relied On For Severe Weather Detection

### Model 278 Features:

- Long-Term Stability: 0.1 hPa/mB Per Year
- Sleep Mode for Instant Startup
- Removable Terminal Strip Module for Easy Wiring
- Footprint Configured for Easy Drop-In Replacement
- Calibration NIST Traceable
- Wide Operating Voltage 9.5 to 28 VDC
- Meets CE Conformance Standards

### Applications:

- Automated Weather Stations (AWS)
- Data Buoys and Ships
- Agriculture Metrology System
- AWOS/ASOS Systems
- High Accuracy Barometric Pressure Measurement

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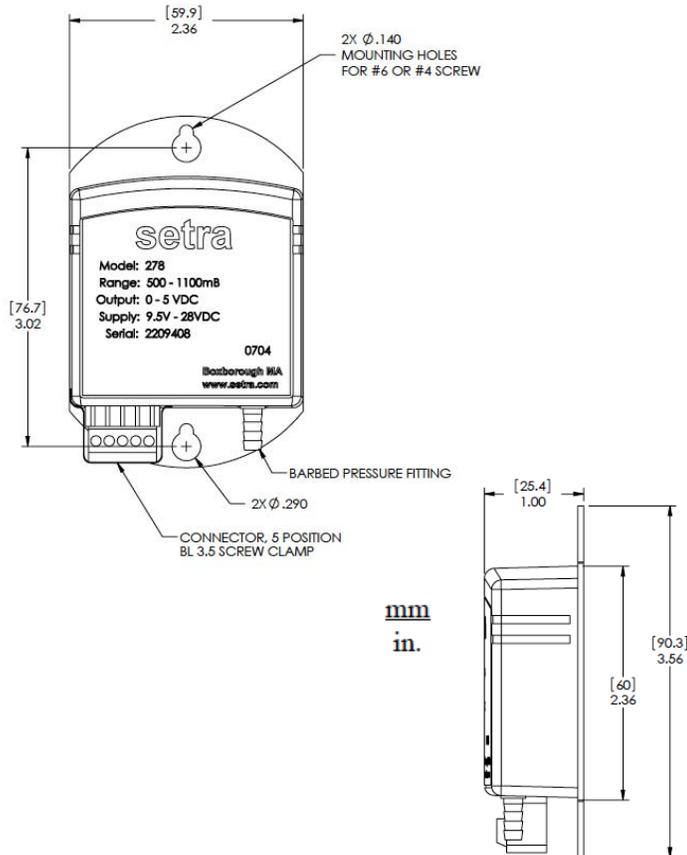
### ORDERING INFORMATION

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Model	Pressure Range	Pressure Type	Pressure Conn.	Output/Exc.	Electrical Conn.
2781=278	500M 500 to 1100 hPa/mb	A Absolute	1B 1/8" Push Tube Fitting	2Y 0 to 2.5VDC/9.5 to 28 VDC	T1 5-Pin Terminal Block
	600M 600 to 1100 hPa/mb			2B 0 to 5 VDC/9.5 to 28 VDC	
	800M 800 to 1100 hPa/mb				

Example: Part No. 2781600MA1B2BT1 for a 278 Pressure Transducer 600 to 1100 hPa, mb, Absolute Pressure, 1/8" Barbed Fitting, 0 to 5 VDC Output, 5-Pin Terminal Block.

### DIMENSIONS



### GENERAL SPECIFICATIONS

Performance Data			Environmental Data		
Pressure Range hPa/mb	500	600	800	Temperature	
Temperature at:	Accuracy (hPa/mb) <sup>1</sup>			Operating <sup>4</sup> °C(°F)	
20°C (+68°F)	±0.6	±0.5	±0.3	Storage °C(°F)	
0 to 40°C (+23° to +104°F)	±1.2	±1.0	±0.6	-40 to +60 (-40 to +140)	
20 to 50°C (-4° to +122°F)	±2.0	±1.5	±1	-60 to +120 (-76 to +248)	
-40 to 60°C (-40° to +140°F)	±2.5	±2.0	±1.5	<b>Physical Description</b>	
Non-Linearity	±0.5	±0.4	±0.25	Case	Stainless Steel and Polyester
Hysteresis	±0.06	±0.05	±0.03	Pressure Fitting	1/8" (ID dia.) Barbed Fitting
Non-Repeatability	±0.04	±0.03	±0.02	Electrical Connection	5-Pin Terminal Block
Resolution	0.01 mB			Dimensions	3.6" x 2.4" x 1.0"
Long Term Stability	0.1 mB/yr			Weight	4.8 oz (135g)
Warm-Up Downshift	<1 Sec. from Shut-Mode (Warm-Up <0.1 mb Max.)			<b>Electrical Data</b>	
Response Time	<100 mSec			Circuit	3 or 4-Wire
Proof Pressure	1500 hPa			Output <sup>2</sup>	0.2.5 VDC 0.5 VDC
Burst Pressure	2000 hPa			Excitation <sup>3</sup>	9.5 to 28 VDC
<b>Pressure Media</b>	Non Condensing Air or Gas.			Output Impedance	<10 Ohms
<b>Approvals</b>	CE, RoHS			Output Noise	<50 Microvolts
				Current Consumption	3mA Nominal (Operating Mode) 1uA (Sleep Mode)

<sup>1</sup> The root sum squared (RSS) of end point non-linearity, hysteresis, non-repeatability, and calibration uncertainty.  
<sup>2</sup> Internal regulation minimizes effect of excitation variation, with <0.02 mb output change of 9.5 VDC to 28 VDC range.  
<sup>3</sup> Zero output saturates at about 20 mV.