Model 278

Barometric Pressure Transducer

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
- Ideal for automated weather stations
- Low power consumption
- Relied on for severe weather detection

Applications

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

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.

1 YEAR WARRANTY

USA Made

RoHS

CE

©Setra Systems Inc. All rights reserved.
The Setra Systems name and logo are registered trademarks of Setra Systems Inc.

Specifications

Performance data

Pressure range hPa/mb	500 to 1100	600 to 1100	800 to 1100
Temperature at:	Accuracy (hpa/mb)[1]		
20°C (+68°F)	±0.6	±0.5	±0.3
0 to 40°C (+23° to +104°F)	±1.2	±1.0	±0.6
20 to 50°C (-4° to +122°F)	±2.0	±1.5	±1
-40 to 60°C (-40° to +140°F)	±2.5	±2.0	±1.5
Non-linearity	±0.5	±0.4	±0.25
Hysteresis	±0.06	±0.05	±0.03
Non-repeatability	±0.04	±0.03	±0.02
Resolution			0.01 mB
Long term stability			0.1 mB/yr
Warm-up downshift			<1 Sec. from shut-mode (warm-up <0.1 mb Max.)
Response time			<100 mSec
Proof pressure			1500 hPa
Burst pressure			2000 hPa

Pressure media

Non condensing air or gas.

Approvals

CE, RoHS

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

Physical description

Case	Stainless steel and polyester
Pressure Fitting	1/8" (ID dia.) bardbed fitting
Electrical Connection	5-Pin terminal block
Dimensions	3.6" x 2.4" x 1.0"
Weight	4.8 ox (135g)

Electrical data

Circuit	3 or 4-Wire
Output [2]	0–2.5 VDC 0–5 VDC
Excitation[3]	9.5 to 28 VDC
Output impedance	<10 ohms
Output noise	<50 Microvolts
Current consumption	3mA Nominal (operating mode) 1uA (sleep mode)

Environmental data

Operating temperature[4] °F(°C)	-40 to +140 (-40 to +60)
Storage temperature °F(°C)	-76 to +248 (-60 to +120)

© Setra Systems, Inc. All rights reserved. The Setra Systems name and logo are registered trademarks of Setra Systems, Inc. | www.setra.com | 800.257.3872

Ordering information

Example part number: 2781600MA1B2BT1

Model 278, Pressure Transducer 600 to 1100 hPa/ma, Absolute Pressure, 1/8" Barbed Fitting,0 to 5 VDC Output, 5–Pin Terminal Block.

2	7	8	1	☐	☐	☐	☐	A	1	B	☐	☐	T	1
[1]				[2]				[3]	[4]		[5]		[6]	

[1]

Model	
2781	Model 278

[2]

Pressure range	
500M	500 to 1100 hPa/mb
600M	600 to 1100 hPa/mb
800M	800 to 1100 hPa/mb

[3]

Pressure type	
A	Absolute

[4]

Pressure conn.	
1B	1/8" push tube fitting

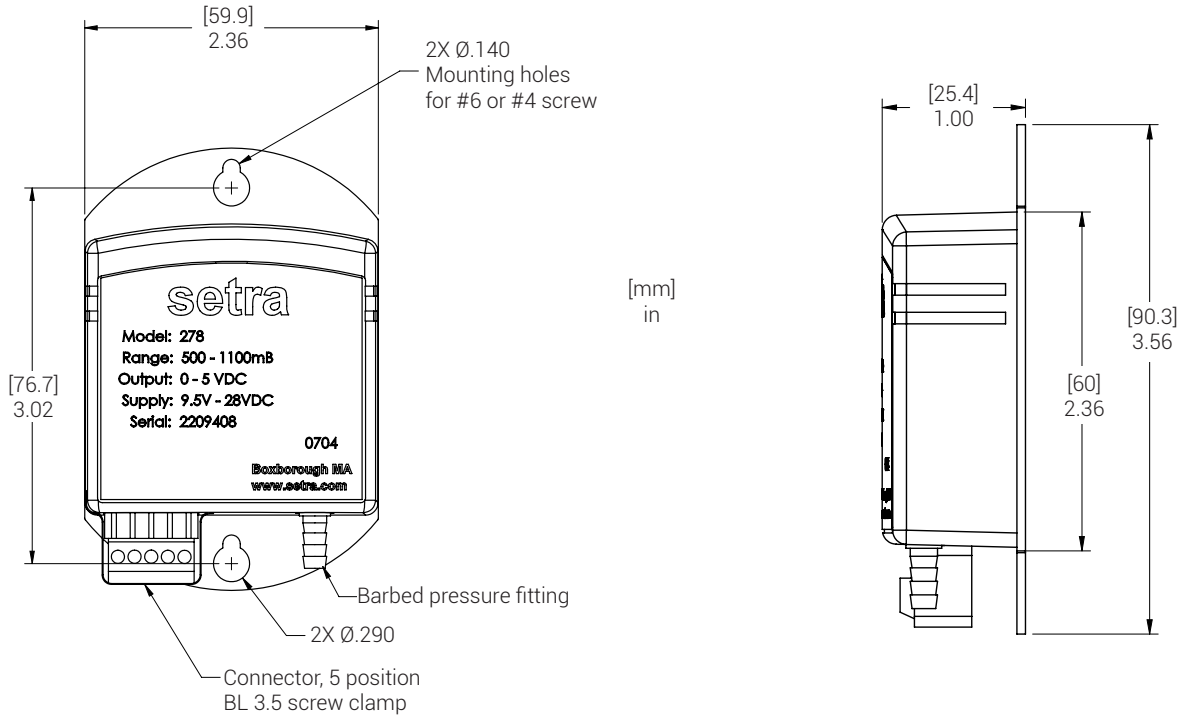
[5]

Output/Exc.	
2Y	0 to 2.5 VDC/9.5 to 28 VDC
2B	0 to 5 VDC/9.5 to 28 VDC

[6]

Electrical conn.	
T1	5-pin terminal block

Dimensions



SSP-278 Rev. D 6/2019

© Setra Systems, Inc. All rights reserved. The Setra Systems name and logo are registered trademarks of Setra Systems, Inc. | www.setra.com | 800.257.3872

Setra Systems, Inc.
159 Swanson Road
Boxborough, MA 01719

800.257.3872
www.setra.com

© Setra Systems, Inc. All rights reserved.

The Setra Systems name and logo are trademarks of Setra Systems, Inc.