

## Air Differential Pressure Sensors

### Description

The Siemens QBM Series Air Differential Pressure Sensors use a well-proven ceramic technology. They deliver temperature-compensated sensor signals for registering airflow in HVAC systems and for measuring differential pressures in environmental, laboratory, and cleanroom applications.

### Features

- Supply voltage 8 to 33 Vdc
- Loop powered 4 to 20 mA output signal
- 3/16-inch process connections for standard push-on tubing
- 1/2-inch conduit connection
- Compact construction
- Integral mounting bracket and snap-on cover with a single screw for fast and easy installation
- Resettable zero point for different mounting positions.

### Applications

Individually ranged sensors ensure optimum accuracy and long-term stability of measurement. The variety of options means great flexibility not only in climate control, but also in industrial and medical fine-pressure measurement.

### Compatibility

The QBM Series Differential Pressure Sensors are compatible with most devices or systems capable of powering and processing a DC 4 to 20 mA output signal.



### Technology

The monitored pressure acts on a ceramic sensor element. The ceramic element has the following significant advantages

- Very low susceptibility to temperature
- Resistance to high temperature
- No mechanical aging or creepage

The sensor signal is linearized, temperature-compensated and amplified by the sensor electronics.

### Available Ranges

- -0.25 to 0.25 inches
- 0 to 1 inch
- 0 to 2.5 inches
- 0 to 5 inches
- 0 to 10 inches

## Specifications

Electrical Data	Input power	8 to 33 Vdc			
	Output signal	4 to 20 mA Short-circuit and polarity reversal protected			
Performance Characteristics	Long-term stability (Per DIN EN 60770)	1 % Full Scale			
	Response time	10 ms			
	Load cycle	≤ 10 Hz			
	Resolution % Full Scale	0.25"	1"	2.5"	5" – 10"
		0.2	0.1	0.1	0.1
	Sum of linearity, hysteresis and repeatability +/- % Full Scale	3.0%	1.0%	1.0%	0.6%
	TC zero point typical +/- % FS/10K	0.2%	0.25	0.1%	0.1%
	TC zero point max. +/- % FS/10K	1.0%	0.5%	0.4%	0.4%
	TC sensitivity typical +/- % FS/10K	0.3%	0.2%	0.1%	0.1%
	0.6%	0.5%	0.5%	0.2%	
Environmental Conditions	Suitable process media	Air and neutral gases			
	Process/ambient temperature	32°F to 160°F (0°C to 71°C)			
	Ambient storage temperature	14°F to 158°F (-10°C to 70°C)			
	Ambient humidity	Non-condensing			
Installation Considerations	Enclosure	IP54 (≈NEMA 4)			
	Electrical connections	1/2" FNPT conduit 3/16" FNPT			
	Process connections	Vertical or horizontal (condensation must drain away from sensor)			
	Mounting orientation				
Materials of Construction	Enclosure	Polycarbonate			
	Diaphragm	Silicone			
	Measuring element	Ceramic			
Directives and Standards	Electromagnetic compatibility for electric measuring, control and laboratory devices	EN 61326-2-3: 2006			
	Electromagnetic immunity	EN 61 000-6-2, EN 61326-1			
	Electromagnetic emissions	EN 61 000-6-3, EN 61326-1			
	<b>CE</b> conformity to EMC directive	2004/108/EC			
Environmental compatibility	Environmental product declaration CE1E1922en provides information on environmentally compatible product design and assessment (RoHS compliance, composition of substances, packaging, environmental benefit, and disposal).	ISO 14001 (environment) ISO 9001 (quality) SN 36350 (environ. compatible products) 20M/65/EC (RoHS)			

## Ordering Information

Part Number	Description
QBM3100U025U	Air Differential Pressure Sensor, - 0.25" to 0.25" WC pressure range.
QBM3100U1	Air Differential Pressure Sensor, 1" WC pressure range.
QBM3100U2.5	Air Differential Pressure Sensor, 2.5" WC pressure range.
QBM3100U5	Air Differential Pressure Sensor, 5" WC pressure range.
QBM3100U10	Air Differential Pressure Sensor, 10" WC pressure range.

## Wiring

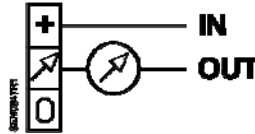


Figure 1. Wiring Schematic.

## Dimensions

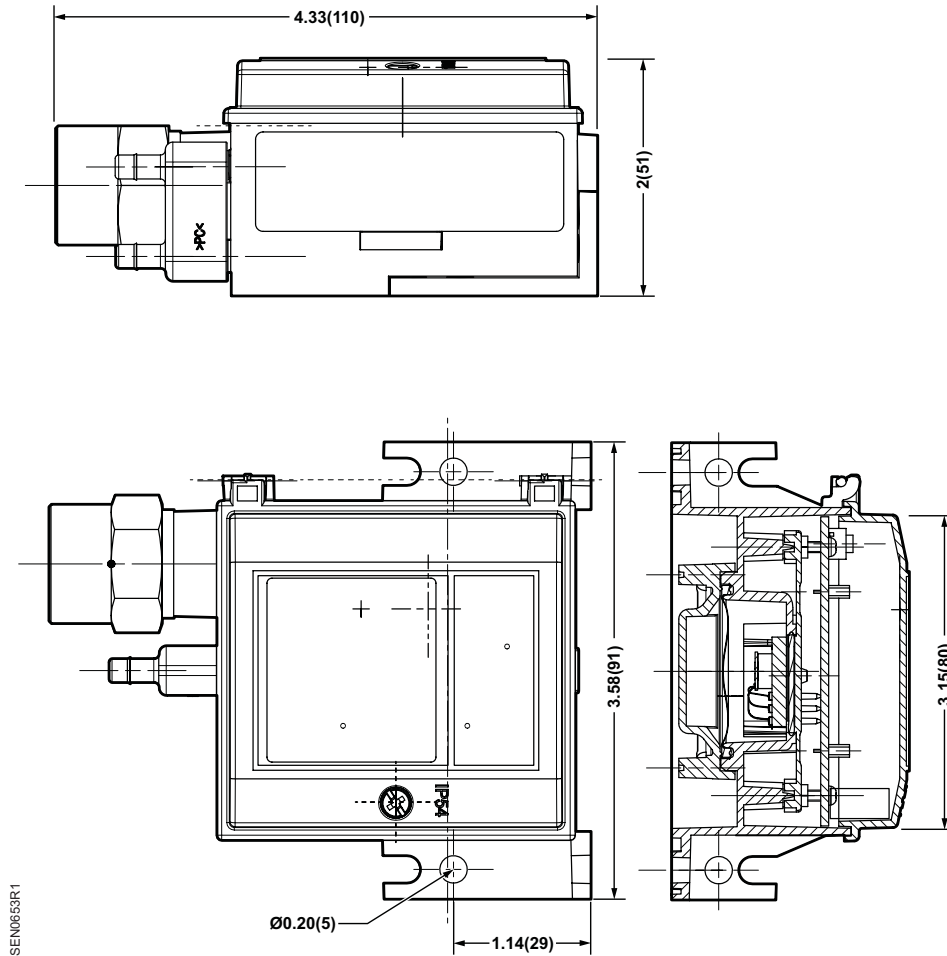


Figure 2. Dimensions in Inches (Millimeters).

Information in this document is based on specifications believed correct at the time of publication. The right is reserved to make changes as design improvements are introduced. Products or company names mentioned herein may be the trademarks of their respective owners. © 2012 Siemens Industry, Inc.