SIEMENS

OEM

Pressure Sensor

QBE9001-P..
QBE9103-P..

for liquids, gases and refrigerants

- **Compact construction**
- **Piezo-resistive measuring system**
- **Seal-free welding, no elastomer seals**
- **Output signal DC 0...10 V (3 wire) or 4...20 mA (2 wire)**
- **Use with all media - incl. ammonia**
- **Pressure connection for QBE9001-P.. G1/2", for QBE9103-P.. UNF 7/16"-20**
- **Swift connector (delivered without connecting cable)**

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Building Technologies

Use

The pressure sensors are suitable for the measurement of relative pressure in HVAC systems using liquids, gases and refrigerant, ammonia included.

Type overview

Type	*Stock number*	*Pressure range*	*Output signal*
QBE9001-P10	S55720-S319	0...10 bar	DC 0...10 V
QBE9001-P16	S55720-S320	0...16 bar	DC 0...10 V
QBE9001-P25	S55720-S321	0…25 bar	DC 0...10 V
QBE9103-P10U	S55720-S322	-1...9 bar	DC 4...20 mA
QBE9103-P30U	S55720-S323	-1...29 bar	DC 4...20 mA
QBE9103-P60U	S55720-S324	-1...59 bar	DC 4...20 mA

Ordering and delivery

When ordering a pressure sensor, please provide number of pieces, product number, stock number and description.

Example

Number of pieces	*Product number*	*Stock number*	*Description*
25	QBE9103-P10U	S55720-S322	Pressure sensor

A **connecting cable** is not supplied with the pressure sensor. The pressure sensors are supplied in sets of 25.
A set of 25 swift connectors are included.

Mechanical design

The pressure sensor consists of:

- Piezo-resistive measuring element integrated in the stainless steel case
- Pressure connection, inside thread UNF 7/16"-20 for QBE9103-P..
- Pressure connection, external thread G1/2" for QBE9001-P..

No changes or adjustments are possible.

Notes

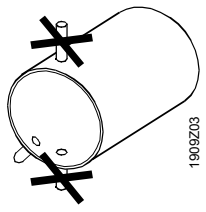
Installation

The sensors can be installed in any position. The position has no impact on the measurement precision of the sensor.

Pressure measurement with liquids

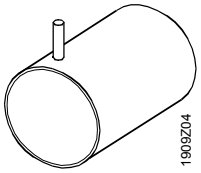
The tapping point should be at the side, near the bottom of the pipe. Do not measure the pressure from the top of the pipe (where it may be affected by airlocks) or the bottom (where it may be affected by dirt).

Always evacuate the system.



Pressure measurement with condensing gases

The tapping point should be at the top so that no condensate reaches the sensor.



Diposal

The devices are considered electronics devices for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic waste.

- Dispose of the device via the channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

Warranty

Technical data on specific applications are valid only together with Siemens products listed on the front page. Siemens rejects any and all warranties in the event that third-party products are used.

Technical data

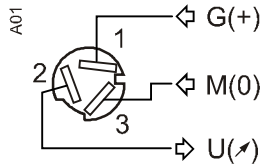
Electrical interface	Power supply	Protection by extra low voltage (SELV, PELV)
	Supply voltage	
	QBE9001-P..	AC 24 V ± 15 %, 50...60 Hz or DC 12...33 V
	QBE9103-P..	DC 7...33 V
	Current consumption	
	QBE9001-P..	< 7 mA, < 0.5 VA
	QBE9103-P..	< 23 mA, < 0.7 VA
	External supply line protection	Fuse slow max. 10 A or Circuit breaker max. 13 A Characteristic B, C, D according to EN 60898 or Power source with current limitation of max. 10 A
	Output signal	
	QBE9001-P..	DC 0...10 V, load > 10 kΩ, < 100 nF, 3 wire
	QBE9103-P..	DC 4...20 mA, $R_{Load} \leq \frac{\text{Operating voltage} - 7\ \text{V}}{0.02\ \text{A}}$ Ohm, 2 wire
	Insulation voltage	500 V
Functional data	Pressure range	Refer to "Type overview"
Measuring accuracy *FS = Full scale*	Characteristic curve *)	± 0.3 % FS
	Resolution	0.1 % FS
	Temperature response	< ± 0.2 % FS/10 °C (-15...85 °C)
	Long-term stability (according to IEC EN60770-1)	< ± 0.25 % FS
	Dynamic response	Response time: < 2 ms, typical 1 ms Load change: < 100 Hz
	Nominal pressure	Relative pressure as in "Type overview" (measurement of difference from ambient pressure)
	Tolerable overload	3 x scale end value of measuring range (FS)
	Rupture pressure	6 x scale end value of measuring range (FS)
	Media	Suitable for all media, including ammonia
	Admissible temperature of medium	-40…135 °C

*) Typical; max. 0.5 % FS (including zero point, end value, linearity, hysteresis, and reproducibility)

Environmental conditions	Temperature	
	Storage	-50...100 °C
	Operation	-30...85 °C
	Humidity	
	Storage / Operation	Insensitive to Condensation
	Mechanical robustness	
	Shock	DIN IEC 60066-2-27
	Continuous shock	DIN IEC 60068-2-29
	Vibration	DIN IEC 60068-2-6
	Maintenance	Maintenance-free
	Installation position	Any
Degree of Protection	Protection degree of housing	IP67 according to EN 60529
	Protection class	III according EN 60730-1
Directives and standards	Product standard	EN 61326-1 Electrical equipment for measurement, control and laboratory use. EMC requirements. General requirements
	EU Conformity (CE)	8000078214 *)
	RCM Conformity	8000079991 *)
Environmental compatibility	Product environmental declaration (contains data on RoHS compliance, materials composition, packaging, environmental benefit, disposal)	A6V10649127 *)
	*) The documents can be downloaded from http://siemens.com/bt/download.	
Connections	Electrical connection	Swift connector for cables Ø 4...6 mm stranded wire 0.35...0.75 mm^2
	Pressure connection	
	QBE9001-P..	External thread G1/2"
	QBE9103-P..	Inside thread UNF 7/16"-20
Weight	QBE9001-P.. pc.	107 g
	QBE9103-P..pc.	87 g
	Swift connector pc.	8 g
	Set incl. packaging	
	QBE9001-P..	2.88 kg
	QBE9103-P..	3.38 kg

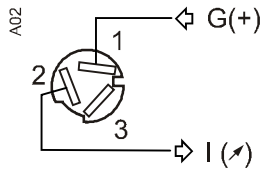
Internal diagram

QBE9001-P..



SBT-Terminal marking	*Terminal nr.*	*Meaning*
G (+)	*1*	Supply voltage AC 24 V or DC 12...33 V
M (0)	*3*	GND
U (↗)	*2*	Output signal DC 0...10 V (Reference point 0)

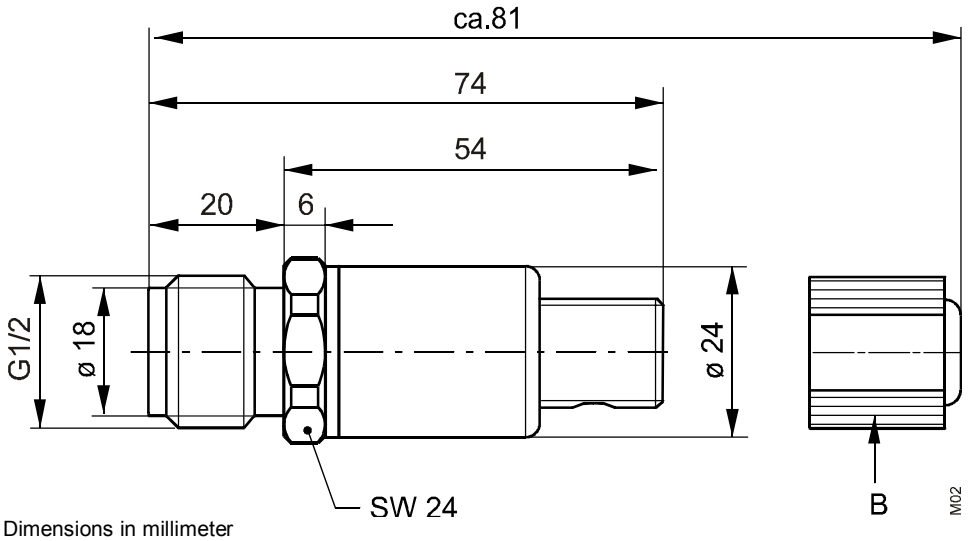
QBE9103-P..



SBT-Terminal marking	Terminal nr.	Meaning
G (+)	*1*	Supply voltage DC 7...33 V
I (↗)	*2*	Output signal DC 4...20 mA

Dimension drawings

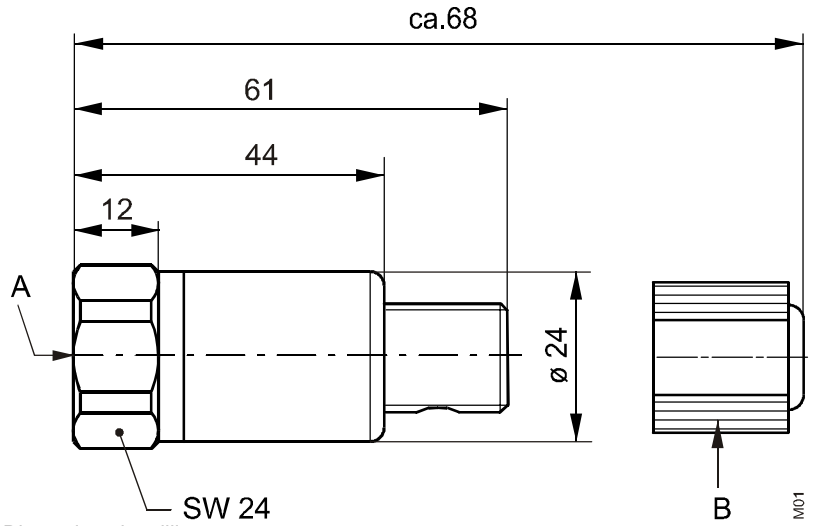
QBE9001-P..



Dimensions in millimeter

B Swift connector

QBE9103-P..



Dimensions in millimeter

A Inside thread UNF 7/16"-20
B Swift connector