

Pressure switch

QBE1900-Px



For liquid and gaseous media

- Mechanical measuring system
- Pressure limiter / designed for high- or low-pressure protection
- Starting current up to 144 A
- Automatic or manual reset
- External thread G $\frac{1}{2}$ "
- Test function
- Sealable

Use

The pressure switches are used in HVAC systems to protect the systems from excessive low or high pressure. They can also be applied to start and stop compressors and fans. The pressure switches are compatible with water, fluorinated and non-aggressive refrigerants and lubrication oils.

Technical design

The pressure switches are available with automatic or manual reset. The user can adjust the switching point and switching differential.

All pressure switches have a scale to indicate the set point pressure adjustment. Pressure switches with an adjustable pressure differential have a second scale to indicate the pressure differential adjustment. The scales are readable through a window in the housing cover. The cover must be removed for adjustments.

WARNING



Electric shock

- Only remove the cover if all power is disconnected from the unit.

Type summary

Type	Order number	Symbol as per EN12263	Switch-on pressure	Switching		Reset	P _{max} [bar]
				pressure [bar]	hysteresis [bar]		
QBE1900-P7	S55720-S532	PSH	Rising	-0.3...7	1.5...5	Auto	20
QBE1900-P32	S55720-S534	PSH	Rising	6...32	3...15	Auto	35
QBE1900-P32M	S55720-S533	PZH	Rising	6...32	3...15	Manual	35
QBE1900-P7M	S55720-S531	PZH	Rising	-0.3...7	1.5...5	Manual	20

Ordering

When ordering, please provide type and order number.

Type	Order number
QBE1900-P7	S55720-S532

Equipment combinations

Pressure switches can be combined with all devices or systems capable of processing the switched output signal from the pressure switch. They can be used as safety pressure limiters for falling or rising pressure if an electric interlock circuit is used (manual reset).

Topic	Title	Document ID:
Mounting instructions	Pressure switch QBE1900-Px	A6V12641952

Related documents such as environmental declarations, CE declarations, etc., can also be downloaded at the following Internet address:

www.siemens.com/bt/download

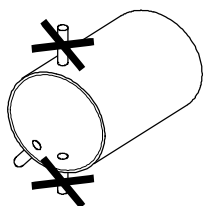
Notes

Mounting

Mounting instructions are enclosed with the sensor. Refer to 'Product documentation [▶ 3]'.
The pressure switches are designed for direct connection to screwed fittings with G1/2" threads. Take appropriate measures to ensure a leak-proof fit.

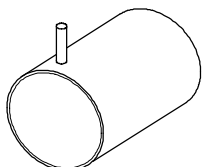
Pressure measurement with liquids

Mount the tapping point 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.



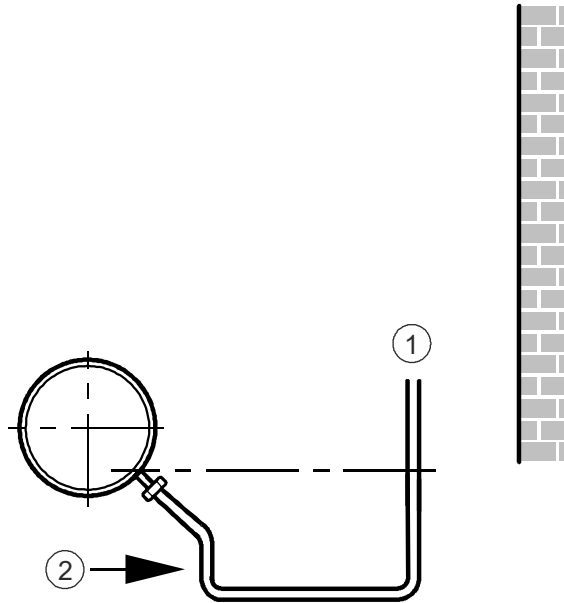
Pressure measurement with condensing gases

Mount the tapping point at the top so that no condensate reaches the sensor.



Remote mounting

Mount the sensor remotely if the medium temperature is lower than $-40\text{ }^{\circ}\text{C}$ ($-40\text{ }^{\circ}\text{F}$) or higher than $+135\text{ }^{\circ}\text{C}$ ($+275\text{ }^{\circ}\text{F}$).



1 To pressure switch 2 Condensate or liquid

Disposal



The device is considered an electronic device for disposal in accordance with European Directive and may not be disposed of as domestic waste.

- Use only designated channels for disposing the devices.
- Comply with all local and currently applicable laws and regulations.

Warranty

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

Electrical interface	
Screw terminals	3x for 1.5...4 mm ² wires 1x for grounding connection
Switch	Single pole double throw
Contacts	AgNi contacts
Heating load (AC1) utilization category	16 A, AC 400 V
Start-up (AC3) utilization category	16 A, AC 400 V
Inductive load (AC15) utilization category	10 A, AC 400 V
Inductive load (DC13) utilization category	12 W, AC 220 V
Full Load Amperage (FLA)	16 A, AC 240 V
Locked Rotor Amperage (LRA)	96 LRA, AC 120 V

Functional data							
Application range	Refer to 'Type summary [▶ 2]'						
Tolerance:							
Low pressure auto Low pressure manual High pressure auto High pressure manual	<table border="1"> <tr> <td>Adjustable 1...5 bar</td> <td>Fixed</td> </tr> <tr> <td>3...15 bar</td> <td>Approx. 1 bar</td> </tr> <tr> <td></td> <td>Approx. 5 bar</td> </tr> </table>	Adjustable 1...5 bar	Fixed	3...15 bar	Approx. 1 bar		Approx. 5 bar
Adjustable 1...5 bar	Fixed						
3...15 bar	Approx. 1 bar						
	Approx. 5 bar						
Response time	~1 ms						
Switching cycles	Up to 100 k mechanical and electrical cycles 5000 active cycles 50000 non-active cycles						
Nominal pressure	Switching pressure, refer to 'Type summary [▶ 2]'						
Max. admissible pressure P_{max}	Refer to 'Type summary [▶ 2]'						
Burst pressure	4x max admissible pressure P_{max}						
Media Admissible medium temperatures	Water, fluorinated and non-aggressive and non-flammable refrigerants and lubrication oils -50...+135 °C (-58...+275 °F)						
Vibration resistance	1 G (10...15 Hz)						
Maintenance	Maintenance-free						
Mounting position	Any direction, except for upside down. See also mounting instructions. Refer to 'Product documentation [▶ 3]'.						

Protection	
Protection standard	IP33, for flush mounting against surface or with adhesive back cover, for upright mounting only
Protection class	Class I, according to IEC/EN 60730-1
Pollution degree	2
Rated impulse voltage	2500 V

Connections	
Flexible cable entry grommet or optional standard PG 13.5 cable gland	Up to 14 AWG stranded wires
Screwed pressure fitting	External thread G $\frac{1}{2}$ "

Ambient conditions	
Climatic ambient conditions <ul style="list-style-type: none"> • Transport and storage (in packaging) as per IEC/EN 60721-3-2 / -3-1 • Operation as per IEC/EN 60721-3-3 	<ul style="list-style-type: none"> • Class 2K12 / 1K22 Temperature -40...+70 °C (-40...+158 °F) Air humidity 5...95 % (non-condensing) • Class 3K23 Operation in dry locations having no temperature or humidity control Temperature -5...+50 °C (23...122 °F) Air humidity 5...95 % (non-condensing)
Mechanical ambient conditions <ul style="list-style-type: none"> • Transport (in transport packaging) as per IEC/EN 60721-3-2 • Operation as per IEC/EN 60721-3-3 	Class 2M4 Class 3M11

Standards, directives and approvals	
Product standard	IEC/EN 60730-1 Automatic electronic controls for household and similar use
EU conformity (CE)	See EU declaration of conformity *)
RCM conformity	See RCM declaration of conformity *)
Plastic parts	UL94, UL746C

Environmental compatibility

The product environmental declaration *) contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

Materials

Connection thread	Brass
Cover	Plastic
Mounting kit AQB2005	See data sheet A6V12735727

Weight

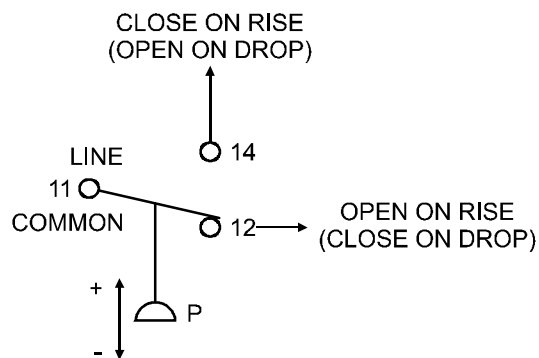
Including packaging	
QBE1900-P7 (S55720-S532)	316 g
QBE1900-P32 (S55720-S534)	318 g
QBE1900-P32M (S55720-S533)	313 g
QBE1900-P7M (S55720-S531)	314 g

*) The documents can be downloaded at www.siemens.com/bt/download.

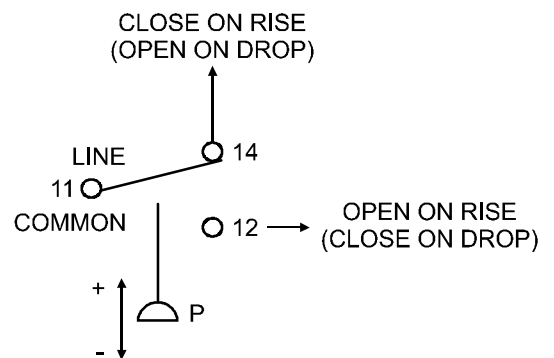
Diagrams

Connection diagrams

Single high pressure switch response
QBE1900-P32, QBE1900-P32M



Single low pressure switch response
QBE1900-P7, QBE1900-P7M

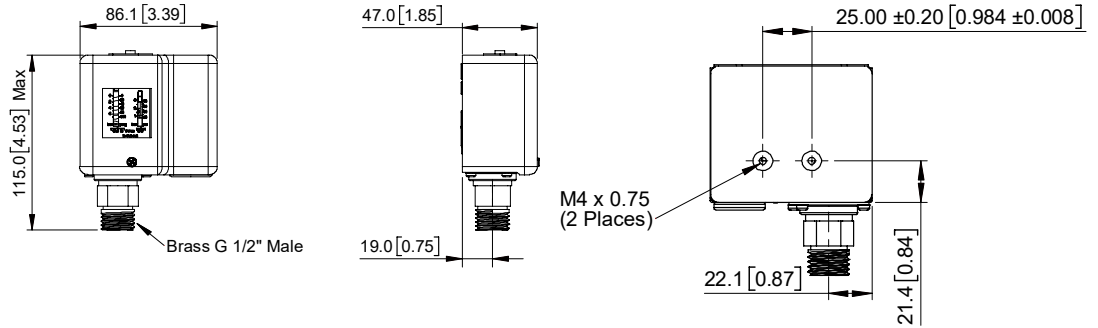


Dimensions

Dimensions in mm (inches)

QBE1900-P32

QBE1900-P7



QBE1900-P32M

QBE1900-P7M

