



Pressure Switches

QPLx5... (VERSA PRO)

The pressure switches are used for monitoring gas or air pressures. When the pressure falls below or exceeds the adjusted switching point, the respective electrical circuit will be opened or changes over.

The QPLx5 and this Data Sheet are intended for use by OEMs which integrate the pressure switches in their products.

Use

- For the supervision of air or gas pressures in gas trains of gas-fired equipment (gas burners)
- QPLx5 are suitable as pressure switches for minimum or maximum pressure
- Adjustable working pressure range up to 50 kPa
- Able for a permanent operation pressure up to 69 kPa
- Suited for gases of gas families 1, 2 and 3 and other neutral gaseous media

Warning notes



To avoid injury to persons, damage to property or the environment, the following warning notes must be observed!

Do not open, interfere with or modify the pressure switch!

- All activities (mounting, installation and service work, etc.) must be performed by qualified staff
- Before making any wiring changes in the connection area, completely isolate the unit from the mains supply (all-polar disconnection). Ensure that the plant cannot be inadvertently switched on again and that it is indeed dead. If not disconnected, there is a risk of electric shock hazard
- Fall or shock can adversely affect the safety functions. Such units must not be put into operation, even if they do not exhibit any damage
- Do not use the pressure switch in inflammable or explosive gas atmospheres

Engineering notes

Setting the switching point

To set the required switching point, remove the cover from the pressure switch and turn the setting knob clockwise to increase the set value, or counterclockwise to decrease it (see scale under «Dimensions»). Replace the cover and secure it to prevent tampering.



Particularly important!

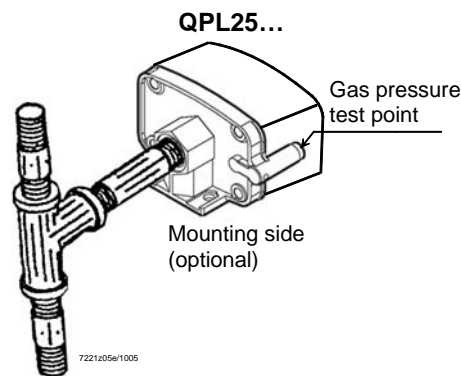
The switching point must be checked in the application against the actual intended switching pressure applied and adjusted if necessary.

The direction of the pressure rise / pressure drop must be observed here.

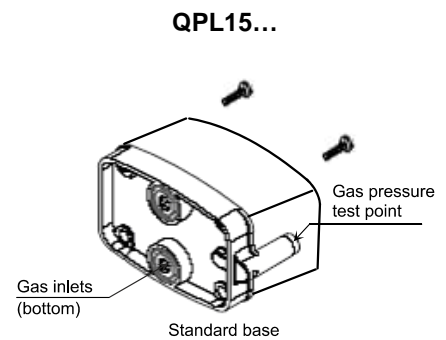
Mounting notes

- Ensure that the relevant national safety regulations are complied with
- By check piping connections ensure that there are no leaks
- To prevent the pressure connection from being blocked on the plant, a suitable preventive precaution must be used
Example: Installation of a fine mesh or filter
- The pressure switch can be mounted either horizontally or vertically, but not in a suspended position (scale must not pointing downward)
- The pressure switch can be connected via a ¼" thread or O-ring, depending on the type of switch
- The test point on QPLx5 can be opened with a 2,5 mm allen key
- Refer also to following Mounting Instructions: 74 319 0551 0 (M7221)

Connection via ¼" (ISO) thread



Connection via O-ring



O-ring and self-forming screws are included in delivery.

Warning!

Damage to the plastic housing of the QPLx5 can result in a gas leak.



Applications at a gas pressure of >60 kPa:

When installing the QPLx5, measures must be introduced on site to ensure that any gas leak arising from damage to the plastic housing is limited to a maximum air volume of 70 liters/h.

QPLx5s with visible external damage must be replaced immediately.

Service notes

Caution!

The QPLx5 also has to be replaced when replacing a valve.

It is recommended to replace the QPLx5 after over 50,000 cycles or a service life of 10 years due to the designed lifetime for gas pressure switches according to AFECOR. It is not recommended to reinstall these, even if the seals on the valve have been replaced.





Applied directives:

- Low-voltage directive 2014/35/EC
- Gas Appliances Regulation EU/2016/426

Compliance with the regulations of the applied directives is verified by the adherence to the following standards / regulations:

- Pressure sensing devices for gas burners and gas burning appliances DIN EN 1854
- Automatic electrical controls Part 2-6: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements DIN EN 60730-2-6

The relevant valid edition of the standards can be found in the declaration of conformity!



EAC Conformity mark (Eurasian Conformity mark)



China RoHS

Hazardous substances table:

<http://www.siemens.com/download?A6V10883536>



Lifetime

The pressure switch has a designed lifetime* of 50,000 burner startup cycles when using gases in accordance with EN 437 (or specification G260), which, under normal operating conditions in heating mode, correspond to approx. 10 years of usage (starting from the production date given on the type field).

This is based on the endurance tests specified in the standard EN 1854.

A summary of the conditions has been published by the European Control Manufacturers Association (Afecor) (www.afecor.org).

The designed lifetime is based on use of the pressure switch according to the manufacturer's data sheet. After reaching the designed lifetime in terms of the number of burner startup cycles, or after the corresponding usage time, the pressure switch must be replaced by authorized personnel.

* The designed lifetime is not the warranty time specified in the Terms of Delivery.

Disposal notes

The unit contains electrical and electronic components and must not be disposed of together with domestic waste.

Local and currently valid legislation must be observed.

Mechanical design

- Housing made of durable plastic with die-cast aluminum base
- Adjustable switching point
- Automatic reset

The switching point (setpoint) of the pressure switch is to be set with the adjusting knob located under the securing cover. The pressure switch comes calibrated and has been checked for leaks.

Type summary

When ordering, please give type reference according to «Type summary».

Pressure switches with automatic reset:

Pressure range	¼" connection		O-ring connection	
	Type	Article no.	Type	Article no.
0,07...0,3 kPa	QPL25.003	BPZ:QPL25.003	---	---
0,2...1 kPa	QPL25.010	BPZ:QPL25.010	---	---
0,5...5 kPa	QPL25.050	BPZ:QPL25.050	QPL15.050	BPZ:QPL15.050
0,5...15 kPa	QPL25.150	BPZ:QPL25.150	QPL15.150	BPZ:QPL15.150
10...50 kPa	QPL25.500	BPZ:QPL25.500	QPL15.500	BPZ:QPL15.500

Accessories

Accessories must be ordered as separate items:



Contact box **AGA65**
Article no.: BPZ:AGA65

- Plug-in connector according to DIN EN 175301-803-A
- 4.5...11 mm dia. / max. 1.5 mm²

Technical data

General data	Switching voltage	AC effective max. 280 V DC 24...48 V
	Switching current	AC _{eff} max. 6 A at cosφ 1 AC eff. max. 2 A at cosφ 0.6 AC eff. min. 20 mA (on request) DC max. 1 A DC min. 20 mA
	Adjustable operating pressure range	50 kPa (different ranges, refer to «Type summary»)
	Operating pressure (continuously)	Max. 69 kPa
	Weight	
	• QPLx5	Approx. 120 g
	• AGA65	Approx. 36 g
	Mounting position	horizontal or vertical, but not suspended
	Safety class	II to VDE 0631
	Degree of protection	IP54
	Switching pressure deviation	±15 %, referred to the setpoint (scale) (diaphragm in vertical position)
	Gas families	I, II, III

Typical hysteresis:

Pressure range in (kPa)	Switching differential in (kPa)
0,07...0,3	0,07
0,2...1	0,1
0,5...5	0,25
0,5...15	0,5
10...50	2

Environmental conditions

Storage	DIN EN 60721-3-1
Climatic conditions	class 1K3
Mechanical conditions	class 1M2
Temperature range	-20...+60 °C
Humidity	< 95 % r.h.
Transport	DIN EN 60 721-3-2
Climatic conditions	class 2K2
Mechanical conditions	class 2M2
Temperature range	-20...+60 °C
Humidity	< 95 % r.h.
Operation	DIN EN 60 721-3-3
Climatic conditions	class 3K5
Mechanical conditions	class 3M2
Temperature range	-15...+60 °C
Humidity	< 95 % r.h.
Installation altitude	Max. 2,000 m above sea level



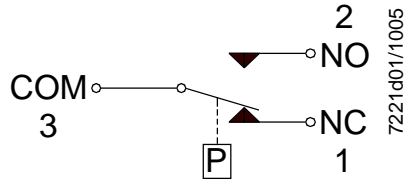
Caution!
Condensation, formation of ice and ingress of water are not permitted!

Connection diagram

Function when

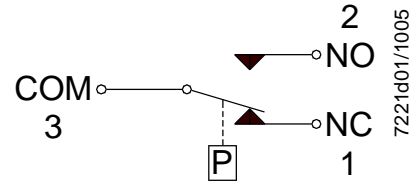
Minimum pressure switch

When the pressure falls below the set value, NO opens and NC closes

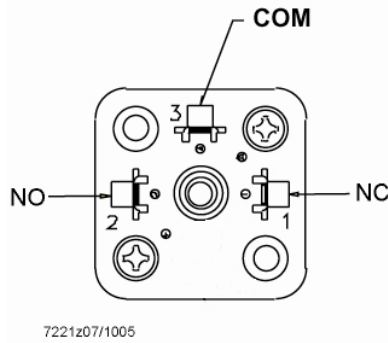


Maximum pressure switch

When the pressure exceeds the set value, NC opens and NO closes



Connection via connector AGA65 according to DIN 43650



Connection examples

QPLx5... fitted to VGD20.xx11

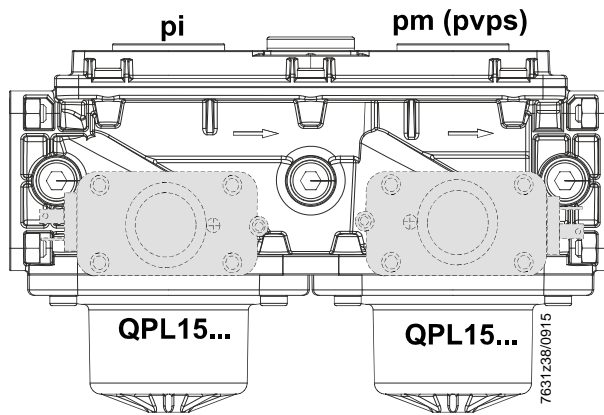


QPLx5... fitted to VGD40...

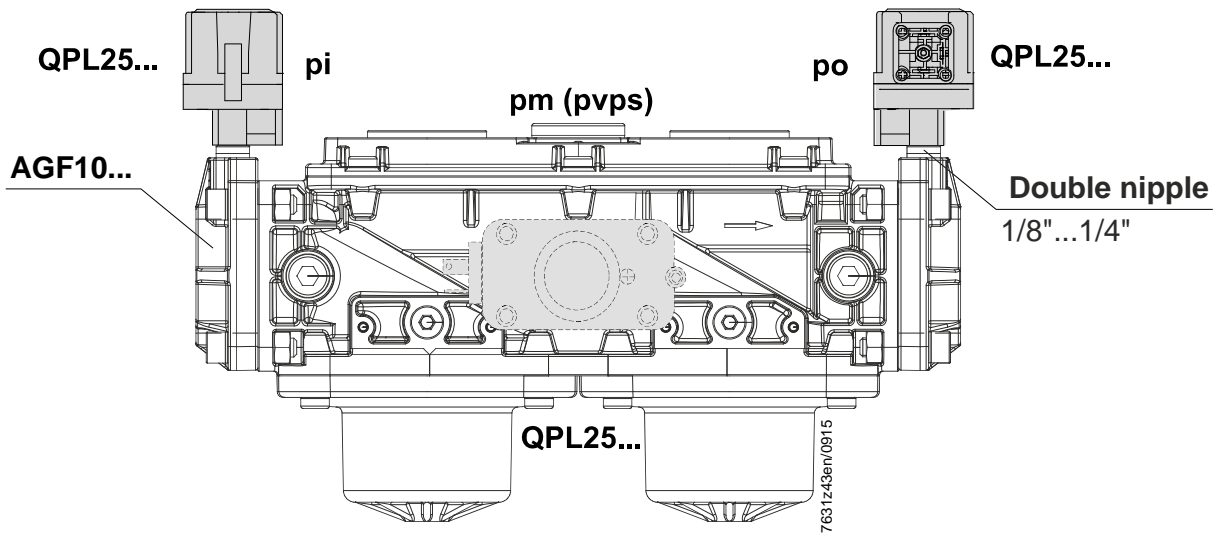


Mounting versions (example)

QPL15 with O-ring with VGD20.xx11

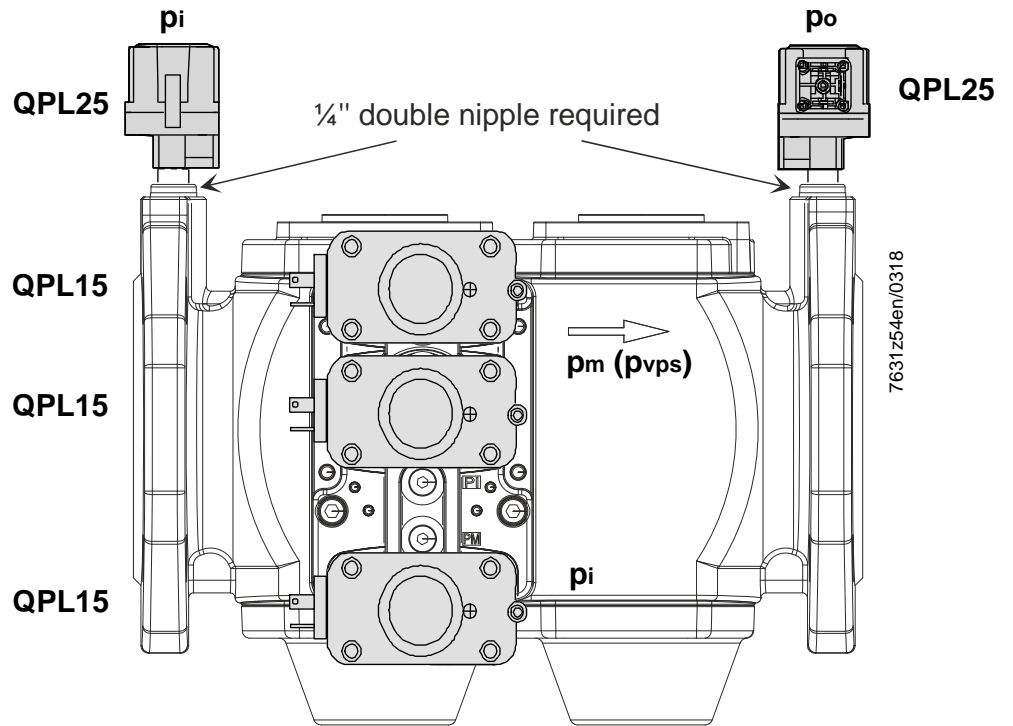


QPL25 with nipple Rp1/4" with VGD20.xx11



Mounting versions (example)

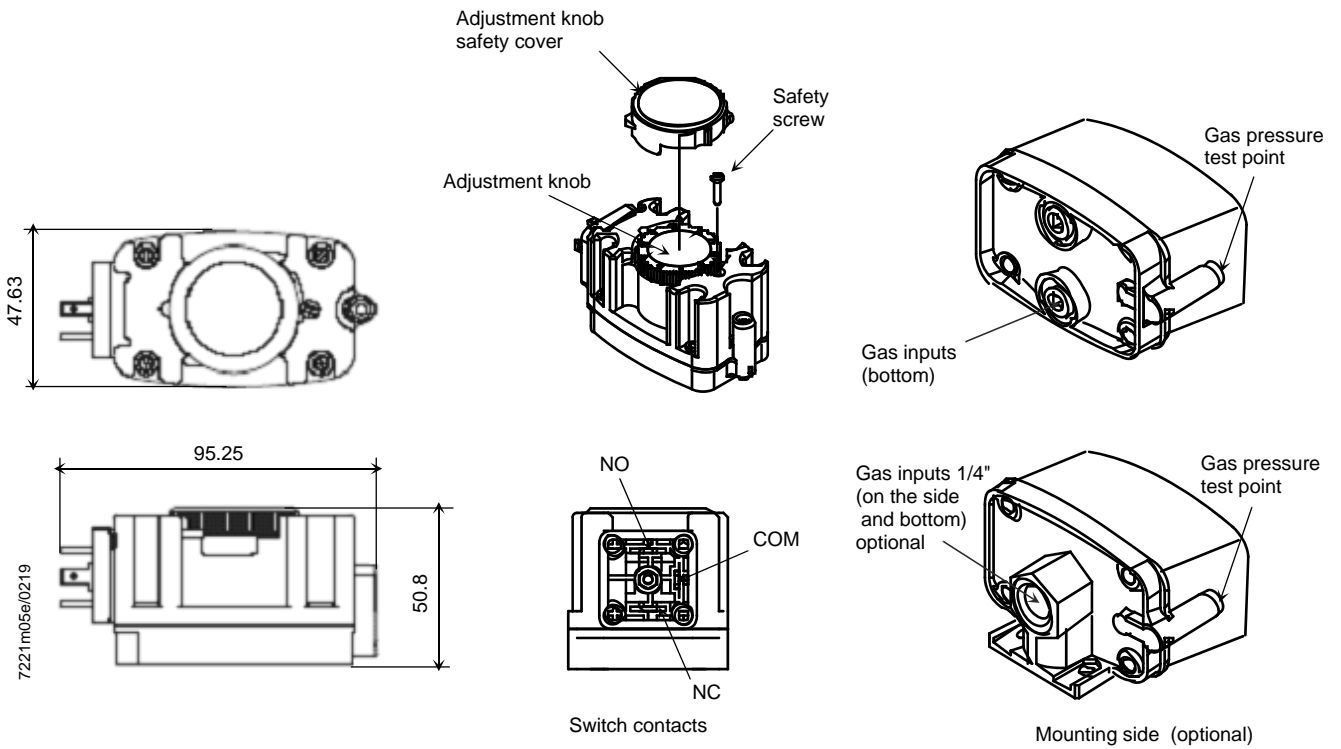
QPL15 and QPL25 with VGD40



Dimensions

Dimensions in mm

QPLx5...



Note!
Dimensions for reference only

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Subject to change!