



Flow switch

For liquids in piping DN 10...25

QVE1902.010
QVE1902.015
QVE1902.020
QVE1902.025

-
- **Contact load: max. AC 230 V, 1 A, 26 VA
DC 48 V, 1 A, 20 W**
 - **Nominal pressure PN10**
 - **Manual contact setting (NO/NC contact)**
 - **Housing protection type IP 65 / Protection class II**
 - **Maintenance free**

Use

In HVAC plants to monitor the flow of liquid medium in hydraulic systems, in particular, refrigeration, heat pump and heating plants, e.g. for evaporators, boilers, heat exchangers, etc.

Type summary

Type / ASN	Order number (SSN)	Name
QVE1902.010	S55720-S199	Flow switch
QVE1902.015	S55720-S200	Flow switch
QVE1902.020	S55720-S201	Flow switch
QVE1902.025	S55720-S202	Flow switch

Ordering

When ordering, please specify the quantity, type, and product name.

Sizing

Switching value table for water at 20 °C

Type (ASN)	DN	Threading [inch]	Q _{max} [l/min]	Factory setting (range) [l/min]		
				↔	↑	↓
QVE1902.010	DN 10	3/8	20	3.2 (2.8...3.7)	2.7 (2.0...3.4)	3.6 (3.1...4.1)
QVE1902.015	DN 15	1/2	30	4.2 (3.6...4.9)	3.4 (2.8...4.0)	4.4 (3.7...5.1)
QVE1902.020	DN 20	3/4	80	7.6 (6.9...8.4)	7.1 (6.1...8.2)	8.7 (8.0...9.5)
QVE1902.025	DN 25	1	130	12.0 (10.8...13.3)	10.5 (8.9...12.1)	13.1 (12.0...14.3)

Engineering notes

Warning

- The flow switch QVE1902.0xx is not a safety component in terms of Directive 2006-42-EC.
- Operational safety of the supplied device is only guaranteed when used properly (monitoring the flow of liquids). Under no circumstances may the indicated limit values (see "Technical data") be exceeded.
- You must ensure that the materials used in the flow switch are sufficiently chemically and mechanically durable against the medium to be monitored as well as external influences.

Caution

- Comply with maximum contact load for the reed contact. The maximum contact load indicated on the type label applies to Ohm loads only and may not be exceeded under any circumstances.
High voltage or current spikes may occur when switching, in particular, inductive or capacitive loads (e.g. relay coils, capacitors). Even a short overload may destroy (fusing of contacts) or damage (reduced life cycle) reed contacts. Use appropriate and tested safety measures.
- Select suitable measures to prevent the medium from freezing.
Do not operate, e.g. testing, the flow switch using pure water if operated in ambient temperatures of <4°C. Residual water in the flow switch may result in frost damage.

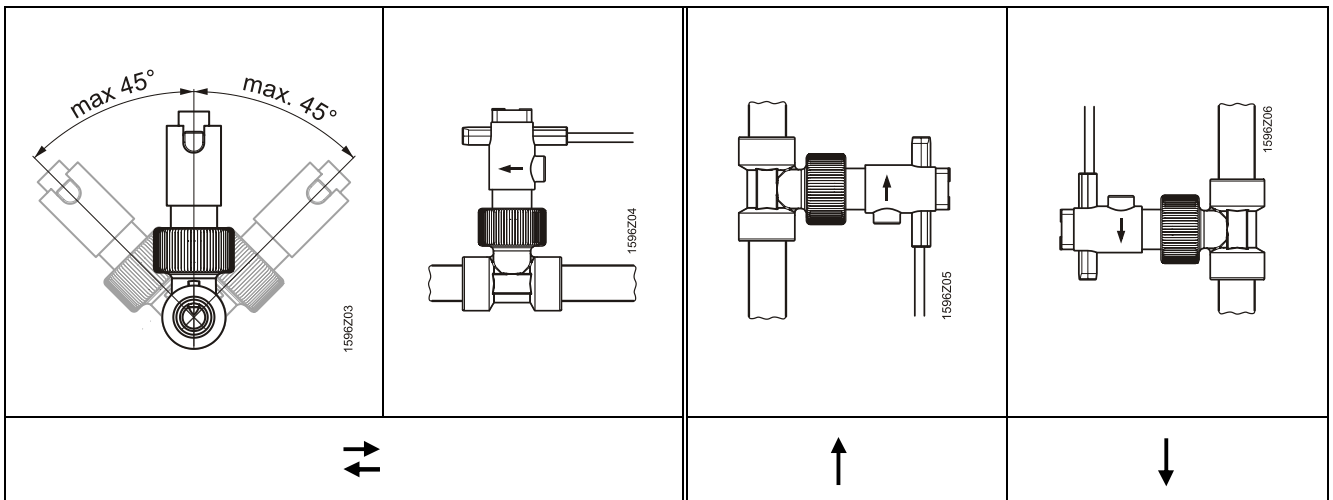
Mounting instructions

- A smoothing section of at least 10 x or 5 x the pipe diameter respectively must be planned prior to and after intended location.
- First, clean the pipe system where the flow switch is installed and remove any magnetic particles, e.g. welding residue.
- Do not use grease or oils to seal the flow switch or its piping.

Orientation

- horizontal, at a maximum angle of 45°, as well as
- vertical

See illustration below



- Ensure when mounting that the arrow points parallel to the pipe axis and indicates the direction of flow.
- Install the section of piping for the flow switch the same as a valve in the existing piping.

Installation notes

- Comply with all local regulations on electrical systems.
- Only qualified personnel may do the electrical installation.
- Always de-energize the system before connecting the wires of the mains cable.
- The connecting cable to relieve tension has a reserve loop so that there is sufficient "play (cable)" when making fine adjustments to the switching unit.

Commissioning notes

Contact type factory setting

The switching unit is factory set as a make contact, i.e. the reed contact opens if the set switching point is breached.

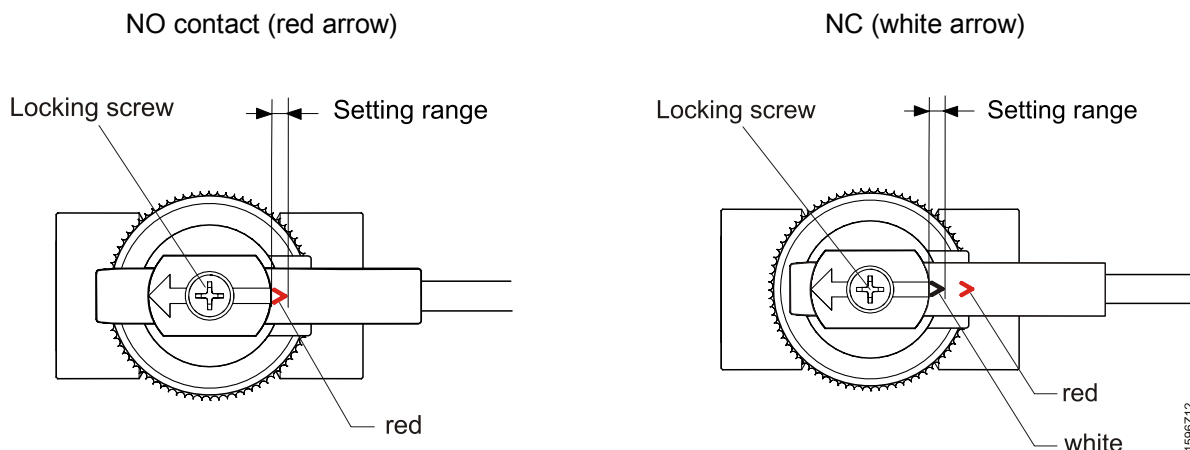
NO or NC contact

Type of contact	Setting	Flow rate	Electric contact
NO (closer)	RED arrow	increasing	closing
		decreasing	opening
NC (opener)	WHITE arrow	increasing	opening
		decreasing	closing

Setting the switching unit

The setting can be changed as needed by the customer:

- Loosen the locking screw (Phillips-head screw) and position the switching unit until the red or white arrow are visible at the entry of the switching contact guide for a desired normally open (NO) or normally closed (NC) contact respectively.
- You can use the arrow length to make fine adjustments to the switching point: Adjust to the arrowhead means: Switching point is at a lower flow rate. Adjust to the arrow end: Switching point is at a higher flow rate.
- Carefully retighten the locking screw.
- We recommend using thread locker to secure the locking screw on the switching unit after carrying out individual adjustments.



Operating notes

- Please make sure that there are no external magnetic fields in the immediate vicinity of the flow switch, since these can impair device operation.
- Ensure that the maximum operating pressure is not exceeded.

Service notes

- Never remove a flow switch or its body from a system under pressure.
- The flow switch is maintenance-free and cannot be repaired by the user.

Disposal



The device is considered an electronics device for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic garbage.

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

Technical data

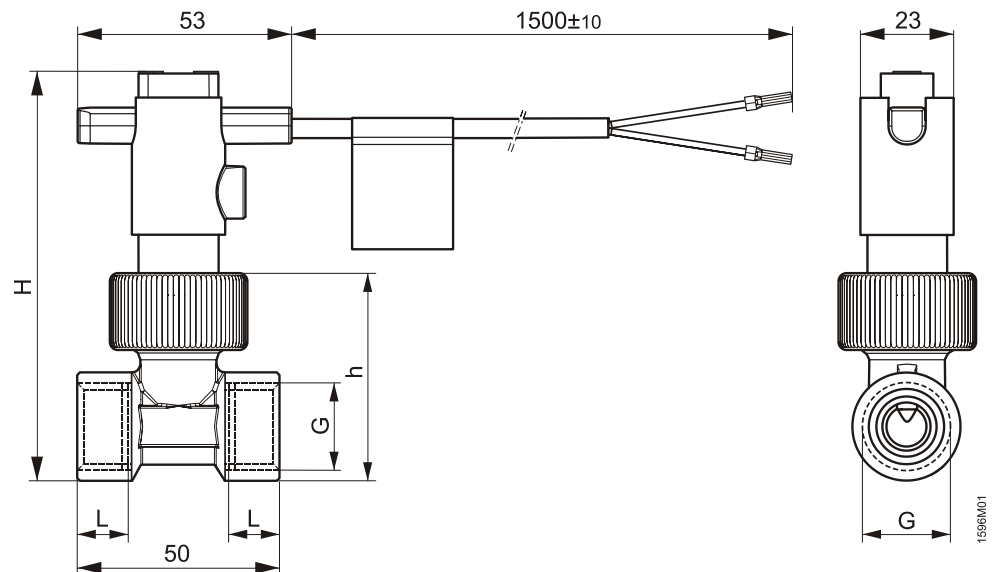
Functional data general	Field of use	All liquids
	Permissible media	(not suitable for ammonia)
	Medium temperature	-20...100 °C (Medium may not freeze)
	Piping diameter	DN 10...25
Switching function	Nominal pressure	PN 10 (piping approved for PN 25)
	Contact	Closes as flow increases ^{*)} Opens as flow decreases ^{*)}
	Type of switch	Reed contact
	Max. contact rating	AC 230 V, 1 A / DC 48 V, 1 A
	Max. switching capacity	26 VA or 20 W
	Length of connecting cable/cross section	1.5 m / 0.5 mm ²
	External supply line protection (EU)	Fuse slow max. 10 A or Circuit breaker max. 13 A Characteristic B, C, D according to or Power source with current limitation of max. 10 A
	Switching point adjustment	Manual, set at the factory to the middle of the setting range
	Setting range	See Sizing on page 2
	Degree of protection	Protection class
Housing		IP65 according to EN 60529
Environmental conditions	Storage, transportation, operation	
	Temperature	0...70 °C
Standards and Directives	Humidity	<95 % r.h.
	Product standard	EN 60204-1 Safety of machinery - Electrical equipment of machines
Environmental compatibility	EU Conformity (CE)	CM1T1596xx ^{**)}
		The product environmental declaration CE1E1596 ^{**)} contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).
Dimensions / Weight	Excl. packaging	See under "Dimensions and weight"
	Material	
Housing color	Switching unit/connecting cable	Polyamide / PVC
	Housing and paddle system/piping	PPE+PS Noryl FE1630PW / brass
		Black

^{*)} Applies to delivery state (switching function can be inverted as needed).

^{**)} The documents can be downloaded from <http://siemens.com/bt/download>.

Dimensions and weight

Dimensions in mm



Type (ASN)	Nominal width dia	Qmax [l/min]	G [inch]	L [mm]	h [mm]	H [mm]	Weight [g]
QVE1902.010	DN 10	20	G $\frac{3}{8}$	11	41.5	101.5	255
QVE1902.015	DN 15	30	G $\frac{1}{2}$	11	41.5	101.5	220
QVE1902.020	DN 20	80	G $\frac{3}{4}$	15	46.0	105.5	239
QVE1902.025	DN 25	130	G1	15	55.5	115.5	315

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