Реле давления серии Honeywell C60VR

ООО Промэлектроника

sales@prom-elec.com

Honeywell

Gas pressure switches C60VR for VR4xx, VR8xx, V473xC, V873xC and VRB

OPERATING INSTRUCTIONS

· Edition 04.24 · EN · EN1R9202

1 SAFETY

1.1 Please read and keep in a safe place

Please read through these instructions carefully before installing or operating. Following the installation, pass the instructions on to the operator. This unit must be installed and commissioned in accordance with the regulations and standards in force. These instructions can also be found at www.docuthek.com.

1.2 Explanation of symbols

1, **2**, **3**, **a**, **b**, **c** = Action

➔ = Instruction

1.3 Liability

We will not be held liable for damage resulting from non-observance of the instructions and non-compliant use.

1.4 Safety instructions

Information that is relevant for safety is indicated in the instructions as follows:

⚠ DANGER
Indicates potentially fatal situations.

⚠ WARNING
Indicates possible danger to life and limb.

⚠ CAUTION
Indicates possible material damage.

All interventions may only be carried out by qualified gas technicians. Electrical interventions may only be carried out by qualified electricians.

1.5 Conversion, spare parts

All technical changes are prohibited. Only use OEM spare parts.

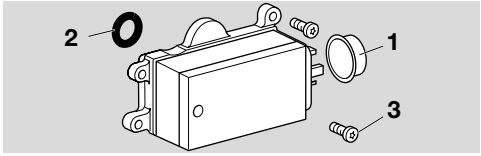
2 CHECKING THE USAGE

Gas pressure switches C60VR, C60VRT for monitoring the minimum inlet pressure with a secure start lock-out.

The gas pressure switch can be flanged straight to the valve housing.

This function is only guaranteed when used within the specified limits – see page 3 (8 Technical data). Any other use is considered as non-compliant.

2.1 Part designations



1 Protective cap
2 1 x O-ring
3 2 x self-tapping retaining screws

3 INSTALLATION

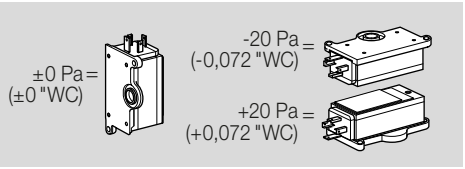
⚠ CAUTION

Please observe the following to ensure that the unit is not damaged during installation:

- Continuous operation with gases containing more than 0.1 %-by-vol. H_2S accelerates the ageing of elastomer materials and reduces the service life.
- Dropping the device can cause permanent damage. In this event, replace the entire device and associated modules before use.
- Use approved sealing material only.
- Check max. ambient temperature and max. inlet pressure, see page 3 (8 Technical data).
- Observe the max. test pressure for testing the entire system, see page 3 (8 Technical data).
- Protect the appliance against dirt or moisture (icing of condensation at subzero temperatures) in the medium to be measured, e.g. install a filter and ensure there is a riser.
- Avoid strong impact on the unit.

3.1 Installation position

➔ Installation in the vertical or horizontal position. If installed in a horizontal position, the preset switching point will change by 20 Pa (0.072 "WC).



➔ The set switching pressure is calculated at an ambient temperature of 0°C to 60°C (32°F to 140°F) with rising pressure.

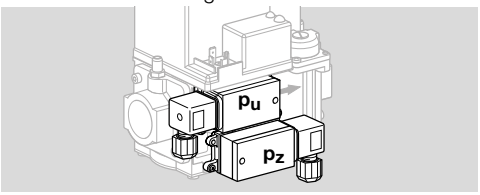
➔ The C60VR must not be in contact with masonry. Minimum clearance 20 mm (0.79").

➔ Ensure that there is sufficient installation space.

➔ For C60VR, ensure unobstructed view of the hand wheel.

3.2 Connection options on the valve housing

The gas pressure switch monitors the inlet pressure p_u or the interspace pressure p_z and can be installed on both sides of the valve housing. Monitoring the inlet pressure p_u: the electrical plug of the gas pressure switch points towards the inlet flange. Monitoring the interspace pressure p_z: the electrical plug of the gas pressure switch points towards the outlet flange.



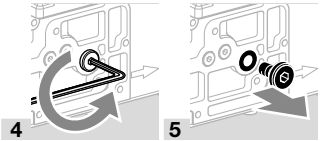
3.3 Mounting the C60VR on the valve housing

1 Disconnect the system from the electrical power supply.

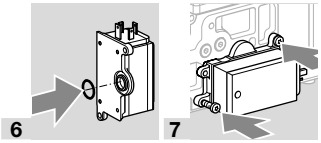
2 Close the gas supply.

3 Purge the pipe.

➔ For pressure test points for inlet pressure p_u or interspace pressure p_z, select the installation position for the pressure switch from the operating instructions of the gas solenoid valve. The pictures below may not correspond to the actual application.



➔ Use the enclosed self-tapping screws only.



4 WIRING

➔ If the pressure switch has switched a voltage > 24 V (> 30 V) and a current > 0.1 A at cos φ = 1 or > 0.05 A at cos φ = 0.6 once, the gold plating on the contacts will have been burnt through. It can then only be operated at this power rating or higher power rating.

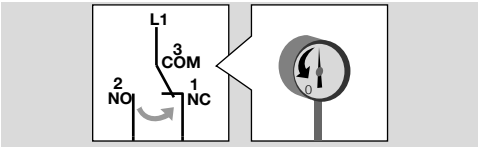
⚠ CAUTION

– To ensure that the C60VR is not damaged during operation, note the switching capacity, see page 3 (8 Technical data).

➔ C60VR, C60VRT can be connected electrically using AMP plugs (6.3 x 0.8 mm) or using a socket to DIN 43650.

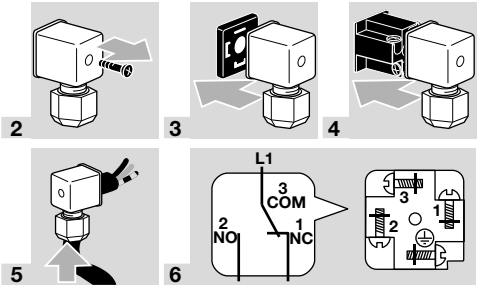
➔ C60VR, C60VRT is available as a single-pole change-over contact (SPDT).

➔ Observe contact position for falling/rising pressure monitoring:
Change-over contact switches from NO 2 to NC 1 for falling pressure monitoring, from NC 1 to NO 2 for rising pressure monitoring.

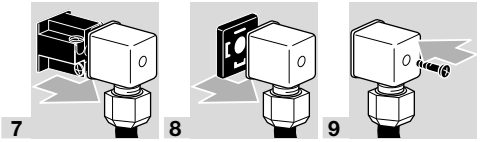


1 Disconnect the system from the electrical power supply.

➔ 1 (NC) = blue, 2 (NO) = red, 3 (COM) = black, 4 (PE-GND) = yellow/green.



➔ Plug insert can be rotated in 90° steps.

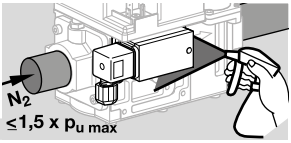


5 TIGHTNESS TEST

Check the C60VR for tightness if it is being retrofitted. The connection of the valve housing to the C60VR is checked for tightness if it is installed at the factory.

1 Shut off the downstream gas pipeline close to the valve.

2 Open the valve and the gas supply.



3 4

6 ADJUSTMENT

6.1 Adjusting range, switching hysteresis

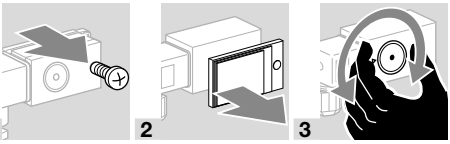
C60VR.. = CE approved,
C60VRT.. = UL recognized.

Type	Adjusting range*	Switching hysteresis**
C60VR40017, C60VRT40017	0.2–1.7 kPa 0.8–6.8 "WC	70–200 Pa 0.28–0.8 "WC
C60VR40040, C60VRT40040	0.5–4 kPa 2–16 "WC	100–250 Pa 0.4–1 "WC
C60VR40110, C60VRT40110	3–11 kPa 12–44 "WC	200–800 Pa 0.8–3.2 "WC
C60VR40300, C60VRT40300	10–30 kPa 40–120 "WC	0.6–2 kPa 2.4–8.0 "WC

** Adjusting tolerance = ± 15% of the scale value. Deviation from the switching point during testing pursuant to EN 1854 Gas pressure switches: ± 15%.*

*** Mean switching differential at min. and max. setting.*

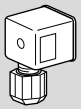
➔ The switching point is adjustable via hand wheel.



1 2 3

4 Once the settings have been adjusted successfully, fit the cover again.

7 ACCESSORIES



Socket to DIN 43650.
Order No.: CO020012 (black),
Order No.: CO020014 (grey).

8 TECHNICAL DATA

8.1 Ambient conditions

Enclosure: IP 40 pursuant to DIN EN 60529 with standard socket to DIN EN 43650. IP 00 with AMP plug.
Safety class: 1.
This unit is not suitable for cleaning with a high-pressure cleaner and/or cleaning products.
Max. medium and ambient temperatures: -15 to +60°C (5 to 140°F).
Long-term use in the upper ambient temperature range accelerates the ageing of the elastomer materials and reduces the service life (please contact manufacturer).
Transport temperature = ambient temperature.
Storage temperature: -20 to +40°C (-4 to +104°F).

8.2 Mechanical data

Gas type: natural gas, town gas, LPG (gaseous), flue gas, biogas (max. 0.1 %-by-vol. H_2S) and air.
Max. inlet pressure p_{max} = withstand pressure = 60 kPa (8.7 psig).
Max. test pressure for testing the entire system: temporarily ≤ 15 minutes 200 kPa (29 psig).
Diaphragm pressure switch, silicone-free.
Diaphragm: NBR.
Housing: glass fibre reinforced PBT plastic with low gas release.
Lower housing section: AlSi 12.
Weight: 60 g (2.12 oz).
Recommended tightening torque:

Component	Tightening torque [Ncm]
Cover screw	45
Socket	45
Screw terminals in socket	35

8.3 Electrical data

Electrical connection: AMP flat plugs (6.3 x 0.8 mm).
Suitable for socket to DIN 43650.
Cable diameter (wire gauge): 0.5 to 1.8 mm (AWG 24 to AWG 13).
Switching capacity:

	U	I (cos φ = 1)	I (cos φ = 0.6)
C60VR	24–250 V AC	0.05–5 A	0.05–1 A
C60VRT	≤ 240 V AC	≤ 5 A	≤ 0.5 A

R initial: < 80 mΩ.

9 DESIGNED LIFETIME

This information on the designed lifetime is based on using the product in accordance with these operating instructions. Once the designed lifetime has been reached, safety-relevant products must be replaced.
Designed lifetime (based on date of manufacture) in accordance with EN 1854 for C60VR:

Medium	Designed lifetime	
	Switching cycles	Time (years)
Gas	50,000	10
Air	250,000	10

You can find further explanations in the applicable rules and regulations and on the afecor website (www.afecor.org).
This procedure applies to heating systems. For thermoprocessing equipment, observe local regulations.

10 CERTIFICATION

10.1 Certificate download

Certificates – see www.docuthek.com

10.2 Declaration of conformity

CE

We, the manufacturer, hereby declare that the products C60VR with product ID No. CE- 0085AQ0753 comply with the requirements of the listed Directives and Standards.

Directives:

– 2014/35/EU – LVD
– 2014/30/EU – EMC
– 2011/65/EU – RoHS II
– 2015/863/EU – RoHS III

Regulation:

– (EU) 2016/426 – GAR

Standards:

– EN 1854:2010

The relevant product corresponds to the tested type sample.

The production is subject to the surveillance procedure pursuant to Regulation (EU) 2016/426 Annex III paragraph 3.

Elster GmbH

10.3 UKCA certified

UK CA

Gas Appliances (Product Safety and Metrology etc. (Amendment etc.) (EU Exit) Regulations 2019)
BS EN 1854:2010

10.4 UL recognized

USA and Canada

c UL us

Underwriters Laboratories – UL 353 “Limit Controls”.

10.5 REACH Regulation

The device contains substances of very high concern which are listed in the Candidate List of the European REACH Regulation No. 1907/2006. See Reach list HTS at www.docuthek.com.

10.6 China RoHS

Directive on the restriction of the use of hazardous substances (RoHS) in China. Scan of the Disclosure Table China RoHS2, see certificates at www.docuthek.com.

11 LOGISTICS

Transport

Protect the unit from external forces (blows, shocks, vibration).

Transport temperature: see page 3 (8 Technical data).

Transport is subject to the ambient conditions described.

Report any transport damage on the unit or packaging without delay.

Check that the delivery is complete.

Storage

Storage temperature: see page 3 (8 Technical data).

Storage is subject to the ambient conditions described.

Storage time: 6 months in the original packaging before using for the first time. If stored for longer than this, the overall service life will be reduced by the corresponding amount of extra storage time.

12 DISPOSAL

Devices with electronic components:

WEEE Directive 2012/19/EU – Waste Electrical and Electronic Equipment Directive

At the end of the product life (number of operating cycles reached), dispose of the packaging and product in a corresponding recycling centre. Do not dispose of the unit with the usual domestic refuse. Do not burn the product.

On request, old units may be returned carriage paid to the manufacturer in accordance with the relevant waste legislation requirements.