

Actuator for screwed globe valve

AVG6

Description



The actuator series AVG6 has been designed to control the screwed globe valves series VG up to DN40. The actuator is equipped by a bidirectional synchronous motor at 600 N and available in ON-OFF, floating and proportional version. Fast and easy assembly. The actuator is equipped, for the proportional version, with a button for self-adjustment. The on-off switch is fitted with magnetic clutch.

Technical specifications

Power supply	See schedule
Electrical connection	Screw terminal
Torque	600 N
Max. stroke	20 mm
Running time	See schedule
Materials	ABS cover, self-extinguishing
Protection degree	IP54
Protection class	II
Working range °C	-10...+50°C
Storage temperature and humidity	-40...+50°C, 1...95% RH, non-condensing
Fluid temperature	< 150°C
Maintenance	Free



Models	Supply	Action	Consumption	Running time
AVG6	24 VAC, 50/60 Hz	on-off, floating	5,5 VA	70 sec. w/stroke 15 mm 92 sec. w/stroke 20 mm
AVG6B	230 VAC, 50/60 Hz	on-off, floating	5,5 VA	70 sec. w/stroke 15 mm 92 sec. w/stroke 20 mm
AVG6M	24 VAC, 50/60 Hz	proportional	5,5 VA	70 sec. w/stroke 15 mm 92 sec. w/stroke 20 mm

Electrical wiring

AVG6M (proportional)

W1: mA/VDC. Allows to choose whether the input signal is in voltage or in current. This jumper must be set along with W2 to select the input signal to J1.

W2: 4...20 mA (2...10 VDC) / 0...20 mA (0...10 VDC). This jumper must be set with W1 to select the input signal to J1.

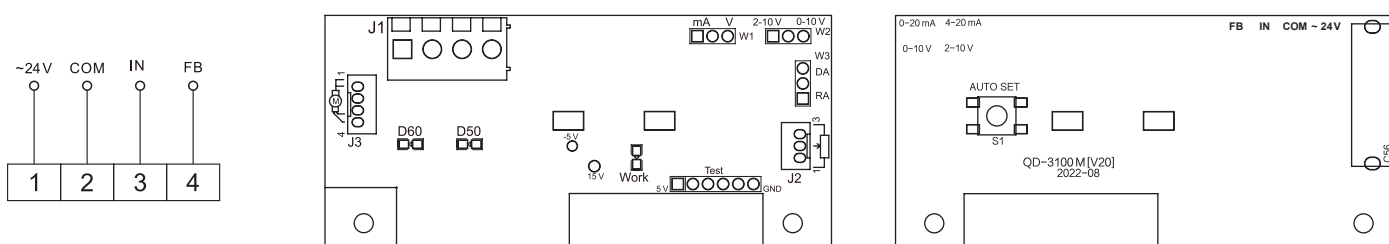
W3: Reverse operation. Moving the jumper inverts the logic of operation compared to the input signal.

J1 Socket function

~24 V COM: 24 VAC power input

IN COM: Analog input signal, 0(2)~10 V or 0(4)~20 mA. W1 and W2 should be selected accordingly

FB COM: Analog feedback signal, 0(2)~10 V (load impedance > 500 Ω) or 0(4)~20 mA (load impedance ≤ 500 Ω), voltage and current automatically switch.

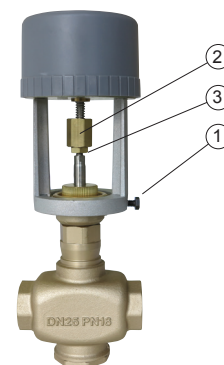
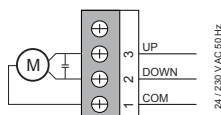


AVG6



AVG6, AVG6B (on-off, floating)

- 1: Common
- 2: Stem down (direct way open)
- 3: Stem up (direct way close)



Installation

Place motor on the valve and, having placed in seat, tighten the locking screw (1).
Screw the brass nut of the motor shaft on the valve stem (2) and tighten the counter nut (3).
Make the electrical connections as shown in the previous diagrams and (only for AVG6M) provide for the jumper settings.

LED status indicator AVG6M

LED status	Equipment status
Flash slowly (1 sec on, 1 sec off).	Normal operating
Flash quickly (0,25 sec on, 0,25 sec off)	Self-adjustment
Flash twice (0,25 sec on and off twice, 1,25 sec off)	Self-adjustment failure
Flash once quickly (0,25 sec on and off, 1,75 sec off)	Motor timeout alarm

Motor rotation indication

D50 light on, valve shaft upward
D60 light on, valve shaft downward
Self-adjustment in an error state: flash twice quickly and off for a long time (0,25 sec on, 0,25 sec off, twice, then 1,25 sec off)

Self-adjustment

Note:
1. Do not start adaptation at the top of the valve stem. When adaptive, the voltage value of the simulated feedback signal 0-10VDC corresponds to the actual position value of the valve stem.
2. The adaptive process is best carried out when the valve is unloaded or lightly loaded. If the motor timeout alarm is triggered due to high resistance during adaptation, the adaptation will fail or incorrect valve travel will be obtained.
Press and hold the "AUTO SET" key for 3 sec, the actuator automatically will enter the self-adjustment. The LED "work" is flashing rapidly (0,25 sec on, 0,25 sec off). The valve shaft moves down to the bottom, and then maintains the position for 25 sec and then move upward until the upper point. This self-adjustment does not end until the valve shaft does not hold the final position for 25 sec.

Note: If the analog feedback signal does not meet the requirements during adaptive (that is, the potentiometer slips when the valve stem goes to both ends), the position of the potentiometer needs to be adjusted and then re-adaptive. Otherwise, although adaptive may be successful, the two ends of the drive will not go in place and cause the valve to close loosely.

To self-adaptation occurred (the previous data is overwritten), the actuator returns to normal operation. Otherwise (the previous data is not overwritten), will be reported the failure of the state of self-adjustment (0,25 sec on, 0,25 sec off, twice, then 1,25 sec off). You can hold down the "AUTO SET" key for 3 sec to retry the process of self-adjustment, or reboot (power cycle) of the actuator to return to normal working state.

Reasons for self-adjustment failure:

1. The adaptive valve stem stroke is too short, shorter than half of the maximum stroke.
2. The potentiometer wire connection is wrong or the line is disconnected. It is correct that the potentiometer value is maximum at the top of the valve stem and minimum at the bottom.

Dimensions (mm)

