Data sheet

Actuator for three point control AMV 435

Description



AMV 435 actuator is used with two and three-way valves type VRB, VRG, VF and VL up to DN 80 diameter and for AHQM DN 40-100. It is also used with pressure independent balancing and control valve type AB-QM from DN 40 to DN 100.

The advanced design incorporates load related 'switch-off' to ensure that actuators and valves are not exposed to overload.

Combinations with other valves could be seen under Accessories.

Main data:

- Nominal voltage:
  - 24 VAC/DC, 50 Hz/60 Hz
  - 230 VAC, 50 Hz/60 Hz
- Control input signal: 3 point
- Force: 400 N
- Stroke: 20 mm
- Speed (selectable):
  - 7.5 s/mm
  - 15 s/mm
- Max. medium temperature: 130 °C
- LED signalling
- End-position signals
- Manual operation

Ordering

Actuator

Type	Supply voltage	Code No.
AMV 435	24 VAC/DC	**082H0162**
	230 VAC	**082H0163**

Accessories-**Stem heater**

Type	DN	Power supply	Code No.
Stem heater	15-80	24 V	**065Z0315**

Accessories-**Adapter**

Valves	DN	max Δp (bar)	Code No.
For old VRB, VRG, VF, VL valves	15	9	**065Z0313**
	20	4	
	25	2	
	32	1	
	40	0.8	
	50	0.5	
For AB-QM 1st gen.	40 - 100	-	

Technical data

Power supply	V	24 AC/DC, 230 AC; +10 to –15%
Power consumption	VA	3 (24 V); 7,6 (230 V)
Frequency	Hz	50 or 60 (for VAC power supply)
Control input		3 point
Close of force	N	400
Max. stroke	mm	20
Speed	s/mm	7,5 or 15
Max. medium temperature	°C	130
Ambient temperature		0 … 55
Storage and transport temperature		–40 … +70
Protection class		II
Degree of protection		IP 54
Weight	kg	0,45
CE - marking in accordance with standards		Low Voltage Directive (LVD) 2006/95/EC: EN 60730-1, EN 60730-2-14 EMC Directive 2004/108/EC: EN 61000-6-2, EN 61000-6-3

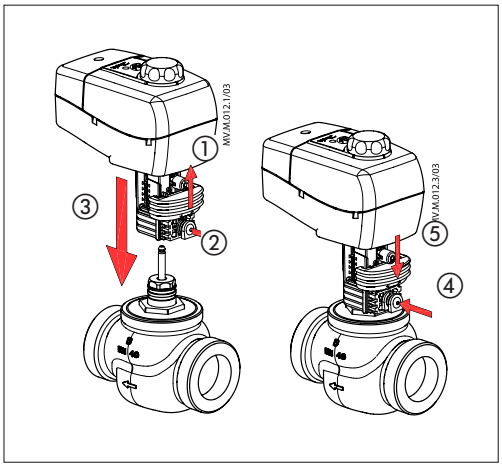
Installation

Mechanical

No tool is required to mount actuator on the valve. Installation of the valve with the actuator is allowed in horizontal position or upwards. Installation downwards is not allowed.

The actuator must not be installed in an explosive atmosphere, at ambient temperature lower than 0 °C or at ambient temperature higher than 55 °C. It must not be subject to steam jets, water jets or dripping liquid as well.

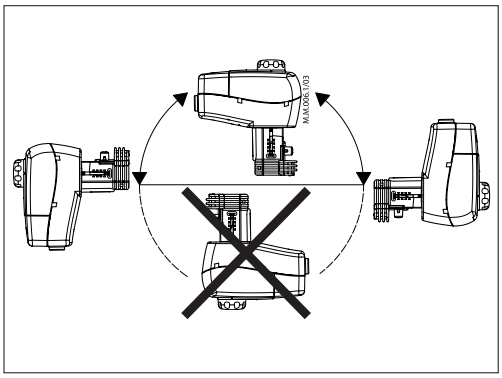
Note:
The actuator may be rotated up to 360° with respect to the valve stem by loosening the retaining fixture. Once the actuator is placed, retighten the fixture.



Electrical

Electrical connections can be accessed by removing the actuator cover. Two cable gland entries without thread (Ø16 and combined Ø16/Ø20) are prepared for cable glands. From factory one entry is provided by rubber cable gland and the other entry is prepared for opening.

Note:
Cable and cable gland used must not compromise the actuator's IP rating, and must ensure the connectors are fully strain relieved.
Rubber cable gland delivered from factory does not compromise IP rating but it does not provide fully strain relieve according to LVD directive.
Please observe local rules and regulations as well.



Commissioning

Complete the mechanical and electrical installation and perform the necessary checks and tests:

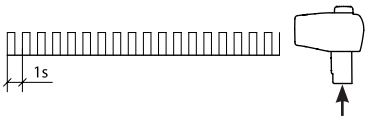
- Apply power
- Apply the appropriate control signal and check that the valve stem direction is correct for the application.

The unit is now fully commissioned.

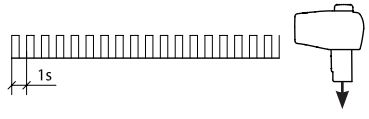
LED signalling/ Actuator operating mode

LED function indicator

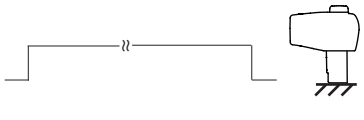
The bi-colour (green/red) LED function indicator is located on the actuator cover. It indicates the operating modes.



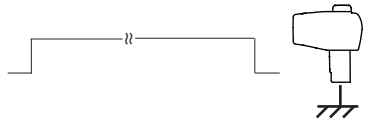
Flashing red (green if used with AB-QM) LED: moving to retracted position



Flashing green (red if used with AB-QM) LED: moving to extracted position



Constant red (green if used with AB-QM) LED: retracted position reached



Constant green (red if used with AB-QM) LED: extracted position reached

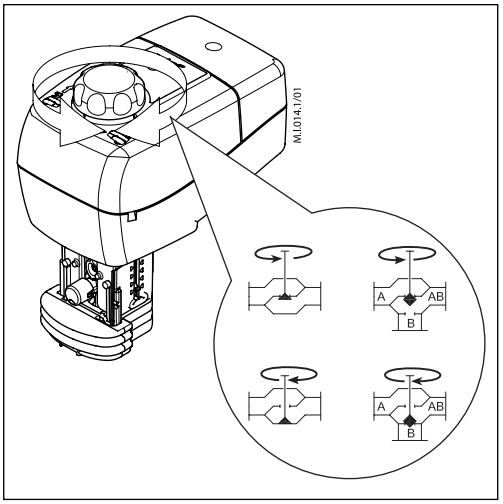
Manual override

Manual override is done by means of control knob on actuator housing:

- Disconnect control signal
- Adjust valve position using the control knob (observe the rotation direction)

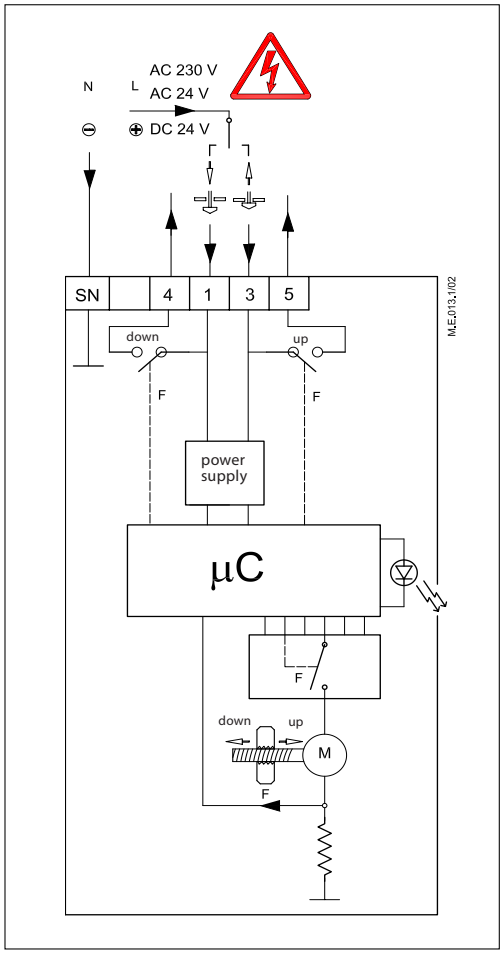
After manual override is not needed:

- Restore control signal



Wiring

Do not touch anything on the PCB!
Do not remove the cover before the power supply is fully switched off.
Max. power allowed on ports 4 and 5 is 7 VA.



Terminals 1, 3:
Control voltage input from the controller. Power supply 24 VAC/DC, 230 VAC (dependent on type)

Note:
AB-QM valve closes if moved to extracted position (terminal 1) and opens if moved to retracted position (terminal 3).

Terminals 4, 5:
Output used for position indication or monitoring

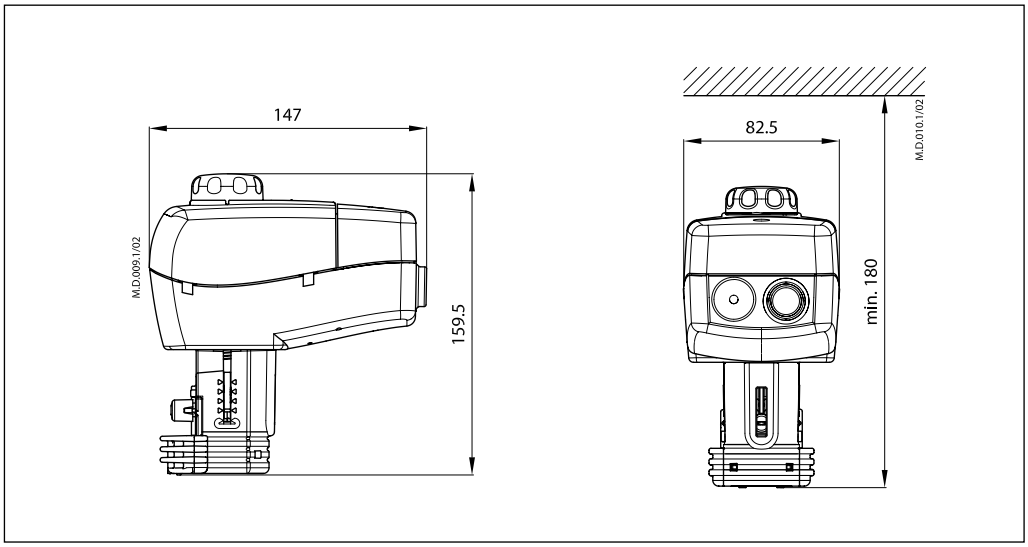
N
Neutral/Common (0 V)

Wiring length	Recommended cross-sectional area of the wiring
0-50 m	0.75 mm^2
> 50 m	1.5 mm^2

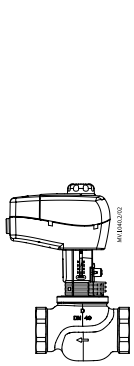
Disposal

The actuator must be dismantled and the elements sorted into various material groups before disposal.

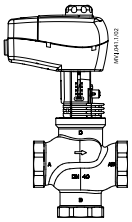
Dimensions



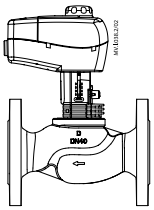
Actuator - valve combinations



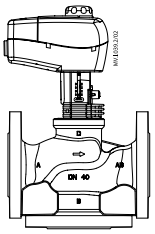
AMV 435 + VRB 2, VRG 2



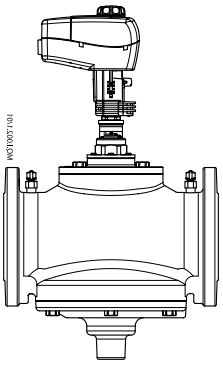
AMV 435 + VRB 3, VRG 3



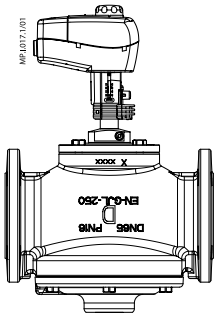
AMV 435 + VF 2, VL 2



AMV 435 + VF 3, VL 3



AMV 435 + AB-QM



AMV 435 + AHQM (DN 40-100)

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