

Data sheet

Actuator for three point control

AMV 438 SU – safety function (spring up)

Description



AMV 438 SU actuator is used with two and three-way valves type VRB, VRG, VF and VL up to DN 50 diameter.

The actuator has some special features:

- advanced design incorporates load related 'switch-off' to ensure that actuators and valves are not exposed to overload
- Safety function (spring up): In case of power failure or power switch off spring up function retracts actuator stem to end position. Further manual stem positioning is not disabled.

Main data:

- Nominal voltage:
 - 24 VAC, 50 Hz/60 Hz
 - 230 VAC, 50 Hz/60 Hz
- Control input signal: 3 point
- Force: 450 N
- Stroke: 15 mm
- Speed: 15 s/mm
- Max. medium temperature: 150 °C
- End-position signals

Ordering

Actuator

Type	Supply voltage	Code No.
AMV 438 SU	24 VAC	082H0122
	230 VAC	082H0123

Accessories

Type	Code No.
Additional switches (2x)	082H7015
Additional switches (2x) and potentiometer (10 kΩ)	082H7016
Additional switches (2x) and potentiometer (1 kΩ)	082H7017
Stem heater (for valves DN 15-50)	065Z0315

Technical data

Power supply	V	24 AC, 230 AC; +10 to -15%
Power consumption	VA	12
Frequency	Hz	50/60
Control input		3-point
Close of force	N	450
Max. stroke	mm	15
Speed	s/mm	15
Max. medium temperature		150
Ambient temperature	°C	0 ... 55
Storage and transport temperature		-40 ... +70
Protection class		I (230 V); III (24 V)
Degree of protection		IP 54
Weight	kg	2.3
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

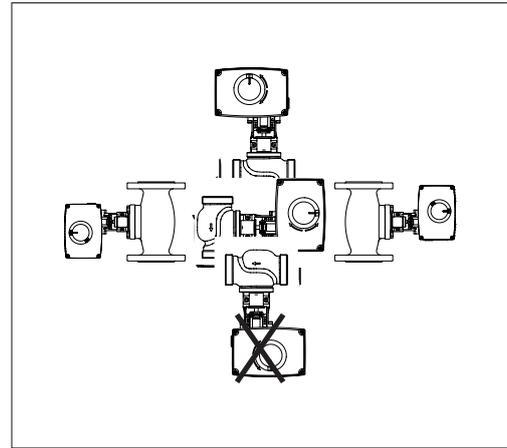
Use 4 mm Allan key (not part of actuator delivery) to mount actuator on the valve. Installation of the valve with the actuator is allowed in horizontal position or upwards. Installation downwards is not allowed.

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 with thread (M20 x 1.5 and M16 x 1.5) are prepared for cable glands.



Note: Cable and cable gland used must not compromise the actuator's IP rating, and must ensure the connectors are fully strain relieved. Please observe local rules and regulations as well.

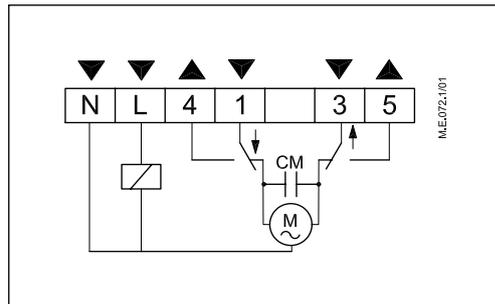
Wiring



230 VAC version:

Do not touch anything on the PCB!

Do not remove the cover before the power supply is fully switched off.



Terminals 1, 3:

Control voltage input from the controller.

Terminals 4, 5:

Output used for position indication or monitoring.

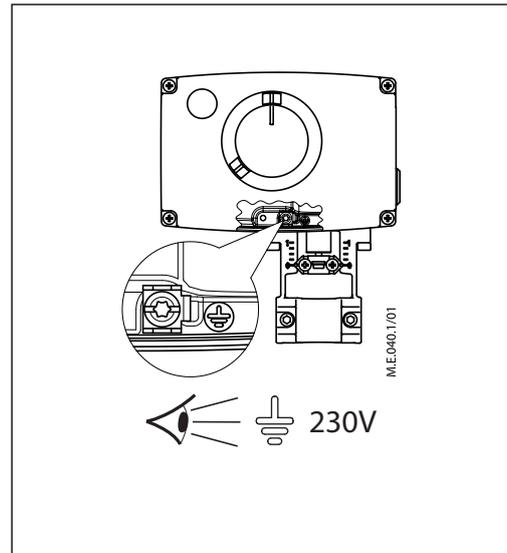
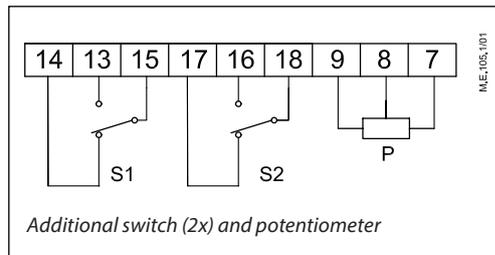
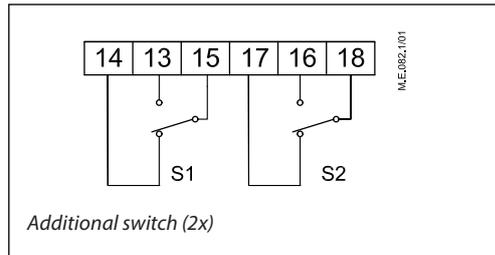
L

Power supply 24 V~ or 230 V~

N

Common (0 V)

Accessories



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.

Manual override

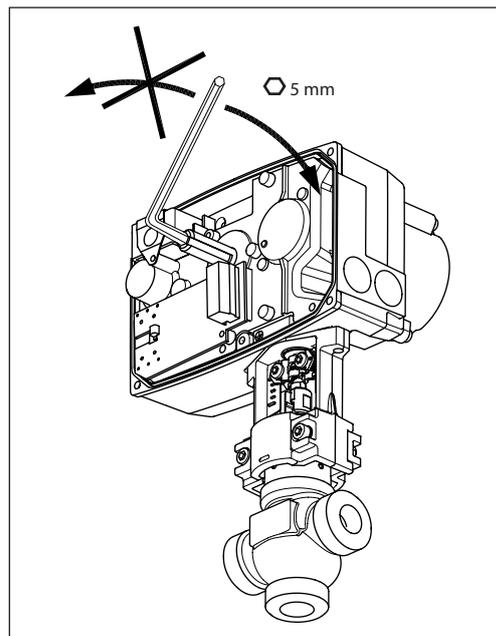
Manual override is done by means of positioning spindle inside the actuator:

- Disconnect power signal
- Remove the actuator cover
- Insert 5 mm Allan key (not part of actuator delivery) into the top of the positioning spindle
- Turn the key against the spring (observe the rotation direction)

To hold a manual override position, the key must be wedged.

After manual override is not needed:

- Restore power signal.

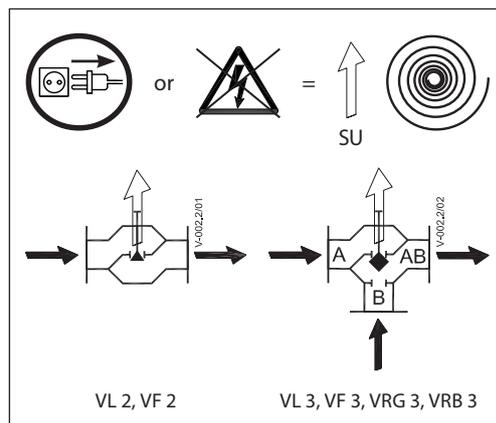


Safety function

The safety function will fully close the valve. The safety function unit is factory fitted to the rear of the actuator.

Valve type	Safety action will close port A-AB
VRG, VRB	SU
VL (DN 15-50)	SU
VF (DN 15-50)	SU

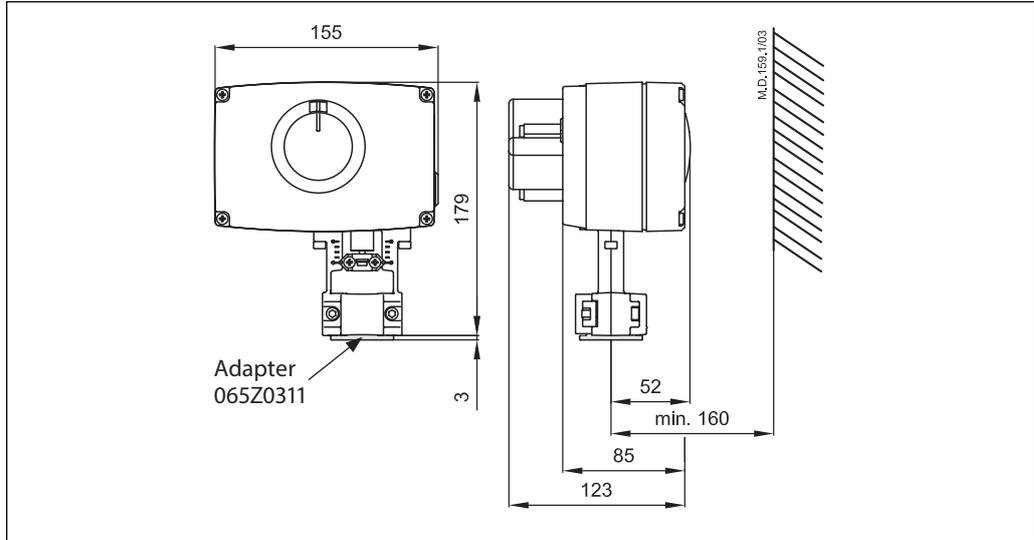
Note: Do not use safety activations for ON/OFF regulation.



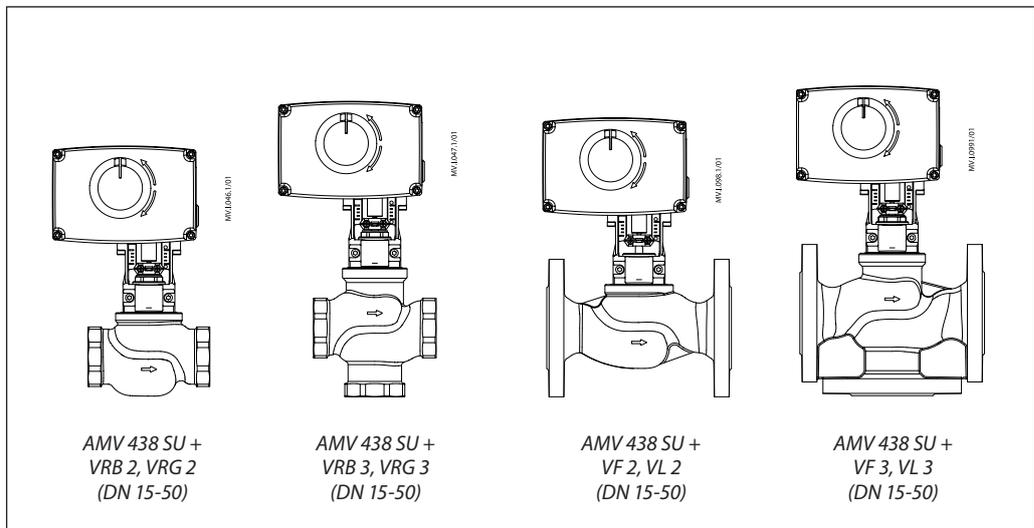
Data sheet

Actuator for three point control AMV 438 SU

Dimensions



Actuator - valve combinations



Danfoss A/S

Climate Solutions • danfoss.com • +45 7488 2222

Any information, including, but not limited to information on selection of product, its application or use, product design, weight, dimensions, capacity or any other technical data in product manuals, catalogues descriptions, advertisements, etc. and whether made available in writing, orally, electronically, online or via download, shall be considered informative, and is only binding if and to the extent, explicit reference is made in a quotation or order confirmation. Danfoss cannot accept any responsibility for possible errors in catalogues, brochures, videos and other material. Danfoss reserves the right to alter its products without notice. This also applies to products ordered but not delivered provided that such alterations can be made without changes to form, fit or function of the product.

All trademarks in this material are property of Danfoss A/S or Danfoss group companies. Danfoss and the Danfoss logo are trademarks of Danfoss A/S. All rights reserved.