

Data sheet

Actuator 2 point, ON/OFF control AMI 120 NL-1

Description



The AMI 120 NL-1 is a 2 point (ON/ OFF), 3 wire actuator used with the AB-QM pressure independent control valves installed on hot or chilled water system applications. This actuator is installed on AB-QM valve sizes ranging from 1/2" to 1- 1/4". The AB-QM assembly is suitable for

installation within fan coil units, VAV, induction units or additional units that require combined balancing and valve control, which could be located within enclosures or plenum rated spaces.

As a 3 wire actuator, it receives constant power to travel to its default position and upon receipt of input signal will travel in the opposite direction. Designed within the actuator is an overload and gap function to prevent unnecessary travel from the actuator.

Main data:



- 2-point, ON/ OFF, 3 wires required
- Force switch-off at stem down position prevents overload of actuator and valve
- Gap function detection on stem up travel
- No tools required for mounting
- Maintenance free during lifetime
- Low noise operation
- 1/2" Conduit hole, removable plate
- Wiring terminal block
- In accordance with UL 2043 for plenum installation
- UL listed

Ordering

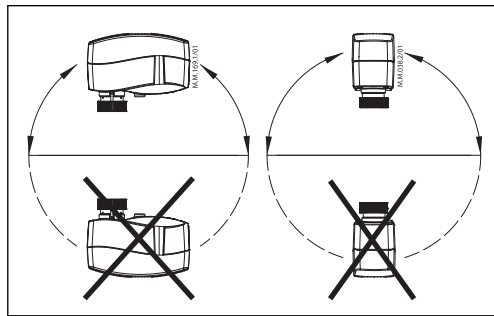
| Type | Supply voltage | Speed | Code No. |
|--------------|----------------|---------------------------------|----------|
| AMI 120 NL-1 | 24VAC | 10 s/mm @ 60Hz (12 s/mm @ 50Hz) | 082H5003 |

Technical data

| | | |
|-------------------------|---------|---|
| Power supply | V | 24 AC; +10%... -15% |
| Electrical Connection | " | 1/2 electrical conduit, wiring terminal block |
| Power consumption | VA | 1 VA |
| Frequency | Hz | 50 / 60 |
| Control Input | | ON/OFF, 3-wire |
| Output Signal | | End travel position feedback |
| Actuator Force | lbf (N) | 45.0 (200) |
| Max. Stem Travel | mm | 5 |
| Travel Speed | | 12s/mm @ 50Hz, 10s/mm @ 60Hz |
| Max. Medium Temperature | °F (°C) | 248 (120) |
| Ambient temperature | | 32 to 131 (0 to 55) |
| Humidity | | 5 to 95% RH, noncondensing |
| Weight | lb (kg) | 0.66 (0.3) |

| | | |
|---|--------|--|
|  | USA | UL Listed, CCN XABE, File E480529; to ANSI/UL 60730-1 and ANSI/ UL 60730-2-14 Investigated and approved for plenum use in accordance with UL 2043 |
| | Canada | UL listed, CCN XABE7, File E48029; to CAN/CSA-E60730-1:13 and CAN/CSA-E60730-2-14:13 |
|  | Europe | CE Mark - Danfoss declares that this product complies with all relevant CE-marking directives |

Installation



Mechanical

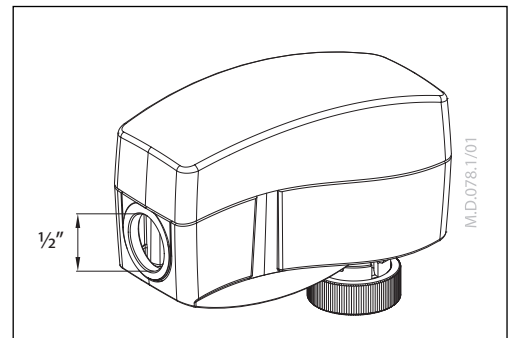
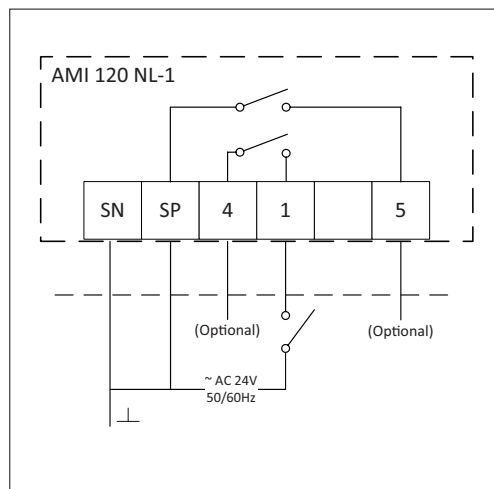
The actuator should be mounted with the valve stem in either horizontal position or pointing upwards.

The actuator is fixed to the valve body by means of a mounting ring which requires no tools for mounting. The ring should be tightened by hand.

Electrical

Important: Prior to energizing the actuator should be assembled to the AB-QM.

Wiring



A field supplied 1/2" trade size electrician's fitting and lock nut can be mounted to the actuator enclosure. Insert wiring material through the removable plug or conduit fitting, and wire connection to the terminal block.

Travel Direction

Jumper Position "A" (Factory Setting)
 "On" at terminal block position "1": Actuator drives down and valve closes, optional terminal 4 closes.
 "Off" at terminal block position "1": Actuator drives up and valve opens, optional terminal 5 closes.

Jumper Position "B"
 "On" at terminal block position "1": Actuator drives up and valve opens, optional terminal 4 closes.
 "Off" at terminal block position "1": Actuator drives down and valve closes, optional terminal 5 closes.

Disposal

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

Commissioning

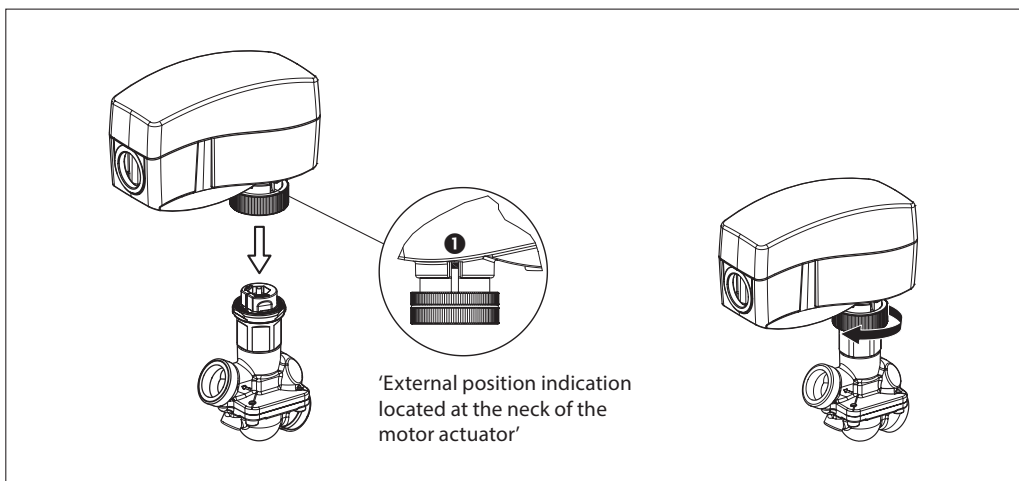
The factory position of the actuator spindle is in a full stem up position allowing easier mechanical connection of the actuator on the valve.

Installation and commissioning procedure
(if required)



Do not touch anything on the PCB! Before removing the cover in need of hand operation with Allen key power supply must be disconnected. Lethal voltage!

1. Check the valve neck. The actuator should be in the full up position (factory setting). If it is not, manually reposition the actuator to its full up position.
2. The actuator is fixed to the valve body by means of a ribbed nut which requires no tools for mounting. The ribbed nut should be hand tightened only.
3. For applications requiring conduit, a field supplied 1/2" trade size electrician's fitting and lock nut can be mounted in the actuator enclosure. Make all wiring connections in accordance with local, national, or regional regulations.
4. Insert wiring material through the removable plug or conduit fitting, and connect to the terminal block according to the wiring diagram - see page 2.



Manual override
(for service purposes only)

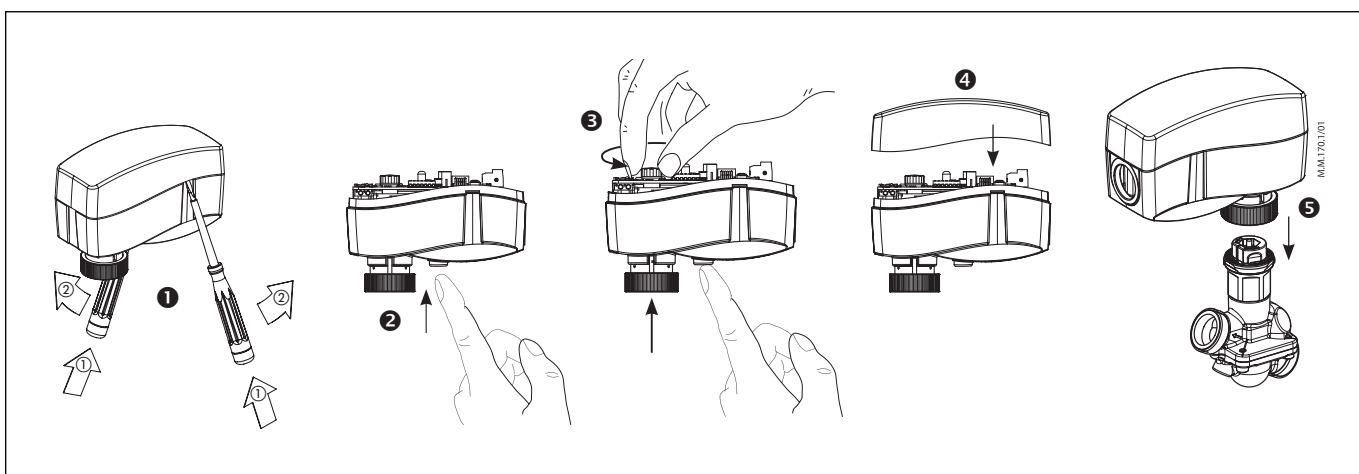


Caution:
Do not manually operate the drive under power!

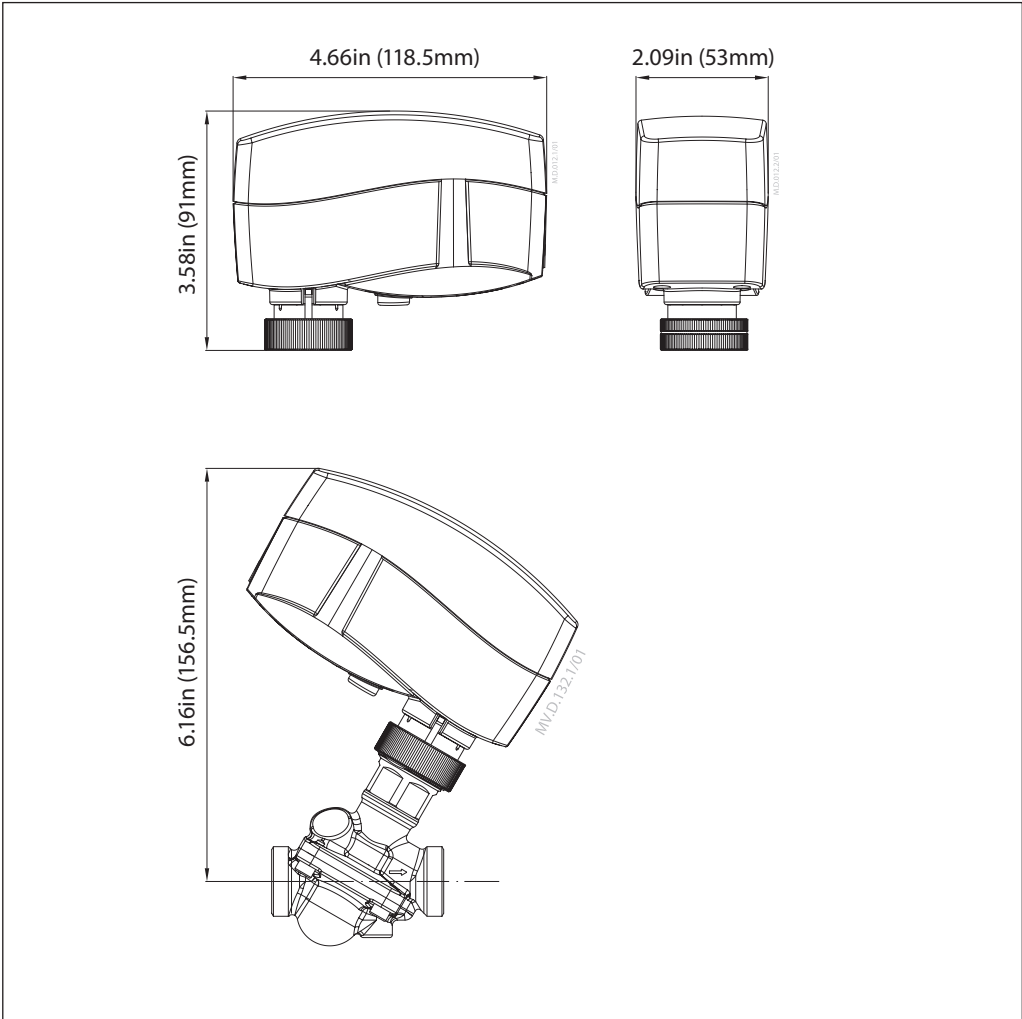
- Remove cover ①
- Press and hold the button ② (on the bottom side of the actuator) during manual override ③
- Replace cover ④
- Install actuator on valve ⑤

Remark:

A "click" sound after energizing the actuator means that the gear wheel has jumped into normal position.



Dimensions (mm)



Danfoss

AB-QM™ Valves
11655 Crossroads Circle
Baltimore, MD 21220 USA
Telephone: 1-888-DANFOSS (326-3677), option 3
Fax: (416) 352-5981
Email: heating.cs.na@danfoss.com

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