

Data sheet

# Actuator for 3-point Triac Control AMV 120 NL-1

Description



The AMV 120 NL-1 is a 3-point triac control actuator with end position indication. This actuator is assembled to the AB-QM pressure independent control valves ranging from 1/2" to 1- 1/4" sizes and applied within hot or chilled water system applications.

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. Designed within the actuator is an overload and gap function to prevent unnecessary travel from the actuator.

**Main data:**

- 3-point triac control
- End position feedback indication
- 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
- cULus listed



Ordering

Actuators

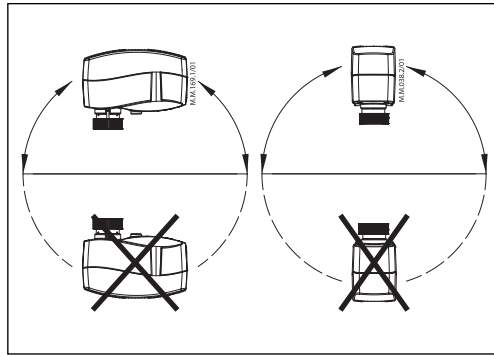
Type	Supply voltage	Speed	Code No.
AMV 120 NL-1	24 VAC	10 s/mm @ 60Hz (12 s/mm @ 50Hz)	<b>082H5005</b>

Technical data

Type		AMV 110 NL	AMV 120 NL
Power supply	V	24AC; +10%... -15%	
Electrical Connection		1/2" electrical conduit, wiring terminal block	
Power consumption	VA	1	
Frequency	Hz	50/60	
Control Input		3-point triac control	
Output Signal		End travel position feedback	
Actuator Force	lbf (N)	29.3 (130)	
Max. Stem Travel	mm	5	
Travel Speed		12s/mm @ 50Hz, 10s/mm @ 60Hz	
Max. Medium Temperature	°F (°C)	248 (120)	
Stroke	mm	5	
Ambient temperature	°F (°C)	32 to 131 (0 to 55)	
Humidity		5 to 95% RH, noncondensing	
Weight	lbs (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 E480529; 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.

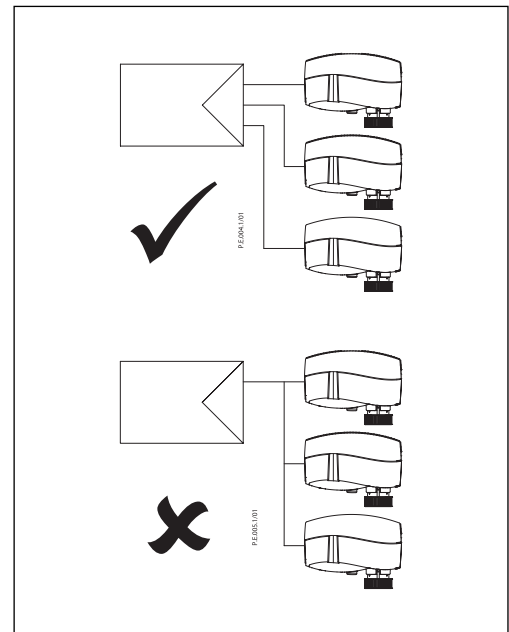
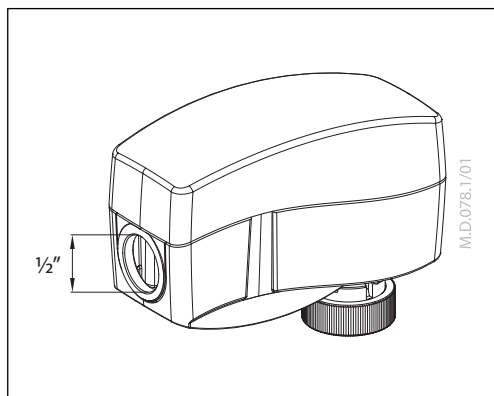
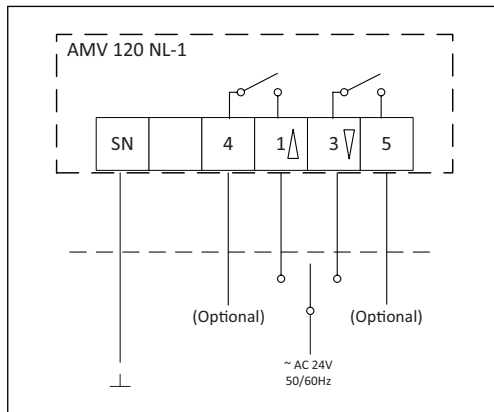
Electrical

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

Disposal

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

Wiring



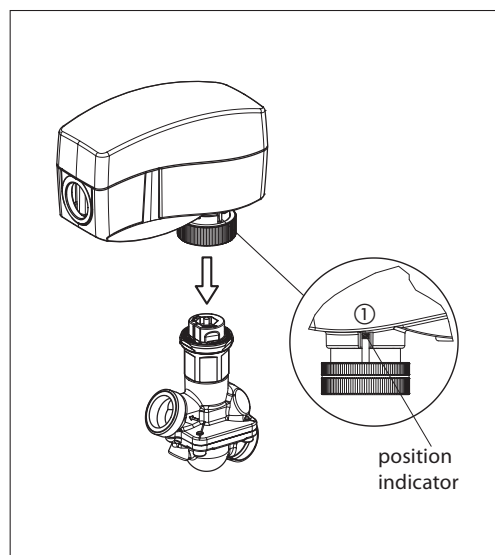
A field supplied 1/2" trade size electrician's fitting and lock nut can be mounted to the actuator enclosure. Insert wiring material through the removable plug or conduit fitting, and wire connection to the terminal block.

**Installation and commissioning procedure**  
(if required)



Do not touch anything on the PCB!  
Do not remove the cover before the power supply is fully switched off.

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 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.

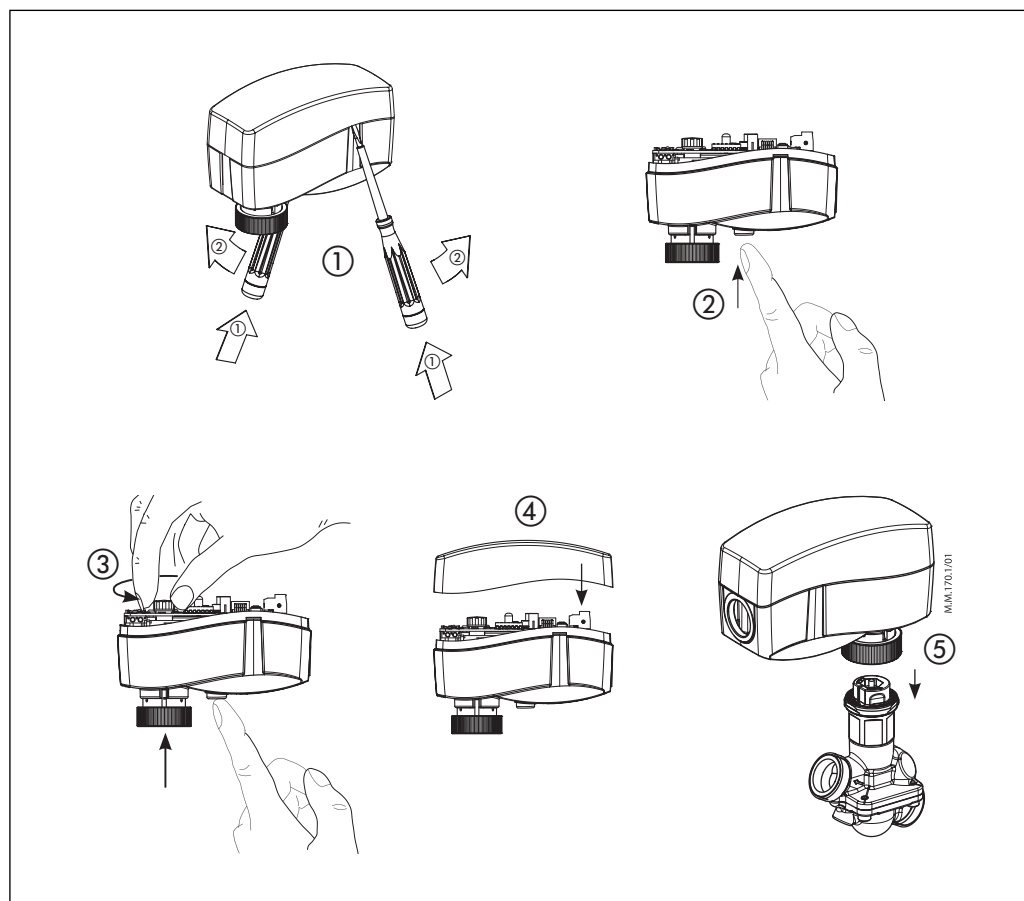


**Manual override**  
(for service purposes only)



**Caution:**  
Do not manually operate the drive if power is connected!

**Do not dismount the actuator from the valve when it is in a stem down position!**  
If dismounted in a stem down position, there is a high risk that the actuator gets stuck.



- 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 energising the actuator indicates that the gear wheel has jumped into normal position.

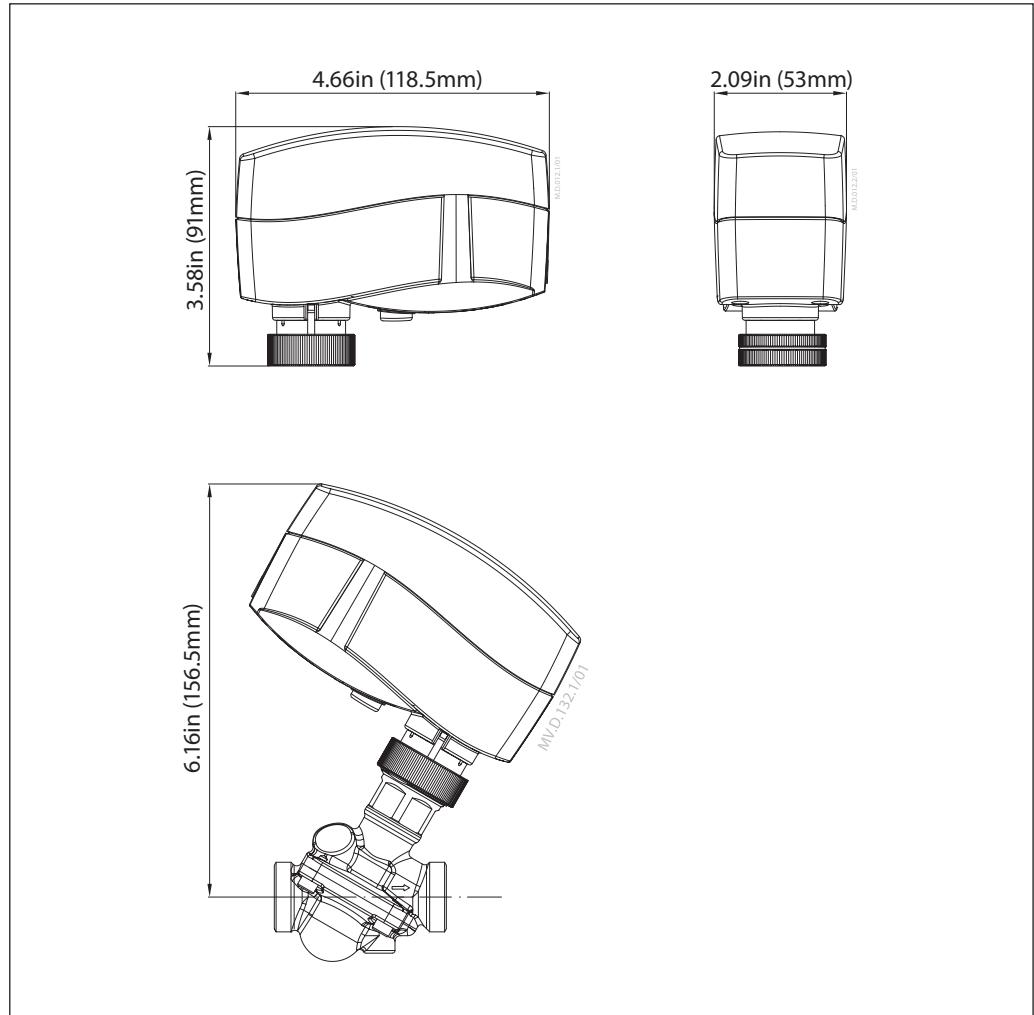
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Commissioning

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

Dimensions (mm)



Danfoss A/S

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