

**Electric Actuators**  
**For ABQM, Pressure Independent Control Valve**  
**AME 110NL / AME110NLX / AMV 110NL / AMI140**



The AME 110NL, AMV 110NL/NLX and AMI 140 are compact sized gear motor actuators that are utilized for ½” to 1-¼” AB-QM sizes. The AME actuator utilizes a proportional control signal 0(2)-10V while the AMV uses a 3-point floating signal. The AMI actuator is a 2-point 3-wire actuator that operates as an on/off actuator. The compact profile of the actuator and valve are ideal for compact assembly in fan

coil units, induction units, and zone heating and cooling terminal applications. Other features include:

- Gap detection at stem up position
- Force switch-off at stem down position prevents overload of actuator and valve.
- No tools required for mounting
- Maintenance free during lifetime
- Low noise operation
- Manual override

*Control Signal & Travel Calibration, AME*  
 The AME style of actuator automatically calibrates the stem travel and control signal. This and the gap detection feature ensure that any variance in stem position and travel is adjusted for by the actuator to provide linear calibration between the stem travel and control signal.

**Ordering:**

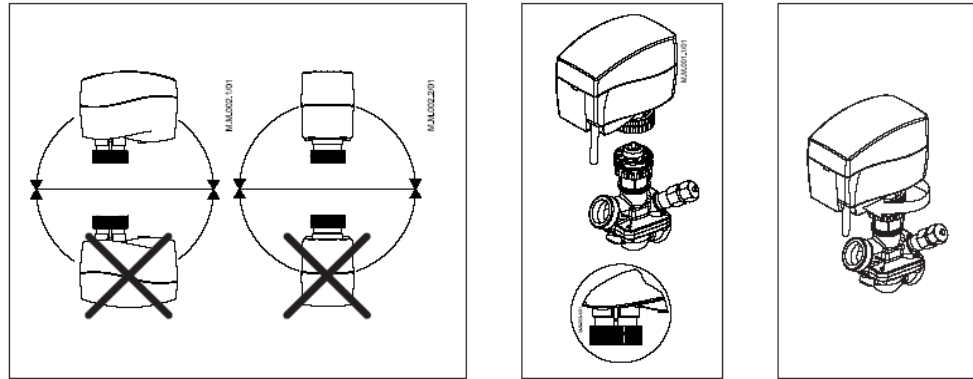
Code No.	Style	Description	Signal
<b>082H8056</b>	AMV 110NL	Motorized electric actuator	3-point floating
<b>082H8057</b>	AME 110NL	Motorized electric actuator	Proportional
<b>082H8060</b>	AME 110NLX	Motorized electric actuator	Proportional, w/ feedback
<b>082H8048</b>	AMI 140 *	Motorized electric actuator	ON/OFF, 3-wire

\* Spacer washer is required, code no. **003Z0257**

**Technical Data:**

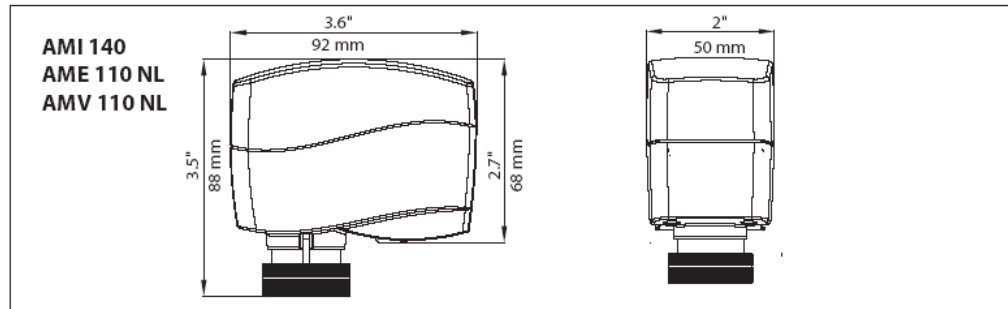
Type	AMV 110NL	AME 110NL	AME110NLX	AMI 140
Power supply	24 VAC, +10...-15%			
Power consumption	1 VA	2 VA	1.5 VA	1 VA
Frequency	50 Hz / 60 Hz			
Control input	3-point floating	0(2)...10VDC Ri=110k 0(4)...20mA Ri=500Ω		ON/OFF, 3-wire
Output signal	-	-	0-10VDC	-
Actuator force	29.2 lbf (130N)			45.0 lbf (200N)
Max. stroke	5mm			5.5 mm
Speed	24 s/mm			12 s/mm
Max. medium temp.	248°F (120°C)			266°F (130°C)
Enclosure type	IP 42			
Weight	0.66lb (0.3 kg)			

Installation  
Orientation:

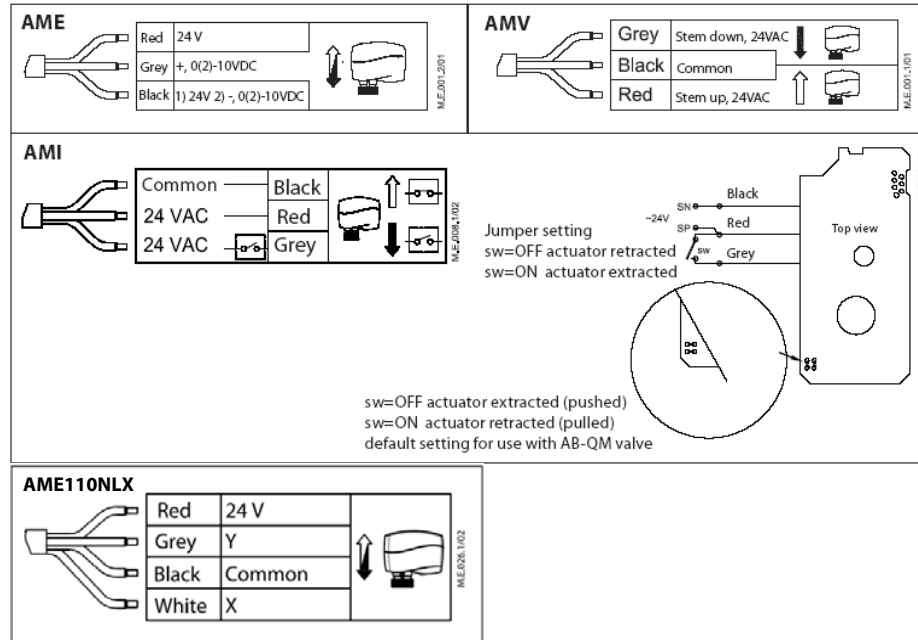


The actuator should be mounted with the valve stem in either horizontal position or pointing upwards. The actuator is fixed to the valve body by means of a mounting ring which is tightened by hand and requires no additional tools for mounting. Prior to wiring the valve it is recommended that the actuator is mounted.

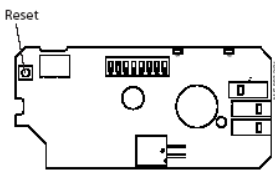
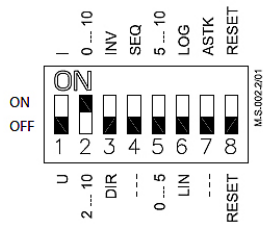
Dimensions:



Electrical Wiring:

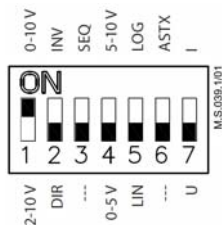


**AME110NL  
Proportional DIP  
switch setting**



**Remark:**

Factory setting: All switches (except switch 2 which is in ON position) are in OFF positions.



**AME110NLX DIP  
switch settings**

The actuator has a function selection DIP switch under the removable cover. In particular, if SW6 is set to ON, the actuator will perform as 3-point actuator.

The switch provides the following functions:

**• SW1: U/I - Input signal type selector:**

If set to OFF position, voltage input is selected. If set to ON position, current input is selected.

**• SW2: 0/2 - Input signal range selector:**

If set to OFF position, the input signal is in the range from 2 V to 10 V (voltage input) or from 4 mA to 20 mA (current input). If set to ON position, the input signal is in the range from 0 to 10 V (voltage input) or from 0 mA to 20 mA (current input).

**• SW3: D/I - Direct or Reverse acting selector:**

If set to OFF position, the actuator is direct acting (stem lowers as voltage increases). If actuator is set to ON position the actuator is reverse acting (stem raises as voltage increases).

**• SW4: ---/Seq - Input signal range in sequential mode:**

If set to OFF position, the actuator is working in range 0(2)...10 V or 0(4)...20 mA. If set to ON position, the actuator is working in sequential range; 0(2)...5 (6) V or (0(4)...10 (12) mA) or (5(6)...10 V) or (10(12)...20 mA).

**• SW1: 0/2 - Input signal range selector:**

If set to OFF position, the input signal is in the range from 2 V to 10 V (voltage input) or from 4 mA to 20 mA (current input). If set to ON position, the input signal is in the range from 0 to 10 V (voltage input) or from 0 mA to 20 mA (current input).

**• SW2: D/I - Direct or Reverse acting selector:**

If set to OFF position, the actuator is direct acting (stem lowers as voltage increases). If actuator is set to ON position the actuator is reverse acting (stem raises as voltage increases).

**• SW3: ---/Seq - Input signal range in sequential mode:**

If set to OFF position, the actuator is working in range 0(2)...10 V or 0(4)...20 mA. If set to ON position, the actuator is working in sequential range; 0(2)...5 (6) V or (0(4)...10 (12) mA) or (5(6)...10 V) or (10(12)...20 mA).

**• SW4: 0...5V/5...10V - Normal or sequential mode selector:**

If set to OFF position, the actuator is working in sequential range 0(2)...5 (6) V or 0(4)...10 (12) mA. If set to ON position, the actuator is working in sequential range; 5(6)...10 V or 10(12)...20 mA.

**• SW5: 0...5V/5...10V - Normal or sequential mode selector:**

If set to OFF position, the actuator is working in sequential range 0(2)...5 (6) V or 0(4)...10 (12) mA.

If set to ON position, the actuator is working in sequential range; 5(6)...10 V or 10(12)...20 mA.

**• SW6: LOG/LIN - Equal percentage or linear flow through valve selector <sup>1</sup>:**

If set to OFF position, the flow through valve is equal percentage. If set to ON position, the flow through valve is linear according to control signal.

**• SW7: ---/ASTK - Anti-blocking function:**

Exercises the valve to avoid blocking in periods when the heating/cooling is off.

If set to ON position (ASTK), the valve motion is switched on. The actuator opens and closes the valve every 7 days. If set to OFF position (---), the function is disabled.

**• SW8: Reset:**

Changing this switch position will cause the actuator to go through a self-calibration cycle.

**• SW5: LOG/LIN - Equal percentage or linear flow through valve selector <sup>1</sup>:**

If set to OFF position, the flow through valve is equal percentage. If set to ON position, the flow through valve is linear according to control signal.

**• SW6: ---/ASTK - Anti-blocking function:**

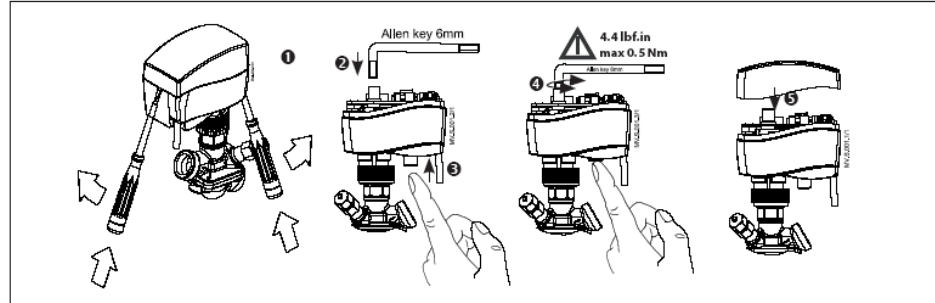
Exercises the valve to avoid blocking in periods when the heating/cooling is off.

If set to ON position (ASTK), the valve motion is switched on. The actuator opens and closes the valve every 7 days. If set to OFF position (---), the function is disabled.

**• SW7: U/I - Input signal type selector:**

If set to OFF position, voltage input is selected. If set to ON position, current input is selected.

## Manual Override:



1. Remove the cover.
2. Insert the Allen key 6 mm into the spindle.
3. Press and hold the button (on the bottom side of the actuator) during manual override.
4. Pull out the tool.
5. Place cover back on the actuator.

Note: A click after energizing the actuator indicates that the gear wheel has jumped into normal position.

**For AME:** If manual override has been used, the control signal will not be correct until the actuator has reached its end position or if the actuator is reset.

**Caution:** Do not manually operate the drive under power! 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 will get stuck.

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