

AME 110 NLX +
AB-QM DN 10-32

Danfoss AME 110 NLX Actuators for Modulating Control User Guide

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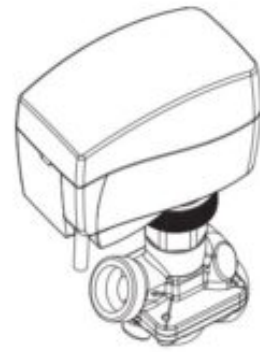
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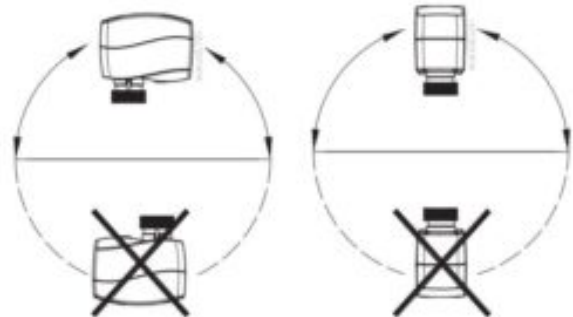


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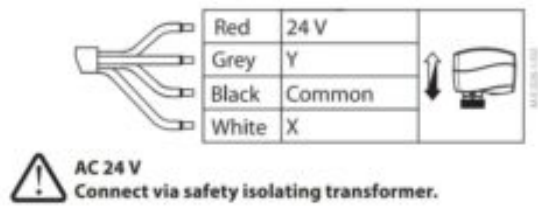
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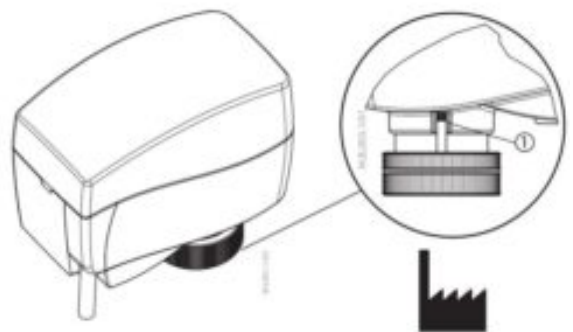
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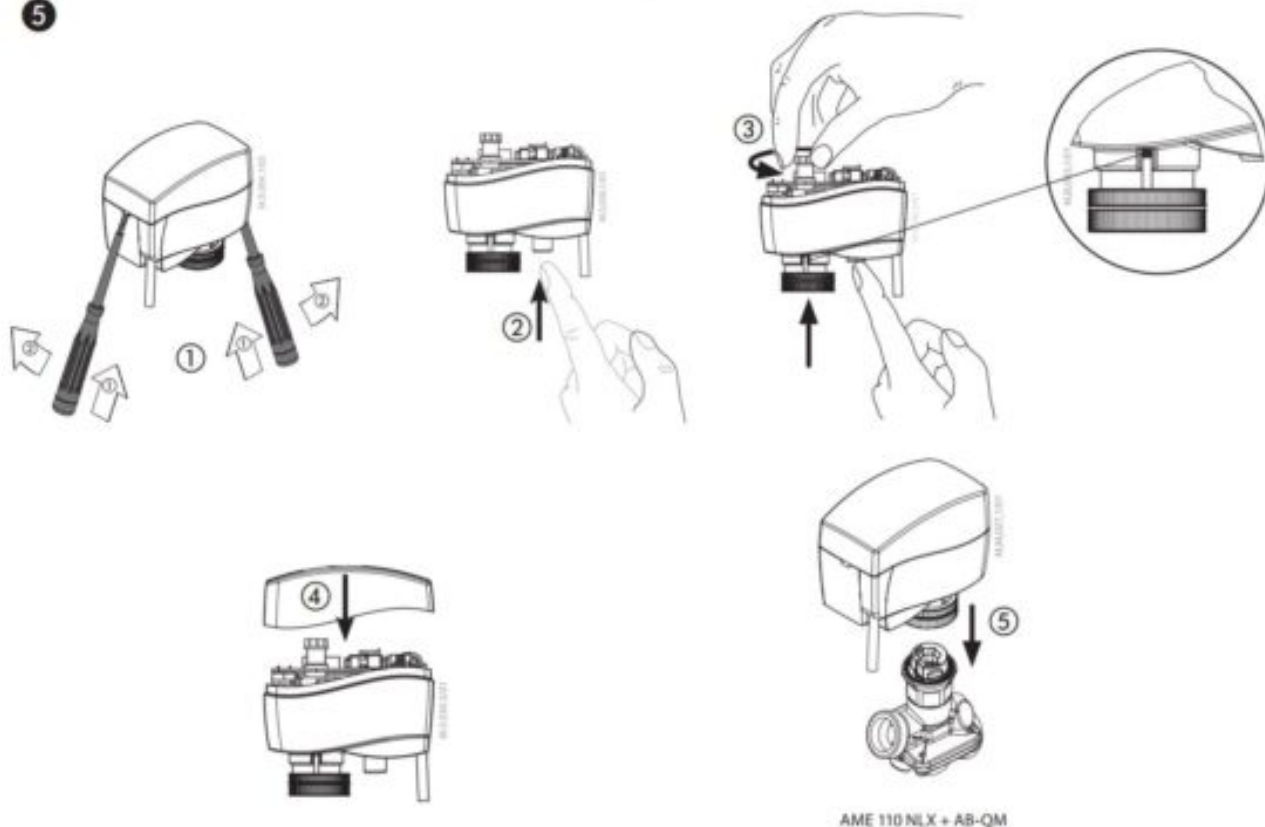
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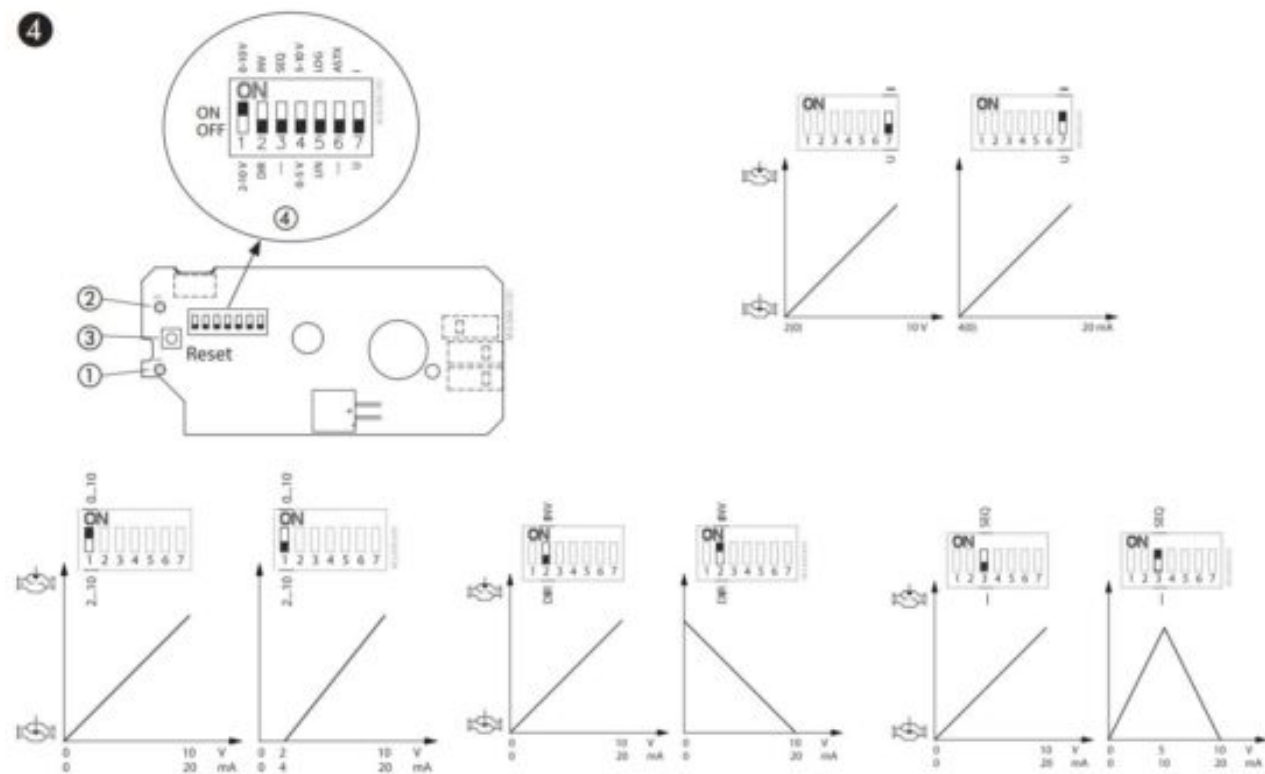
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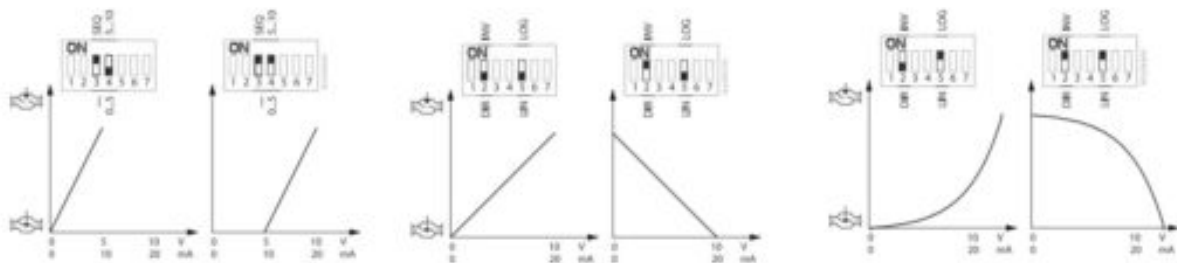


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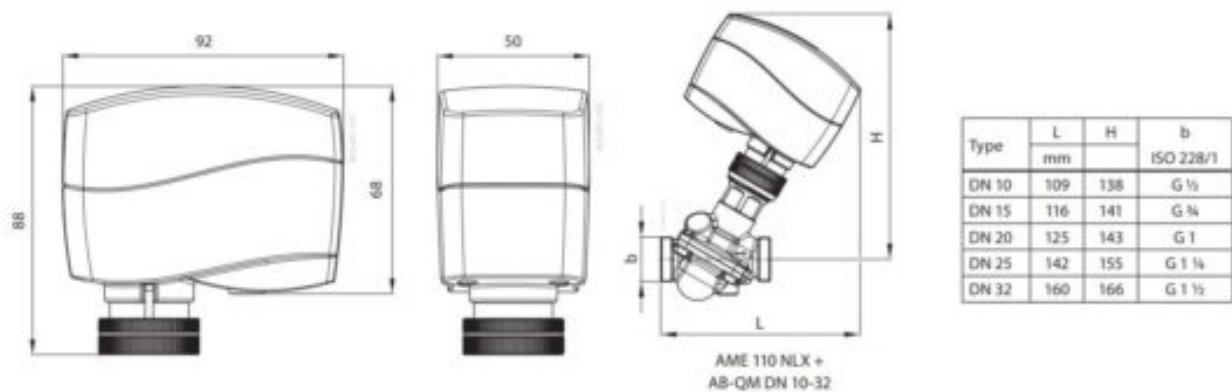


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Safety Note

To avoid injury of persons and damages to the device, it is absolutely necessary to read and observe these instructions carefully.

Necessary assembly, start-up, and maintenance work must be performed by qualified and authorized personnel only.

Please comply with the instructions of the system manufacturer or system operator.

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

AC 24 V

Connect via safety isolating transformer.

Mounting

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 ribbed nut which requires no tools for mounting. The ribbed nut should be tightened by hand.

Wiring

Do not touch anything on the PCB!

Switch off the power line before wiring the actuator! Lethal voltage!

Wire the actuator according to the wiring diagram.

Auto sleep mode

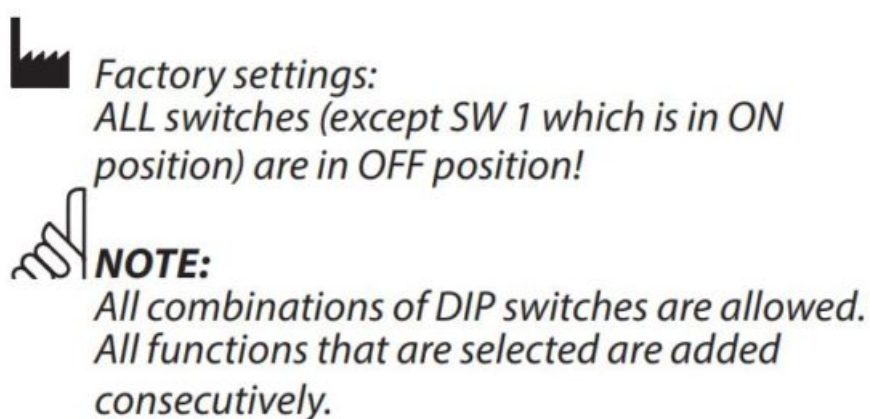
1. If actuator AME 110 NLX is charged by 24 V supply voltage and if it is not installed on ABQM valve, it will stop in lower position and switch off all LED indicators after 5 minutes
2. It is mandatory to drive the spindle of the actuator to upper position before it will be installed on AB-QM valve (please refer to manual override drawings)!
3. Auto sleep mode switches back to learning mode by pressing RESET button or by cycling power supply.

Installation ③

1. Check the valve neck. The actuator should be in stem up position (factory setting). Ensure that the actuator is mounted securely on the valve body
2. Wire the actuator according to the wiring diagram.
3. The direction of stem movement can be observed on the position indicator ③①.

DIP switch settings and reset button ④

- 1) DIP switches ④④



SW 1: 0/2 – Input signal range selector

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

SW 2 : D/I – Direct or inverse acting selector

If set to OFF position, the actuator is direct acting (stem contracts as voltage increases). If the actuator is set to ON position, the actuator is inverse acting (stem extracts as voltage increases).

SW 3: —/Seq – Normal or sequential mode selector

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).

SW 4: 0-5 V/5-10 V – Input signal range in sequential mode

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.

SW 5: LIN/LOG – Linear or equal percentage flow through valve selector

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

If set to OFF position, the valve position is linear acc. to the control signal.

SW 6: —/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 (—), function is disabled.

SW 7: U/I – Input signal type selector

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

Reset button ④③

The reset button will cause the actuator to go through a self stroking cycle (press it for 2 s).

Manual override ⑤

(for service purposes only)

Do not manually operate the drive if power is connected!

- Remove cover ⑤①
- Press and hold the button (on the bottom side of the actuator) ⑤② during manual override ⑤③
- Replace cover ⑤④
- Install actuator on valve ⑤⑤

Remark:

A 'click' sound after energising the actuator indicates that the gear wheel has jumped into normal position.

Function test

The light emitting diodes (LEDs)

④① (green – direction indicator),

④② (red – reset and normal mode indicator) indicate whether the actuator is in operation or not, the operating status, and failures, if any.

Red LED:

- No light
 - no operation or no power supply
- Constant light
 - normal operation
- Flashing light (1 Hz)
 - self-adjusting mode
- Flashing light (~ 3 Hz):
 - power supply too low
 - initial self-adjusting time too short due to too short valve strokes
 - failure during self calibration

Green LED:

- Spindle extracts (green led diode blinking once per sec.)
- Spindle retracting (green LED on)
- Actuator reached set-point acc. to Y signal (LED off).

Dimensions ⑥

| Part Name 零件名称 | Hazardous Substances Table/有害物质含量表 | | | | | |
|---|------------------------------------|------------------------|------------------------|--|--|---|
| | Lead (Pb) (Pb) | Mercury (Hg) 汞 (Hg) | Cadmium (Cd) 镉 (Cd) | Hexavalent Chromium (Cr(VI)) 六价铬 (Cr(VI)) | Polybrominated biphenyls (PBB) 多溴联苯 (PBB) | Polybrominated diphenyl ethers (PBDE) 多溴二苯醚 (PBDE) |
| Connecting nut/ 连接螺母 | X | O | O | O | O | O |
| O: Indicates that this hazardous substance contained in all of the homogeneous material for this part is below the limit requirement in GB/T 26572. O: 表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572规定的限量要求以下。 | | | | | | |
| X: Indicates that this hazardous substance contained in at least one of the homogeneous material for this part is above the limit requirement in GB/T 26572. X: 表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572规定的限量要求。 | | | | | | |

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References

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