Valve Actuators for 5,5mm stroke seat valve

AMX RLO

Febr.14

AMX RLO

Technical Data

Control Signal AMX 424 (selectable by jumpers)	0-10Vdc, ~ 65 kOhm 0-4Vdc, ~ 65 kOhm 6-10Vdc ~ 65 kOhm 2-10Vdc ~ 65 kOhm 4-20mA = 500 Ohm 3-position or On/Off
Power supply	110..240Vac, 50/60Hz +/-10% 24Vac,dc 50/60 Hz +/-10%
Power consumption	5,5VA for AXM 424 5,0VA for RLO 424 7,0VA for RLO 4230
Working conditions	0...+50°C, 10-90%rH non-condensing
Ambient storage	-20°...+70°C, 95%rH
Running time	approx. 70sec.
Manual Override	by 3mm hexagonal key
Action	direct/reverse selectable by jumper
Stroke	5,5mm
Actuating force	400 N
Cable length	plug-in type of PVC, wire 3x0,5mm2, 1,5m
Enclosure	IP54 class II RLO 4230 IP54 class III RLO, AXM
Connection	metal ring 3/4¨ (on request M30x1,5)
Housing	opaque polycarbonate
Self extinguishing	V0-V1 according to UL94
Weight	360 gram
Approvals	These products meets the demands of CE

Features

- **Direct assembly with union nut to the neck of the valve (no tools required)**
- **Many control signals for different applications**
- **The stroke is adapted automatically to the valve and is over-load proof**
- **Short Circuit proof and protected against polarity reversal**
- **Plug-in cable for voltage supply and control signal**
- **Position Indicator by LEDs**

Application

The valve actuator AMX/RLO is suitable to drive AP SVI valve body series in HVAC systems and also other brands of valves

Two action types are available:

- floating (3-point)
- modulating Vdc and mA

The actuator is equipped with torque limit device, to power off the actuator when the end-strokes are reched.

The assembly the actuator/valve body is done directly and easy by a metal ring nut, no tool is necessary

The actuator is self-adjusting (AMX).

When it is powered -on the stroke is automatically adapted to the valve, no calibration is required.

The actuator is fitted with manual override by a hexagonal key.

All LED indicates the current state of the actuator:

- adjustment

- control

- end stop position

- error condition

Ordering

AMX 424 Valve Actuator 24Vac/dc 0-10Vdc/4-20mA

RLO 424 Valve Actuator Raise/Lower and On/Off 24Vac/dc

RLO 4230 Valve Actuator Raise/Lower and On/Off 240Vac

Valve Actuators for 5,5mm stroke seat valve

AMX RLO

Febr.14

Assembly/Installation

The actuator is factory supplied with the shaft in upper position.

Otherwise, power off the unit and insert the hexagonal key into screw of the manual override on the top of the cover.

Drive the shaft in upper position turning the key anticlockwise.

Mount the actuator onto the valve body and tighten the metal nut on the thread of bonnet valve body.

Pay attention that the clearance around the unit is sufficient to mount correctly the actuator.

Perform the electrical connections as per the wiring diagrams.

Pay attention that power supply value correnspond to the valve of the actuator indicated on label stuck on unit.

Status Indication by LEDs (Internal)

GREEN slowly blinking	self-adjusting in uppest position AMX
RED slowly blinking	self-adjusting in lowest position AMX
GREEN fast blinking	modulating to upper position
RED fast blinking	modulating to lower position
GREEN lighted	the actuator on uppest end stop or it is moving toward uppest en stop (AMX)
RED lighted	the actuator on the lowest end stop or it is moving toward lowest en stop (AMX)
ORANGE lighted	error, try 3 times to unlock and then 3 times to self-adjust AMX
ORANGE blinking	permanent error AMX
RED and GREEN blinking	jumpers setting not correct AMX
ALL LEDs OFF	control position reached out of end stops
Slow blinking	2 flashing/ second
Fast blinking	8 flashing/ second

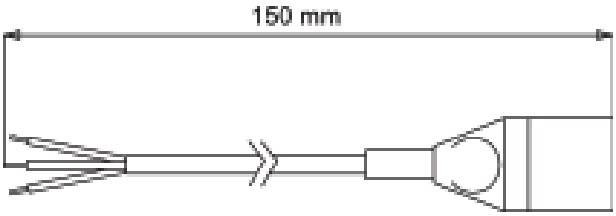
Direct/ Reverse Action AMX

DA: 0Vdc shaft in uppest postion (A-AB valve port closed)
10Vdc shaft in lowest position (A-AB valve port open)

RA: 0Vdc shaft in lowest position (A-AB valve port open)
10Vdc shaft in uppest position (A-AB valve port closed)

Factory setting: DA, input signal 0-10Vdc

Wiring Diagram



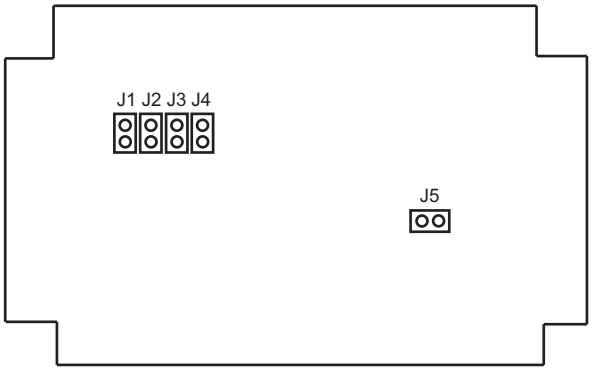
RLO

COM.	Blue
DOWN	Black
UP	Brown

AMX

COM.	Blue
IN. (Y) 0...10 V	Black
24 Vca	Brown

Jumpers Position on PCB AMX

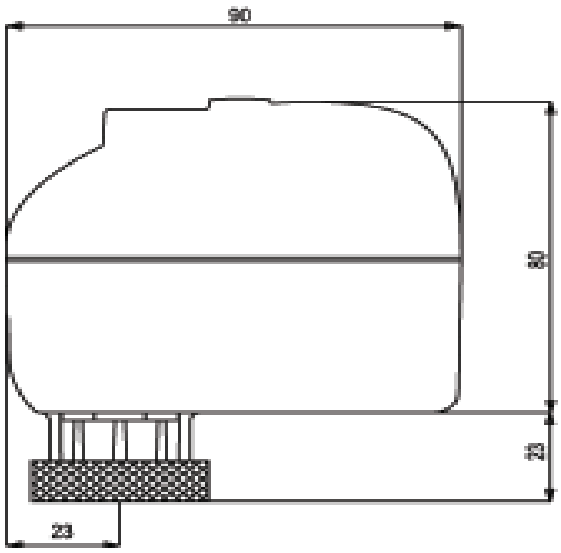


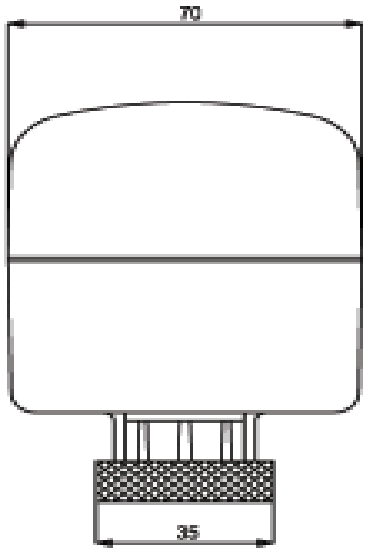
INPUT SIGNAL	J1	J2	J3	J5	J4
0...10 V	▯	■	▯	▯	
0...4 V	■	▯	▯	▯	
6...10 V	■	■	▯	▯	
2...10 V	▯	▯	■	▯	
4...20 mA	▯	▯	▯	■	
DIRECT ACTION					▯
REVERSE ACTION					■

▯ Jumper unmounted

■ Jumper Mounted

Dimensions





Warning

Each single operation done on the unit, either installation or maintenance, must be done without main supply on the units and external loads.1

Such operations are permitted only by skilled workers.

AP is not responsible for possible damages caused by an inadequate installation and/or by removed or exchanged security devices.

Choose the place in which the unit has to be mounted and follow the next instructions.

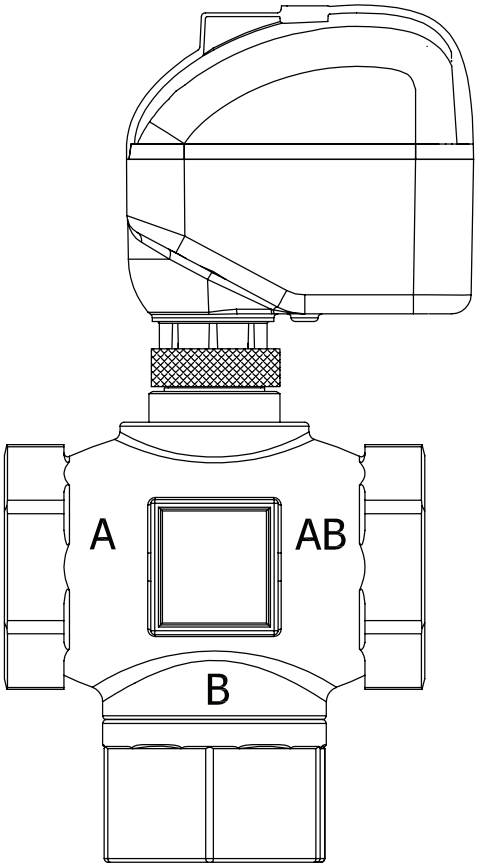
In normal conditions of use, power supply, temperature and humidity inside the unit must be always in the range indicated in the technical features.

Verify that inside the unit the ventilation is sufficient, particularly when the loads are around the maximum allowed.

Limit possible overcurrent with adequate protection (fuse or magnetothermic switch).

The actuator can not be mounted upside down.

Screw the ring nut on the thread of the valve



Valve Actuators for 5,5mm stroke seat valve

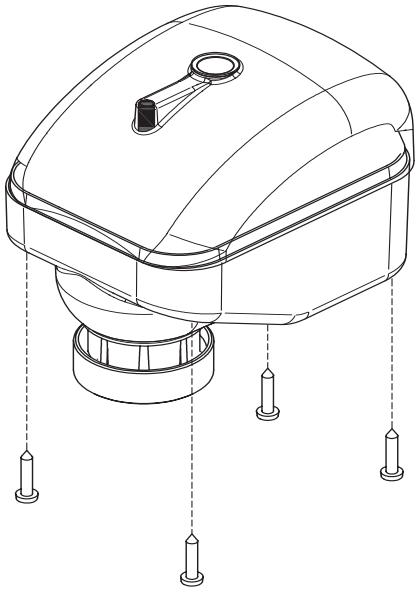
AMX RLO

Febr.14

Installation

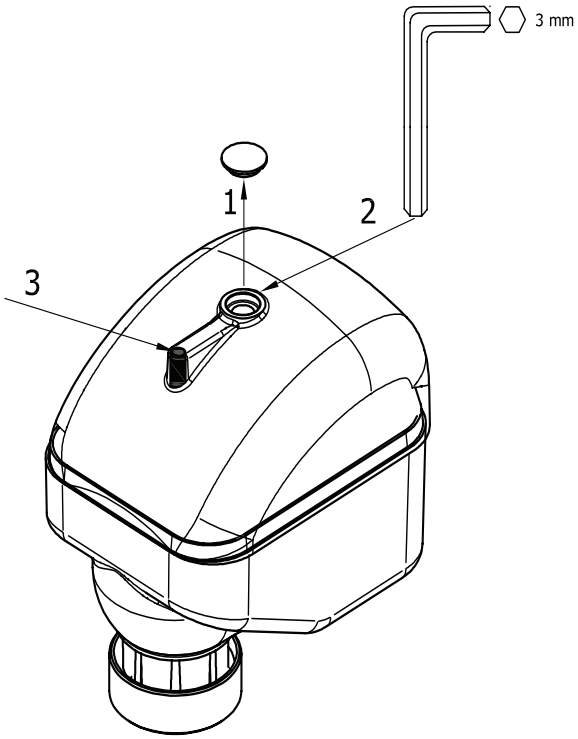
To change factory setting (input 0-10Vdc and direct action), unscrew 4 screws indicated on below picture.

Do not unscrew the 2 screws with hexagon key-way under the servomotor!



Manual Override

1. Remove the plug
2. Insert a 3mm hexagonal key
3. Push the hexagonal key downward and turn counterclockwise in order the shaft reaches upper position as indicated by the indicator



Wiring Raise/Lower or On/Off