

AXM 217S: Motorised actuator for unit valves with positioner

How energy efficiency is improved

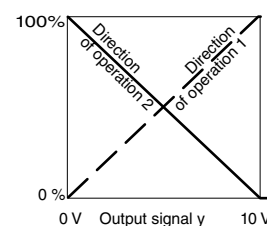
Automatic adaptation to valve and intelligent cut-off for maximum energy efficiency

Features

- Stepping motor with electronic activation and cut-out
- Attached to valve with M30 × 1.5 thread
- Versions with direction of operation 1 (direct acting) or 2 (reverse acting), adjustable
- Adjustable valve strokes
- Maintenance-free gear unit
- Suitable for retrofitting existing installations using the appropriate adaptors
- Status and diagnostic indicator via integrated bi-colour LED
- Fitting position vertically upright to horizontal, not suspended



AXM217SF402



Technical data

Power supply

| | |
|-------------------|---------------------------|
| Power supply | 24V \pm 15%, 50...60 Hz |
| Power consumption | 2.5 VA |

Parameters¹⁾

| | |
|-------------------------------|--|
| Direction of operation | 1 or 2 (adjustable) |
| Nominal stroke | 3.2 mm, 4.3 mm, 5.5 mm (adjustable) |
| Running time | 8 s/mm |
| Actuating power ²⁾ | 120 N |
| Sound pressure level | < 30 dB(A) |
| Control signal | 0(2)...10 V; 5...10 V; 0...5 V R _i > 100 k Ω ; 0(4)...20 mA R _i = 500 Ω |

Ambient conditions

| | |
|-------------------------------------|----------------------------|
| Admissible ambient temperature | 0...50 °C, no condensation |
| Max. operating temperature at valve | 90 °C |
| Storage and transport temperature | -20...65 °C |
| Admissible ambient humidity | < 75% rh |

Construction

| | |
|------------------|--|
| Weight | 0.15 kg |
| Housing | Two-part, light grey (RAL7035) |
| Housing material | Plastic |
| Thread | Nickel-plated brass M30 × 1.5 |
| Power cable | 1.50 m long, 3 × 0.5 mm ² , light grey, pluggable |

Standards and directives

| | |
|--------------------|------------------|
| Type of protection | IP 43 (EN 60529) |
| Protection class | III (IEC 60730) |

| | | |
|----------------------------|---------------------------|--|
| CE conformity according to | EMC directive 2004/108/EC | 61000-6-1, 61000-6-2, 61000-6-3 and EN 61000-6-4 |
|----------------------------|---------------------------|--|

Overview of types

| Type | Properties |
|-------------|--|
| AXM217SF402 | Motorised actuator for unit valves with positioner |

¹⁾ The direction of operation and the control voltage can be set using DIP switches; factory setting "2" (RA).
Direction of operation 1: Control signal increasing = actuator moves out (valve VUT, VUL, VCL, VDL, BUL closes and valve BXL (control passage) opens) Direction of operation 2: Control signal increasing = actuator moves in (valve VUT, VUL, VCL, VDL, BUL opens and valve BXL (control passage) closes).

²⁾ Actuating power min. 100 N, max. 150 N



Accessories

| Type | Description |
|------------|---|
| 0550603009 | Cable: 24 V, PVC, pluggable, 3 m long |
| 0550603010 | Cable: 24 V, PVC, pluggable, 7 m long |
| 0550603011 | Cable: 24 V, halogen-free, pluggable, 3 m long |
| 0550603012 | Cable: 24 V, halogen-free, pluggable, 7 m long |
| 0371235001 | Adaptor for fitting to Oventrop valves (M30 × 1) |
| 0550393002 | Adaptor for fitting to Danfoss valves, type RAVL, 26 mm |
| 0550393003 | Adaptor for fitting to Danfoss valves, type RAV, 34 mm |
| 0371356001 | Adaptor for fitting to Beulco or Tobler underfloor-heating distributors (M30 × 1) |
| 0371361001 | Adaptor for fitting to Herz valves, type Herz-TS'90 (M28 × 1.5) |
| 0371363001 | Adaptor for fitting to Tour & Andersson valves, type TA/RVT (M28 × 1.5) |

Description of operation

During commissioning (with valve fitted), the actuator moves to both end positions and stores the relevant steps. The range of the control signal is then assigned to this effective stroke. The motor positions the valve and cuts out as soon as the stroke position matches the controller signal. In the end positions or in the event of an overload, the motor cuts out after 2 minutes at the latest. The LED lights up if power is applied and flashes as long as the motor is running.

Direction of operation 1:

- As the positioning signal increases, the actuator spindle moves out and the VUL, VUT, VCL, VDL 2-way valves and the BUL 3-way valve (control passage) close. With the BXL 3-way valve, the control passage opens.

Direction of operation 2:

- As the positioning signal increases, the actuator spindle moves in and the VUL, VUT, VCL, VDL 2-way valves and the BUL 3-way valve (control passage) open. With the BXL 3-way valve, the control passage closes.

After the cap on the cover is removed, the following settings can be made using jumpers:

- Setting of the input signal. This can be set to either 0...10 V or 5.2...10 V or 0...4.8 V.
- Direction of operation 1 or 2 can be selected; the factory setting is direction of operation 2 (RA).

Put the cap back on after making the settings.

LED status indicator

| Status | Description |
|------------------------|---|
| OFF | No power applied |
| Flashing green | Actuator moving to position or "end position reached" |
| Continuous green light | Position reached |
| Flashing red | Calibration cycle |
| Continuous red light | No input signal, 4-20 mA or 2-10 V |

Intended use

This product is only suitable for the purpose intended by the manufacturer, as described in the "Description of operation" section.

All related product documents must also be adhered to. Changing or converting the product is not admissible.

Engineering and fitting notes

Do not use tools to fit the actuator to the valve. In the event of a power failure, the valve can be opened by taking off the actuator. When connecting or changing the power cables, the mains power must be switched off. The actuator may be fitted to the valve only when the actuator spindle is not fully (100%) moved out. It is delivered ex works at 0% stroke

Outdoor installation

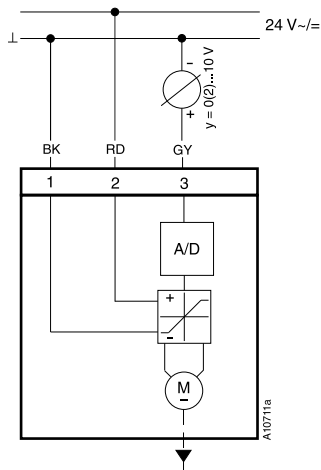
We recommend protecting the devices from the weather if they are installed outside buildings.

Disposal

When disposing of the product, observe the currently applicable local laws.

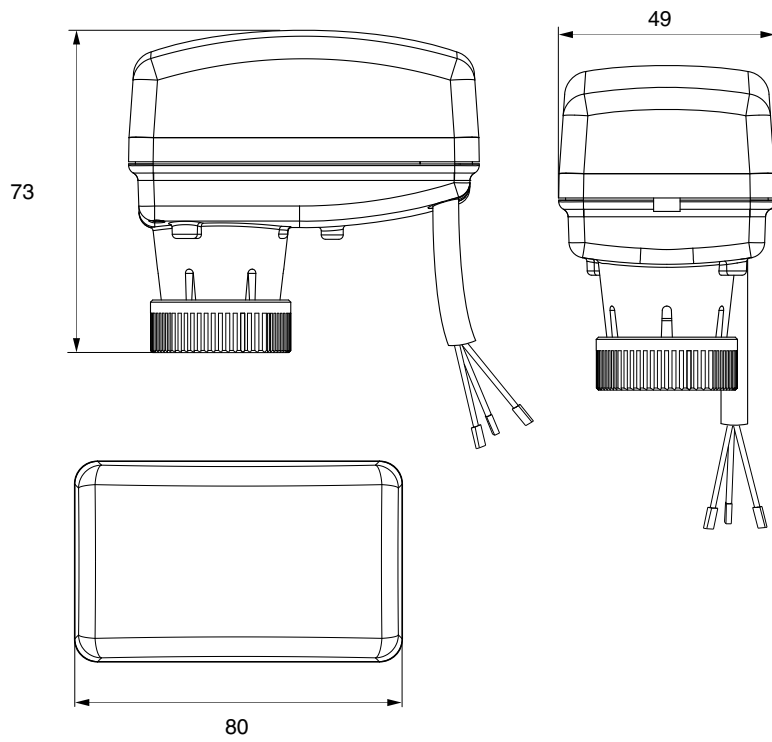
More information on materials can be found in the Declaration on materials and the environment for this product.

Connection diagram



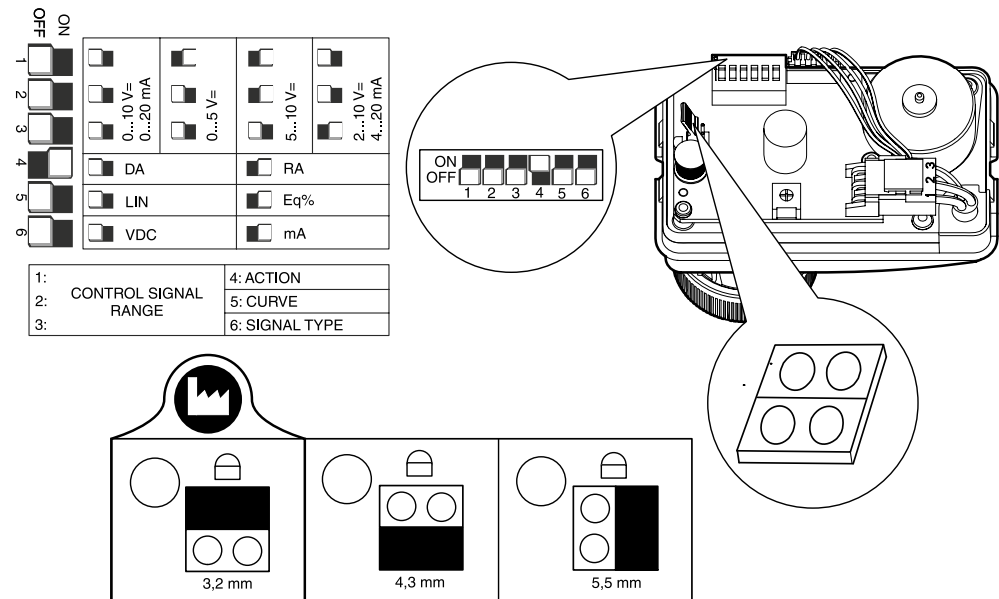
| | |
|---|------------|
| 1 | BK (black) |
| 2 | RD (red) |
| 3 | GY (grey) |

Dimension drawing



M11488a

DIP switch setting



DIP switches 1-2-3-6

DIP switches 1-2-3 are used for setting the control signal range. The voltage (VDC) or current (mA) is set with DIP switch 6.

As delivered ex works: DIP switches 1-2-3-6 in OFF position

DIP switch 4

The direction of operation of the actuator is set with DIP switch 4:

Direction of operation 1: DA (Direct Acting)

Direction of operation 2: RA (Reverse Acting)

As delivered ex works: DIP switch 4 in ON position

DIP switch 5

This switch can set the actuator so that the characteristic of the combination of valve with actuator corresponds to a linear or equal-percentage characteristic.

DIP switch 5 in OFF(LINE) position

Use this setting if the valve has a linear or equal-percentage characteristic.

DIP switch 5 in ON (Eq%) position

Use this setting with an OPEN/CLOSE or high-speed valve.

As delivered ex works: DIP switch 5 in OFF position

Setting the stroke

The stroke can be set using a jumper.

As delivered ex works: 3.2 mm