Aktor M ST L

Motorised Actuator for Modulating Control

Motorised actuators are used in the heating, ventilation and air conditioning trades. The actuators can be used for room temperature control, among other things.
In combination with Oventrop thermostatic valves and heating circuit manifolds for surface heating, ceiling cooling systems as well as fan coil units and Oventrop room thermostats, they enable individual room temperature control.
The actuators open or close a valve depending on the applied control voltage.
DIP switches allow the actuators to be adapted to the specific parameters of the valve used.

Features

- Modulating proportional actuators
- Direction of action adjustable
- Automatic valve blocking protection function (if there is no stroke movement within 24 h, the valve is opened briefly to prevent sticking)
- With zero point detection
- Characteristic lines adjustable

Product Overview

Item no.	1012717	1012725	1012726
Electrical emergency control function	✓	✕	✕
Additional on/off / floating control	✕	✓	✕
Position feedback	✓	✕	✓

Subject to change • All rights reserved

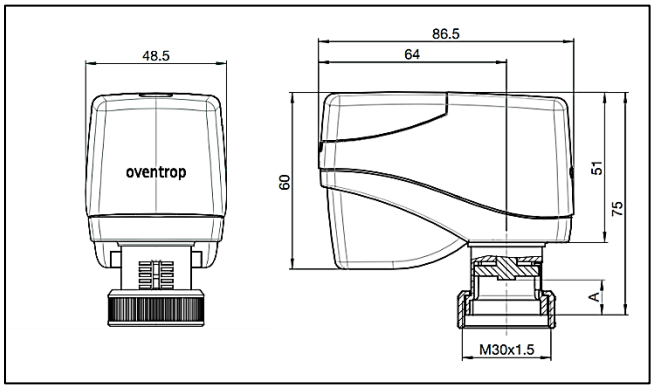
Product Details

Aktor M ST L Motorised Actuator Item No.1012717

Functions

- Position feedback
- Electrical emergency control function
- Specific parameters of the valve adjustable via DIP switches

Different characteristic lines can be set via the DIP switches of the electrothermal actuators (adjustable via DIP switches S1 – S6). This results in optimal control behaviour with high control quality.



Dimensions

Range of application, installation and mounting

The electrical connection must comply with the regulations of the local Electricity Board.

The connecting cable must not be laid on heat-carrying pipes or the like, as this accelerates the ageing of the cable material.

Technical Data

Connection thread	M 30 x 1.5
Operating voltage	24 V AC ± 10 %; 50 / 60 Hz 24 V DC ± 10 %
Power consumption	
Dimensioning:	6.8 VA (24 V AC) 3.3 W (24 V DC)
Nominal:	5.3 VA (24 V AC) 2.7 W (24 V DC)
Switch-on current	Short-term max. 12 A
Control	Modulating 0 – 10 V DC; < 0.5 mA
Connection	Fixed pre-mounted cable 1.5 m; 5 x 0.5 mm²
Display	LED display for operating voltage and status
Motor switch-off	Drive spindle: • Extending = load-dependent • Retracting = travel-dependent
Positioning stroke	Max. 4 mm
Positioning time	22 s/mm
Emergency control time	about 5 s/mm
Emergency control function	Emergency end position adjustable
Positioning force	nominal 150 N
Position indicator	Stroke scale
Position feedback	2 – 10 V DC, 5 mA for 0 – 100 % positioning stroke
Protection type	IP 54 according to EN 60529
Protection class	III according to EN 60730
Colour	RAL 9010 (pure white)
Installation position	Any
Maintenance	Maintenance-free
Media temperature	0 °C – 120 °C
Ambient/storage temperature	0 °C – 50 °C
Ambient/storage humidity	0 – 85 % r.h., non-condensing

Subject to change • All rights reserved

Aktor M ST L Motorised Actuator Item No. 1012725 and 1012726

Functions

- Special characteristic lines for Cocon QTZ PN 25
- Manual setting option via DIP switches
- Position indicator
- Silent operation
- Low power consumption

Different stored characteristic lines can be set via the DIP switches of the motorised actuators (adjustable via DIP switches S1 – S6), which are adapted to the Oventrop valves regarding effective valve stroke and valve characteristics. This results in an optimal control behaviour with high control quality. The adjustable linear or equal-percentage characteristic lines allow adaptation to the control characteristics of the consumers (for exact DIP switch assignment: see the respective operating instructions).

If characteristic lines with small maximum strokes of less than or equal to 1 mm are set by DIP switch, the actuator opens every 74 h in order to flush out any dirt particles that may have accumulated in front of the valve seat.

The actuator can be operated manually via the manual override in the de-energised state using a 4 mm Allen key. The integrated slipping clutch protects the gearbox from excessive operating forces.

Further functions item no. 1012725

- Additional on/off / floating control

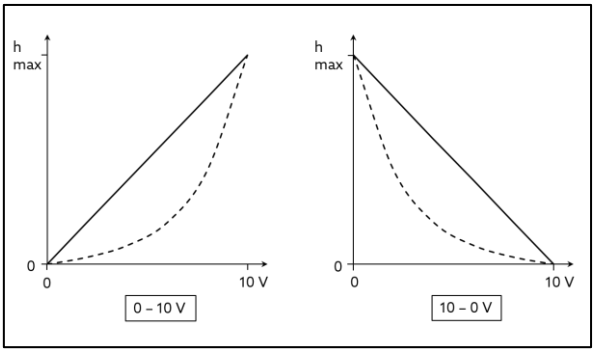
Further functions item no. 1012726

- The current stroke position is issued via the 0 – 10 V output signal (terminals 4 and 5)
- Position feedback

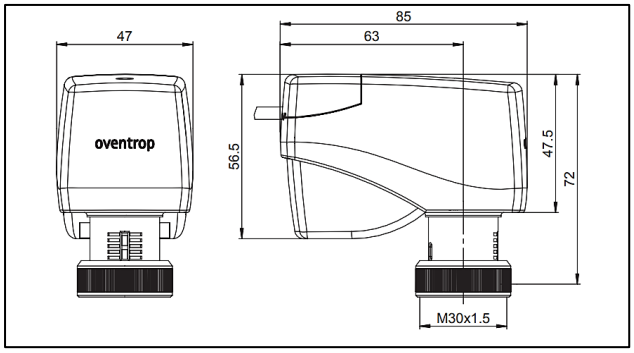
Technical data

Connection thread	M 30 x 1.5
Operating voltage	24 V AC / DC ± 10 %; 50 / 60 Hz
Power consumption	2.5 VA (24 V AC) 1.3 W (24 V DC)
Control	Modulating 0 – 10 V On/off / floating (item no. 1012725)
Connection	Fixed pre-mounted cable 1.5 m; 3 x 0.5 mm² (item no. 1012725) 1.5 m; 5 x 0.5 mm² (item no. 1012726)
Display	LED display for operating voltage and status
Positioning stroke	Max. 4 mm
Positioning time	22 s/mm
Positioning force	Nominal 150 N
Position feedback	0 – 10 V DC, 5 mA for 0 – 100 % positioning stroke (item no. 1012726)
Protection type	IP 54 according to EN 60529
Protection class	III according to EN 60730
Colour	RAL 9010 (pure white)
Installation position	any, except for mounting hanging downward
Media temperature	0 °C – 120 °C
Ambient/storage temperature	0 °C – 50 °C
Ambient/storage humidity	0 – 85 % r.h., non-condensing

As an alternative to the factory-connected connecting cable, the integrated connection terminals allow direct connection to an installation cable laid on site without an additional clamping connection.

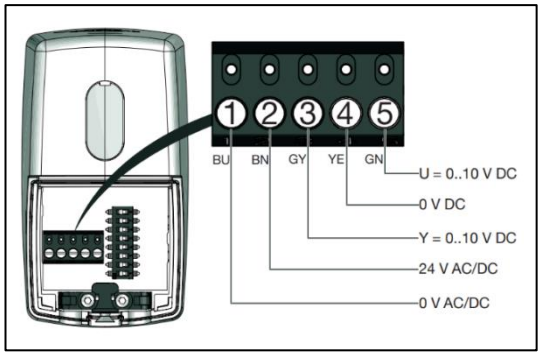


Characteristic line inversion DIP switch 7



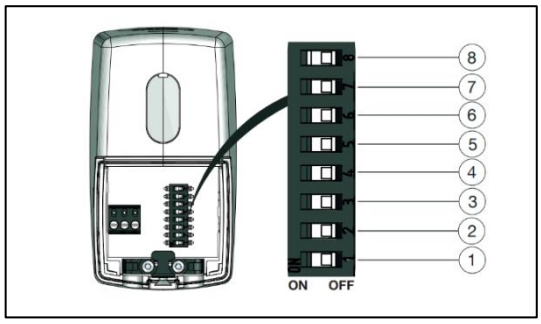
Dimensions

DIP switches and PIN assignment



PIN assignment

(1)	0 V AC / DC	blue (BU)
(2)	24 V AC / DC	brown (BN)
(3)	0 – 10 V control	grey (GY)
(4)	Position feedback 0 V DC	yellow (YE) only 1012726
(5)	Position feedback 0 - 10 V DC	green (GN) only 1012726



DIP switches

(1)	S1 ON/OFF	Setting of the desired stroke behaviour according to the characteristic line of the valve.
(2)	S2 ON/OFF	
(3)	S3 ON/OFF	
(4)	S4 ON/OFF	
(5)	S5 ON/OFF	
(6)	S6 ON/OFF	
(7)	ON = 10 V – 0 V	OFF = 0 V – 10 V
(8)	Automatic flushing function and valve blocking protection function	
	ON	Activated
	OFF	Deactivated

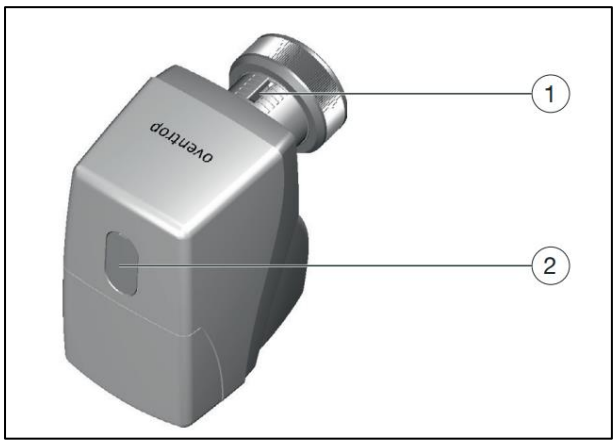
LED display

☼	On	Operating voltage available
◑	Flashing	Zero point detection
●	Off	No operating voltage

Range of application, installation and mounting

The electrical connection must comply with the regulations of the Electricity Board.

The connecting cable must not be laid on heat-carrying pipes or the like, as this accelerates the ageing of the cable material.



(1)	Stroke position indicator
(2)	Cover for manual adjustment (adjustment spindle)

Subject to change • All rights reserved • © 2023 Oventrop GmbH & Co. KG
EN-12201-10127-DB-V2301 – January 2023

Oventrop GmbH & Co. KG • Paul-Oventrop-Straße 1 • 59939 Olsberg • Germany
T +49 2962 820 • mail@oventrop.com • www.oventrop.com