

AT0102-24 AT0106-24, -230

SMALL LINEAR THERMOELECTRIC ACTUATORS

PRODUCT DATA



APPLICATION

The AT0102, AT0106 small linear actuators are used in room and zone applications for time-controlled two-point and pulse-width-modulated (PWM) regulation of heating and cooling systems such as fan coil units, radiators, floor heating systems, chilled ceilings, and convectors.

- Fit on standard M30 x 1.5 heating/cooling valves, such as Trend VS58x on/off valves and V58x linear valves
- Power supply 24 Vac/dc (AT0102-24, AT0106-24) or 230 Vac (AT0106-230)

FEATURES

- Stem Up (SU) or Stem Down (SD) versions for action on power fail
- No mounting tools required (mounted with valve adapter)
- Housing water-protected in all mounting positions
- Low power consumption
- Compact design allows installation in limited space
- Visual indicator showing valve position and SU/SD version
- Noiseless operation
- Reliable long-term operation
- Ready-to-wire connection cable

SPECIFICATIONS

Max. stroke	AT0102-24: 4 mm AT0106-24, -230: 8 mm
Power supply	AT0102-24, AT0106-24: 24 Vac/dc $\pm 20\%$ AT0106-230: 230 Vac +10% -15%
Stem force	90 N
Opening/closing time (dependent on ambient temperature)	AT0102-24: ~ 6 min AT0106-24: ~ 7.5 min AT0106-230: ~ 5.5 min See also fig 5 on page 3.
Ambient temperature	max. 50°C
Electrical specifications	See Table 2 on page 2
Protection standard	IP44 in all mounting positions
Cable length	2.5 m
Cable wires	2 x 0.5 mm ²
Medium temperature	max. 120 °C

ORDERING INFORMATION

Table 1. Actuators

order code	action*	stroke	voltage	description
AT0102-24-SU	stem up	4 mm	24 V	4 mm; 24 Vac/dc; with low initial power consumption
AT0102-24-SD	stem down			
AT0106-24-SU	stem up	8 mm	24 V	8 mm; 24 Vac/dc; with low initial power consumption
AT0106-24-SD	stem down			
AT0106-230-SU	stem up		230 V	8 mm; 230 Vac; with low initial power consumption
AT0106-230-SD	stem down			

*action on power fail.

ELECTRICAL SPECIFICATIONS

Table 2. Electrical specifications

order code	initial current*	permanent current*	power consumption*	stroke	runtime
AT0102-24-SU, -SD	~0.2 A	<0.05 A	<2 W	4 mm	6.0 min
AT0106-24-SU, -SD	~0.2 A	<0.05 A	<2 W	8 mm	7.5 min
AT0106-230-SU, -SD	~0.4 A**	0.010 A	2 W	8 mm	5.5 min

*All values at nominal voltage. **Average during first 500 ms

MOUNTING

NOTE: Actuator housing must not touch piping (heat transfer).

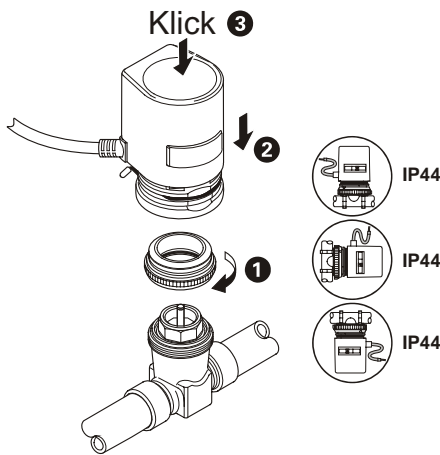


Fig 1. Mounting / installation positions

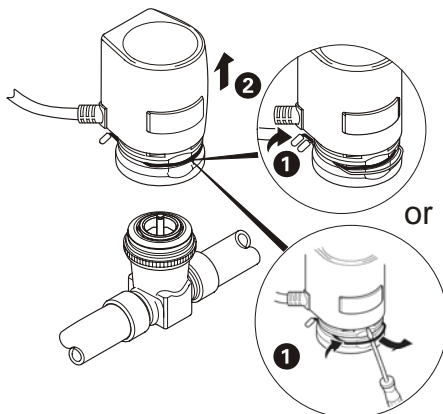


Fig. 2. Dismounting

FUNCTION

When the operating current is applied, a PTC resistor heats up a wax element. After a delay, this wax element expands, causing stroke movement.

Position Indicator

The position indicator (the red indicator behind the window on the face of the actuator) shows the model's action on power fail (either stem up or stem down) as well as the current stroke position.

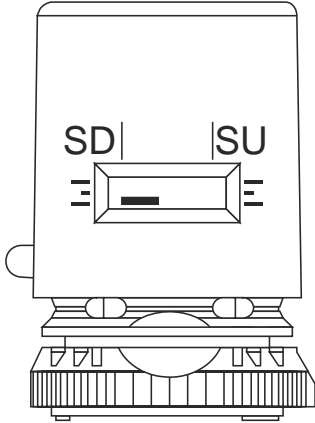


Fig 3. Position Indicator

WIRING

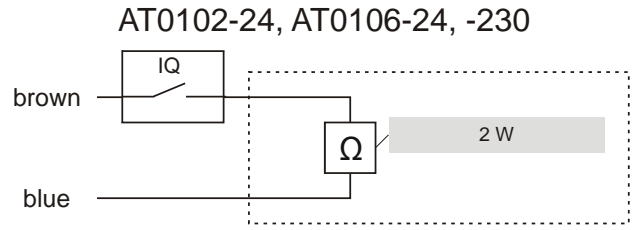


Fig. 4. Wiring diagrams

Opening and Closing Time

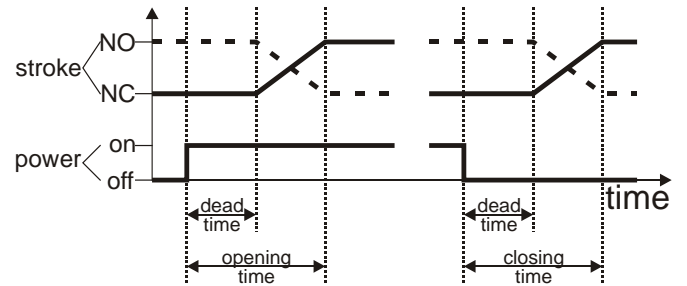


Fig. 5. Opening and closing time

NOTE: Opening and closing times depend upon ambient temperature and model.

Valve Action

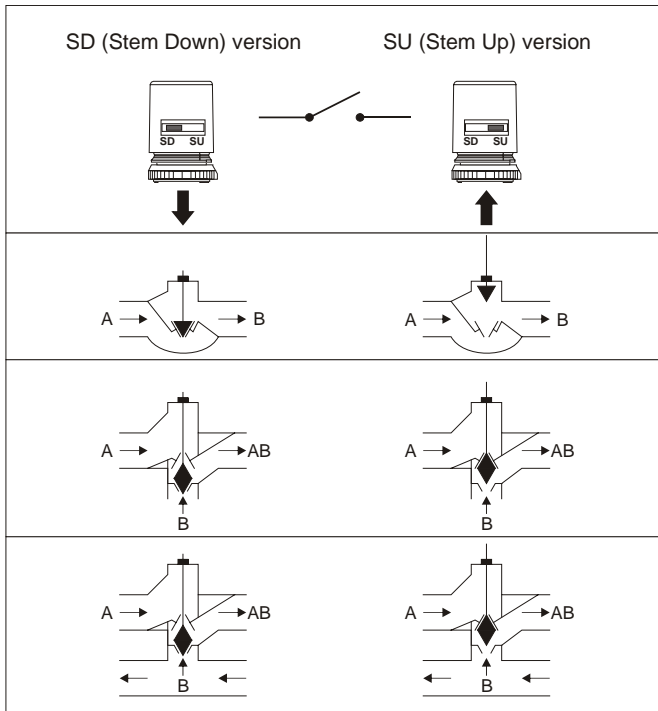


Fig. 6. Valve action

Stem Down: 2-way valve: A-B closed without power
 3-way valve: A-AB open without power

Stem Up: 2-way valve: A-B open without power
 3-way valve: A-AB closed without power

NOTE: Fig 3 is a schematic diagram showing typical valve action. Actual function can vary depending upon the individual type of valve.

DIMENSIONS

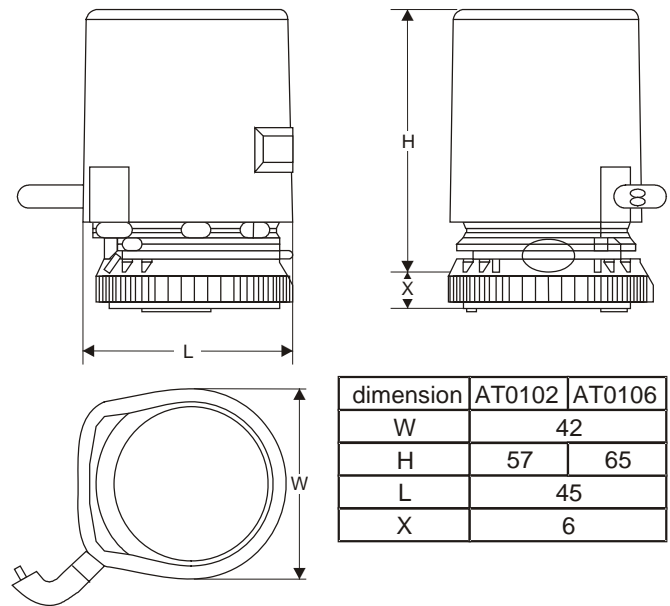



Fig. 7. Dimensions (in mm)

DISPOSAL



WEEE Directive:

At the end of their useful life the packaging, and product should be disposed of via a suitable recycling centre.

Do not dispose of with normal household waste.
 Do not burn.

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