ASM 124S, 134S: Actuators with SAUTER Universal Technology (SUT)

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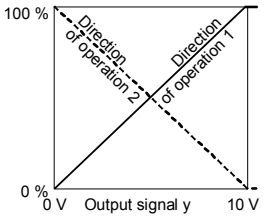


How energy efficiency is improved
Torque related cut-off for efficient energy use.

Areas of application
For controllers with continuous output (0…10 V) or switching output (2-point or 3-point control). For actuation of air, shut-off and restrictor dampers and louvres.

Features
- 15 and 30 Nm torque and holding torque
- 24 V~/=
- 60/120 s and 120/240 s as running time for 90° can be selected with switch
- Protection class IP 54
- Operating noise < 30 db(A)
- Self-centring axle adaptor
- Gearbox that can be disengaged for positioning the damper and manual adjustment
- Stepping motor with control and electronic cut-off
- Maintenance-free
- Intelligent rotation angle adaptation, incl. adaptation of feedback

Technical description
- Two-part housing made of self-extinguishing plastic, lower section black and upper section yellow
- Suitable for all installation positions
- Connecting cable 1.2 m long, 5 × 0.75 mm²
- Direction of rotation can be changed by reversing connections

Type [5]	Torque Nm	Holding torque Nm	Running time for 90° s	Power	Weight kg
ASM 124S F132	15	15	60, 120	24 V~/= [2]	1.6
ASM 134S F132	30	30	120, 240	24 V~/= [2]	1.6

Positioner [1]		Starting point U_0	0 or 10 V
Control signal	0...10 V, R_i > 100 kΩ	Control span ΔU	10 V
Positional feedback signal	0...10 V, load >10 kΩ	Switching range X_{sh}	200 mV

Power supply	24 V ± 20%, 50...60 Hz	Permissible ambient temp.	–20...55 °C
	24 V = [2] ± 20%	Permissible ambient humidity	< 95% rh
Power consumption			without condensation
ASM 124S F132	2,4 W 4,4 VA	Type of protection	IP 54 as per EN 60529
ASM 134S F132	2,4 W 4,3 VA	Protection class	III as per IEC 60730
		Running noise	< 30 dB(A)
Angle of rotation	90° [3]	Response time	200 ms
Damper spindle		Wiring diagram	A09681
ASM 124S F132	Ø 10...20 mm	Dimension drawing	M05671
	□10...16 mm	Fitting instructions	
ASM 134S F132	Ø 12...20 mm	ASM 124S F132	MV 505792
	□10...16 mm	ASM 134S F132	MV 505771
Damper spindle (hardness)	max. 300 HV	Declaration of materials	MD 51.023

Accessories
0313529 001*	Split-range unit, 0...10 V, for setting sequences; to be fitted and connected in separate distribution box
0361977 001	Assembly kit for MH32 / MH42 control valve; MV 505477
0370059 000*	Clamp-on lever for shafts of d=8-18 mm
0370990 001*	Auxiliary change-over contacts [4] single; MV 505446
0370990 002*	Auxiliary change-over contacts [4], double; MV 505446
0370992 001*	Potentiometer, 2000 Ω, 1 W; MV 505446
0370992 002*	Potentiometer, 130 Ω, 1 W; MV 505446
0372200 001	Fixing bracket; MV 505676
0372201 001	Spindle extension with coupling; MV 505676
0372202 001	Lever & tape; MV 505676
0372203 001	Connecting piece for contact unit; 0370990; MV 505676
0372204 001	Spindle for clamp-on lever 0370059; MV 505676

*) Dimension drawing or wiring diagram are available under the same number

1) Also for 2-point or 3-point depending on type the of connection
2) 24 = for input signal 0...10 V only
3) Maximum angle of rotation: 95° (without stops)
4) Fully variable from 0...90°; max. loading 5 (2) A, 24...230 V
5) Version with halogen-free cable available on request

Operation
Depending on how it is connected (see wiring diagram), the actuator can be used as a continuous 0...10 V, as a 2-point (open/close) or as a 3-point drive (open/stop/close) with intermediate position.
The running time can be matched to requirements using switches S1 and S2. Manual adjustment by turning the spindle adaptor after de-coupling the gears (button on housing cover)

Connected as a 2-point control unit
Open/close activation can be effected via two wires. Power is applied to the drive via the blue and the brown wires. On connecting power to the black wire (2b), the damper drive moves to the end position. When power is switched off, the drive goes to the opposite end position (clockwise direction to 100% angle of rotation).
The unused red and grey wires should not be connected, nor should they come into contact with other wires. We recommend that you insulate them.

Connected as a 3-point control unit
By connecting power to the wires (2a or 2b), the damper drive can be moved to any position. Angle of rotation (as viewed from the actuator towards the spindle adaptor):-
– The spindle adaptor turns in a clockwise direction if power is applied to the black wire (2b).
– The spindle adaptor turns in an anti-clockwise direction if power is applied to the brown wire (2a).
In the end positions (the damper's end position; the end position due to the angle-of-rotation limit; on reaching the maximum angle of rotation of 92°) or in the event of an overload, the electronic motor cut-off responds (no end switches). The direction of rotation can be changed by transposing the connections.
The unused red and grey wires should not be connected or come into contact with other wires. We recommend that they be insulated.

Connections for control voltage 0...10 V
The integrated positioner controls the drive as a function of the controller's positioning signal y.
Angle of rotation (as viewed from the actuator towards the spindle adaptor):-
Direction of operation 1 (mains power at brown wire, internal connection 2a): the spindle adaptor turns in a clockwise direction as the positioning signal rises.
Direction of operation 2 (mains power at black wire, internal connection 2b): the spindle adaptor turns in an anti-clockwise direction as the positioning signal rises.
The starting point and the control span are both pre-set.
Either the brown or the black wire should be connected, depending on the direction of operation. The unused wire should be insulated.
After power has been applied, the stepping motor moves to both stops one after the other and determines its effective angle of rotation (always with a running time of 60 seconds). Thanks to the electronics unit, no steps are lost, and the drive needs no periodical re-adjustment. After manual adjustments have been made, or when there is a power failure lasting longer than 5 minutes, the drive re-adjusts itself automatically. Whenever the angle of rotation is altered, a re-adjustment must be initiated (by manual adjustment) so that the drive, the control voltage and the feedback signal can adapt themselves to the new angle of rotation. Initialisation can be switched off using switch S3. The actuator then always uses the stops that were last saved. If it detects a new stop, it saves it, and the feedback signal is adapted accordingly. After an interruption to the power supply lasting longer than 5 minutes, the actuator works (without initialisation) from the current position. The current positioning value is issued as a feedback signal, until the drive moves to a stop and the current position can be calculated and issued.
If the control signal (0...10 V) is interrupted and direction of operation 1 is set, the damper closes fully (0% position).

Coding switch

ASM 124S Running time	ASM 134S Running time	S1	S2	S3
120 s	240 s	off	on	–
120 s	120 s	on	on	–
60 s	120 s	on	off	–
60 s	240 s	off	off	–
Initialisation on		–	–	on
Initialisation off		–	–	off
Ex-works position		on	on	on

Split-range unit, accessory 361529 001
The starting point Uo and the control span ∆U can be set using the potentiometer. This makes it possible to activate several regulating units in sequence or in cascade using the controller's control signal. The input signal (partial range) is amplified into an output signal of 0...10 V. This accessory cannot be fitted in the drive, but should be located externally in an electric distribution box.

Engineering and fitting notes
The combination of stepping motor and electronics allows several air dampers with different torque levels to be run in parallel, if drives of the same SUT type are used. The actuator can be mounted in any position, can be inserted directly onto the damper shaft and is fixed using the self-centring clamp. The damper spindle is turned by the self-centring spindle adaptor, which reduces the stress on the bearings.
N.B.: The housing should not be opened.
The coding switches are accessible via an opening with black lid in the housing cover.
The following accessories can be fitted to each actuator: one set of single auxiliary contacts or one set of double auxiliary contacts or one potentiometer. On the ASM 134, this type of accessory cannot be fitted if the length of the damper spindle is < 52 mm. By re-positioning a disc under the coupling piece, the angle of rotation can be limited between 0 and 90° in steps of 5°. The coupling piece on the ASM 124 is suitable for damper spindles of Ø 10...20 mm and □ 10...16 mm. The coupling piece on the ASM 134 is suitable for damper spindles of Ø 12...20 mm and □ 10...16 mm.
Fitting outdoors.
If the devices are fitted outdoors, we recommend that additional measures be taken to protect them against the effects of the weather.

Additional technical data
The upper part of the housing, with the lid, manual-adjustment knob and the cap, contains the stepping motor and the SUT electronic control unit. The lower part contains the maintenance-free gears and the spindle adaptor.

Auxiliary change-over contacts
Switch rating: max. 250 V a.c.; min. current 20 mA at 20 V
Switch rating: max. 30 V d.c.; min. current 1 mA at 4 V d.c.

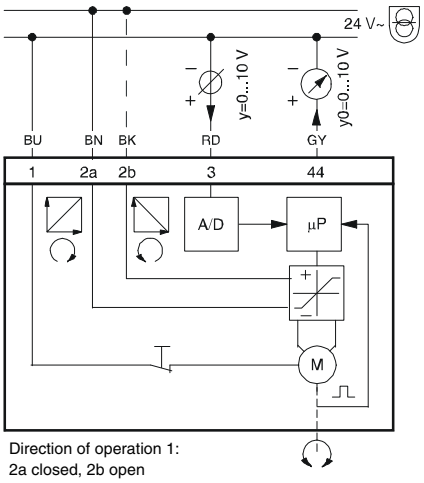
Power consumption:

Type	Running time s	Condition	active power P W	apparent power S VA
ASM 124S F132	60	Operating	2.4	4.4
		Standstill	0.25	0.46
ASM 134S F132	120	Operating	2.4	4.3
		Standstill	0.26	0.48

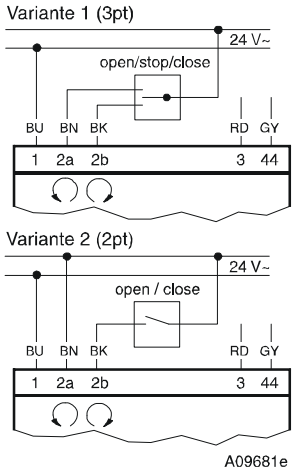
CE conformity

EMC Directive 2004/108/EC	Machinery Directive 98/37/EC (II B)
EN 61000-6-1	EN 1050
EN 61000-6-2	
EN 61000-6-3	
EN 61000-6-4	

Wiring diagram



Direction of operation 1:
2a closed, 2b open
Direction of operation 2:
2b closed, 2a open



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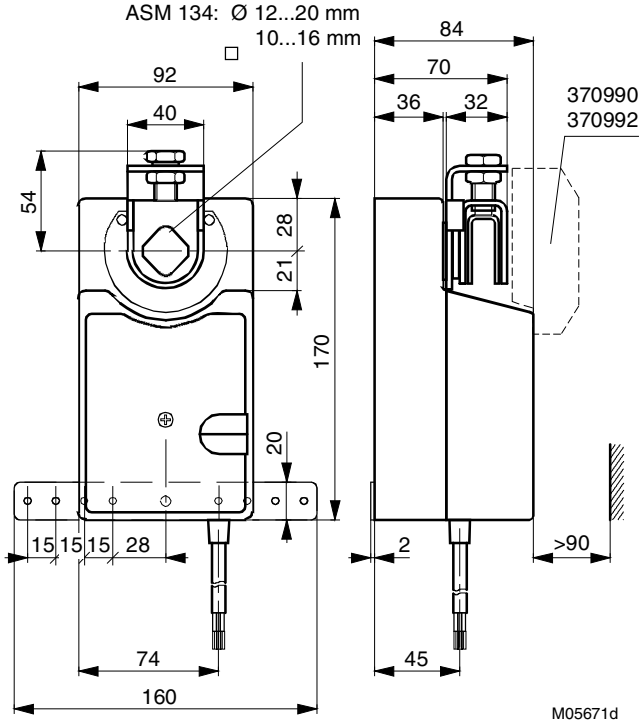
RD = red
BN = brown
BK = black
BU = blue
GY = grey

Dimension drawing

ASM 124: Ø 10...20 mm
□ 10...16 mm
ASM 134: Ø 12...20 mm
□ 10...16 mm



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Accessories

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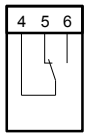

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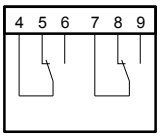

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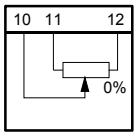

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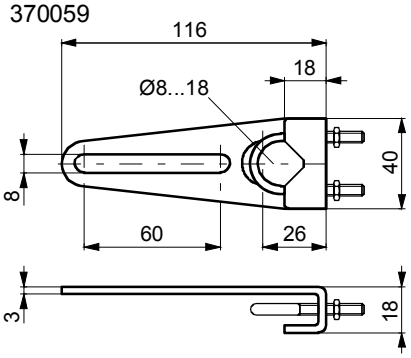

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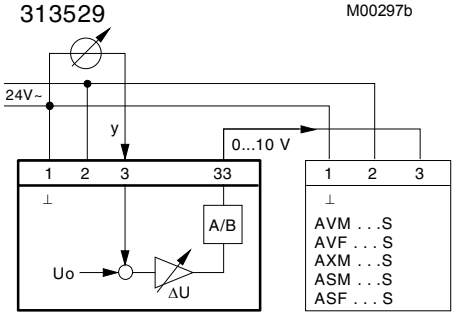

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N.B.: A comma between cardinal numbers denotes a decimal point

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