

ELECTRIC ROTARY GEAR MOTOR

Series AG8....

The electric actuator belonging to AG8 series is designed to operate gas valves and air dampers in ventilation and air conditioning systems. The compact design and universal adapter fitted with limitation of rotation angle make this actuator highly versatile. The AG8 actuators comply with the EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC.



TECHNICAL FEATURES

| | | | |
|--------------------------------|----------------------------------|----------------------|---|
| Nominal and maintaining torque | : 8 Nm | Supply voltage | : 230Vac or 24Vac / Vdc \pm 20% / Vdc \pm 10% |
| Running time OPEN | : 30 seconds | Frequency | : 50 – 60 Hz |
| Running time CLOSE | : 30 seconds | Power consumption | : 2,5 W running 0.5 - 0.3 W at end position |
| Rotation angle | : standard 90° | Nominal load | : 3.6 VA/0.5 A @ 2 ms or 6.0 VA/ 3.6 A @ 2 ms |
| Rotation limit | : 5°...85° in 5° steps | Control signal | : ON/OFF, floating or 0 \div 10 Vdc / Ri 250 k Ω or 4 \div 20 mA / Ri 388 Ω |
| Life time | : 60.000 rotations | Aux. switches rating | : 3 (1.5) A, 230Vac |
| Noise level | : 45 dB [A] | | |
| Ambient temperature | : -20 \div +50°C / IEC 721-3-3 | | |
| Enclosure | : IP54 acc. to IEC 529 | | |
| Cable gland | : M16 x 1,5 | | |

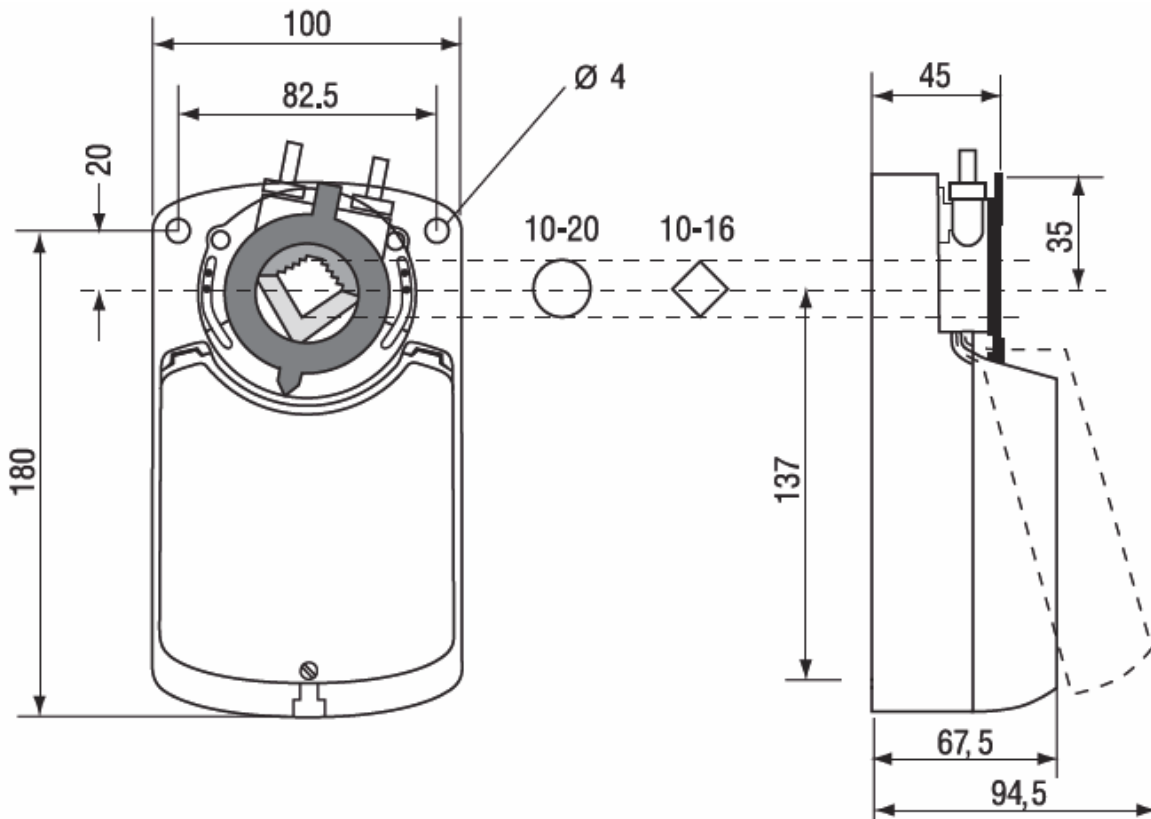
FEATURES

- ON/OFF and floating control or proportional
- Load-independent running time
- 1000 ohm potentiometer [only on electric version]
- Plug-in terminal block connection
- Simple direct-mount with universal adapter
 - on 10...20 mm \varnothing round axis
 - 10...16 mm square shaft
 - 48 mm minimum damper/valve shaft length
- Direction of rotation selectable
- Limitation of rotation angle
- Manual release button
- Automatic shut-off at end position (overload switch)

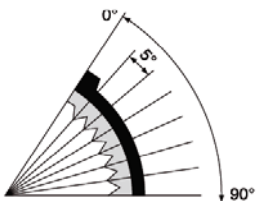
MODELS

| | Electric motor AG8C2130-S | Electronic motor AG8A2002-SE2 | Electronic motor AG8C2002-SE2 |
|------------------------------|------------------------------|--|--|
| Supply voltage | 230Vac / 50-60 Hz | 24Vac/Vdc \pm 20% / Vdc \pm 10% / 50-60 Hz | 230Vac / 50-60 Hz |
| Power consumption | 2.5 W running | 2.5 W running | 5.5 W running |
| | 0.5 W at end position | 0.3 W at end position | 0.6 W at end position |
| Wire sizing | 3.6 VA / 0.5 A @ 2 ms | 6,0 VA / 3,6 A @ 2 ms | 3.6 VA / 0.5 A @ 2 ms |
| Potentiometer | 1000 ohm, 0.5 W \pm 10% | not applicable | not applicable |
| Control signal | ON/OFF or floating | 4 \div 20 mA / Ri 388 Ω or 0 \div 10 Vdc / Ri 250 k Ω | 4 \div 20 mA / Ri 388 Ω or 0 \div 10 Vdc / Ri 250 k Ω |
| Feedback signal | not applicable | 0 \div 10 Vdc | 0 \div 10 Vdc |
| Weight | 1,20 kg | 1,10 kg | 1,20 kg |
| Rating of auxiliary switches | not applicable | 3(1.5) A, 230Vac | 3(1.5) A, 230Vac |

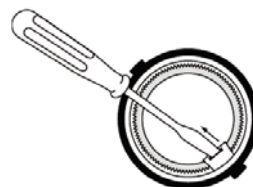
DIMENSION



Limitation of rotation angle



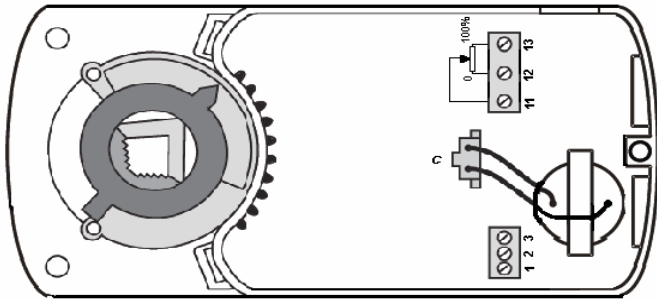
The limitation of rotation angle can be set in 5° steps by moving the adapter.



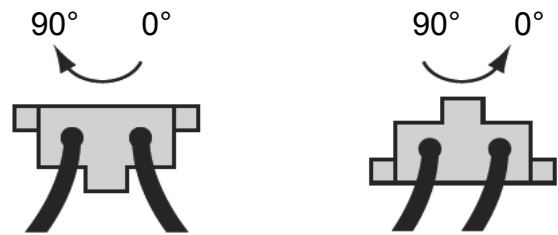
Adapter can be removed by pressing the adapter clip on the bottom of the actuator simply.

ROTATION ADJUSTMENT & WIRING DIAGRAM

ELECTRIC MOTOR AG8C2130-S

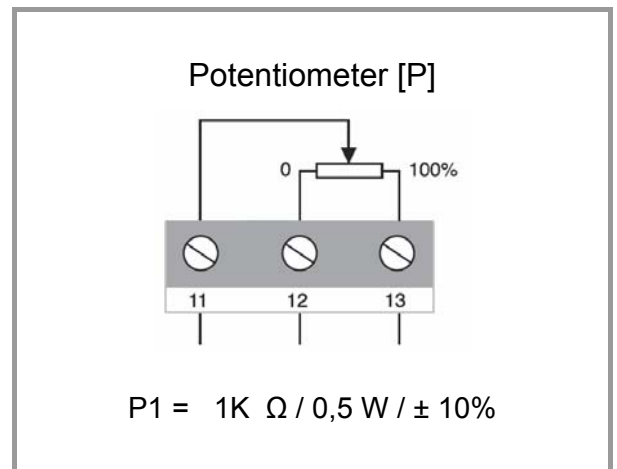
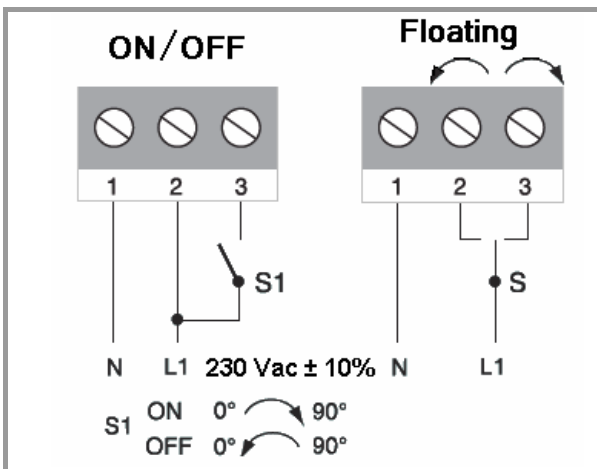


Set of rotation direction

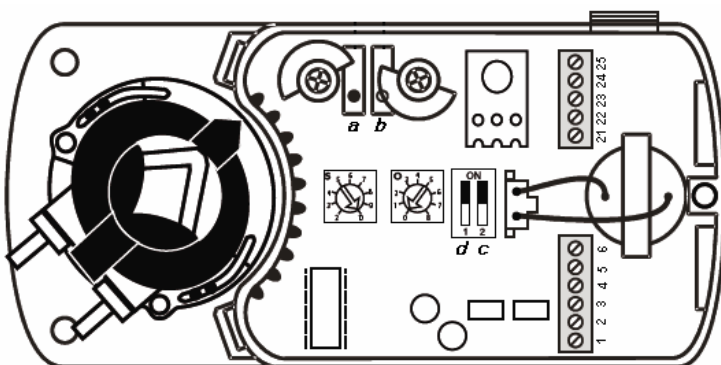


The rotation is factory set as above. To change direction, reverse plug "c".

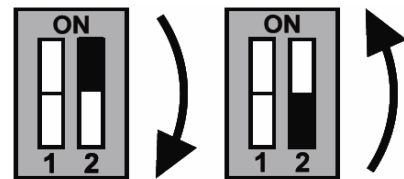
Wiring Diagram



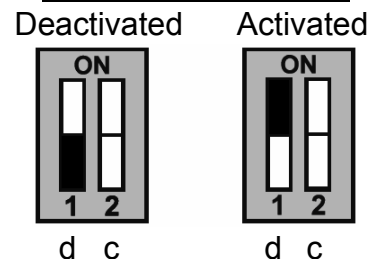
ELECTRONIC MOTOR AG8A2002-SE2 / AG8C2002-SE2



Set of rotation direction



Set of control signal



The rotation is factory set as above. To change direction, move switch "c" onto the bottom. By switching dip-switch "d" onto ON position, the control signal 0 - 10 Vdc or 4 - 20 mA will be adjusted to chosen rotation angle. Dip-switch "d" is self-adapting.

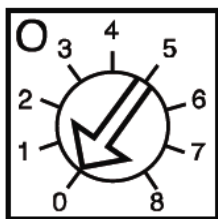
- Control signal Y1 0...10 Vdc / Ri 250 k Ω
- Control signal Y2 4...20 mA / Ri 388 Ω
- Position signal U 0...10 Vdc / > 50 k Ω

Trimmer

Trimmers O and S help control signals Y1 and Y2 to match required sets:

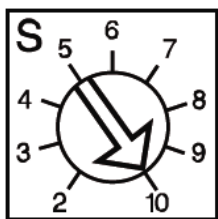
| | Control signal | Working voltage | Setting | |
|-----------|----------------|-----------------|----------------|---------------|
| | | | Starting point | Working range |
| Example 1 | Y1 | 2 ÷ 10 Vdc | O = 2 | S = 8 |
| Example 2 | Y2 | 6 ÷ 18 mA | O = 3 | S = 6 |

Starting point



| Scale O | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|--------------|---|---|---|---|---|----|----|----|----|
| for Y1 [Vdc] | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| for Y2 [mA] | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |

Working range



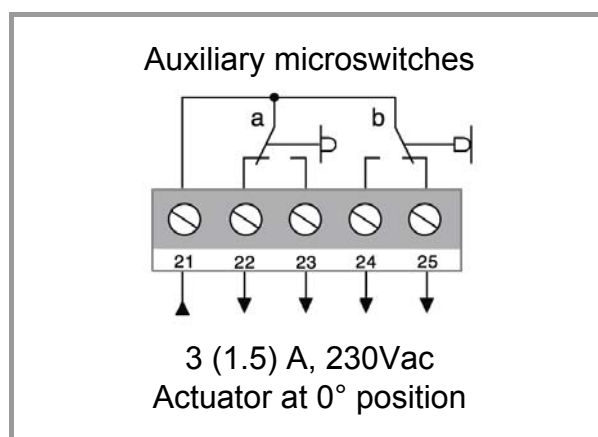
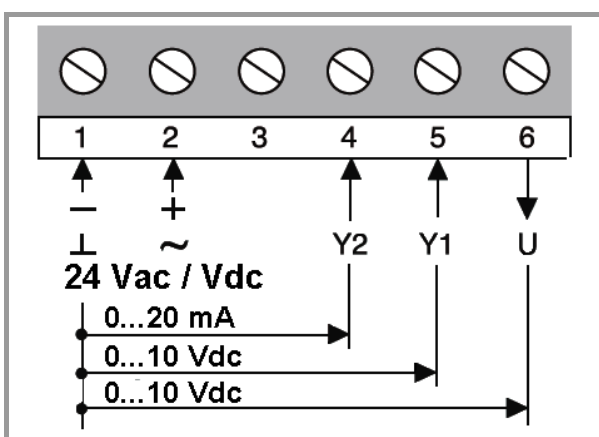
| Scale S | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--------------|---|---|---|----|----|----|----|----|----|
| for Y1 [Vdc] | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| for Y2 [mA] | 4 | 5 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |

Auxiliary microswitches

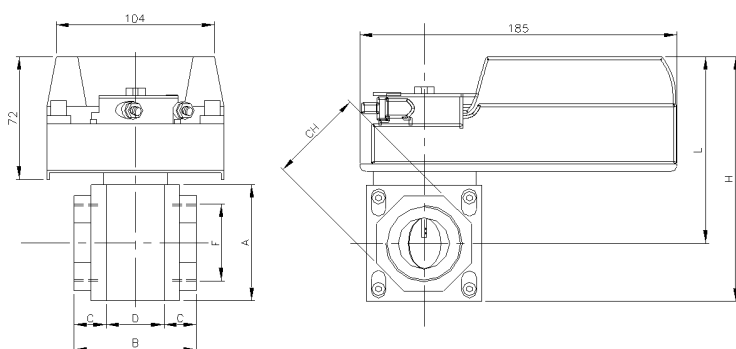
Auxiliary switches are factory set at 10° [a] and at 80° [b]. To change the switching position manually, turn the ratchet to required position.



Electric diagram



BSV THREADED BUTTERFLY VALVE DN 20 ÷ DN 50

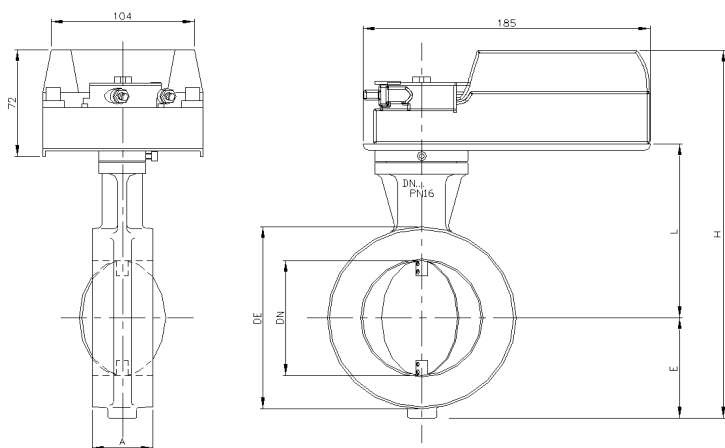


| DN | F | CH | A | B | C | D | H | L |
|----|------|----|----|----|----|----|-----|-----|
| 20 | 3/4" | 42 | 60 | 86 | 22 | 42 | 150 | 120 |
| 25 | 1" | 42 | 60 | 86 | 22 | 42 | 150 | 120 |
| 32 | 1¼" | 60 | 90 | 95 | 25 | 45 | 170 | 125 |
| 40 | 1½" | 60 | 90 | 95 | 25 | 45 | 170 | 125 |
| 50 | 2" | 74 | 90 | 95 | 25 | 45 | 170 | 125 |



For further technical information and flow diagrams please refer to "BSV" brochure.

BFV FLANGED BUTTERFLY VALVE - WAFER TYPE DN 25 ÷ DN 150

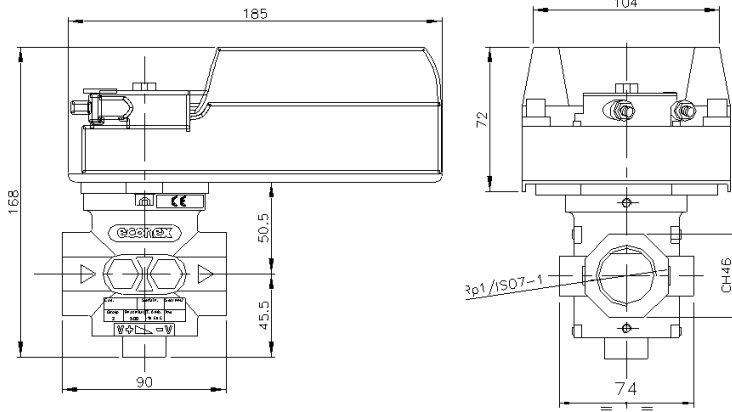


| DN | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| DE | 71 | 82 | 92 | 107 | 126 | 141 | 162 | 192 | 217 |
| A | 40 | 40 | 40 | 43 | 46 | 46 | 52 | 56 | 56 |
| E | 36 | 41 | 46 | 54 | 73 | 77 | 89 | 106 | 118 |
| L | 82 | 85 | 90 | 100 | 108 | 128 | 138 | 150 | 162 |
| H | 189 | 198 | 208 | 227 | 253 | 277 | 299 | 328 | 352 |



For further technical information and flow diagrams please refer to "BFV" brochure.

MPV MODULATING PLUG VALVE [MODULATING PLUG VALVE]



For further technical information and flow diagrams please refer to "MPV" brochure.

MODELS CODING

BSV = Threaded butterfly valve
BFV = Flanged butterfly valve
S1 = Modulating plug valve

AG8 = AG8 Electric/electronic rotary gear motor

| Diameter & Orifice | BSV Rp | BFV DN | S1 mm ² |
|--------------------|--------|--------|--------------------|
| 12 | / | / | 119 |
| 19 | / | / | 187 |
| 20 | 3/4 | / | / |
| 25 | 1 | 25 | 282 |
| 32 | 1 1/4 | 32 | / |
| 40 | 1 1/2 | 40 | / |
| 50 | 2 | 50 | / |
| 65 | / | 65 | / |
| 80 | / | 80 | / |
| 100 | / | 100 | / |
| 125 | / | 125 | / |
| 150 | / | 150 | / |

Supply voltage

A = 24 Vac / 50-60Hz
C = 230 Vac-Vdc / 50-60Hz

Rotation times for 90° at 50 Hz

2 = 30 s

Feedback potentiometer

0 = not foreseen

13⊙ = 1 kohm

⊙ Only for electric AG8 at 230Vac

Auxiliary microswitches

0 = not foreseen

2⊙ = 2 pieces

⊙ only for AG8 at 24Vac/Vdc

Accessories

S = Local control station AUTO/MAN and Open/Stop/Closed

E2 = Control Signal 4 ÷ 20 mA or 0 ÷ 10 Vdc

BSV **25**

AG8 **C** **2** **13** **0** - **S**

All the reported data are subject to be changed without notice.

Form 121003