

M91xx-Axx-1N
ON/OFF and Floating Actuators
Application

The **JOHNSON CONTROLS STANDARD** electric damper actuator series is designed to operate air dampers in ventilation and air conditioning systems.

The compact design and universal adapter fitted with limitation of rotation angle make this JOHNSON CONTROLS actuator highly versatile.

Features

- ON/OFF and Floating control
- Up to 5 actuators in parallel operation possible
- Plug-in terminal block connection
- Simple direct-mount with universal adapter on Ø10 mm to 20 mm shaft or square shaft from 10 mm to 16 mm
- 48 mm minimum damper shaft length
- Selectable direction of rotation
- Limitation of rotation angle
- Manual release button
- 2 adjustable auxiliary switches
(See back page for settings)
- Automatic shut-off at end position (overload switch)
- Energy saving at end positions
- Actuators available with 1 m halogen-free cable
- Customized versions available
- Devices meet CE requirements

Accessories

- M9000- ZK damper linkage selection
- M9000- ZKG ball joints


Technical Specifications

Actuator	M9108-AGx-1N	M9116-AGx-1N	M9124-AGx-1N	M9108-ADx-1N	M9116-ADx-1N	M9124-ADx-1N
Torque	8 Nm	16 Nm	24 Nm	8 Nm	16 Nm	24 Nm
Damper area*	1.5 m ²	3.0 m ²	4.5 m ²	1.5 m ²	3.0 m ²	4.5 m ²
Running Time OPEN	30 s	80 s	125 s	30 s	80 s	125 s
Running Time CLOSE	30 s	80 s	125 s	30 s	80 s	125 s
Supply Voltage	AC/DC 24 V			AC 230 V		
Frequency	50-60 Hz			50-60 Hz		
Power Consumption						
- Running	2.5 W			3.0 W		
- At end position	0.5 W			0.5 W		
Dimensioning	5.0 VA / 3.4 A @ 2 ms			3.6 VA / 0.5 A @ 2 ms		
Control Signal	ON/OFF or Floating					
Position Signal	Potentiometer 0.5 W / ±10%					
Angle of rotation/ Working range	90° (93° mech.)					
Angle of rotation/ Limitation	5°...85° in 5° < steps					
Auxiliary Switches	3(1.5) A, AC 230 V					
- S1 setting range	5°...85° < adjustable					
- S2 setting range						
Cable						
- Motor	1.0 m halogen-free					
- Switches	3-Wire 1-2-3					
- Potentiometer	5-Wire 21-22-23-24-25					
	3-Wire 11-12-13					
Life time	60.000 rotations					
Noise level	45 dB (A)					
Protection Class	II					
Degree of Protection	IP 54					
Mode of Action	Type 1					
Ambient conditions						
- Operating temperature	-20...+50 °C / IEC 721-3-3					
- Storage temperature	-30...+60 °C / IEC 721-3-2					
- Humidity	5...95% r.F. no condensed					
Weight	1.1 Kg			1.2 Kg		
Service	Maintenance-free					
Standards						
- Mechanics	EN 60 529 / EN 60 730-2-14					
- Electronics	EN 60 730-2-14					
- EMC Emissions	EN 50 081-1:92 / IEC 61000-6-3:96					
- EMC Immunity	EN 50 082-2:95 / IEC 61000-6-2:99					

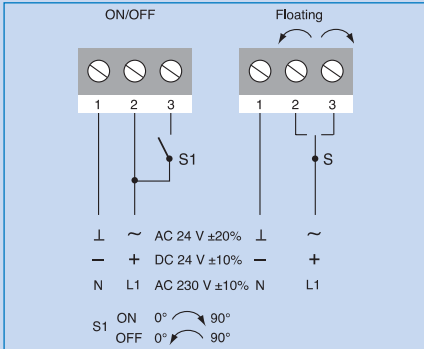
Ordering Codes

Codes	Descriptions
M91xx-AGA-1N	AC/DC 24 V
M91xx-AGC-1N	AC/DC 24 V, with 2 auxiliary switches
M91xx-AGE-1N	AC/DC 24 V, with 1000 Ω feedback potentiometer
M91xx-AGD-1N	AC/DC 24 V, with 140 Ω feedback potentiometer
M91xx-AGF-1N	AC/DC 24 V, with 2000 Ω feedback potentiometer
M91xx-ADA-1N	AC 230 V
M91xx-ADC-1N	AC 230 V, with 2 auxiliary switches
M91xx-ADE-1N	AC 230 V, with 1000 Ω feedback potentiometer
M91xx-ADD-1N	AC 230 V, with 140 Ω feedback potentiometer
M91xx-ADF-1N	AC 230 V, with 2000 Ω feedback potentiometer

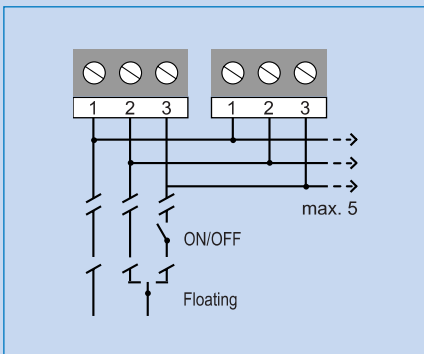
*Caution: Please note damper manufacturer's information concerning the open/close torque.

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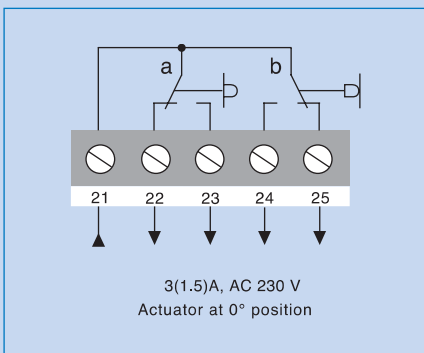
Wiring Diagrams



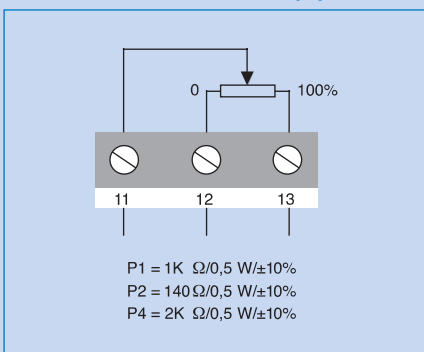
Parallel Connections



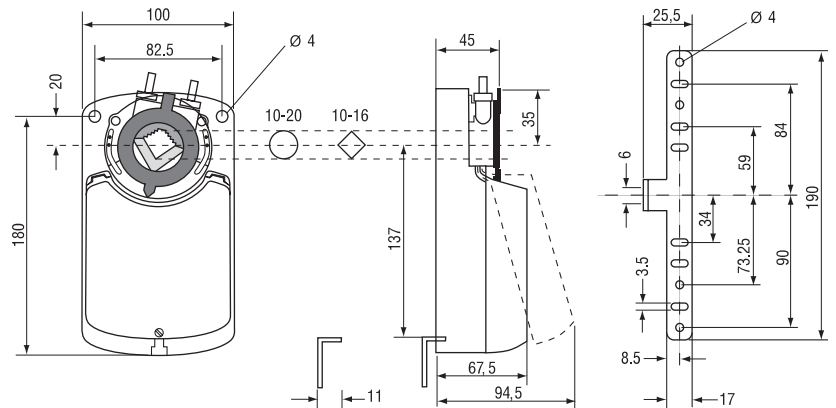
Auxiliary Switches (S)



Potentiometer (P)



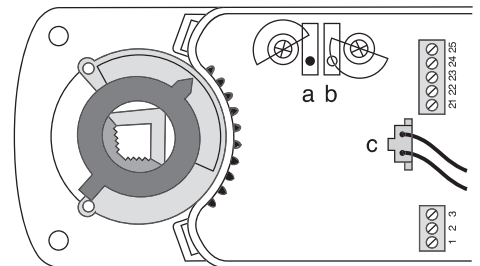
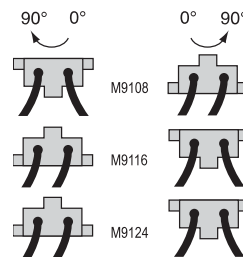
Dimensions in mm



Changing the direction of rotation

The direction of rotation can be changed by reversing plug c

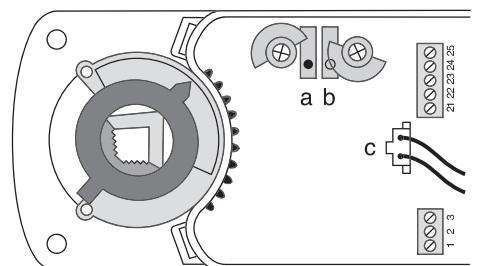
Factory setting:



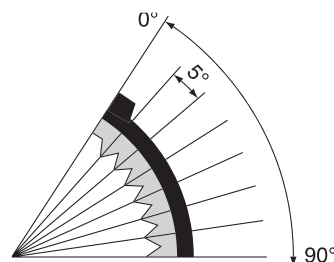
Setting the auxiliary switches

Factory setting
Switch a at 10°
Switch b at 80°

The switching position can be manually changed to any required position by turning the ratchet



Limitation of Rotation angle



Adapter release

