



**V A L V E**

**MODULATING Mixer Actuator AC/DC24V 4.15N**

**Application**

The JOHNSON CONTROLS VALVE electric mixer-actuator series is designed for operating water valves such as mixing valves, butterfly valves and ball valves.

The mixing actuator is designed so that it can be fitted, using the relevant fitting kit, to many different makes of valves.

**Key features**

- DC0(2)...10V or 0(4)...20 mA control signal
- Working area adjustable
- Load-independent running time
- Up to 5 actuators in parallel operation possible
- Plug-in terminal block connection
- Simple mount with ball valves adapter ZMA...
- Selectable direction of rotation
- Manual release button
- 2 adjustable auxiliary switches
- Automatic shut-off at end position (overload switch)
- Actuators available with 1.0 m cable
- Customized versions available
- Devices meet CE requirement

**Accessories**

- M9000-ZMA 001 for ESBE mixers
- M9000-ZMA 002 for Centra Duplex mixers
- M9000-ZMA 003 for Holter mixers
- M9000-ZMA 004 for GF Ball valves

**Nomenclature/Specification/Technical data**

M9116-GGA-1N2	AC/DC24V	
M9116-GGC-1N2	AC/DC24V	with 2 auxiliary switches
M9116-GG...1N2-K		with 1.0 m halogen-free cable
M9116-HGA-1N2	AC/DC24V	
M9116-HGC-1N2	AC/DC24V	with 2 auxiliary switches
M9116-HG...1N2-K		with 1.0 m halogen-free cable

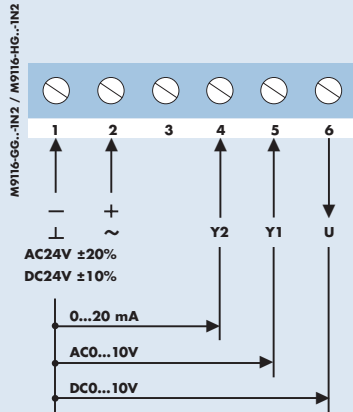
Actuator	M9116-GG...	M9116-HG...
Torque	16 Nm	16 Nm
Running time OPEN	120 s	120 s
Running time CLOSE	120 s	120 s
Supply voltage	AC/DC24V	AC/DC24V
Frequency	50-60 Hz	50-60 Hz
Power consumption		
- Running	3.0 W	3.0 W
- At end position	0.7 W	0.7 W
Dimensioning	6.0 VA / 3.6 A @ 2 ms	6.0 VA / 3.6 A @ 2 ms
Weight	1.1 kg	1.1 kg
Working area Y	not adjustable	adjustable
Control signal Y1	DC0(2)...10V	DC0(2)...10V
Input resistance Y1	Ri 250 k Ohm	Ri 250 k Ohm
Control signal Y2	0(4)...20 mA	0(4)...20 mA
Input resistance Y2	Ri 388 Ohm	Ri 388 Ohm
Position signal U	DC0...10V	DC0...10V
Load resistance	> 50 k Ohm	> 50 k Ohm
Angle of rotation/working range	90° (93° mech.)	
Angle of rotation/limitation	none	
Auxiliary switches	3(1.5)A, AC230V	
- S1 setting range	5°...85° < adjustable	
- S2 setting range	5°...85° < adjustable	
Cable	1.0 m halogen-free	
- Motor	5-Wire 1-2-4-5-6	
- Switches	5-Wire 21-22-23-24-25	
Lifetime	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	
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 61 000-6-3:96
	EMC Immunity	EN 50 082-2:95 / IEC 61 000-6-2:99

## V A L V E

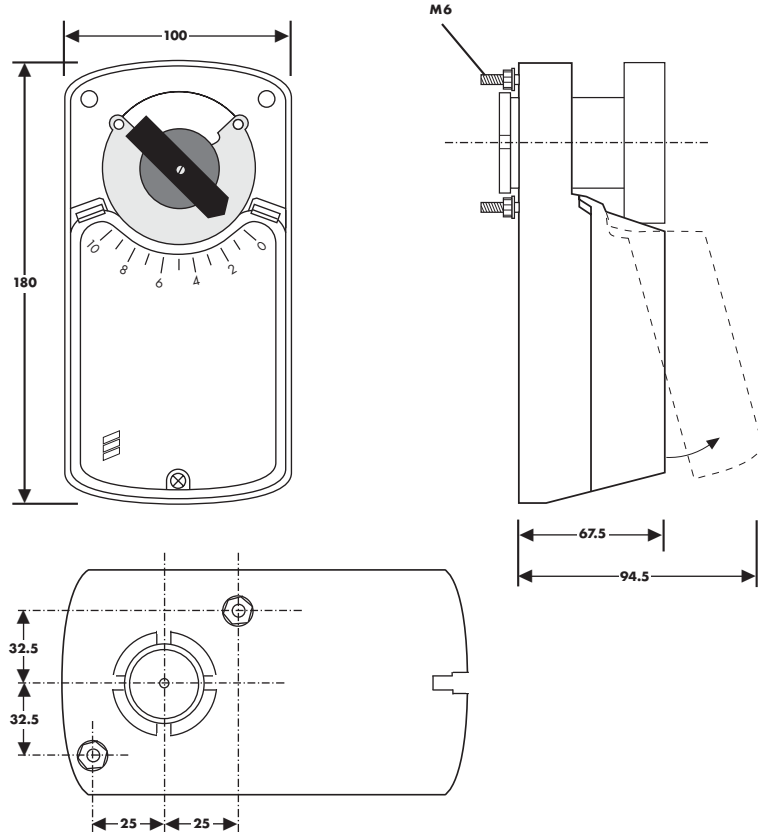
## MODULATING Mixer Actuator AC/DC24V

4.15N

### Wiring diagram

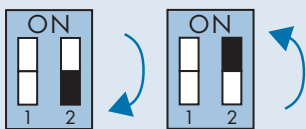


### Dimensions in mm



### Changing the direction of rotation

Microswitch **d2**



In order to reverse the direction of rotation, move microswitch **d2** to the ON position. The action of the output signal will also be changed in the process.

**Plug (c) must never be reversed. The motor will not function correctly if (c) is reversed.**

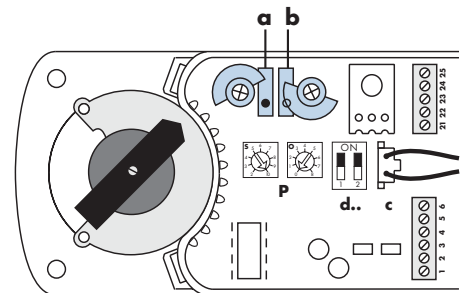
### Setting the auxiliary switches

Factory setting

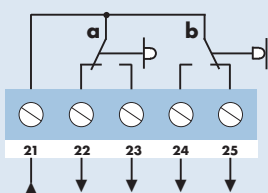
Switch **a** at 10°

Switch **b** at 80°

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



### Auxiliary switches (...C-1N2)



3(1.5)A, AC230V  
Actuator at 0° position

### Setting the control signal

Control signal Y1  
Input resistance  
DC0...10V  
 $R_i > 250 \text{ k}\Omega$

Control signal Y2  
Input resistance  
0...20 mA  
 $R_i = 388 \Omega$

Position signal U  
Load resistance  
DC0...10V  
 $> 10 \text{ k}\Omega$

Leave microswitch **d1** in OFF position.

M9116-GG...1N2  
M9116-HG...1N2

Microswitch **d1**  
Self-adapting

De-activated



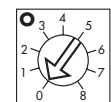
activated



M9116-HG...1N2

Poti **p**  
for Y signals

Poti **o**



Poti **s**

