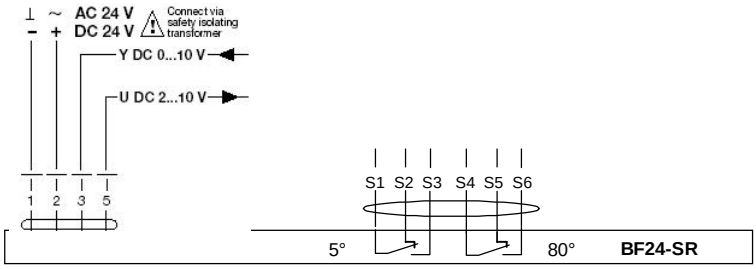
Manufactured by Belimo and available for retrofit use from MHServices.co.uk

BF24-SR Spring-return actuators 90°



The enclosure of the actuator may only be opened by the manufacturer. It contains no components which the user can replace or repair.

Wiring Diagram



Technical Data	BF24-SR
Nominal Voltage	AC 24V 50/60 Hz DC 24V
Nominal voltage range	AC 19,2...28.8V DC 21,6...28.8V
For wire sizing	10 VA (Imax 8,3A @ 5ms)
Power consumption	
- motoring	ca. 7 W
- holding	ca. 2 W
Connecting cable	
- Motor	1 m 2 x 0.75 mm^2
- Aux. switch	1 m 6 x 0.75 mm^2
Control signal Y	DC0…10V @ input resistance 100 k (0.1 mA)
Operating range	DC2…10V (at control signal Y)
Measuring voltage U	DC2…10V max. 0.5 mA (for 0…100% angle of rotation)
Synchronisation	tolerance ± 5%
Auxiliary switches	2 x SPDT 6(3)A, AC 250V, double insulated
- Switching points	5° / 80°
Torque	
- Motor	Min. 18 Nm
- Spring	Min. 12 Nm
Angle of rotation	95°
Damper rotation	Form-fit 12 mm
Direction of rotation	Selected by mounting L/R
Running time	
- Motor	150s
- Spring	~16s (@ t_{amb} = 20°C)
Sound power level	
- Motor	max. 45 dB(A)
- Spring	~ 62 dB(A)
Position indication	mechanical with pointer
Protection class	III, safety extra low voltage
Degree of protection	IP 54
Ambient temperature range	
- Normal duty	-30...+ 50° C
- Safety duty	-30...+ 75° C (24h)
Non-operating temperature	-40...+ 50 °C
Humidity test	to EN 60730-1
EMC	CE according 89/336/EEC
Low Voltage Directivity	CE according 73/23/EEC
Service life	min. 60'000 safe positions
Maintenance	Maintenance free
Weight	ca. 2'800g

Modulating actuator AC/DC 24V

Application

The spring-return actuator is intended for the operation of fire dampers in ventilation and air-conditioning systems.

Mode of operation

The BF24-SR is controlled by a standard DC 0...10 V signal.
The actuator runs to the position specified by the control signal while tensioning the return spring at the same time.
If the power supply is interrupted, the energy stored in the spring moves the damper back to its safe position.

Manual operation

Without power supply the damper can be operated manually and locked in any required position. Release of the locking mechanism can be achieved manually or automatically by applying the supply voltage.
If manual operation is used and the power supply is switched on, the actuator will check itself by running first to the start position and then to the position dictated by the control signal Y.
During the self-check the motor running time is increased to 100 sec. and the feedback signal U remains at 2.0 V. Avoid using the manual operation when power supply is switched on.

Signalling

There are two fixed internal auxiliary switches for indicating the end-positions of the damper.
Intermediate positions of the damper blade are visible by the use of a mechanical pointer.

Dimensions

