actionair by Swegon

Motor open & spring-return actuator, combined with thermoelectric tripping device (BAT 72°C), for automatic fire dampers in ventilation and air-conditioning systems.

- Torque motor 9 Nm / 7 Nm
- Nominal voltage AC/DC 24 V / AC 230 V
- Control Motor Open / Fail-Safe Close
- Mechanical interface form fit 14mm Hex, continuous hollow shaft

Application:

Motor open & spring return actuators complete with BAT72 are intended for the operation of Swegon Fire Dampers

Technical data

		Mode 5 SAM24-1-FL	Mode 6 SAM230-1-FL	Mode 5-3P SAM24-SR-1-FL
Electrical Data	Norminal Voltage	AC/DC 24V	AC 230V	AC/DC 24V
	Norminal voltage frequency	50/60 Hz	50/60Hz	50/50Hz
	Nominal voltage range	AC 19.2...28.8 V DC 21.6...28.8 V	AC 198...264 V	AC 19,2...28.8V/DC 21.6...28.8V
	For wire sizing	6 VA (Imax 8.3A @ 5ms)	10 VA (Imax 4 A @ 5ms)	8.5 VA (Imax 8.3A @ 5ms)
	Power consumption - Motoring - Holding	 4 W 1.4 W	 5 W 2.1 W	 4.5 W 1.72 W
	Connecting cable (LSF quality) - Motor - Fail-Safe	 1 m 2 x 0.75 mm2 1 m 6 x 0.75 mm2	 1 m 2 x 0.75 mm2 1 m 6 x 0.75 mm2	 1m 4 x 0.75 mm2 1m 6 x 0.75 mm2
	Auxiliary switches - Switching points	2 x SPDT 1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V 5° / 80°	2 x SPDT 1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V 5° / 80°	2 x SPDT 1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V 5° / 80°
Functional Data	Torque - Motor - Fail-Safe	 Min. 9 Nm Min. 7 Nm	 Min. 9 Nm Min. 7 Nm	 Min. 9 Nm Min. 7 Nm
	Angle of rotation	Max. 95°	95°	95°
	Output drive coupling	Form-fit 14 mm double hexagon	Form-fit 14 mm double hexagon	Form-fit 14 mm double hexagon
	Direction of rotation	Selected by molunting L/R	Selected by molunting L/R	Selected by mounting L/R
	Running time - Motor - Fail-Safe	 <60s / 90° <20s @ -10...55°C <60s @ -30...-10°C	 <60s / 90° <20s @ -10...55°C <60s @ -30...-10°C	 <60s / 90° <20s @ -10...55°C <60s @ -30...-10°C
	Sound power level - Motor - Fail-Safe	 max. 55 dB(A) ~ 67 dB (A)	 max. 55 dB(A) ~ 67 dB (A)	 max. 55dB(A) ~ 67 dB(A)
	Position indication	Mechanical with pointer	Mechanical with pointer	Mechanical with power
Safety Data	Protection class	III II	III II	III
	Degree of protection	IP 54	IP 54	IP 54
	Ambient temperature range - Normal duty	 -30...+ 55°C	 -30...+ 55°C	 -30...+ 55°C
	Humidity test	To EN 60335-1	To EN 60335-1	To EN 60730-1
	EMC	CE according 2014/30/EU	CE according 2014/30/EU	CE according 2014/30/EU
	Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14	IEC/EN 60730-1 and IEC/EN 60730-2-14	IEC/EN 60730-1 and IEC/EN 60730-2-14
	Low voltage directive	CE according 2014/35/EU	CE according 2014/35/EU	CE according 2014/35/EU
	Service life	60,000 cycles	60,000 cycles	min. 60,000 full cycles

	Technical datasheet	MODE 5, 6 & 5-3P
Safety data	Ambient temperature safety operation	the safety position will be attained up to max. 75°C
	Storage temperature	-40...55°C [-40...131°F]
	Servicing	maintenance-free
Weight	Weight	1.4 kg

Safety notes

- The device must not be used outside the specified field of application.
- The two switches integrated in the actuator are to be operated either on power supply voltage or at safety extra-low voltage. The combination power supply voltage/safety extra-low voltage is not permitted.
- Cables must not be removed from the device.
- The device may only be opened at the manufacturer ' s site. It does not contain any parts that can be replaced or repaired by the user.
- The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Product features

Mode of operation

The actuator motors the damper to the reset position whilst simultaneously tensioning the return spring. If the power supply is interrupted, the energy stored in the spring, moves the damper back to the rleased position to give fail-safe operation.

The BAT incorporates a safety feature that ensures the fail-safe status of the damper if the BAT is not fitted to the ductwork.

The MODE 5-3P is controlled by a standard DC 2...10 V signal. The actuator motors to the position specified by the control signal. If the power supply is lost or removed the device springs the damper to the failsafe position.

Safety Position Lock

The Safety Position Lock™ reliably holds the fire damper in the safety position in case of fire therefore ensuring maximum safety.

Thermoelectric tripping device

Complies with the specific requirements of the standard ISO 10294-4.

BAT: If the ambient temperature of 72°C is exceeded, the duct outside temperature fuse will respond. If the duct inside temperature of 72°C is exceeded, then the duct inside temperature fuse will respond. When one of the thermal fuses responds, the supply voltage is interrupted permanently and irreversibly.

The LED is on when

- supply voltage is available
- the thermal fuses are OK and
- the test switch is not pressed.

The temperature fuse for the ambient temperature protects the actuator from overheating and cannot be replaced. The actuator must be replaced when the duct outside temperature fuse is triggered. The temperature fuse for the duct inside temperature can be replaced.

The function of the system (interruption of the supply voltage) can be checked by pressing the test button.

Note: The function of the thermal fuses and the control key is only warranted if the actuator is connected to the supply voltage (LED on).

Manual override

Without power supply, the actuator can be operated manually and fixed in any required position. It can be unlocked manually or automatically by applying the supply voltage.

Technical data sheet

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 and for the M5-3P by the 2-10V DC feedback potentiometer.

It is recommended this M5-3P is used in conjunction with the Actionair control and monitoring system.

Standards / Regulations

The design of the actuator is based on the specific requirements from the European standards:
- EN 15650 Ventilation for buildings – Fire dampers
- EN 1366-2 Fire resistance tests on service installations
(Part 2: Fire dampers)
- EN 13501-3 Fire classification of construction products and building elements
(Part 3: Classification using data from fire resistance tests on products and elements used in building service installations: fire resisting ducts and fire dampers)

Recommendation for application

The regular operational check (open/close control of the fire damper) enhances the safety of people, animals, property and the environment. Unless other requirements are stipulated – e.g. in the damper manufacturer's operating instructions – Swegon recommends the performance of a monthly operational check. Fire damper actuators from Swegon are designed in accordance with service life specifications contained in the technical data sheet for regular operational checks. Notes for regular operational checks can be found in the European Product Standard for Fire Dampers (EN 15650) under "Maintenance information".

Parts included

Hank crank
Pointer
Protective bag

Accessories

Electrical accessories	Description
	Replacement BAT rated at 72°C (probe section only) - Part Ref X00163)

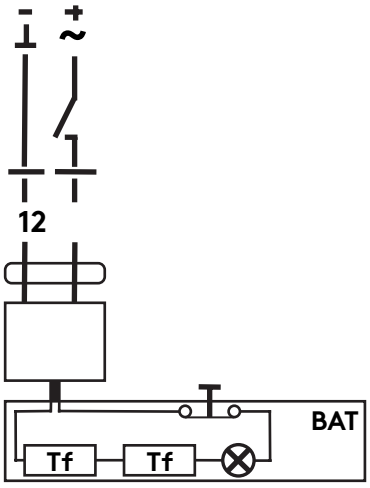
Electrical installation

Supply from isolating transformer.
Parallel connection of other actuators possible. Observe the performance data.
Combination of power supply voltage and safety extra-low voltage not permitted at the both auxiliary switches.

Wiring diagrams
AC/DC 24 V, open/close Auxiliary switch

Wire Colours:

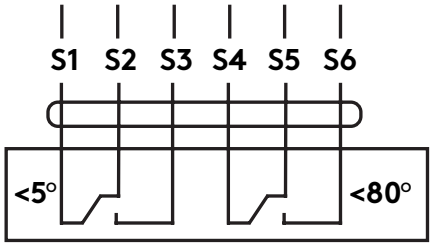
1 = black
2 = white
S1 = violet
S2 = red
S3 = white
S4 = orange
S5 = pink
S6 = grey
Tf = Thermal fuse (see "techical data")



Wiring diagrams
AC/DC 230 V, open/close Auxiliary switch

Wire Colours:

1 = blue
2 = brown
S1 = violet
S2 = red
S3 = white
S4 = orange
S5 = pink
S6 = grey
Tf = Thermal fuse (see "techical data")



Dimensions