

FSAF120A-S**On/Off, Spring Return, 120 VAC, Auxiliary Switch****Technical Data**

| | |
|-----------------------------------|--|
| Power Supply | 120 VAC \pm 10%, 50/60 Hz |
| Power Consumption Running | 28 W, 38 VA |
| Power Consumption Holding | 10 W, 24 VA, End stop 54 VA, 0.5 A slow blow fuse * |
| Shaft Diameter | 1/2" to 1.05" round, centers on 3/4" with insert, 1.05" without insert |
| Electrical Connection | 3 ft, 18 GA appliance cable, 1/2" conduit connector |
| Overload Protection | electronic throughout 0° to 95° rotation |
| Electrical Protection | grounded enclosure, 120V |
| Angle of Rotation | 95° |
| Torque (US unit) | 180 in-lbs [20 Nm] minimum |
| Direction of Rotation (Motor) | can be selected by CCW/CW mounting |
| Direction of Rotation (Fail-Safe) | can be selected by CCW/CW mounting |
| Position Indication | visual indicator, 0° to 95° (0° is full spring return position) |
| Manual Override | No |
| Running Time (Motor) | <25 seconds |
| Running Time (Fail-Safe) | <15 seconds at ambient temperature |
| Humidity | 5 to 95% RH non condensing (EN 60730-1) |
| Ambient Temperature Range | 32°F to 122°F [0°C to 50°C] |
| Storage Temperature Range | -40°F to 176°F [-40°C to 80°C] |
| Housing | NEMA type 1 / IP40 |
| Housing Material | zinc coated steel |
| Gears | steel, permanently lubricated |
| Agency Listings† | cULus listed to UL60730-1A:02; UL 60730-2-14:02 and CAN/CSA-E60730-1:02; Listed to UL 2043 - suitable for use in air plenums per Section 300.22(c) of the NEC and Section 602.2 of the IMC |
| Noise Level (Motor) | Inaudible holding, running <40 dB (A) spring <62 dB (A) |
| Noise Level (Fail-Safe) | inaudible holding, spring 73 dB (A) |
| Servicing | maintenance free |
| Quality Standard | ISO 9001, RoHS (EU-Directive 2011/65/EU) |
| Weight | 6.95 lbs (3.15 kg) |
| Auxiliary Switch | 2 x SPST 6 A (2.5 A inductive) @ 125/ 250 VAC), 5° and 85° |

† UL File XAPX.E108966

Fire & Smoke, 180 in-lb at 350°F for 30 min., 25 sec. drive, 15 sec. spring

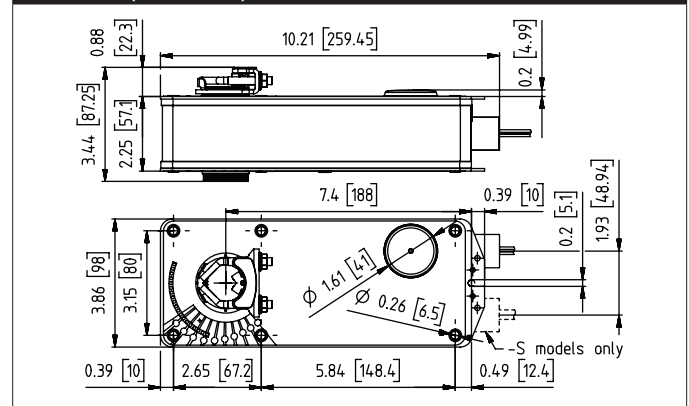
Application

The FSAF_A-S Auxiliary Switch actuators provide true spring return operation for reliable fail-safe application and positive close-off on UL555S dampers. The spring return system provides constant torque to the damper with and without power applied to the actuator. The FSAF_A series provides 95° of rotation and is provided with a graduated position indicator showing 0 to 95°. Two SPST auxiliary switches provide means of closed and open damper position indication.

Operation

The FSAF_A series actuators are mounted to the damper axle shaft or jackshaft (1/2" to 1.05") via a cold-weld clamp. Teeth in the clamp and V-bolt dig into the metal of both solid and hollow shafts maintaining a perfect connection. The specially designed clamp will not crush hollow shafts. The bottom end of the actuator is held by an anti-rotation strap or by a stud provided by the damper manufacturer. The actuator is mounted in its fail safe position with the damper blade(s) closed. Upon applying power, the actuator drives the damper to the open position. The internal spring is tensioned at the same time. If the power supply is interrupted, the spring moves the damper back to its fail-safe position.

Note on linkage kits. The correct leg kit for the FSAF_A series is the older ZG-AF US as the actuator has a classic AF frame. However, the spline is the new generation type and the crank arm required is the KH-AFB.

Dimensions (Inches[mm])**Safety Notes**

* Neither UL nor Belimo require local over-current protection. The FSAF_A actuators draw higher peak current when driving against any type of stop. After 10 seconds current drops to the lower holding level. If used, this requires the value of a local fuse or breaker to be increased to avoid nuisance opening or tripping. A 2 A slow blow should be used for 24 VAC. A 0.5 A slow blow should be used for 120 VAC. A 0.25 A slow blow should be used for 230 VAC and a 0.3 A slow blow for 208 VAC.

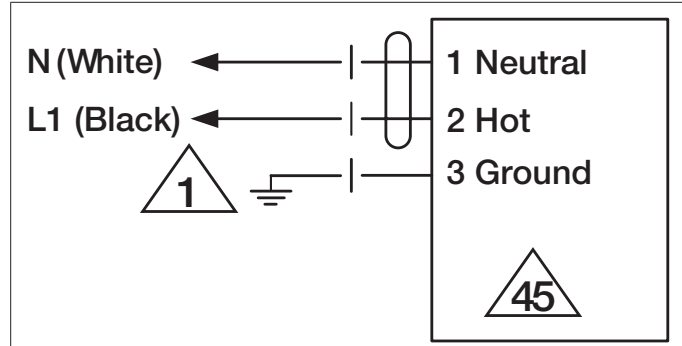
| Accessories | |
|-------------|--|
| AF-P | Anti-rotation bracket AF/NF. |
| IND-AFB | AFB(X)/NFB(X) position indicator. |
| KG8 | Ball joint for 5/16" diameter rod, 90°, galvanized steel. |
| KH-AFB | AFB(X)/NFB(X) crankarm (with 3/4" dia. shaft pass through). |
| SH8 | Push rod for KG6 & KG8 ball joints (36" L, 5/16" diameter). |
| TOOL-06 | 8 mm and 10 mm wrench. |
| ZG-100 | Univ. right angle bracket (17" H x 11-1/8" W x 6" base). |
| ZG-101 | Univ. right angle bracket (13" H x 11" W x 7-7/16" base). |
| ZG-102 | Dual actuator mounting bracket. |
| ZG-AF US | Classic AF/NF crankarm adaptor kit. |
| ZG-AFB118 | AFB(X)/NFB(X) crankarm adaptor kit. |
| ZS-100 | Weather shield - galvanneal (13" L x 8" W x 6" D). |
| ZS-150 | Weather shield - PC w/ foam seal (16" L x 8-3/8" W x 4" D). |
| ZS-260 | Explosion proof housing. |
| ZS-300 | NEMA 4X, 304 stainless steel enclosure. |
| BAE165 US | 165° F electric thermal sensor, SPST, normally closed. |
| S2A-F US | Auxiliary switch, 2x SPDT, 3A (0.5A inductive) @250 VAC max. |

Typical Specification

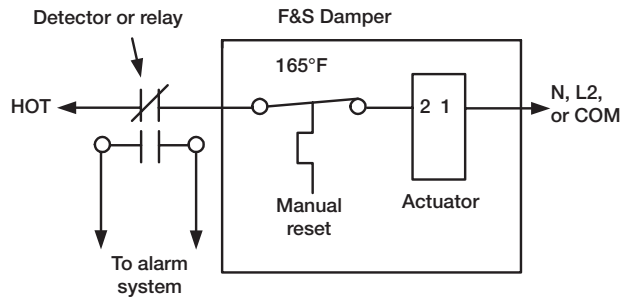
All smoke and combination fire and smoke dampers shall be provided with Belimo FSTF, FSLF, FSNF, or FSAF actuators. All substitutions must be approved before submission of bid. Damper and actuator shall have UL 555S Listing for 250°F &/or 350°F. Actuator shall have been tested to UL 2043 per requirements of IMC 602.2 and NEC 300.22 (c). Where position indication is required -S models with auxiliary switches or damper blade switches will be provided per code requirements.

Wiring Diagrams

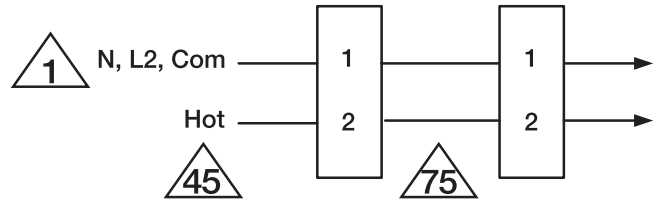
- Provide overload protection and disconnect as required.
- Actuators may be powered in parallel. Power consumption must be observed.
- S4 makes to S6 when actuator is powered open.
- Auxiliary switches are for end position indication or interlock control.
- Double insulated.
- Ground present on some models.



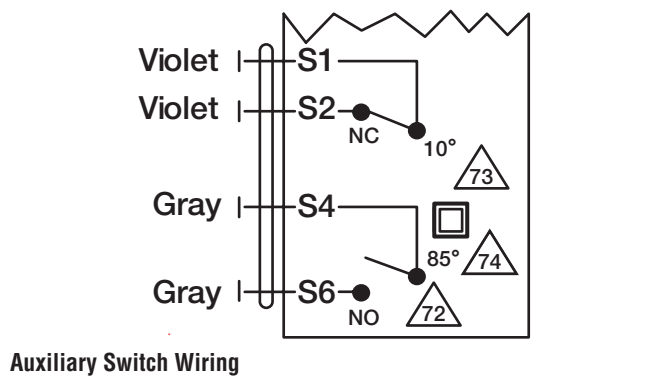
120 VAC



Typical containment damper control wiring



Parallel Actuator Wiring



Auxiliary Switch Wiring