



Technical Data		FSLF24(-S)(-FC) US, FSLF230(-S) US
Power supply		
FSLF24(-S)(-FC) US		24 VAC ± 20%, 50/60 Hz
FSLF230(-S) US		230 VAC ± 10%, 50/60 Hz
Power consumption	running	50/60 Hz, 15 VA
24 VAC	holding	50/60 Hz, 3.5 VA
	end stop	50/60 Hz 25 VA
230 VAC	running	50/60 Hz 17 VA
	holding	50/60 Hz 6.5 VA
	end stop	50/60 Hz 27 VA
Fusing*		
FSLF24		1 amp slow blow
FSLF230		0.125 amp slow blow
Transformer sizing		25 VA per 24 VAC actuator
Electrical connection		
FSLF24 US		3 ft, 18 ga, 2 color coded leads
FSLF230 US		3 ft, 18 ga, 3 color coded leads
FSLF...-S US		3 ft, 18 ga, appliance cable
Overload protection		electronic throughout 0 to 95° rotation auto-restart after temporary overload (FSLF230 US grounded enclosure)
Control		microprocessor
Angle of rotation		95°
Torque		30 in-lb [3.5 Nm] minimum from 32°F to 350°F [0°C to 177°C]
Direction of rotation	spring	can be selected by CCW/CW mounting
Position indication		visual indicator, 0° to 95°
Running time	motor	< 15 sec at rated voltage and torque 32°F to +122°F [0°C to +50°C]
	spring	<15 seconds at rated voltage and torque
Humidity		5 to 95% RH non-condensing
Ambient temperature		32°F to 122°F [0°C to 50°C]
Storage temperature		-40°F to 176°F [-40°C to 80°C]
Housing		NEMA type 1
Housing material		zinc coated steel
Gears		permanently lubricated
Agency listings		cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1, CSA C22.2 No.24-93
Servicing		maintenance free
Quality standard		ISO 9001
Weight		
FSLF24(-S) US		3.4 lbs [1.7 kg], (+ 0.3 lbs [+0.14 kg])
FSLF230(-S) US		4.0 lbs [1.8 kg], (+ 0.3 lbs [+0.14 kg])

FSLF24(-S)(-FC) US, FSLF230(-S) US

Auxiliary switch	2 x SPST 0.5 A inductive, 3A resistive @ 120/250VAC, minimum 1 mA @ 5 VDC, .3 A ind, .5A res @ 24VDC, UL listed, 10° and 85°. Double insulated ☐
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FSLF24(-S)(-FC) US, FSLF230(-S) US

On/Off, Spring Return, 350°F for Half Hour, 15 Seconds Cycle Time

Application

The type FSLF spring-return actuator is intended for the operation of smoke and combination fire and smoke dampers in ventilation and air-conditioning systems. The actuator will meet requirements of UL555 and UL555S when tested as an assembly with the damper and will meet requirements of UBC for 15 second opening and closing. Square footage of damper operated will depend on make and model and the temperature required.

Operation

Mounting of the actuator to the damper axle shaft or jackshaft is 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.

SAFETY NOTES

The actuator contains no components which the user can replace or repair. 24 VAC Connect via safety isolating transformer, Class 2 supply.

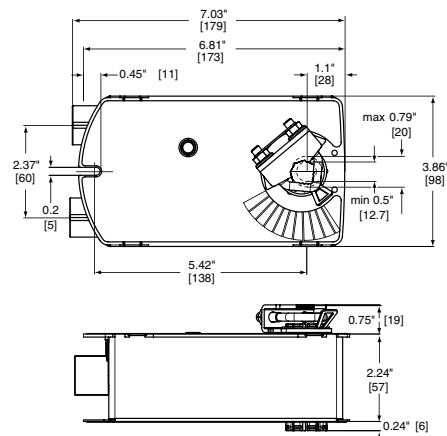
1/2" Threaded Connector

Screw a conduit fitting into the actuator's metal bushing. Jacket the actuator's input wiring with suitable flexible conduit. Properly terminate the conduit in a suitable junction box.

3/8" Flex Connector (-FC models)

Mount the flexible conduit into the actuator's metal bushing by means of the provided screw with a torque of 1.2 Nm. Jacket the actuator's input wiring with suitable flexible conduit. Properly terminate the conduit in a suitable junction box.

Dimensions (Inches [mm])



*Individual Fusing or Breakers are not required by Belimo.

The FSLF24 draws higher peak current when driving against any type of stop. Given the technology of fuses & breakers, this requires the value of fuse or breaker to be increased to avoid nuisance opening or tripping. A 1 amp slow blow should be used for 24VAC. A 0.125 amp slow blow should be used for 230VAC.

On/Off, Spring Return, 350°F for Half Hour, 15 Seconds Cycle Time



A diagram of a double door with a horizontal bar across the middle and a vertical bar on the left side.

Two section for
two FSLF actuators

Smoke Control and Combination Fire and Smoke Control Damper Actuators

Replacement Applications

Go to www.belimo.us/firesmoke for a Cross Reference from old damper actuators to Belimo. Extensive retrofit installation instructions are available, along with technical training information.

CAUTION

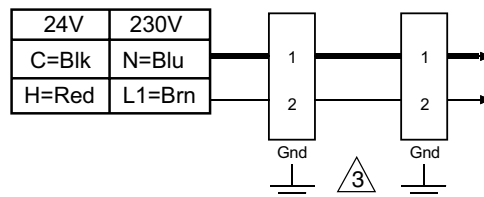
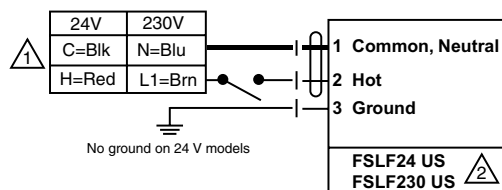
In some cases, a BAE 165 or equal thermal sensor must be installed.

INSTALLATION NOTES

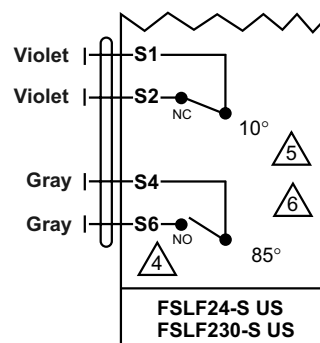
- 1 Provide overload protection and disconnect as required.
- 2 ***CAUTION Equipment Damage!***
Actuators may be connected in parallel.
Power consumption and input impedance must be observed.
- 3 No ground on 24 V models
- 4 S4 makes to S6 when the actuator is powered open.
- 5 For end position indication, interlock control, fan startup, etc., FSLF24-S US and FSLF230-S US incorporate two built-in auxiliary switches.
- 6 Double insulated 

⚠ WARNING Live Electrical Components!

 During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.



Parallel Actuator Wiring



Auxiliary switch wiring for FSLF24-S US, FSLF230-S US