Fire and smoke spring return actuator FSLF24(-S) US

- ***For two position control of UL555S rated dampers in HVAC systems.***
- ***Torque 3.5 Nm [1)]***
- ***Running time: motor < 15s, spring return < 15 s***
- ***Nominal voltage AC 24 V***
- ***1 wire control***

Technical data

Electric data	Nominal voltage	AC 24 V / 50/60 Hz
	Power supply range	AC 21.6 ... 26.4 V
	Power consumption	5 VA @ running / 3.5VA @ holding
	For wire sizing	5 VA
	Connection cable	0.6 m, 18 GA, 2 color coded leads 0.6 m, 18 GA, 4 appliance leads 1/2" conduit connector
Function data	Torque - Motor - Spring return	min. 3.5 Nm [1)] 3.5 Nm [1)]
	Direction of rotation	selectable by CW/CCW installation
	Angle of rotation	max. 95°
	Auxilary switch (-S)	2 SPST, 1mA ... 3(0.5)A, 250V ⧈ fixed at 10° and 85°
	Running time - Motor - Spring return	< 15 s constant < 15 s
	Position indication	mechanical
Working conditions	Protection class	III (safety extra-low voltage)
	Degree of protection	IP40/NEMA1
	Agency listed	UL 873
	Ambient temperature - Normal duty - Safety duty	0 ... +50°C 1/2 hr @ 350°F (177°C)
	Non-operation temperature	…-40 ... +80°C
	Humidity test	95% RH, non condensing
	Maintenance	maintenance free
Dimensions / weight	Dimensions (l x b x h)	179 x 98 x 82 mm
	Shaft diameter	12.7 ... 20 mm
	Weight	1700 g

Safety notes

⚠

- ***The spring return actuator will meet requirements of UL555 and UL555S when tested as an assembly with the damper.***
- ***The enclosure of the actuator equipment may only be opened by the manufacturer. It contains no component which the user can replace or repair.***
- ***Caution must be used when replacing failed motors with new Belimo actuators. Many old motors did not have internal springs and depended on external springs on the side of the damper or wrapped around the damper shaft to close the damper.***

[1)] ***Torque requirements:*** When caculating the torque required to operate dampers, it is essential to take into account all the data supplied by the damper manufacturer concerning cross sectional area, design, mounting and air flow condition

Fire and smoke spring return actuator FSLF24(-S) US

Product features

Mode of Operation The actuator moves the damper to its normal working position while tension 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.

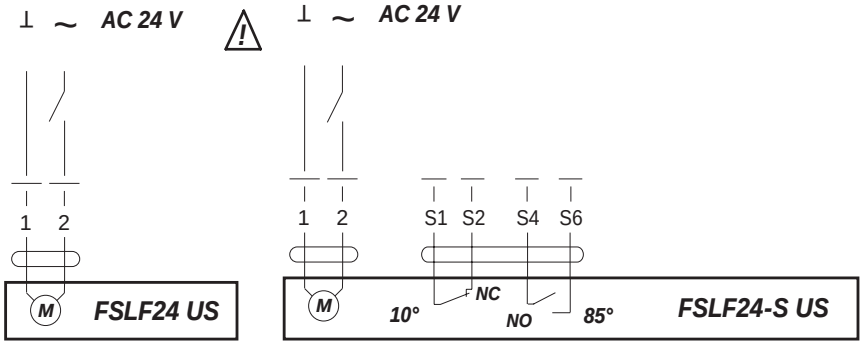
Simple direct mounting Simple direct mounting on the damper spindle by a cold-weld clamp. Teeth in the clamp and V-bolt dig into the metal of both solid and hollow shafts maintaining a perfect connection. The special design clamp will not crush hollow shafts. An anti-rotation device is supplied.

Variable end switch The FSLF24-S US actuator has two fixed auxiliary switches which allows angle of rotation of 10° and 85° to be signalled.

High function reliability The actuator is overload-proof, needs no limit switches, halts automatically at the end stops.

Wiring diagram

Wiring diagram ***1-wire control***

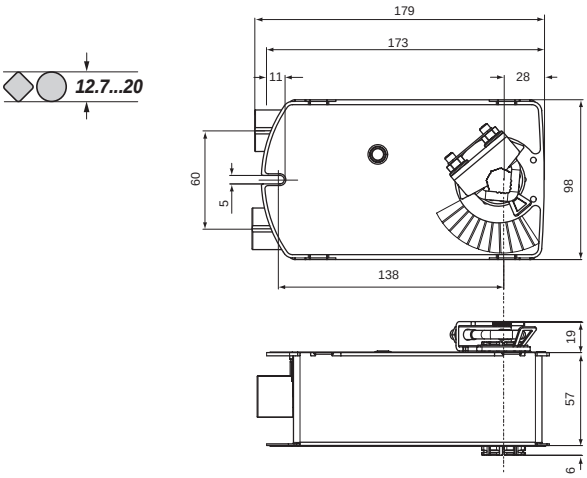


Notes:

- Connection via safety isolating transformer!
- Parallel connection of several actuator is possible. Power consumption must be observed.

Dimensions

measurement [mm]



Fire and smoke spring return actuator FSLF120(-S) US

- ***For two position control of UL555S rated dampers in HVAC systems.***
- ***Torque 3.5 Nm [1)]***
- ***Running time: motor < 15s, spring return < 15 s***
- ***Nominal voltage AC 120 V***
- ***1 wire control***

Technical data

Electric data	Nominal voltage	AC 120 V / 50/60 Hz
	Power supply range	AC 108 ... 132 V
	Power consumption	20 VA @ running / 12VA @ holding
	For wire sizing	20 VA
	Connection cable	0.6 m, 18 GA, 3 color coded leads 0.6 m, 18 GA, 4 appliance leads 1/2" conduit connector
Function data	Torque - Motor - Spring return	min. 3.5 Nm [1)] 3.5 Nm [1)]
	Direction of rotation	selectable by CW/CCW installation
	Angle of rotation	max. 95°
	Auxilary switch (-S)	2 SPST, 1mA ... 3(0.5)A, 250V ⧈ fixed at 10° and 85°
	Running time - Motor - Spring return	< 15 s constant < 15 s
	Position indication	mechanical
Working conditions	Protection class	II (double insulated)
	Degree of protection	IP40/NEMA1
	Agency listed	UL 873
	Ambient temperature - Normal duty - Safety duty	0 ... +50°C 1/2 hr @ 350°F (177°C)
	Non-operation temperature	…-40 ... +80°C
	Humidity test	95% RH, non condensing
	Maintenance	maintenance free
Dimensions / weight	Dimensions (l x b x h)	179 x 98 x 82 mm
	Shaft diameter	12.7 ... 20 mm
	Weight	1700 g

Safety notes

- ***The spring return actuator will meet requirements of UL555 and UL555S when tested as an assembly with the damper.***
- ***The enclosure of the actuator equipment may only be opened by the manufacturer. It contains no component which the user can replace or repair.***
- ***Caution must be used when replacing failed motors with new Belimo actuators. Many old motors did not have internal springs and depended on external springs on the side of the damper or wrapped around the damper shaft to close the damper.***
- ***Caution: 120 Volt!***

[1)] ***Torque requirements:*** When caculating the torque required to operate dampers, it is essential to take into account all the data supplied by the damper manufacturer concerning cross sectional area, design, mounting and air flow condition

Fire and smoke spring return actuator FSLF120(-S) US

Product features

Mode of Operation The actuator moves the damper to its normal working position while tension 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.

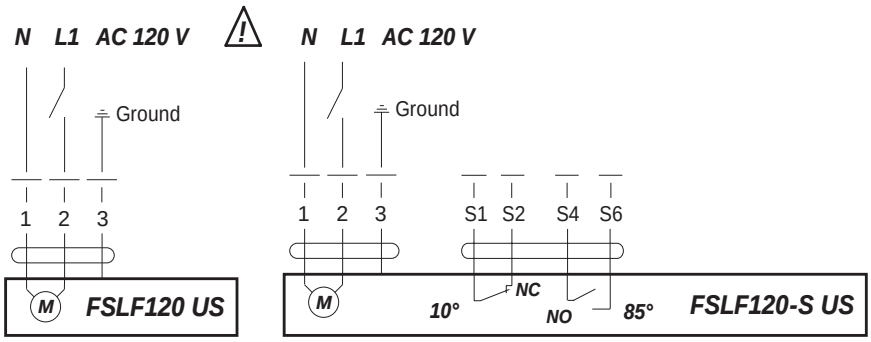
Simple direct mounting Simple direct mounting on the damper spindle by a cold-weld clamp. Teeth in the clamp and V-bolt dig into the metal of both solid and hollow shafts maintaining a perfect connection. The special design clamp will not crush hollow shafts. An anti-rotation device is supplied.

Variable end switch The FSLF24-S US actuator has two fixed auxiliary switches which allows angle of rotation of 10° and 85° to be signalled.

High function reliability The actuator is overload-proof, needs no limit switches, halts automatically at the end stops.

Wiring diagram

Wiring diagram ***1-wire control***

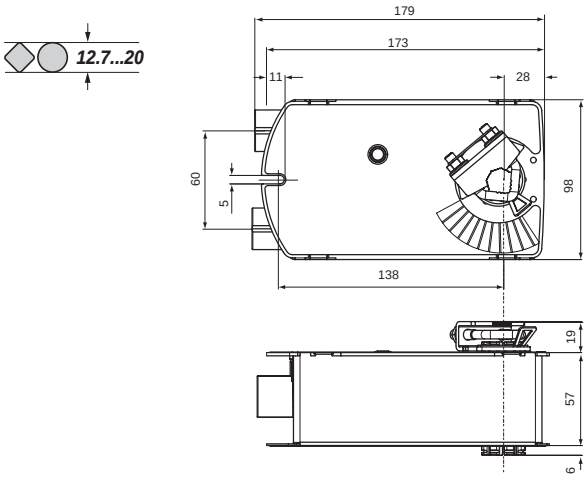


Notes:

- Parallel connection of several actuator is possible. Power consumption must be observed.

Dimensions

measurement [mm]



Fire and smoke spring return actuator FSLF230(-S) US

- **For two position control of UL555S rated dampers in HVAC systems.**
- **Torque 3.5 Nm [1)]**
- **Running time: motor < 15s, spring return < 15 s**
- **Nominal voltage AC 230 V**
- **1 wire control**

Technical data

Electric data	Nominal voltage	AC 230 V , 50/60 Hz
	Power supply range	AC 207... 253 V
	Power consumption	17 VA @ running / 8 VA @ holding, 50 Hz / 8 VA @ holding, 50 Hz 6 VA @ holding, 60 Hz
	For wire sizing	5 VA
	Connection cable	0.6 m, 18 GA, 3 color coded leads 0.6 m, 18 GA, 4 appliance leads (Aux. switch) 1/2" conduit connector
Function data	Torque - Motor - Spring return	min. 3.5 Nm [1)] 3.5 Nm [1)]
	Direction of rotation	selectable by CW/CCW installation
	Angle of rotation	max. 95°
	Auxilary switch (-S)	2 SPST, 1mA ... 3(0.5)A, 250V ⧈ fixed at 10° and 85°
	Running time - Motor - Spring return	< 15 s constant < 15 s
	Position indication	mechanical
Working conditions	Protection class	III (safety extra-low voltage)
	Degree of protection	NEMA Type 1
	Agency listed	UL 60730
	Ambient temperature - Normal duty - Safety duty	0 ... +50°C 1/2 hr @ 350°F (177°C)
	Non-operation temperature	...-40 ... +80°C
	Humiditytest	5 to 95% RH, non condensing
	Maintenance	maintenance free
Dimensions / weight	Dimensions (L x W x H)	179 x 98 x 82 mm
	Shaft diameter	12.7 ... 20 mm
	Weight	1700 g

Safety notes

⚠

- **The spring return actuator will meet requirements of UL555 and UL555S when tested as an assembly with the damper.**
- **The enclosure of the actuator equipment may only be opened by the manufacturer. It contains no component which the user can replace or repair.**
- **Caution must be used when replacing failed motors with new Belimo actuators. Many old motors did not have internal springs and depended on external springs on the side of the damper or wrapped around the damper shaft to close the damper.**

[1)] **Torque requirements:** When caculating the torque required to operate dampers, it is essential to take into account all the data supplied by the damper manufacturer concerning cross sectional area, design, mounting and air flow condition

Fire and smoke spring return actuator FSLF230(-S) US

Product features

Mode of Operation
The actuator moves the damper to its normal working position while tension 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.

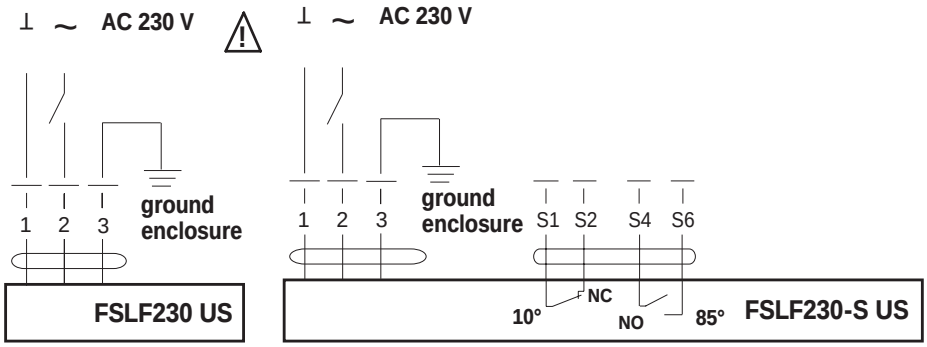
Simple direct mounting
Simple direct mounting on the damper spindle by a cold-weld clamp. Teeth in the clamp and V-bolt dig into the metal of both solid and hollow shafts maintaining a perfect connection. The special design clamp will not crush hollow shafts. An anti-rotation device is supplied.

Variable end switch
The FSLF230-S US actuator has two fixed auxiliary switches which allows angle of rotation of 10° and 85° to be signalled.

High function reliability
The actuator is overload-proof, needs no limit switches, halts automatically at the end stops.

Wiring diagram

Wiring diagram **1-wire control**



Notes:
- Connection via safety isolating transformer!
- Parallel connection of several actuator is possible. Power consumption must be observed.

Dimensions

measurement [mm]