



**LF24
LF230**
Spring Return Actuator for Open/Close
Damper Actuation 4 Nm (3 ft-lbf)

G-30-17

12 Aug 2004



The LF24 and LF230 open/close spring return actuators are intended for operation of air dampers of up to approximately 0.8 m² (8.6 ft²) cross sectional area that perform safety functions, e.g. frost and smoke protection, hygiene, etc.

Either direction of rotation can be selected.

The spring return operates as a safety function if the power supply fails or is interrupted. The spring pretensioning can be manually adjusted.

TECHNICAL DATA

Part number:
 LF24 874-0003-000
 LF230 875-0003-000

Power supply:
 LF24 24 V AC ±20%, 50–60 Hz,
 24 V DC -10%, +20%
 LF230 230 V AC ±14%, 50–60 Hz

Power consumption:
 LF24, opening 5 W
 LF24, open 2.5 W
 LF230, opening 5 W
 LF230, open 3 W

For wire sizing:
 LF24 7 VA (I_{max} = 5.8 A for 5 ms)
 LF230 7 VA (I_{max} = 150 mA for 10 ms)

Connection cable 1 m (3.3 ft), 2×0.75 mm² (AWG 18)
 Angle of rotation max. 95°
 (adjustable 37–100% with additional limit stop ZDB-LF)

Torque:
 Actuator min. 4 Nm (3 ft-lbf) (at rated voltage)
 Spring return min. 4 Nm (3 ft-lbf)

Running time:
 Actuator 40–75 s (0–4 Nm (0–3 ft-lbf))
 Spring return approx. 20 s (at -20 to +50 °C (-4 to +122°F)), max. 60 s (at -30 °C (-22°F))

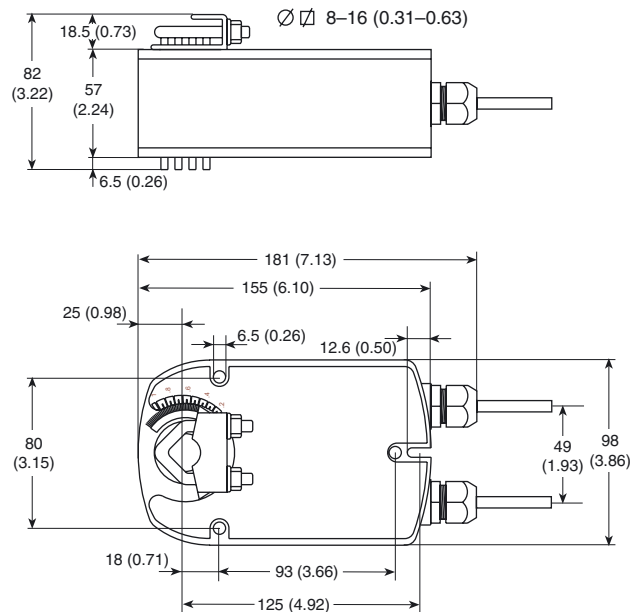
Direction of rotation selected by mounting L/R
 Position indication mechanical

Standards conformity:
 EMC, emission SS EN 50081-1
 EMC, immunity SS EN 50082-1
 LVD Safety; LF230 SS EN 60335-1

Protection class:
 LF24 III (safety extra-low voltage)
 LF230 II (all insulated)

Enclosure rating IP 54

mm (in.):



Ambient humidity EN 60335-1
 Ambient temperature:
 Operation -30 to +50 °C (-22 to +122 °F)
 Storage -40 to +80 °C (-40 to +176 °F)

Sound power level:
 Actuator max. 50 dB (A)
 Spring approx. 62 dB (A)

Service life min. 60 000 operations
 Maintenance maintenance-free

Weight:
 LF24 1.4 kg (3.1 lb.)
 LF230 1.55 kg (3.4 lb.)

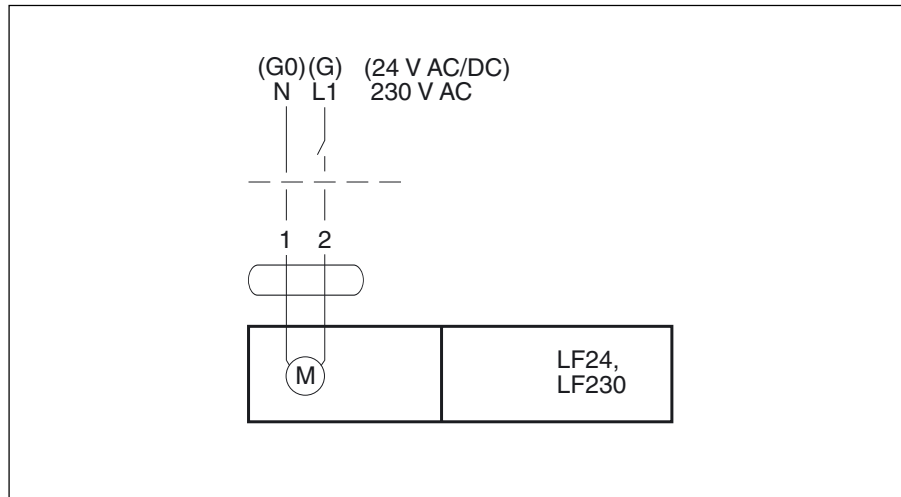
WIRING DIAGRAM



LF24: Connect via safety isolating transformer.

LF230: To isolate from the main power supply, the system must incorporate a device which provides all-pole disconnection (with at least a 3 mm (0.12 in.) contact gap).

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



MODE OF OPERATION

The actuator is fitted with a universal spindle clamp for quick and easy mounting directly onto the damper spindle. The actuator is also supplied with an anti-rotation strap for fixing it in position. The direction of rotation is selected by mounting left or right.

The actuator is used for open/close control by single-wire system.

The actuator has a mechanical angle of rotation limiting, adjustable with an additional limit stop.

The actuator moves the damper to its normal working position 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 $\leq 0^\circ$.

The actuator is supplied from factory with 5° of pretensioning. The pretensioning can be unlocked manually by means of a crank or electrically by connecting the power supply. The actuator will then be moved back to its safe position $\leq 0^\circ$.

The actuator is overload-proof and needs no limit switches. It stops automatically at the end stops.

NOTE

When calculating 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 conditions.

ACCESSORIES

Please refer to data sheet G-30-90 "Accessories Damper Actuators" (part. no. 0-003-2251).

