

LM24-3 (-T) US / LM24-3 (-5P0) (-T) US



On-off/ floating point control, non-spring return, direct coupled, 24 V



Torque min. 35 in-lb, for control of damper surfaces up to 8 sq ft.

LM24-3 US
LM24-3-T US
LM24-3-5P0-T US



Application

For on-off and floating point control of dampers in HVAC systems. Actuator sizing should be done in accordance with the damper manufacturer's specifications. The actuator mounts directly to the damper operating shaft with a universal V-bolt clamp assembly.

Operation

The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The angle of rotation is mechanically limited to 95°. When reaching the damper or actuator end position, the actuator automatically stops. The gears can be manually disengaged with a button on the actuator cover. The position of the actuator is indicated by a visual pointer. The anti-rotation strap supplied with the actuator will prevent lateral movement.

The LM24-3 US, LM24-3-T US and LM24-3-5P0-T US actuators use a Brushless DC motor, which is controlled by an Application Specific Integrated Circuit (ASIC). The ASIC monitors and controls the actuator's rotation and provides a digital rotation sensing (DRS) function to prevent damage to the actuator in a stall condition.

Technical Data	LM24... on-off/floating point
Power supply	24 VAC \pm 20% 50/60 Hz 24 VDC \pm 10%
Power consumption	running: 2 W; holding: 1W
Transformer sizing	3 VA (Class 2 power source)
Electrical connection*	3 ft, 18 GA, UL CL2P plenum cable
Control	On-off/Floating point
Overload protection	Electronic throughout 0 to 95° rotation
Input impedance	600 Ω
Angle of rotation	max 95°, adjust. with mechanical stops
Torque	min 35 in-lb [4 Nm], Independent of load
Direction of rotation	reversible with switch CW/CCW (not on "-T" models)
Position indication	clip-on indicator (not on "-T" models)
Running time	95 seconds
Manual override	external push button
Humidity	5 to 95% RH, non-condensing
Ambient temperature	-22°F to +122°F [-30°C to +50°C]
Storage temperature	-40°F to +176°F [-40°C to +80°C]
Housing type	NEMA type 2 (-T models NEMA 1)
Housing material rating	UL94-5V
Noise level	less than 35 dB (A)
Servicing	maintenance free
Agency listings	UL873 listed, CSA 22.2 No. 24 certified, CE
Quality standard	ISO 9001
Weight	1.2 lbs [0.55 kg]

LM24-3-T.1 US

Electrical connection	Screw terminal (for 26 to 14 GA wire)
Housing	NEMA type 1
Direction of rotation	Reverse wires terminals 2 and 3

LM24-3-5P0-T US

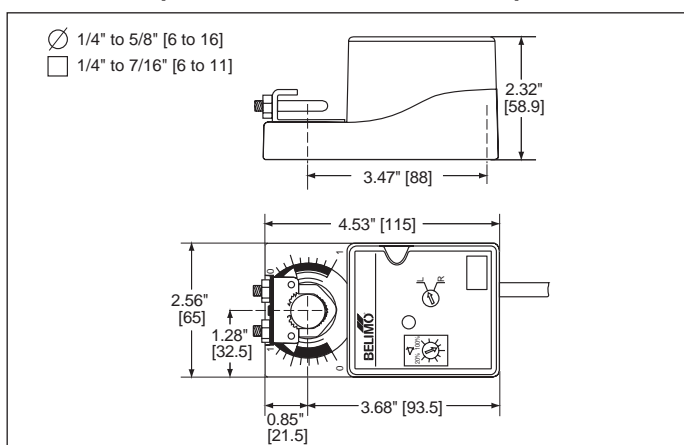
Feedback	5 k Ω , 1W potentiometer
Housing	NEMA type 1
Direction of rotation	Reverse wires terminals 2 and 3

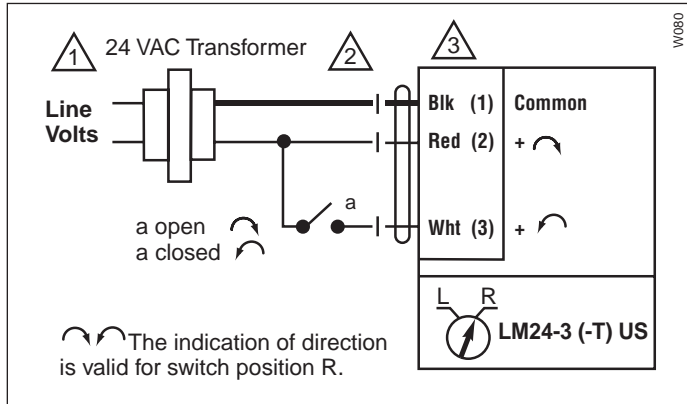
*Standard cable length is 3 ft [1m]. Optional cable lengths of 6 ft [200m] or 10 ft [300m] are available at additional list price.

Accessories

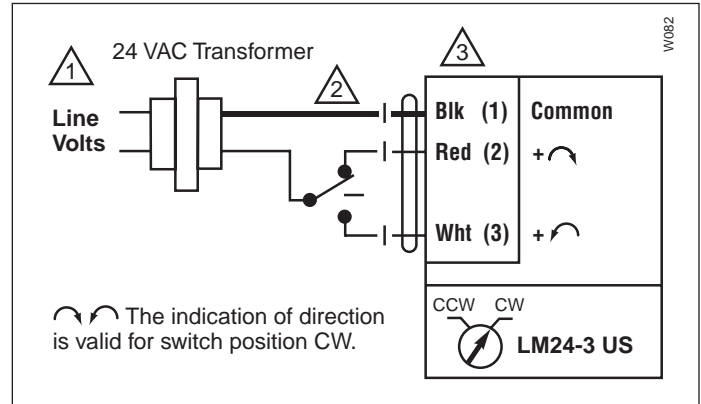
11533	T-type anti-rotation bracket
22065	L-type anti-rotation bracket (included)
ZG-LMSA	Short shaft adaptor
Tool-06	8mm and 10 mm wrench

Dimensions [All numbers in brackets are in millimeters.]

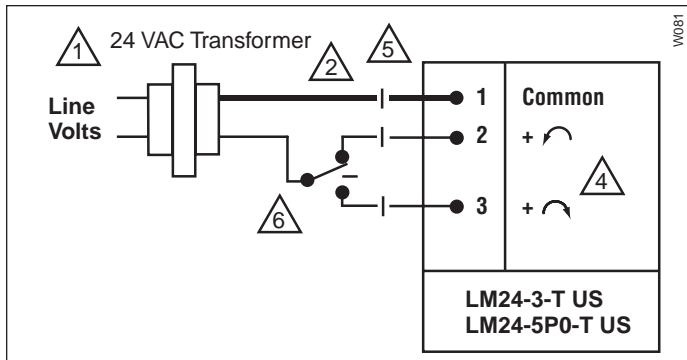




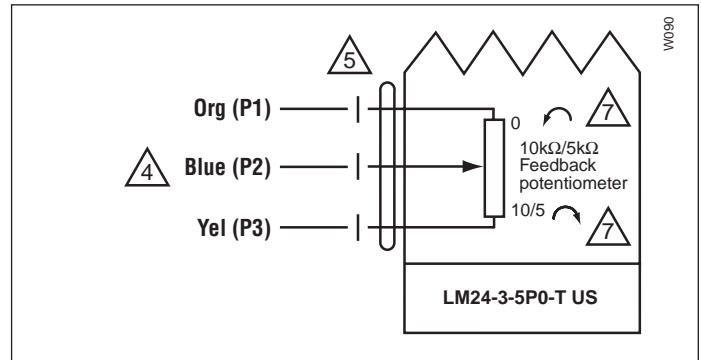
On-off control



Floating point or on-off control



Floating point or on-off control of LM24-3-T US and LM24-3-5P0-T US

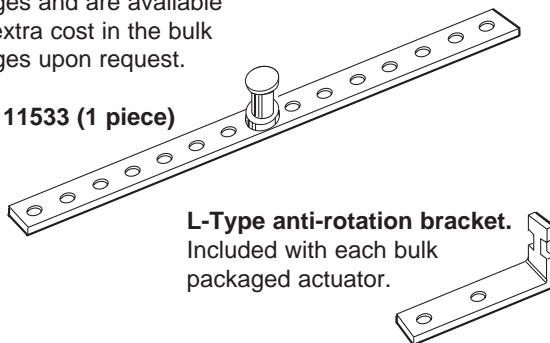


Feedback potentiometer wiring for LM24-3-5P0-T US

T-Type bracket

These are included in the single-actuator packages and are available at no extra cost in the bulk packages upon request.

Part # 11533 (1 piece)



Part #: 22065 (1 piece)
12502-00002
(includes 22065: 16 pieces)
shipped with bulk pack option.

Bulk packaging

Bulk Pack No.	Actuator Type	Quantity/Pack
LM24-3.1 US	LM24-3 US	32
LM24-3-T.1 US	LM24-3-T US	48
LM24-3-5P0-T.1 US	LM24-3-5P0-T US	48

To have better control of job site inventory and reduce the environmental impact of unnecessary packing material.

Notes

- 1 Provide overload protection and disconnect as required.
- 2 Actuators may also be powered by 24 VDC.
- 3 Actuators are provided with color coded wires. Wire numbers are provided for reference.
- 4 For position indication, the LM24-3-5P0-T US is provided with a 5 kΩ feedback potentiometer.
- 5 The LM24-3-T US and LM24-3-5P0-T US are provided with a numbered screw terminal strip instead of cable.
- 6 Switch wires 2 and 3 to change rotation direction of LM24-3-T US and LM24-3-5P0-T US (does not have CW/CCW external switch).
- 7 Value based on resistance between (P1) and (P2).
↻ indicates direction of rotation of actuator.

LM24... on-off - Typical Specification:

Control damper actuators shall be electronic direct coupled type which require no crank arm and linkage. Actuators shall be UL and CSA listed, have a 5 year warranty, and be manufactured under ISO 9001 International Quality Control Standards. Actuators shall have reversing switch and manual override on the cover, and be protected from overload at all angles of rotation. If required, actuator will be provided with screw terminal strip for electrical connections (LM24-3-T US and LM24-3-5P0-T US). If required, one adjustable SPDT auxiliary switch shall be provided (LM24-S US). If required, actuators shall be provided with a built-in 5 kΩ feedback potentiometer (LM24-3-5P0-T US) for use in modulating (floating point) applications. Actuators shall be as manufactured by Belimo.