

NMB24-3-T N4, NMB24-3-T N4H

NEMA 4X, On/Off-Floating Point Control, Non-Spring Return, Direct Coupled, 24 VAC



Technical Data	NMB24-3-T N4, NMB24-3-T N4H
Power supply	24 VAC $\pm 20\%$, 50/60 Hz 24 VAC $\pm 10\%$, 50/60 Hz
Power consumption	2.0 W (0.2 W) / heater 24 W
Transformer sizing	4.0 VA (Class 2 power source) / heater 19 VA
Electrical connection	screw terminal (for 26 to 14 GA wire [heater 15 GA wire]) 1/2" conduit connector
Overload protection	electronic throughout 0 to 95° rotation
Control	on/off, floating point
Input impedance	600 Ω
Angle of rotation	max. 95°, adjust. with mechanical stop
Torque	70 in-lb [8 Nm]
Direction of rotation	reversible with switch
Position indication	pointer
Manual override	external push button
Running time	95 seconds constant independent of load
Humidity	5 to 95% RH non condensing (EN 60730-1)
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	UL type 4X, NEMA 4X, IP66/67
Housing material	UL94-5VA
Agency listings†	cULus acc. to UL 60730-1A/-2-14, CAN/CSA E60730-1, CSA C22.2 No. 24-93, CE acc. to 89/336/EEC and 2006/95/EC
Noise level	<45dB(A)
Servicing	maintenance free
Quality standard	ISO 9001
Weight	2.8 lbs [1.27 kg] 3.2 lbs [1.4 kg] with heater

†Rated Impulse Voltage 4kV, Type of action 1, Control Pollution Degree 3.

Torque min. 70 in-lb for control of damper surfaces up to 16 sq ft.

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 is mounted directly to a damper shaft up to 3/4" in diameter by means of its universal clamp.

Operation

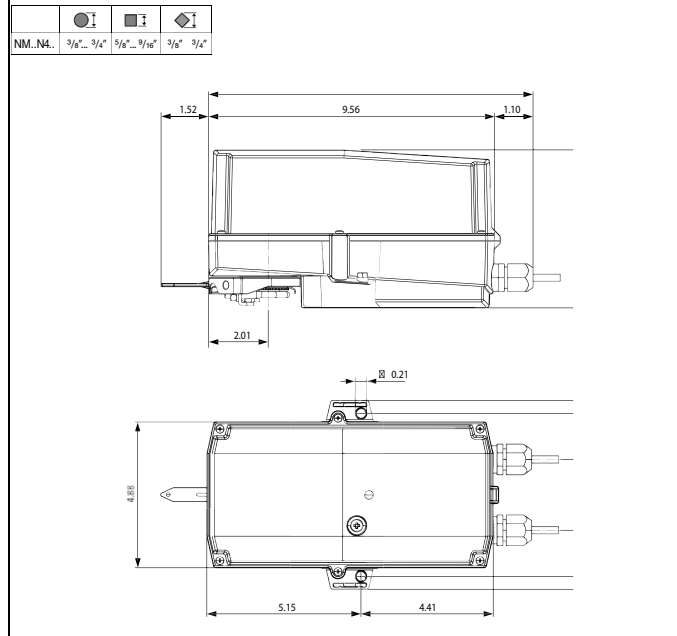
The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The anti-rotation strap supplied with the actuator will prevent lateral movement.

The NMB24-3-T N4 provides 95° of rotation and a visual indicator indicates position of the actuator. 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 NMB24-3-T N4 actuator uses a sensorless 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. Power consumption is reduced in holding mode.

Add-on auxiliary switches or feedback potentiometers are easily fastened directly onto the actuator body for signaling and switching functions.

Dimensions (Inches [mm])



IM40024 - 05/10 - Subject to change. © Belimo Aircontrols (USA), Inc.

Accessories

S1A, S2A	Auxiliary Switch (es)
P...A	Feedback Potentiometers

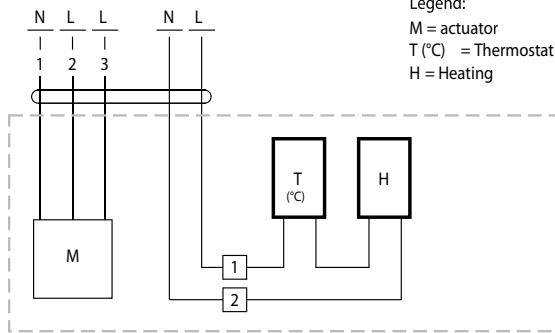
NOTE: When using NMB24-3-T N4(H) actuators, only use accessories listed on this page.

Typical Specification

Floating point, on/off control damper actuators shall be electronic direct-coupled type, which require no crank arm and linkage and be capable of direct mounting to a shaft up to 3/4" diameter. Actuators shall have brushless DC motor technology and be protected from overload at all angles of rotation. Actuators shall have reversing switch and manual override on the cover. Run time shall be constant and independent of torque. Actuators shall be cULus listed, have a 5-year warranty, and be manufactured under ISO 9001 International Quality Control Standards. Actuators shall be as manufactured by Belimo.

Wiring Diagram

with actuator types ...3



Note
The following points must be taken into account with independent, external wiring:

- All contact between the cables or wires that are introduced and the heating element is to be avoided.
- Where necessary, use cables with sufficient numbers of wires, e.g. so that the heating and the actuator can be supplied separately with voltage.

Heater wiring

Wiring Diagram

INSTALLATION NOTES

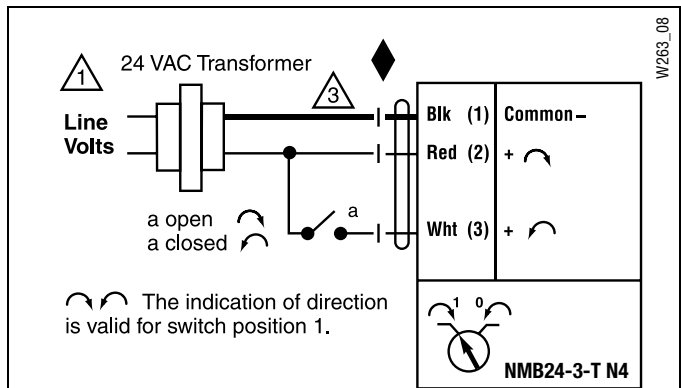
- 1 Provide overload protection and disconnect as required.
- 3 Actuators may also be powered by 24 VDC.

APPLICATION NOTES

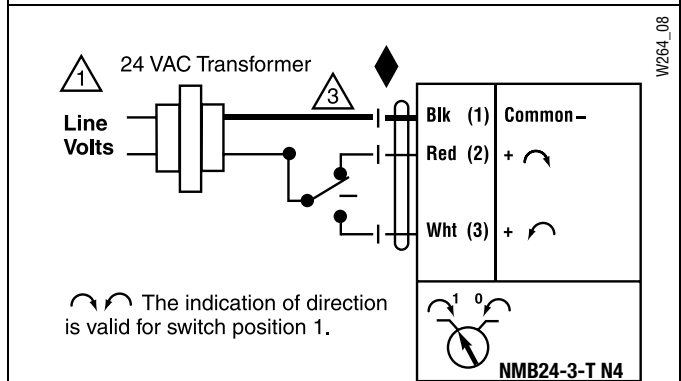
- ◆ Meets cULus or UL and CSA requirements without the need of an electrical ground connection.

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.



On/off control



Floating point or on/off control