

Customizable Non Fail-Safe actuator for controlling dampers in typical commercial HVAC applications.

- Torque motor 90 in-lb [10 Nm]
- Nominal voltage AC/DC 24 V
- Control On/Off, Floating point
- NEMA 4X



5-year warranty



Technical data

Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...28.8 V / DC 21.6...28.8 V
	Power consumption in operation	2 W
	Power consumption in rest position	0.2 W
	Transformer sizing	4 VA
	Electrical Connection	Screw terminal (for 26 to 14 GA wire), 1/2" conduit connector
	Overload Protection	electronic throughout 0...95° rotation
Functional data	Torque motor	90 in-lb [10 Nm]
	Direction of motion motor	selectable with switch 0/1
	Manual override	external push button
	Angle of rotation	Max. 95°
	Angle of rotation note	adjustable with mechanical stop
	Running Time (Motor)	95 s / 90°
	Running time motor note	constant, independent of load
	Noise level, motor	45 dB(A)
Position indication	pointer	
Safety data	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP66/67
	Degree of protection NEMA/UL	NEMA 4X
	Enclosure	UL Enclosure Type 4X
	Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU and 2014/35/EU
	Quality Standard	ISO 9001
	Ambient humidity	Max. 100% RH
	Ambient temperature	-22...122°F [-30...50°C]
	Ambient temperature note	-40...50°C for actuator with integrated heating
	Storage temperature	-40...176°F [-40...80°C]
Servicing	maintenance-free	
Weight	Weight	3.5 lb [1.6 kg]
Materials	Housing material	UL94-5VA

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







Product features

- 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.
For low ambient temperatures, the optional supplemental (-H) Heater add-on is available.
- 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.

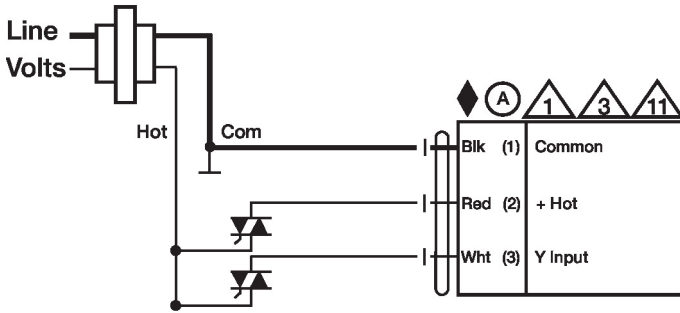
Accessories

Electrical accessories	Description	Type
	Auxiliary switch 1 x SPDT add-on	S1A
	Auxiliary switch 2x SPDT add-on	S2A
	Feedback potentiometer 140 Ω add-on, grey	P140A GR
	Feedback potentiometer 500 Ω add-on, grey	P500A GR
	Feedback potentiometer 1 kΩ add-on, grey	P1000A GR
	Feedback potentiometer 2.8 kΩ add-on, grey	P2800A GR
	Feedback potentiometer 5 kΩ add-on, grey	P5000A GR
	Feedback potentiometer 10 kΩ add-on, grey	P10000A GR
	Battery backup system, for non-spring return models	NSV24 US
	Battery, 12 V, 1.2 Ah (two required)	NSV-BAT
Factory add-on option only	Description	Type
	Heater, with adjustable thermostat	N4 Heater Add-on 24V (-H)

Electrical installation

-  Actuators with appliance cables are numbered.
-  Provide overload protection and disconnect as required.
-  Actuators may also be powered by DC 24 V.
-  Actuators Hot wire must be connected to the control board common. Only connect common to neg. (-) leg of control circuits. Terminal models (-T) have no-feedback.
-  Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.
-  Actuators are provided with a numbered screw terminal strip instead of a cable.

24 VAC Transformer

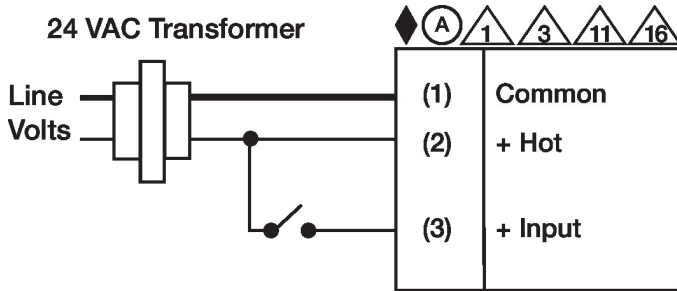


Floating Point - Triac Source

Wiring diagrams

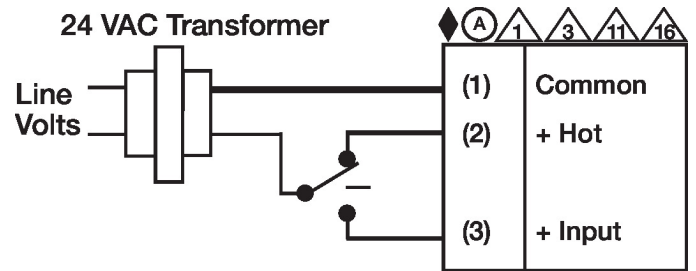
On/Off

24 VAC Transformer



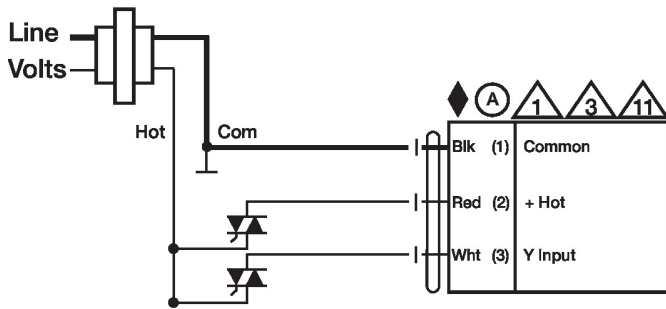
Floating Point

24 VAC Transformer



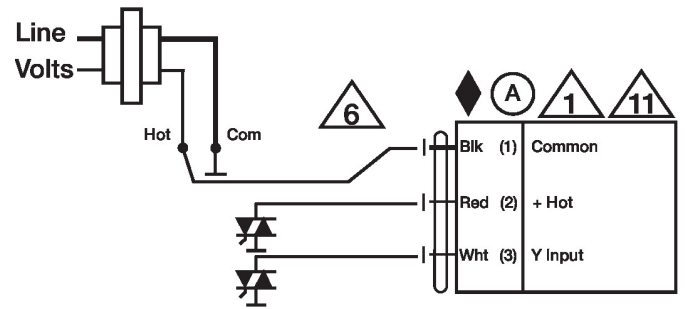
Floating Point - Triac Source

24 VAC Transformer



Floating Point - Triac Sink

24 VAC Transformer



Dimensions

