

# AMX24-3-T N4 Technical Data Sheet

## NEMA 4, On/Off, Floating Point, Electronic Fail-Safe, 24 V



Technical Data	
Power Supply	24 VAC, ±20%, 50/60 Hz, 24 VDC, ±10%
Power consumption in operation	2.5 W
Power consumption in rest position	0.5 W
Transformer sizing	5.5 VA (class 2 power source)
Shaft Diameter	9/16...3/4" round
Electrical Connection	Screw terminal (for 26 to 14 GA wire), 1/2" conduit connector
Overload Protection	electronic throughout 0...95° rotation
Input Impedance	600 Ω
Angle of rotation	Max. 95°, adjustable with mechanical stop
Torque motor	180 in-lb [20 Nm]
Direction of motion motor	selectable with switch 0/1
Position indication	pointer
Manual override	external push button
Running Time (Motor)	90 s, constant, independent of load
Ambient humidity	max. 95% r.H., non-condensing
Ambient temperature	-22...122°F [-30...50°C]
Storage temperature	-40...176°F [-40...80°C]
Degree of Protection	IP66/67, NEMA 4X, UL Enclosure Type 4X
Housing material	UL94-5VA
Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1, CSA C22.2 No 24-93, CE acc. to 89/336/EC
Noise level, motor	45 dB(A)
Servicing	maintenance-free
Quality Standard	ISO 9001
Weight	3.6 lb [1.6 kg]

**Torque min. 180 in-lb, for control of damper surfaces up to 45 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, self-centered default.

### Operation

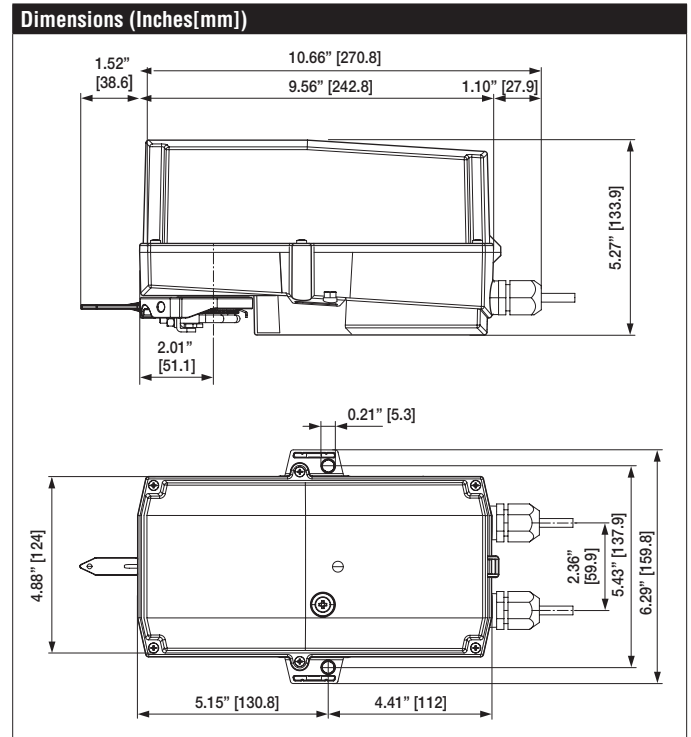
The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The anti-rotation strap supplied with the actuator will prevent lateral movement.

The AMB24-3-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 AMB24-3-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.



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### 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 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. If required, actuators needing auxiliary switches, can be provided as an add-on accessory. Actuators with auxiliary switches must be constructed to meet the requirements for double insulation so an electrical ground is not required to meet agency listings. 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 Diagrams

- Actuators with appliance cables are numbered.
- Provide overload protection and disconnect as required.
- Actuators may also be powered by 24 VDC.
- 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.

