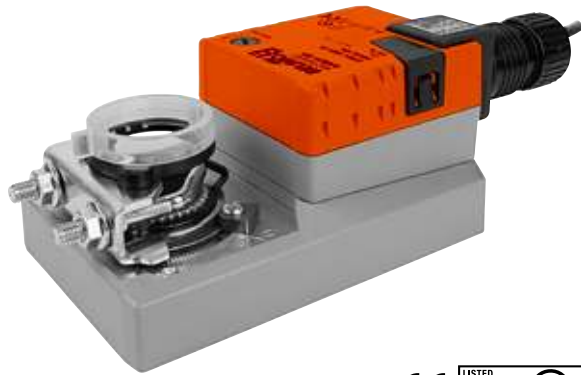


# AMB(X)24-3

On/Off, Floating Point Control, Non-Spring Return, Direct Coupled, 24V



Technical Data	AM(B)(X)24-3(-S)(-T)
Power Supply	24 VAC ± 20% 50/60 Hz 24 VDC ± 10%
Power Consumption	2.5 W (0.5 W)
Transformer Sizing	5.5 VA (Class 2 power source)
Electrical Connection	3 ft, 18 GA plenum rated cable 3 ft, 18 GA appliance rated cable (-S) 1/2" conduit connector Protected NEMA 2 (IP54)
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	180 in-lb [20 Nm]
Direction of Rotation	reversible with  switch
Position Indication	reflective visual indicator (snap-on)
Manual Override	external push button
Auxiliary Switch (-S Models)	1 x SPDT, 3A (0.5A) @ 250 VAC Adj. 0 to 100%, UL Approved
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	NEMA 2, IP54, UL enclosure type 2
Housing Material	UL94-5VA
Agency Listings†	cULus acc. to UL 60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EEC and 2006/95/EC
Noise Level	<45dB(A)
Servicing	maintenance free
Quality Standard	ISO 9001
Weight	2.2 lbs [1000 Kg] AMB24-3 2.4 lbs [1050 Kg] AMB24-3-S

AMB(X)24-3-T	
Electrical connection	screw terminal (for 26 to 14 GA wire) <input type="checkbox"/> unprotected (NEMA 1/IP20) <input type="checkbox"/> protected (NEMA 2/IP20)

†Rated Impulse Voltage 800V, Type of action 1, (1.B for -S version), Control Pollution Degree 3.

**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 1.05" in diameter by means of its universal clamp, self-centered default. A crankarm and several mounting brackets are available for applications where the actuator cannot be direct coupled to the damper shaft.

## Operation

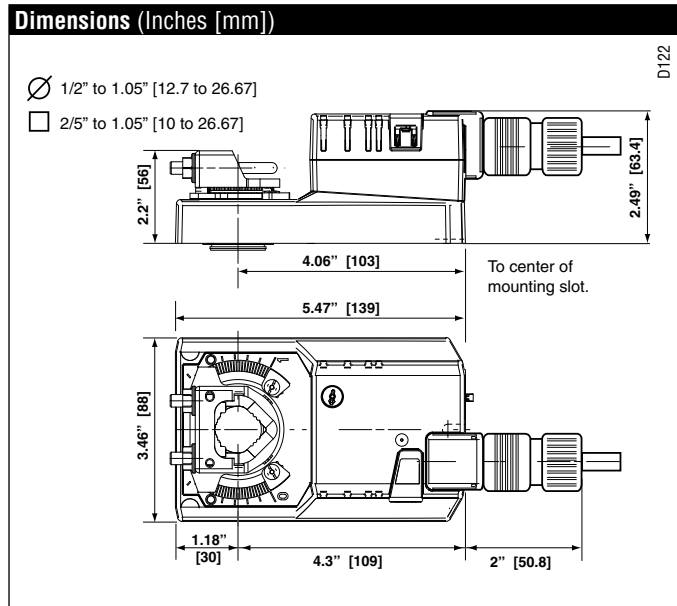
The actuator is not provided with and does not require any limit switches, but is electronically protected against overload. The anti-rotation strap supplied with the actuator will prevent lateral movement.

The AM... series 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 AM...24-3... actuators use 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.

The AM...24-3-S version is provided with 1 built-in auxiliary switch. This SPDT switch is provided for safety interfacing or signaling, for example, for fan start-up. The switching function is adjustable 0 to 95°. The auxiliary switch is double insulated so an electrical ground connection is not necessary.

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



K20901 - 01/09 - Subject to change. © Belimo Aircontrols (USA), Inc.

### Accessories

K-SA	Reversible Clamp
ZG-100	Universal Mounting Bracket
ZG-101	Universal Mounting Bracket
ZG-103	Universal Mounting Bracket
ZG-104	Universal Mounting Bracket
Z-SMA	AM/SM to AM Retrofit Mounting Bracket
ZG-NMA	Crankarm Adaptor Kit
AV8-25	Universal Shaft Extension
ZG-JSA (-1, 2,3)	Jackshaft Adaptors for Hollow Jackshafts
ZS-T	Terminal Cover for NEMA 2
ZS-100	Weather Shield - Steel
ZS-150	Weather Shield - Polycarbonate
ZS-260	Explosion Proof Housing
ZS-300 (-1) (-5)	NEMA 4X Housing
Tool-06	8 mm & 10 mm Wrench
PS-100	Actuator Power Supply Simulator
S1A, S2A	Auxiliary Switch (es)
P370	Shaft Mount Auxiliary Switch
P...A	Feedback Potentiometers

**NOTE:** When using AM...24-3... 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 crankarm and linkage and be capable of direct mounting to a shaft up to 1.05" 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 shall be provided with one adjustable SPDT auxiliary switch. 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. If required, actuators will be provided with a screw terminal strip for electrical connections (AMX24-3-T). 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

#### ✂️ INSTALLATION NOTES

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

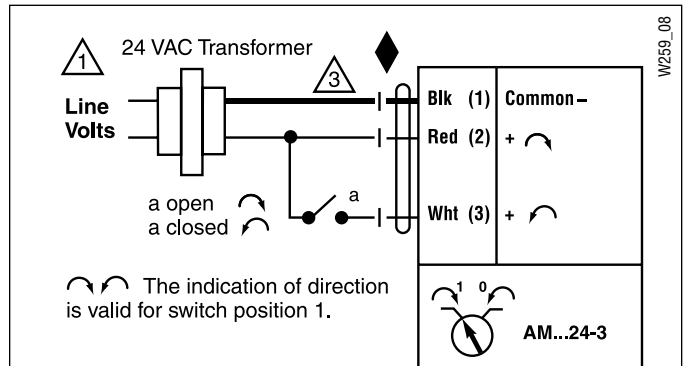
For end position indication, interlock control, fan startup, etc., AMB24-3-S incorporates one built-in auxiliary switches: 1 x SPDT, 3A (0.5A) @250 VAC, UL Approved, adjustable 0 to 95.

#### 📄 APPLICATION NOTES

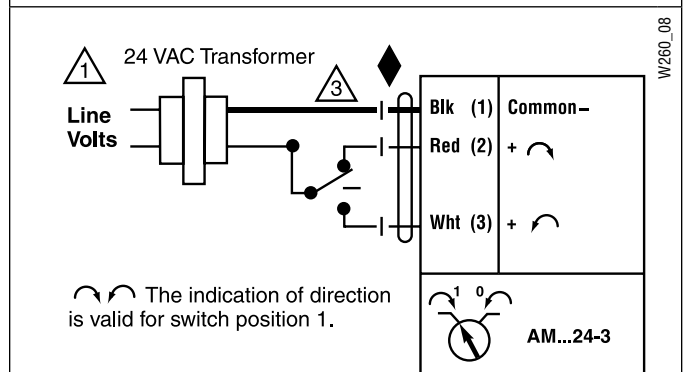
- ◆ Meets cULus or UL and CSA Standard requirements without the need of an electrical ground connection.

#### ⚠️ WARNING Live Electrical Components!

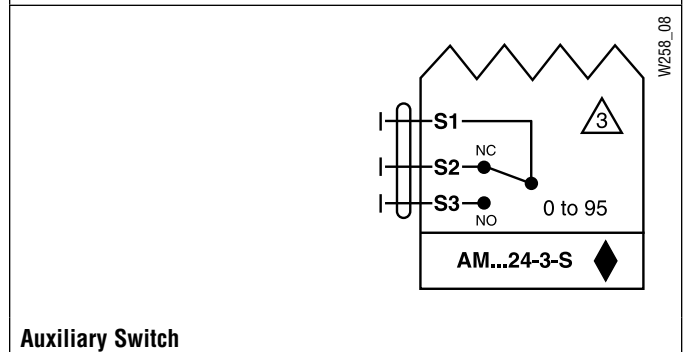
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow 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



#### Auxiliary Switch