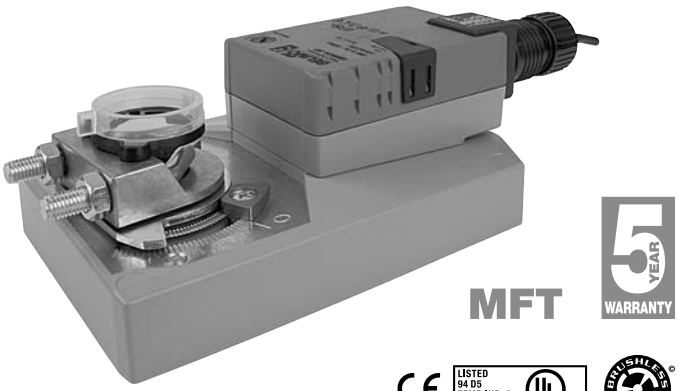
GMX24-MFT95

Proportional, Non-Spring Return, 24 V, 0 to 135 Ω Input

BELIMO



Torque min. 360 in-lb for control of damper surfaces up to 90 sq ft.

Application

For proportional modulation 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. A crank arm and several mounting brackets are available for applications where the actuator cannot be direct coupled to the damper shaft.

The default parameters for 0 to 135Ω input applications of the …MFT95 actuator are assigned during manufacturing. If necessary, custom versions of the actuators can be ordered. The parameters can be changed by two means: pre-set and custom configurations from Belimo or on-site configurations using the Belimo PC-Tool software.

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 GMX 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.

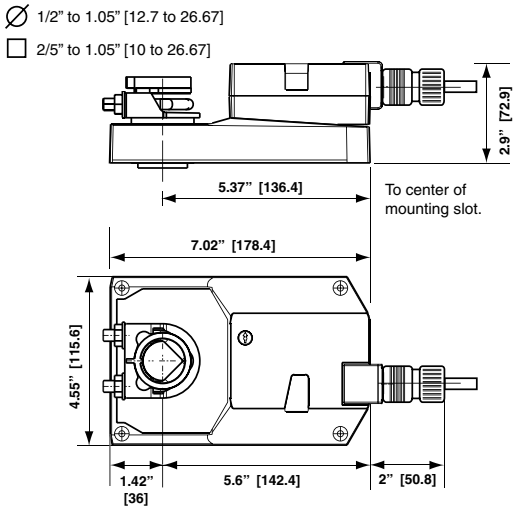
The GMX24-MFT95 actuators use a brushless DC motor, which is controlled by an Application Specific Integrated Circuit (ASIC). The ASIC monitors and controls the actuator's rotation and provides a digital rotation sensing (DRS) function to prevent damage to the actuator in a stall condition. Power consumption 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.

Technical Data	GMX24-MFT95
Power supply	24 VAC ± 20% 50/60 Hz 24 VDC ± 10%
Power consumption	4.5 W (1.5 W)
Transformer sizing	7 VA (Class 2 power source)
Electrical connection	18 GA plenum rated cable 1/2" conduit connector protected NEMA 2 (IP54) 3 ft [1m]
Overload protection	electronic throughout 0 to 95° rotation
Operating range WRB	135 Ω Honeywell Electronic Series 90, 0 to 135 Ω input
Feedback output U	2 to 10 VDC, 0.5 mA max VDC variable
Angle of rotation	max. 95°, adjustable with mechanical stop electronically variable
Torque	360 in-lb [40 Nm]
Direction of rotation	reversible with ↷/↶ switch
Position indication	reflective visual indicator (snap-on)
Manual override	external push button
Running time	150 seconds (default) variable (100 to 280 seconds)
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	3.4 lbs [1.55 kg]

†Rated Impulse Voltage 800V, Type of action 1, Control Pollution Degree 3.

Dimensions (Inches [mm])



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Accessories

K-GM20	1/2"-1.05 [12.7 to 26.67 mm] Shaft Clamp
ZG-102	Multiple Actuator Mounting Bracket
ZG-GMA	Crank arm Adaptor Kit
ZG-JSA (-1, 2, 3)	Jackshaft Adaptors for Hollow Jackshafts
ZS-100	Weather Shield - Steel
ZS-150	Weather Shield - Polycarbonate
ZS-260	Explosion Proof Housing
ZS-300 (-1) (-5)	NEMA 4X Housing
Tool-07	13 mm Wrench
PS-100	Actuator Power Supply Simulator
S1A, S2A	Auxiliary Switch (es)
P370	Shaft Mount Auxiliary Switch
P…A	Feedback Potentiometers
NSV24 US	Battery Back-Up Module
ZG-X40	Transformer

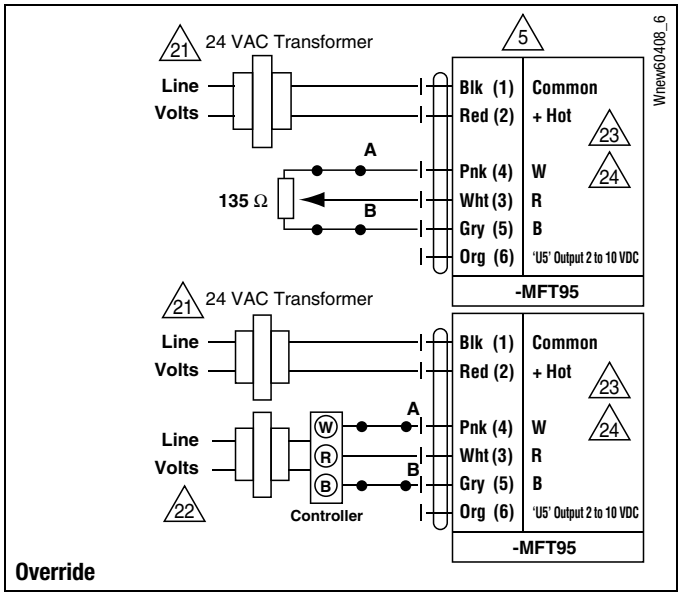
NOTE: When using GMX24-MFT95 actuators, only use accessories listed on this page.

Typical Specification

Proportional 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 1.05" diameter. Actuators must provide proportional damper control in response to 0 to 135 Ω input from an electronic controller or positioner. 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.

Wire Colors

1 = Black	3 = White	5 = Gray
2 = Red	4 = Pink	6 = Orange



Override

Wiring Diagrams

INSTALLATION NOTES

5 Actuators with plenum rated cable do not have numbers on wires; use color codes instead. Actuators with appliance cables are numbered.

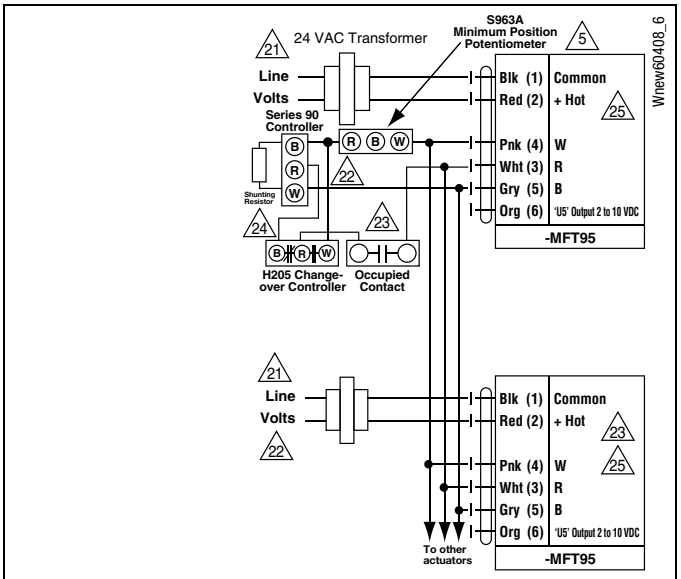
21 Provide overload protection and disconnect as required.

22 Actuators and controller must have separate transformers.

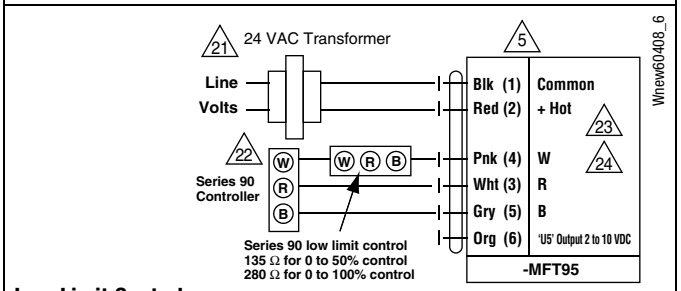
23 Consult controller instruction data for more detailed information.

24 Resistor value depends on the type of controller and the number of actuators. No resistor is used for one actuator. Honeywell® resistor kits may also be used.

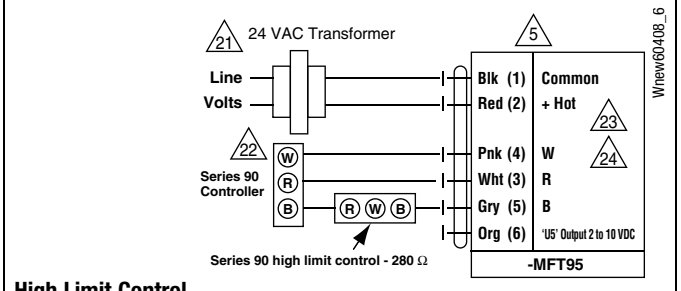
25 To reverse control rotation, use the reversing switch.



Wiring multiple actuators to a Series 90 controller using a minimum position potentiometer.



Low Limit Control



High Limit Control

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