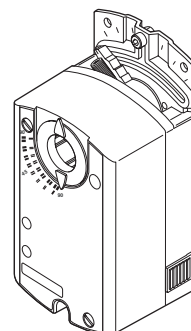


Non-Spring Return DuraDrive® Modulating Actuator

The DuraDrive direct coupled 24 Vac non-spring return rotary electric actuators are designed for modulating control of dampers.

Features:

- Compact, lightweight design.
- Self-adapting capability for maximum flexibility in damper positioning.
- Manual override.
- 5° offset from 0° as shipped from factory.
- Offset and slope (zero and span) adjustment models available.
- Independently adjustable dual auxiliary switches available.
- CUL and UL listed; CE certified.
- 0 to 10 Vdc feedback output.



Model Chart

Damper Actuators.

Model No.	Output Torque Rating lb.-in. (N-m)	Actuator Power Input		Slope/Offset Adjustable (Zero Span)	SPDT Auxiliary Switches	Approximate Timing in Seconds @ 70°F (21°C) with No Load		Shaft Size			
		Voltage	VA			50 Hz	60 Hz				
	Running VA										
MS41-6043	35 (4)	24 VAC +20%-15%	3.3	None	None	108	90	3/8" to 5/8" dia. 1/4" to 1/2" sq. 9/16" hex			
MS41-6043-520				Yes	None						
MS41-6043-522				Yes	Two						
MS41-6043-502				None	Two						
MS41-6083	70 (8)			24 VAC +20%-15%	3.3	None	None		150	125	3/8" to 5/8" dia. 1/4" to 1/2" sq. 9/16" hex
MS41-6083-520						Yes	None				
MS41-6083-522						Yes	Two				
MS41-6083-502						None	Two				

Valve Actuator/Linkages.

Model No. ^a	Linkage (Included)	Actuator Power Input 50/60 Hz.		SPDT Auxiliary Switches
		Voltage	VA Running	
MS41-6043-200	AV-603	24 Vac + 20% - 15%	3.3	No
MS41-6043-202				Yes
MS41-6083-200				No
MS41-6083-202				Yes

^a Refer to Valve Catalog, F-27384 for correct applications.

MS41-60xx Series

Specifications

Inputs

Control signal	MS41-60x3: Proportional, 0 to 10 Vdc; input resistance 100K Ω . Control signal adjustment available with MS41-60x3-522 and MS41-60x3-522. Start point (offset): 0 and 50 Vdc (factory setting = 0 Vdc) Span 2 to 30 Vdc.
Power	24 Vac, +20%-15%, rated Class 2, Class III per EN60730. MS41-6083: 24 Vac +20%/-10% at 90 to 130°F (32 to 55°C) ambient. Half wave device.
Connections	3 ft. (0.9 m) long, 18 AWG leads, plenum-rated.

Outputs

Electrical	Output voltage: 0 to 10 Vdc.
	Maximum output current: 1 mA.
	MS41-60xx-502 auxiliary switch contact rating: AC Rating: 24 Vac, 4A Resistive, 2A Inductive. DC Rating: 12 to 30 Vdc, DC 2A.
	Switching hysteresis: 2°. Switch range: Switch A: 0 to 90° range in 5° intervals; Recommended range usage: 0 to 45°; Factory setting: 5°. Switch B: 0 to 90° range in 5° intervals; Recommended range usage: 45 to 90°; Factory setting: 85°.
Mechanical	Timing: See Model Chart.
	Output torque rating: MS41-6043 , 35 lb-in. (4 N-m); MS41-6083 , 70 lb-in. (8 N-m).
	Stroke: Normal angle of rotation is 90°, limited to a maximum of 95°. Field adjustable to limit travel on either end of stroke. MS41-60x3-52x have adjustable start point and span. Position indicator: Adjustable pointer is provided for position indication.

Environment

Ambient temperature limits	Shipping and Storage: -40 to 158°F (-40 to 70°C). Operating: -25 to 130°F (-32 to 55°C).
Humidity	5 to 95% RH, non-condensing.
Locations	NEMA 2, IP54 to EN60529.
Dimensions	5-7/16 H x 2-3/4 W x 2-3/8 D in. (138 x 70 x 60 mm).

Agency Listings

UL	UL-873, Underwriters Laboratories.
European Community	EMC Directive (89/336/EEC). Emissions (EN50081-1). Immunity (EN50082-2).
CUL	Canadian Standards C22.2 No. 24-93.
General Instructions	Refer to F-27214.

Accessories

Model No.	Description
AM-726	Rotary to linear bracket.
AM-727	Rotary to linear crank arm adaptor.
AM-728	Conduit adaptor.
AM-729	3/8 in. shaft adapter.
AV-603	1/2 to 2 in. Vx-7xxx valve linkage.

Typical Applications

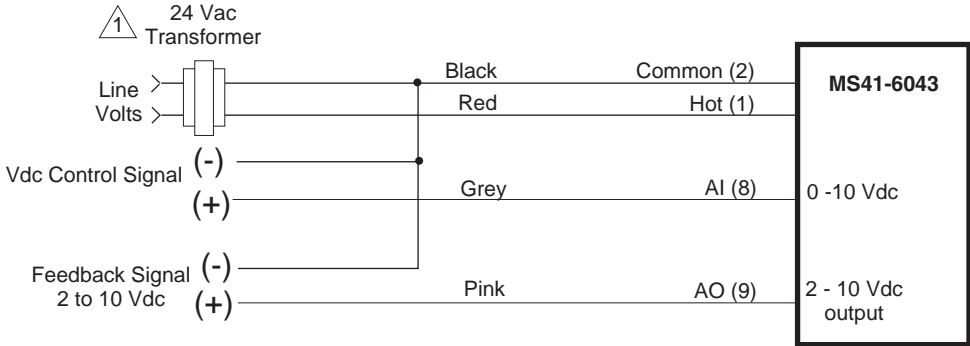


Figure 1 Typical Wiring for Proportional Control, 24 Vac, 0-10 Vdc Input.

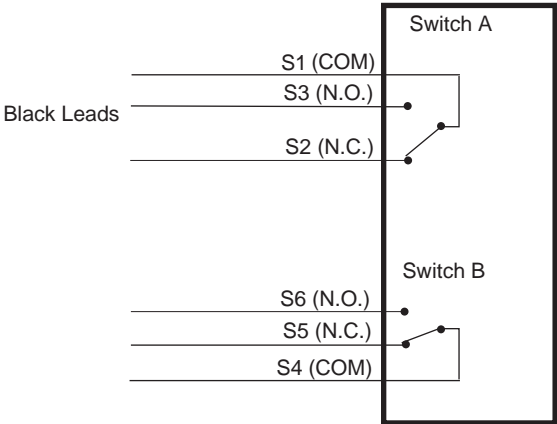


Figure 2 Typical Wiring for Auxiliary Switch Models MS41-60x3-502, -522, or -202.