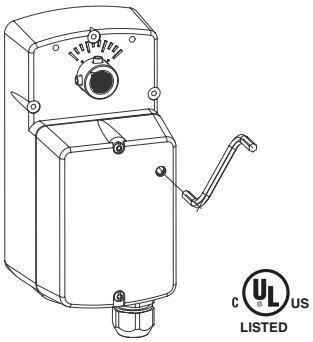
Non-Spring Return EconoDrive™ Floating Actuator

EconoDrive overshaft actuators are designed to provide an economical and reliable solution for many overshaft damper and ball valve requirements. All products accommodate shaft sizes up to 1/2 in. (13 mm) in diameter.

Non-spring return models provide either 35 in-lb (4 N-m) or 70 in-lb (8 N-m) in proportional control.



Features:

- Floating models controlled by SPDT floating controllers.
- Non-spring return models supply 35 in-lb (4 N-m) or 70 in-lb (8 N-m) of torque.
- Polymer housing rated for NEMA 2/IP54 and for plenum use.
- Overload protection throughout stroke.
- Automatically adjust the input span to match the damper/valve travel.
- Compact size to allow installation in limited space.
- Manual override to allow positioning of dampers and valves.
- Directly mounts to 1/2 to 3 in. ball valves.

Model Chart

Model No.	Torque in-lb (N-m)	Control Signal	Voltage	Wiring System	Actuator Power Input				Approximate Timing[a] in Seconds @ 70°F (21°C)
					Running			Holding	
					50/60 Hz		DC Amps	50/60 Hz	
					VA	W		W	
MF4D-6043-100	35 (4)	Floating	24 VAC +/-20% or 20-30 Vdc	Plenum Cable	4.4	2.7	0.1	1.7	85
MF4D-6083-100	70 (8)				5.9	3.6	0.13	1.6	

[a] Timing was measured with no load applied to actuator.

Specifications

Inputs		
	Control signal	Floating.
	Power	See Model Chart. All 24 Vac circuits are Class 2. Half wave device.
	Connections	10 ft. plenum cables, enclosure accepts 1/2 in. (13 mm) conduit connector. For M20 Metric conduit, use AM-756 adapter.
Outputs		
	Electrical	A 2 to 10 Vdc feedback signal can supply up to 0.5 mA to operate up to four additional slave actuators.
	Mechanical	Timing: See Model Chart.
		Travel: 93° nominal.
		Manual Override: Allows positioning of damper or valve using manual crank.

Specifications (Continued)

Environment		
	Ambient temperature limits	Shipping and Storage: -40 to 160°F (-40 to 71°C). Operating: -22 to 140°F (-30 to 60°C).
	Humidity	15 to 95% RH, non-condensing.
	Locations	NEMA 1, NEMA 2, UL Type 2 (IEC IP54) with customer supplied water tight conduit connectors. Enclosure is air plenum rated.
Agency Listings		
	UL 873	Underwriters Laboratories (File #E9429 Category Temperature-Indicating and Regulating Equipment).
	CUL	UL Listed for use in Canada by Underwriters Laboratories. Canadian Standards C22.2 No. 24-93.
	European Community	EMC Directive (89/336/EEC), Low Voltage Directive (72/23/EEC). This product fits in Installation Category (Overvoltage Category) II per EN 61010-1.
	Australia	This product meets requirements to bear the C-Tick Mark according to the terms specified by the Communications Authority under the Radiocommunications Act 1992.
General Instructions		Refer to F-27170.

Accessories

Model No.	Description
AM-714	Weathershield kit.
AM-756	Metric conduit adapter M20 x 1.5 to 1/2 in. NPT.
AM-771	Crank arm and bracket kit.
AM-772	Bracket for reverse mounting.

Typical Applications

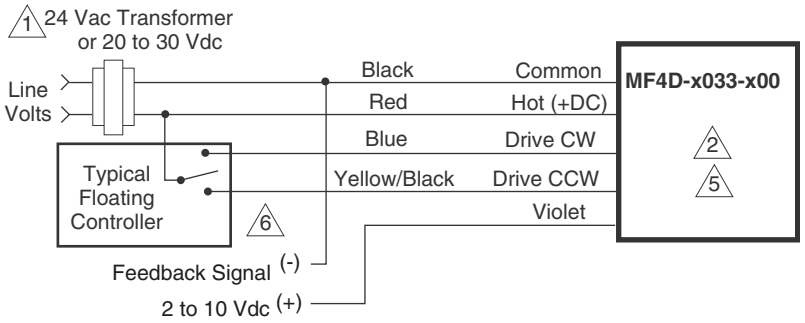


Figure 1 Floating Point Control.

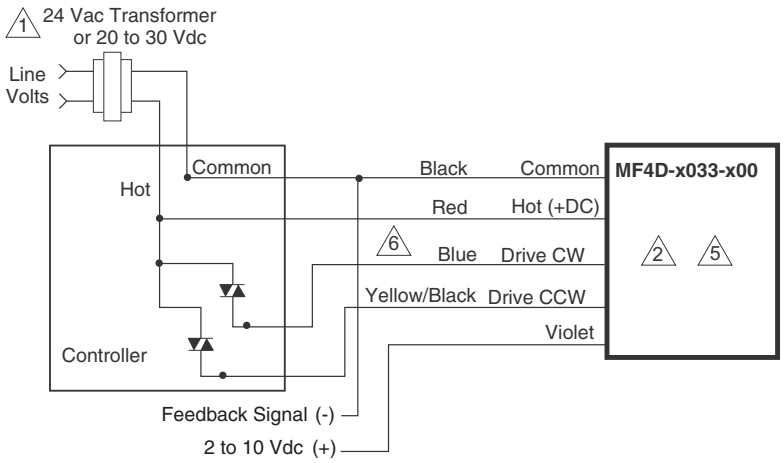


Figure 2 Triac Source.

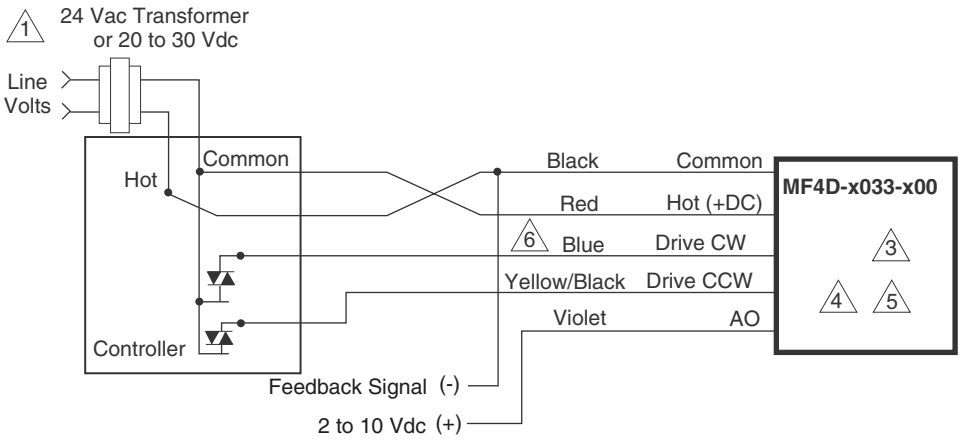


Figure 3 Triac Sink.

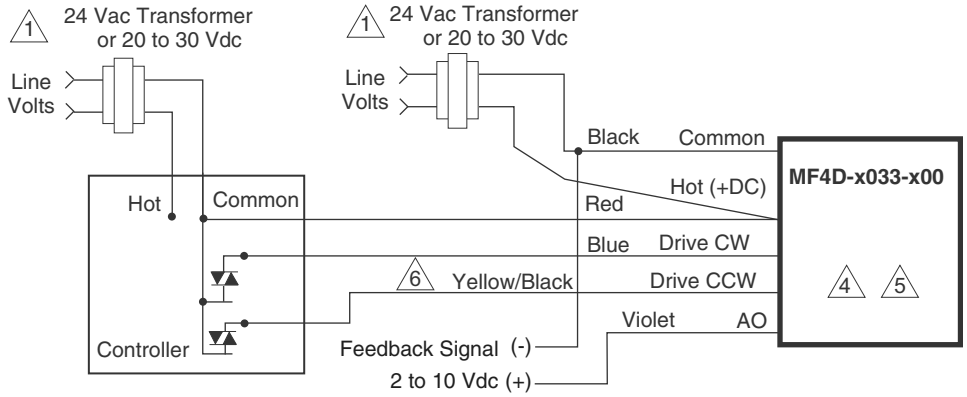


Figure 4 Triac Sink With Separate Transformers.

1 Provide overload protection and disconnect as required.

2 Actuators may be wired in parallel. All actuator black wires are connected to the transformer Common and all red wires are connected to the Hot lead. Power consumption must be observed.

3 The Common connection from the actuator must be connected to the Hot connection of the controller. The actuator Hot must be connected to the controller Common.

4 If the controller uses a full-wave power supply and does not provide isolated outputs, a separate transformer is required. See EN206, F-26363.

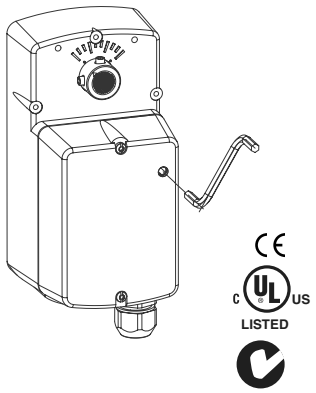
5 Cable on some models contains more wires than are used in applications. Only those wires actually used are shown.

6 CW/CCW drive direction is as viewed from the top (removable cover) side.

Spring Return EconoDrive™ Floating Actuator

EconoDrive overshaft actuators are designed to provide an economical and reliable solution for many overshaft damper and ball valve requirements. All products accommodate shaft sizes up to 1/2 in. (13 mm) in diameter.

Spring return models provide 30 in-lb (3.4 N-m) of torque.



Features:

- Controlled by SPDT floating controllers.
- 30 in-lb (3.4 N-m) of torque.
- Polymer housing rated for NEMA 2/IP54 rated for plenum use.
- Overload protection throughout stroke.
- Automatically adjust the input span to match the damper/valve travel.
- Compact size to allow installation in limited space.
- Manual override to allow positioning of dampers and valves.
- Directly mounted to 1/2 to 3 in. ball valves.

Model Chart

Part No.	Rotation	Control Signal	Voltage	Wiring System	Actuator Power Input				Approximate Timing[a] in Sec. @ 70°F (21°C)	
					Running			Holding		
					50/60 Hz		DC Amps	50/60 Hz	Powered	Spring Return (CCW)
					VA	W		W		
MF4D-7033-100	CCW	Floating	24 VAC +/-20% or 20-30 Vdc	Plenum Cable	6.8	4.2	0.15	1.9	85	21
MF4D-8033-100	CW									

[a] Timing was measured with no load applied to actuator.

Specifications

Inputs		
	Control signal	Floating.
	Power	See Model Chart. All 24 Vac circuts are Class 2. Half wave device.
	Connections	10 ft plenum cables, enclosure accepts 1/2 in. (13 mm) conduit connector. For M20 Metric conduit, use AM-756 adapter.
Outputs		
	Electrical	Position Feedback Voltage: 2 to 10 Vdc feedback signal. The feedback signal can supply up to 0.5 mA to operate up to four additional slave actuators.
	Mechanical	Timing: See Model Chart.
		Travel: 93° nominal.
		Manual Override: Allows positioning of damper or valve using manual crank.

Specifications (Continued)

Environment		
	Ambient temperature limits	Shipping and Storage: -40 to 160°F (-40 to 71°C). Operating: -22 to 140°F (-30 to 60°C).
	Humidity	15 to 95% RH, non-condensing.
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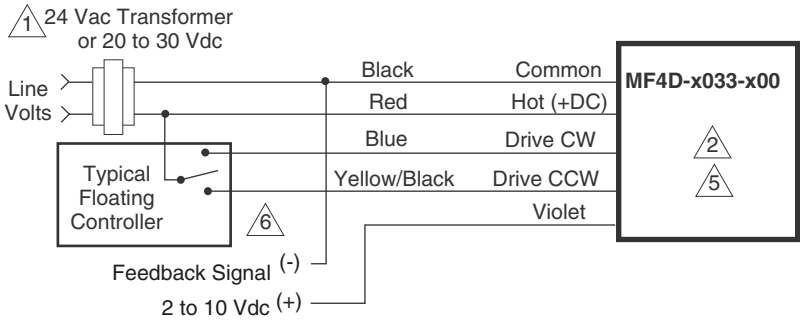

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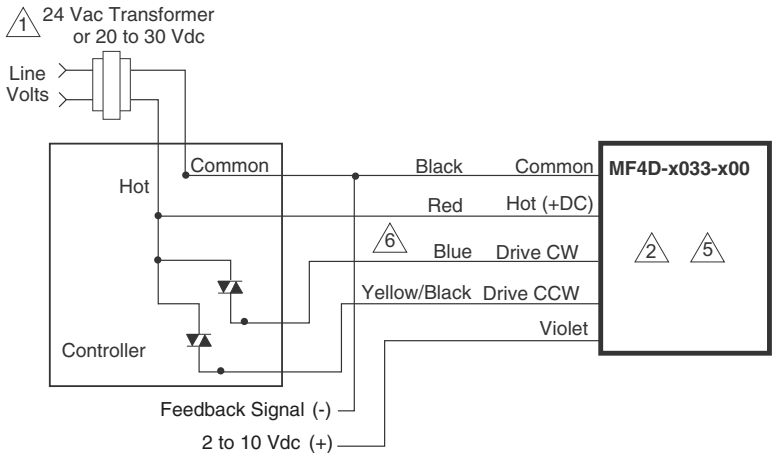

Figure 2 Triac Source.

See notes on next page.

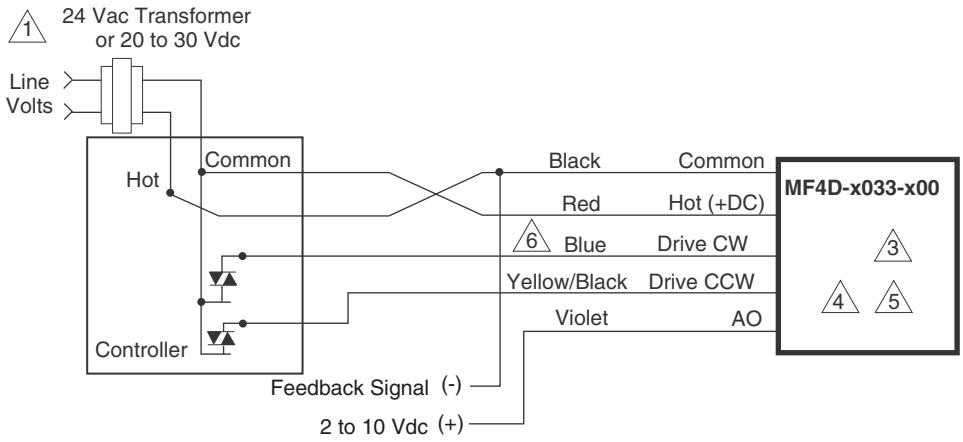

Figure 3 Triac Sink.

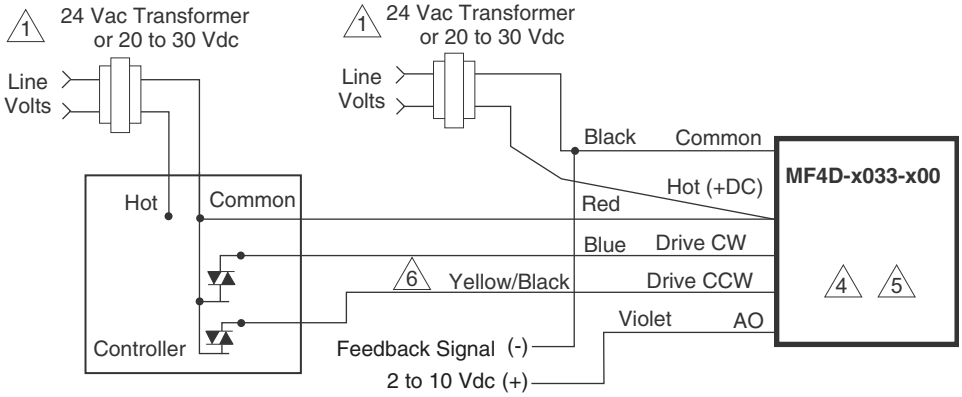

Figure 4 Triac Sink With Separate Transformers.

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