

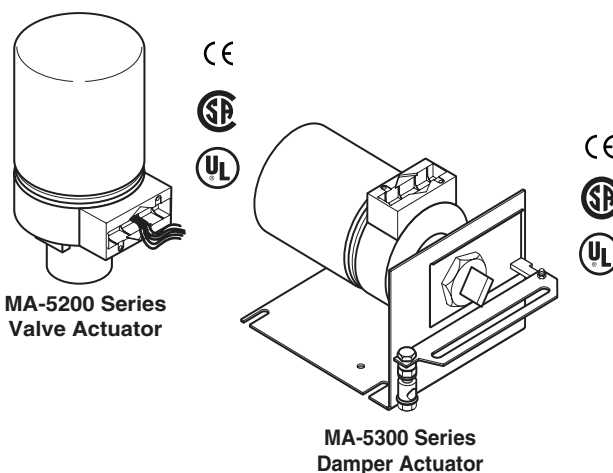
MA-5200 Series, MA-5300 Series

Two-Position Actuators

These actuators are used for electric two-position control of globe valves and dampers which require a return to the normal position upon power interruption.

Features:

- Two-position actuators controlled by an SPST controller.
- Spring return.
- Available 24, 120, and 240 Vac models.
- An actuator with the part number suffix "-500" has a built-in, adjustable, SPDT auxiliary switch.
- Available damper models with linkage or base models that require separate damper or valve linkage.
- Die cast lower housing with 1/2 in. conduit opening and painted steel upper housing.
- Hydraulic actuator with oil-immersed motor and pump.



Model Chart

Damper Actuators.

Model No.	Actuator Power Input			Timing in Seconds at 72°F (22°C)		Damper Output Torque Rating
	AC Voltage (±10%)	50/60 Hz		To Extend (No Load Stroke)	Retract on Power Loss	
		Watts	VA			
MA-5330	120	10	16.8	60	15	20 lb-in.
MA-5333	24	8.8	15.6			

Valve Actuators. Also for Damper Actuators with Field Assembled Damper Linkages.

Model No.	Actuator Power Input			10 Amps Aux Switch	Timing in Seconds at 72°F (22°C)		Required Linkage ^a		Damper Output Torque Rating
	AC Voltage (+10/-15%)	50/60 Hz			To Extend (No Load Stroke)	Retract on Power Loss	Damper	Valve	
		Watts	VA						
MA-5210	120	10	16.8	No	60	15	AM-601	AV-601 AV-7600-1	20 lb-in.
MA-5210-500				Yes					
MA-5211	240	10	19.2	No	60	15	AM-601	AV-601 AV-7600-1	
MA-5211-500				Yes					
MA-5213	24	10	15.6	No	60	15	AM-601	AV-601 AV-7600-1	
MA-5213-500				Yes					

^a Damper models are provided with factory-installed damper linkages. Only base models require separately-ordered linkages.

Specifications

Actuator inputs

Control circuit	Two wire, SPST.
Power input	Refer to Model Chart.
Connections	Color-coded 4 ft. (1.2 m) leads.

Specifications (Continued)

Actuator outputs

Electrical	Auxiliary switch (MA-5xxx-500), 10 amps, 120/240 Vdc adjustable SPDT, factory set to close the N.C. contact at the retracted end of stroke.
Mechanical	Stroke damper: Approximately 2 in. (51 mm) from fully retracted to fully extended (includes AM-601 linkage). Stroke valve: Approximately 9/16 in. (14.3 mm) from fully retracted to fully extended.
Nominal damper area	Actuator sizing should be done in accordance with damper manufacturer's specifications.
Environment	
Ambient temperature limits	Shipping and storage: -40 to 140°F (-40 to 60°C). Operating, damper: 0 to 140°F (-18 to 60°C). Operating, valve: Refer to Restrictions on Maximum Ambient Temperature for Valve Actuators Table.
Humidity	5 to 95% RH, non-condensing.
Location	NEMA Type 1.
Dimensions	6-3/4 H x 3-23/32 W x 3-1/4 Dia. in. (171 x 94 x 83 mm).
Agency Listings	
UL 873	File #E9429 Category Temperature-Indicating and Regulating Equipment.
CSA	Canadian Standard C22.2 #24-93.
European Community	EMN Directive (89/336/EEC) Low Voltage Directive (72/23/EEC).
General Instructions	Refer to F-15070.

Restrictions on Maximum Ambient Temperature for Valve Actuators.

Maximum Temperature of Media in the Valve Body (Check Rating of the Valve) °F (°C)	Maximum Ambient Temperature of MA-521X Series	
	AV-7600-1 (Only) °F (°C)	AV-7600-1 and AV-601 °F (°C)
366 (186)	90 (32)	90 (32)
340 (171)	100 (38)	100 (38)
281 (138)	115 (46)	140 (46) ^a
181 (83)	140 (60) ^a	140 (60) ^a
80 (26)	140 (60) ^a	140 (60) ^a

^a Maximum ambient temperature of the actuator must never exceed 140°F (60°C).

Accessories

Model No.	Description
Damper Linkages	
AM-111	Crank arm for 5/16 in. diameter damper shaft.
AM-112	Crank arm for 3/8 in. diameter damper shaft.
AM-113	Crank arm for 1/2 in. diameter damper shaft.
AM-115	Crank arm for 7/16 in. diameter damper shaft.
AM-122	Linkage connector straight type.
AM-123	Damper clip.
AM-125	5/16 diameter x 20 in. damper rod.
AM-125-048	5/16 diameter x 48 in. damper rod.
AM-132	Ball joint connector.
AM-161-3	Damper linkage kit.
AM-601	Device includes mounting bracket, damper linkage with spring, and AM-122 straight connector. Required to modify MA-521X series) valve actuators into 2 in. (51 mm) stroke damper actuators.
AM-602	Spacer.
Valve Linkages	
AV-600	Valve linkage for VB-7xxx to 2 in. and discontinued VB-9xxx valves to 1-1/4 in.
AV-601	Valve linkage extension for hot water and steam applications; use with AV-600.
AV-7600-1	Valve linkage for VB-7xxx valves with booster springs.
TOOLS (factory-available)	
TOOL-12	Wrench for adjustment of auxiliary switch.
TOOL-19	Spring compression tool for AV-600.

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Typical Applications

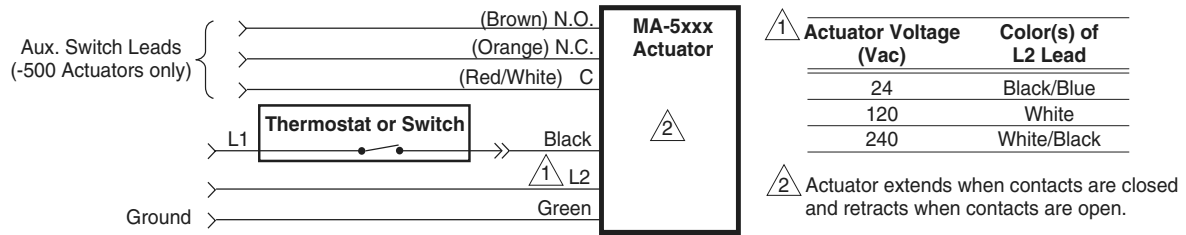


Figure 1 Wiring for MA-5xxx Series Actuators.