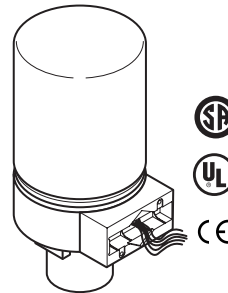


Electronic Positive Positioning Actuator

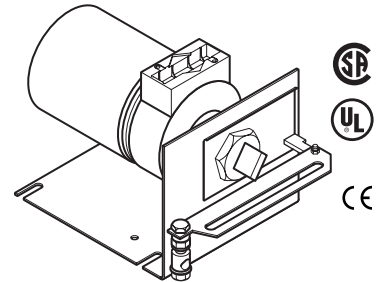
The MP-5500 Series Actuators are for the electronic proportional control of dampers, valves, or program switches which require the return to normal position upon power interruption. This series is compatible with 0 to 10 Vdc input signals.

Features:

- Proportional actuators controlled by variable Vdc input signal.
- Spring return.
- Fixed 10 Vdc operating span.
- 10,000 ohms or greater input impedance.
- 24 Vac, 120 Vac, and 240 Vac models.
- Available in 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, transducer, and pump.



MP-5510 Series Valve Actuator



MP-5530 Series Valve Actuator

Model Chart

Damper Actuators.

| Model No. | Actuator Power Input | | | Positive Positioner ^a | Timing in Seconds at 72°F (22°C) | | | Torque Rating lb-in. (N-m) |
|-----------|----------------------|----------|----|----------------------------------|----------------------------------|------------|-----------------------|----------------------------|
| | AC Voltage +10/-15% | 50/60 Hz | | | No Load Stroke | | Retract on Power Loss | |
| | | Watts | VA | | To Extend | To Retract | | |
| MP-5530 | 120 | 10 | 18 | Yes | 60 | 30 | 15 | 15 (1.69) |
| MP-5533 | 24 | | | | | | | |

^a Internal feedback circuitry provides positive positioning of the damper in relation to the controller signal.

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

| Model No. | Actuator Power Input | | | Positive Positioner ^a | Timing in Seconds at 72°F (22°C) | | | Required Linkage | |
|-----------|----------------------|----------|----|----------------------------------|----------------------------------|------------|-----------------------|---------------------|---|
| | AC Voltage +10/-15% | 50/60 Hz | | | No Load Stroke | | Retract on Power Loss | Damper | Valve |
| | | Watts | VA | | To Extend | To Retract | | | |
| MP-5510 | 120 | 10 | 18 | Yes | 60 | 30 | 15 | AM-601 ^b | AV-600 or AV-7600-1 AV-601 ^c |
| MP-5511 | 240 | | | | | | | | |
| MP-5513 | 24 | | | | | | | | |

^a Internal feedback circuitry provides positive positioning of valve stem in relation to control signal.

^b With the installation of the AM-601 damper linkage, these valve actuators become functionally the same as the damper actuators listed under Damper Actuators. Refer to Damper Actuators for the torque rating.

^c May be required for steam and hot water. Refer to Maximum Allowable Ambient Temperature for the Valve Actuator.

Maximum Allowable Ambient Air Temperature for Valve Actuators.

| Temperature of Media in the Valve Body ^a (Check the Rating of the Valve) °F (°C) | Maximum Allowable Ambient Air Temperature of MP-55xx Series | |
|--|---|---------------------------|
| | AV-600 Only for Chilled Water Applications °F (°C) | AV-600 and AV-601 °F (°C) |
| 366(180) | Do Not Use | 88 (31) |
| 340 (171) | | 93 (34) |
| 281 (138) | | 103 (39) |
| 181 (83) | | 120 (48) |
| 80 (26) | | 140 (60) |

^a Maximum allowable ambient temperature of the actuator 140 F (60 C), minimum -20 F (-29 C). Refer to the Valve section for further information.

Specifications

| | |
|-----------------------------------|--|
| Inputs | Compatible with 0 to 10 Vdc input signals. |
| Operating span | Approximately 10 Vdc fixed. |
| Start point | Approximately 0.5 Vdc fixed. |
| Impedance | 10,000 ohms or greater. |
| Power input | Refer to Damper Actuators Model Chart and Valve Actuators Model Chart. |
| Connections | Color-coded 4 ft (1.2 m) leads. |
| Electrical Outputs | Internal Power Supply: 20 Vdc, 25 mA. |
| Mechanical Outputs | |
| Stroke | Damper: Approximately 2 in. (51 mm) over a nominal 0 Vdc (fully retracted) to 10 Vdc (fully extended) input range (includes AM-601 linkage). Valve: Approximately 1/2 in. (12.7 mm) over a nominal 0 Vdc (fully retracted) to 10 Vdc (fully extended) input range. With increased input, the actuator continues to extend to a nominal 9/16 inc. (14.3 mm). |
| Nominal Damper Area | Actuator sizing should be done in accordance with damper manufacturer's specifications. |
| Environmental | |
| Ambient temperature limits | Shipping and storage: -40 to 140°F (-40 to 60°C). Operating, Damper: -20 to 140°F (-29 to 60°C). Operating Valve: Refer to Maximum Allowable Ambient Air Temperature for Valve Actuators. |
| 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 D in. (171 x 18 x 83 mm). |
| Agency Listings | |
| UL 873 | File E9429 Temperature Indicating and Regulating Equipment. |
| CUL | Canadian Standard (File #LR3728) |
| European Community | MP-5513 and MP-5533 only: EMC Directive 89/336/EEC. |
| General Instructions | Refer to F-25856. |

MP-55xx Series

Accessories

| Model No. | Description |
|----------------------------------|---|
| Damper only | |
| 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 in. diameter x 20 in. damper rod. |
| AM-125-048 | 5/16 in. 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 actuators into 2 in. (50.8 mm) stroke damper actuators. |
| Valve only | |
| AV-600 | Valve linkage 1/2 to 2 in. VB-7xxx and discontinued VB-9xxx valves. |
| AV-601 | Valve linkage extension for hot water and steam applications. Use with AV-7600. |
| AV-7600-1 | Valve linkage for VB-7XXX. |
| TOOLS (factory available) | |
| TOOL-12 | Wrench for adjustment of auxiliary switch. |
| TOOL-19 | Spring compression tool for AV-600. |
| TOOL-37 | 1-5/8 in. open end wrench. |
| TOOL-202 | Manual positioner. |

Typical Applications

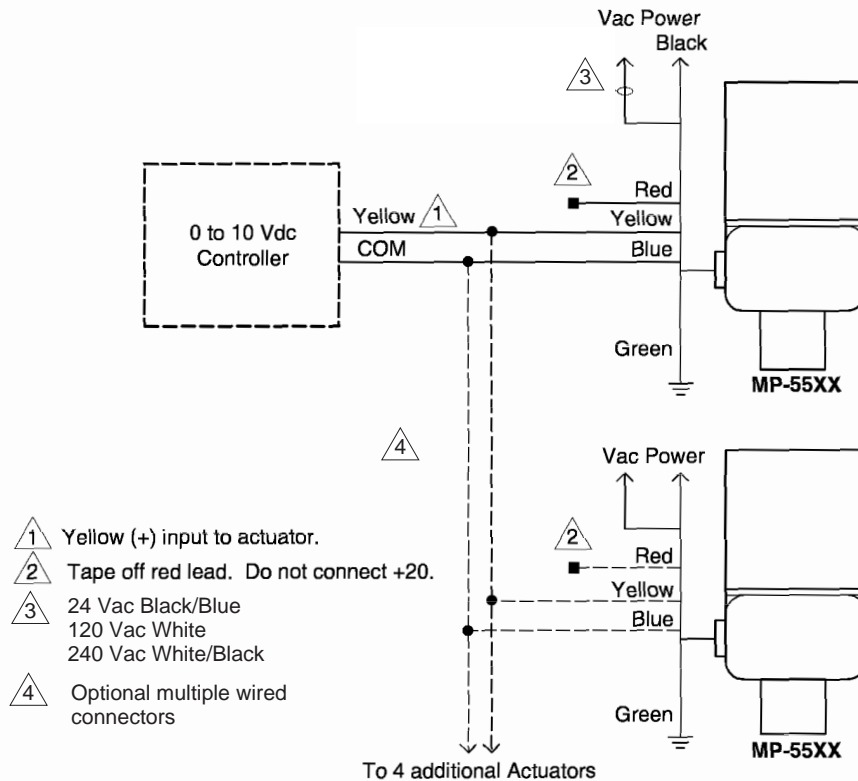


Figure 1 Typical Control Wiring for Up to Six MP-5500 Series Actuators to Controllers That Do Not Require 20 Vdc Power from the Actuator.