

MS4120F, MS4620F, MS8120F, S2024-F, S20230-F Fast-Acting, Two-Position Actuators

PRODUCT DATA



FEATURES

- 175 lb-in. (20 N•m) minimum driving torque at 350°F (176°C).
- Reversible mounting facilitates use in either clockwise (cw) or counterclockwise (ccw) spring rotation.
- Integral spring return ensures level of return torque.
- Stainless steel internal spring.
- Fifteen-second spring return timing.
- No special cycling required during long-term holding. (See Operation section.)
- No audible noise during holding.
- Patent pending design eliminates need for limit switches to reduce power consumption.
- Models available for 24, 120, and 230 Vac applications.
- Ninety-five degree angle of rotation.
- Actuator holds rated torque at reduced power level.
- Die-cast aluminum housing.
- Housing design allows flush mounting to damper.
- High-temperature indicator included.
- Self-centering shaft adapter (SCSA), patent pending.

APPLICATION

The MS4120F, MS4620F, MS8120F, S2024-F, and S20230-F Fast-Acting, Two-Position Actuators are spring return direct coupled actuators (DCA) for on/off damper control. The actuator accepts an on/off signal from a single-pole, single-throw (spst) controller. Reversible mounting allows actuator to be used for either clockwise (cw) or counterclockwise (ccw) spring rotation.

The MS4120F, MS4620F, and MS8120F DCA are designed to operate reliably in smoke control systems requiring Underwriter's Laboratories Inc. UL555S ratings up to 350°F.

MS4120F, MS4620F, MS8120F

- High temperature Teflon® lead wires.
- Designed to operate reliably in smoke control systems requiring Underwriter's Laboratories Inc. UL555S ratings up to 350°F.
- Models available with integral high temperature (350°F) SPST position-indicating switches (7°, 85° stroke).

S2024-F, S20230-F

- Double-insulation rating.
- Halogen-free, silicone-free leadwires.
- Models available with integral high temperature (350°F) SPDT position-indicating switches (7°, 85° stroke).

APPLICABLE LITERATURE

— Specification Data Sheet	63-2592
— Motor/Actuator Selection Guide for Damper Applications	63-8419
— Engineering Manual of Automatic Control (also called The Gray Manual)	77-1100
— Direct Coupled Actuator Quick Selection Guide	63-8553
— Damper Torque Calculator	63-8437

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SPECIFICATIONS

Models: See Tables 1, 2, and 3.

Table 1. MS4120F, MS4620F, MS8120F DCA Models.

Model	Voltage in Vac	Internal Auxiliary Switches
MS4120F1006	120	None
MS4120F1204	120	2 SPST ^a
MS4620F1005	230	None
MS4620F1203	230	2 SPST ^a
MS8120F1002	24	None
MS8120F1200	24	2 SPST ^a
S2024-F	24	None
S20230-F	230	
S2024-F-SW2	24	2 SPDT
S20230-F-SW2	230	

^a Internal SPST switches are designed to pass UL555S requirements (at 350°F).

Auxiliary Switches (SPST):

Ratings (maximum load): 250 Vac, 5A resistive, 3A inductive.
Settings (fixed): 7° nominal stroke, 85° nominal stroke.

Dimensions: See Fig. 1.

Device Weight: 7 lb (3.2 kg).

Temperature Ratings:

Ambient: -40°F to 130°F (-40°C to 55°C).
Shipping and Storage: -40°F to 140°F (-40°C to 60°C).

IMPORTANT

The actuator is designed to meet UL555S standards at 350°F (176°C). The actuator must be tested with the damper to achieve this rating.

Humidity Ratings: 5% to 95% RH noncondensing.

Stroke: 95° ± 3°, mechanically limited.

Minimum Damper Shaft Length:

1 in. (25 mm); 3-1/4 (83 mm) recommended.

Mounting: Self-centering shaft adapter.

Round Damper Shafts: 0.5 to 1.06 in.

Square Damper Shafts: 1/2 to 3/4 in.

Actuator can be mounted with shaft in any position.

IMPORTANT

- Honeywell does not recommend using linkages with these actuators because side-loading of the output hub reduces actuator life.
- 3/4 in. or greater shaft diameter recommended.

Electrical Ratings:

Power Input:

MS4120F: 120 Vac ±10%, 60 Hz.

MS4620F, S20230-F: 230 Vac ±10%, 50/60 Hz.

MS8120F, S2024-F: 24 Vac +20%, -10%, 50/60 Hz (Class 2).

Power Consumption:

MS4120F: Driving: 0.35A, 35W. Holding: 0.15A, 10W.

MS4620F, S20230-F:

Driving: 0.20A, 35W. Holding: 0.14A, 10W.

MS8120F, S2024-F: Driving: 45 VA. Holding: 10 VA.

Electrical Connections:

Lead Wires:

MS4120, MS4620, MS8120: 1m Teflon wire.

S2024-F, S20230-F: 1m halogen-free, silicone-free wire.

Two integral 3/8 in. flexible conduit connections.

Timing (At Rated Torque and Voltage):

Drive Open: 15 seconds typical.

Spring Close: 15 seconds typical.

Controller Type:

MS4120F: Line voltage (120 Vac), 2-position, spst (Series 40).

MS4620F, S20230-F: Line voltage (230 Vac), 2-position, spst (Series 40).

MS8120F, S2024-F: Low voltage (24 Vac), 2-position, spst (Series 80).

Torque Rating (at rated voltage):

Typical Holding (minimum at 350°F): 175 lb-in. (20 N•m).

Spring Return (minimum at 350°F): 175 lb-in. (20 N•m).

Stall Maximum (fully open at 75°F): 425 lb-in. (48.0 N•m).

350°F Minimum Driving: 175 lb-in. (20 N•m).

ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number.

If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:

1. Your local Honeywell Automation and Control Products Sales Office (check white pages of your phone directory).
2. Honeywell Customer Care
1885 Douglas Drive North
Minneapolis, Minnesota 55422-4386

In Canada—Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Scarborough, Ontario M1V 4Z9.

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