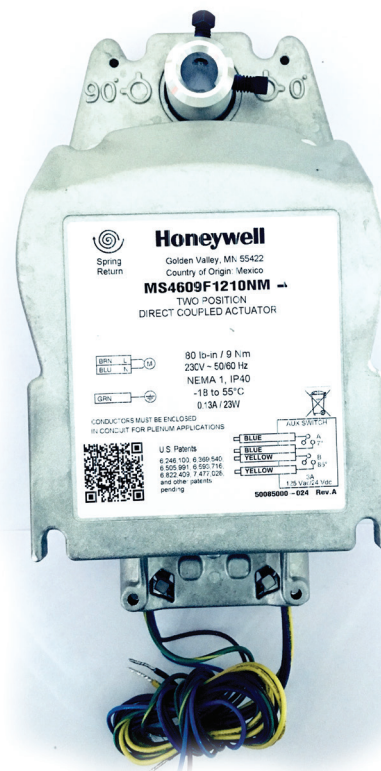


# MS4604, MS4609, MS8104, MS8109 FAST-ACTING, TWO-POSITION ACTUATORS (NON-UL) FOR FIRE/SMOKE CONTROL APPLICATIONS

## GENERAL

The MS4604, MS4609, MS8104, MS8109 Fast-Acting, Two-Position Actuators are spring return direct coupled actuators (DCA) with an integral junction box 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 return and are designed to operate reliably in smoke control systems.

- 30 lb-in. (3.4 N•m) or 80 lb-in. (9 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. No audible noise during holding.
- Patent pending design eliminates need for limit switches to reduce power consumption.
- Models available for 24 and 230 Vac.
- Ninety-five degree angle of rotation.
- Actuator holds rated torque at reduced power level.
- Die-cast aluminum housing.
- Housing design allows flush mounting to damp80 (9)er.
- Designed to operated reliably in smoke control systems
- Models available with SPST position-indicating switches (7°, 85° stroke).



## SPECIFICATIONS

### Models:

#### MATERIAL LIST

Model	Voltage (Vac)	Internal Auxiliary Switches	Torque in lb-in. (N m)
MS4604F1010NM/U	230	None	30 (3.4)
MS4604F1210NM/U	230	2 SPSTa	30 (3.4)
MS4609F1210NM/U	230	2 SPSTa	80 (9)
MS8104F1010NM/U	24	None	30 (3.4)
MS8104F1210NM/U	24	2 SPSTa	30 (3.4)
MS8109F1010NM/U	24	None	80 (9)
MS8109F1210NM/U	24	2 SPSTa	80 (9)

<sup>a</sup> Internal switches are intended for use as position indication

#### Electrical Ratings:

##### Power Input:

- MS4604F, MS4609F: 230 Vac  $\pm$ 10%, 50/60 Hz.
- MS8104F, MS8109F: 24 Vac +20%, -10%, 50/60 Hz.

##### Power Consumption:

- MS4604F: Running: 0.13A, 18W. Holding: 0.10A, 11W
- MS4609F: Running: 0.13A, 23W. Holding: 0.09A, 7W
- MS8104F: Running: 16VA. Holding: 8 VA
- MS8109F: Running: 23VA. Holding: 7 VA

#### Electrical Connections:

##### Power Lead Wires:

- MS460xF: 32 inches (0.8m), 18 AWG
- MS810xF: 39 inches (1m), 18 AWG
- Switch Lead Wires: 18 inches, 18 AWG, 2 color coded leads.

#### Controller Type:

- MS4604F, MS4609F: Line voltage (230 Vac), two-position, spst (Series 40).
- MS8104F, MS8109F: Low voltage (24 Vac), two-position, spst (Series 80).

#### Device Weight:

- 5 lb (2.3 kg).

#### Noise Rating (Maximum):

- Driving Open: 75 dBA at 1m.
- Holding: 20 dBA at 1m (no audible noise).

#### Temperature Ratings:

- Ambient: 0°F to 130°F (-18°C to 55°C).
- Shipping and Storage: -40°F to 140°F (-40°C to 60°C).

#### Humidity Ratings:

- 5% to 95% RH noncondensing.

#### Stroke:

- 95°  $\pm$  3°, mechanically limited.

#### Torque Rating (at rated voltage):

##### Spring Return:

- MS4604F, MS8104F: 30 lb-in. (3.4 N•m).
- MS4609F, MS8109F: 80 lb-in. (9 N•m). **Stall**

##### Maximum:

- MS4604F, MS8104F: 150 lb-in. (17 N•m).
- MS4609F, MS8109F: 240 lb-in. (27 N•m).

##### 350°F Driving:

- MS4604F, MS8104F: 30 lb-in. (3.4 N•m).
- MS4609F, MS8109F: 80 lb-in. (9 N•m).

#### Timing (At Rated Torque and Voltage):

- Drive Open: 15 seconds typical.
- Spring Close: 15 seconds typical.

#### Auxiliary Switches:

Ratings (maximum load):

- MS4604F, MS4609F:  
25 Vac/24 Vdc, 3A resistive
- MS8104F, MS8109F:  
24 Vac/24 Vdc, 3A resistive

Settings (fixed): 7° nominal stroke, 85° nominal stroke

#### Design Life (at Rated Voltage):

- 30,000 full stroke cycles.

#### Cycling Requirements:

- The actuator and the internal spring are designed to require no special cycling during long-term holding.
- Honeywell recommends following all local, state and national codes for periodic testing of the entire smoke control system. Refer to National Fire Protection Association (NFPA) National Fire Codes®: NFPA90A, NFPA92A and NFPA92B for your application.
- NFPA recommends periodic examination of each fire/smoke damper (semi-annually or annually) to ensure proper performance.

#### Minimum Damper Shaft Length:

- 2 in. (51 mm).

#### Mounting:

- Round 1/2 inch shaft adapter with 1/4 inch set screws.
- Threads: 1/4-20 UNC-2A
- Material: Alloy Steel hardened to HRC 45-53
- Thread Lock: Nylon Patch

#### IMPORTANT

Honeywell does not recommend using linkages with these actuators because side-loading of the output hub reduces actuator life.

MS4604, MS4609, MS8104, MS8109 FAST-ACTING, TWO-POSITION ACTUATORS (Non-UL)

**Environmental Protection Ratings:**

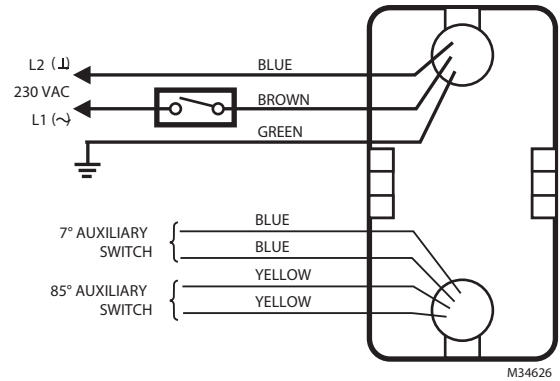
NEMA, IP40.

**Accessories:**

205649 Mounting Bracket (not supplied with actuator).

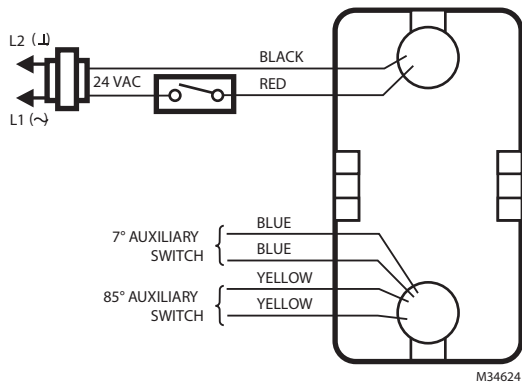
**Approvals:**

	MS4604F, MS4609F	MS8104F, MS8109F
CE	X	X
C-Tick	X	X



M34626

**Wiring:**

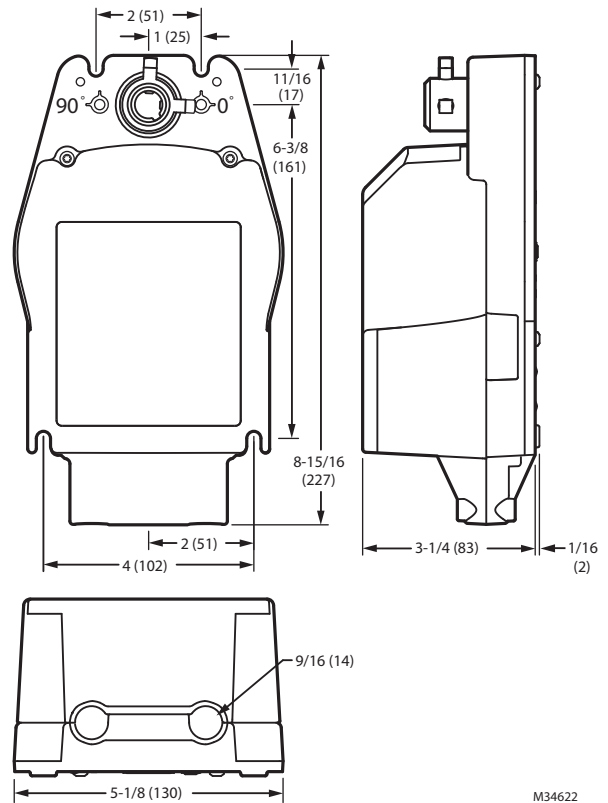


M34624

**Fig. 1. Typical 24 Vac wiring.**

**Fig. 2. Typical 230 Vac wiring.**

**Dimensions:**



M34622

**For more information,**

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