

- MA40-704X Series**
- MA4X-707X Series**
- MA4X-715X Series**

Spring Return, Two-position Actuators Submittal Sheet



DuraDrive™ Spring Return Electric Actuators

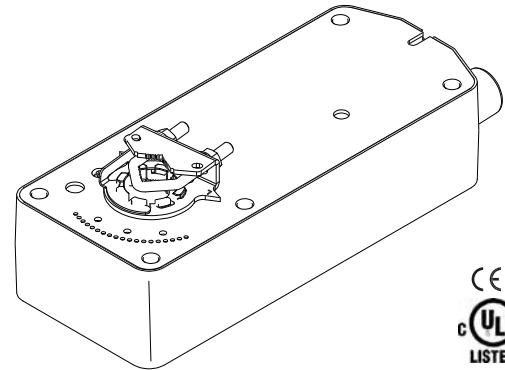
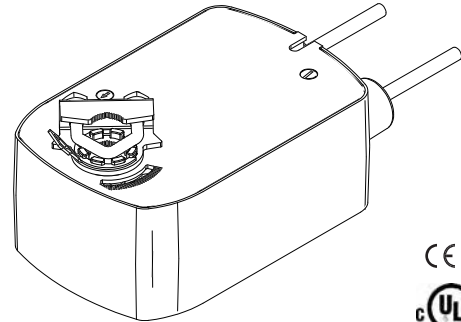
DuraDrive Direct Coupled Actuators are designed to be used in both damper and valve control applications.

Application

The MA4X-7XXX and MA4X-7XXX-50X series spring return actuators are used for the on-off fail-safe control of dampers and valves in HVAC systems.

Features

- **MA40-704X** 35 in-lb (4 N-m), **MA4X-707X** 60 in-lb (7 N-m), **MA4X-715X** 133 in-lb (15 N-m) torque models
- 24 Vac, 22-30 Vdc, 120 Vac, and 230 Vac models
- Rugged die cast housings rated for NEMA 2/IP54
- Electronic overload protection throughout rotation
- Optional built-in auxiliary switch to provide for interfacing or signaling
- Provides 95° of rotation
- Visual position indicator provided
- Provides true mechanical clockwise or counterclockwise spring return operation for reliable fail-safe application and positive close-off in air tight damper applications.
- Direct mount to round or square damper shafts
- Rotation limiting available
- Five year warranty
- MA4X-715X Series can be double mounted (gang mounting) for high torque applications
- MA41-707X, 715X equipped with manual override



Specifications

Actuator Inputs

Control Signal: On-off spring return, SPST control contacts or Triacs (500 mA rated).

Power Inputs: 24 Vac \pm 20%, 22-30 Vdc, 120 Vac \pm 10%, 230 Vac \pm 10%, 50/60 Hz. All 24 Vac circuits are Class 2. All circuits 30 Vac and above are Class 1.

Connections: 3 ft. (91 cm) appliance cables, 1/2 in. conduit connector. For M20 Metric conduit, use AM-756 adaptor.

Table-1 Power Consumption.

Model	Actuator Power Input							
	Voltage	Running					Holding	
		50 Hz		60 Hz		DC Amps	50 Hz	60 Hz
		VA	W	VA	W		W	W
MA40-7043	24 Vac ± 20% 22-30 Vdc	4.4	2.9	4.4	2.9	0.11	0.8	0.8
MA40-7040	120 Vac ± 10%	6.4	3.8	4.3	3.4	—	1.6	1.2
MA40-7041	230 Vac ± 10%	5.8	4.1	4.6	3.9		1.5	1.2
MA4X-7073	24 Vac ± 20% 22-30 Vdc	4.8	3.2	4.8	3.2	0.13	0.8	0.8
MA4X-7070	120 Vac ± 10%	10.7	4.2	5.6	3.6	—	2.0	1.2
MA4X-7071	230 Vac ± 10%	17.0	5.1	8.0	4.0		2.7	1.4
MA4X-7153	24 Vac ± 20% 22-30 Vdc	9.8	7.5	9.7	7.5	0.29	2.8	2.8
MA4X-7150	120 Vac ± 10%	11.7	8.8	10.0	8.4	—	3.6	5.0
MA4X-7151	230 Vac ± 10%	15.5	9.5	10.6	8.5		4.6	3.3

Actuator Outputs

Electrical:

Table-2 Auxiliary Switches.

Model	Quantity	Type	Adjustments
MA40-7043-501	1	SPDT 6A (1.5A) @ 24 Vac, UL Listed	0 to 95° (0 to 1 scale)
MA40-7040-501			
MA40-7041-501			
MA4X-7073-502	2	SPDT 7A (2.5 A) @ 250 Vac, UL Listed	One fixed at 5° One adjustable 25 to 85°
MA4X-7070-502			
MA4X-7071-502			
MA4X-7153-502	2	SPDT 7A (2.5 A) @ 250 Vac, UL Listed	One fixed at 5° One adjustable 25 to 85°
MA4X-7150-502			
MA4X-7151-502			

Mechanical:

Motor Type,

- Brush—**MA40-704X-XXX, MA4X-707X-XXX.**
- Brushless—**MA4X-715X-XXX.**

Stroke,

- MA40-704X** Angle of rotation $95^{\circ} \pm 5^{\circ}$ maximum. Adjustable 30° to 95° (standard rotation limiter).
- MA4X-707X and MA4X-715X** Angle of rotation $95^{\circ} \pm 5^{\circ}$ maximum. Adjustable 30° to 95° with AM-689 installed.

Damper Shaft Clamp,

- MA40-704X** The factory installed universal v-clamp is used for shafts up to 5/8" (15 mm) diameter or up to 1/2" (13 mm) square. AM-710 accessory clamp is required when mounting actuators to shafts up to 3/4" (19 mm) in diameter or up to 1/2" (13 mm) square.
- MA4X-707X and MA4X-715X** The factory installed universal v-clamp is used for shafts up to 3/4" (19 mm) diameter or up to 1/2" (13 mm) square. AM-687 accessory clamp is required when mounting actuators to shafts up to 1.05" (27 mm) in diameter or up to 5/8" (15 mm) square.

Position Indicator, Visual indicator.

- MA40-704X** 0 to 1 (0 is spring return position).
- MA4X-707X and MA4X-715X** -5 to 90° (-5 $^{\circ}$ is spring return position).

Nominal Damper Area, Actuator sizing should be done in accordance with damper manufacturer's specification.

Direction of Rotation, Clockwise or counterclockwise rotation determined by actuator mounting.

Manual Override

- MA40-704X, MA40-707X and MA40-715X** Not available.
- MA41-707X and MA41-715X** Position is manually adjusted from -5° to 85° by using override crank provided.

Environment

Ambient Temperature Limits:

Shipping & Storage, -40 to 160 $^{\circ}$ F (-40 to 71 $^{\circ}$ C).

Operating, -22 to 140 $^{\circ}$ F (-30 to 60 $^{\circ}$ C).

Humidity: 15 to 95% RH, non-condensing.

Location:

- MA40-704X** NEMA 2 (IEC IP54) no restrictions.
- MA4X-707X and MA4X-715X** NEMA 1 (IEC IP30). NEMA 2 (IEC IP54) with conduit connector in the down position.

Agency Listings

UL: 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.

European Community: EMC Directive (89/336/EEC). Low Voltage Directive (72/23/EEC).

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.

Accessories

For use with MA4X-7XXX:

AM-671: Universal Mounting Bracket, AM-693 is required
AM-672: Universal Mounting Bracket, AM-693 is required
AM-673: Mounting Bracket
AM-674: Weather Shield
AM-675: Base Mounting Plate for AM-674
AM-676: Universal Shaft Extension
AM-714: Weather Shield (polycarbonate)
AM-756: Metric Conduit Adapter M20 x 1.5 to 1/2" NPT
AM-761: 7-inch Anti-rotation Bracket
AM-762: 9-inch Anti-rotation Bracket

For use with MA40-7043:

AM-709: Position Indicator and Stroke Limiter
AM-710: Universal V-clamp for up to 3/4" diameter shafts
AM-711: Crankarm for up to 1/2" round shaft
AM-712: Crankarm Adaptor Kit
AM-713: Mounting Bracket for Honeywell Mod IV, M6415 type actuators and new installations
AM-715: Crankarm Adaptor Kit for Honeywell Mod IV, M6415 type actuators and new installations

For use with MA4X-7073, MA4X-7153:

AM-686: Damper Position Indicator
AM-687: Universal V-clamp for up to 1.05" (27 mm) diameter shafts.
AM-688: Replacement Universal Clamp
AM-689: Rotation Limiter
AM-690: Crankarm for round shafts up to 3/4" (19 mm)
AM-691: Crankarm for jackshafts up to 1.05" (27 mm)
AM-692: V-bolt Kit for AM-690 and AM-691 Crankarm
AM-693: Damper Linkage Kit
AM-758: Short "U" Mounting Bracket
AM-759: Tall "U" Mounting Bracket
AM-760: Slotted "L" Mounting Bracket
AM-763: 1/8" Hex Crank for Manual Override

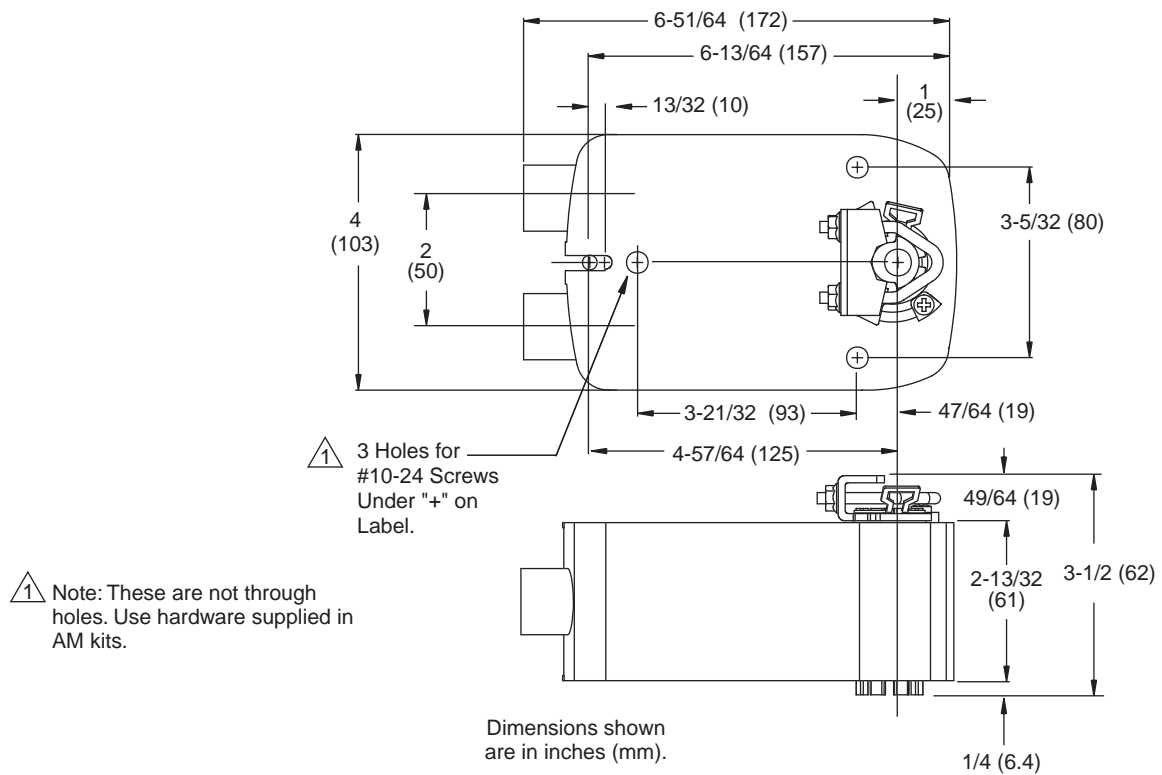


Figure-1 MA40-704X Series Mounting Dimensions.

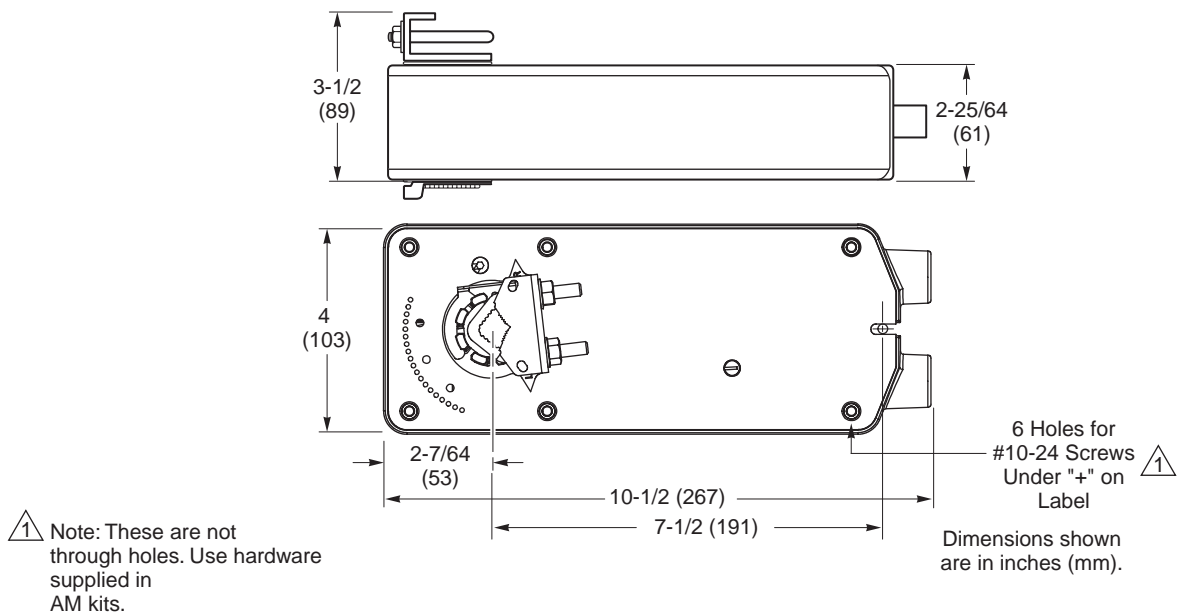


Figure-2 MA4X-7XXX Series Mounting Dimensions.

All specifications are nominal and may change as design improvements are introduced. Controlli shall not be liable for damages resulting from misapplication or misuse of its products.