Bray Commercial Division
13788 West Road, Suite 200A
Houston, Texas 77041

BCDSales@Bray.com
Phone: 1-888-412-2729
www.braycommercialdivision.com
 11/26/24

DC(M)S-62 Series —62 lb-in (7 Nm) Electric Actuator

IOM Manual

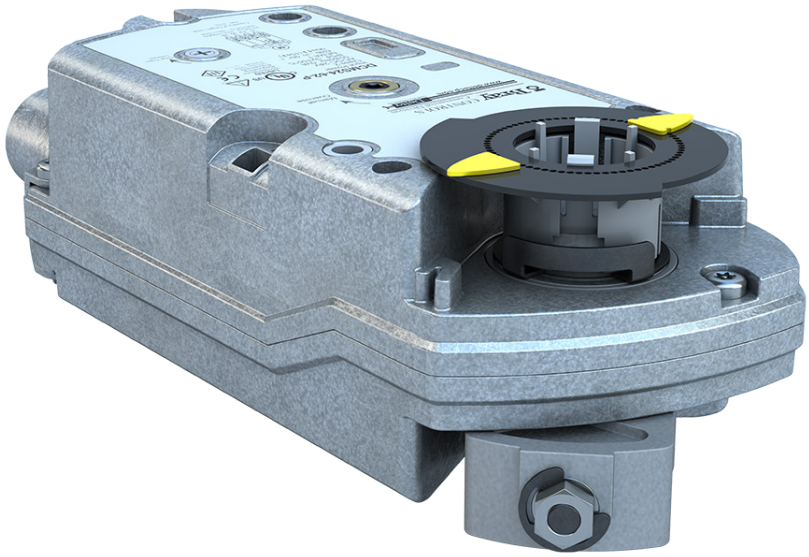


Table of Contents

DC(M)S-62 Series - Installation, Operation and Maintenance Manual

**FOR MORE INFORMATION ON THIS PRODUCT
AND OTHER BRAY PRODUCTS
PLEASE VISIT OUR WEBSITE – www.braycommercialdivision.com**

Technical Specifications - DC(M)S-62 Series Actuator				
Type	Actuator Models	**DCS24-62-P DCS24-62-A DCS24-62-AP**	**DCMS24-62-P DCMS24-62-A**	**DCS120-62 DCS120-62-A**
		Spring Return On/Off Plenum Cable **(-P)** Auxiliary Switches **(-A)**	Spring Return Modulating Plenum Cable **(-P)** Auxiliary Switches **(-A)**	Spring Return On/Off Standard Cable Only Auxiliary Switches **(-A)**
	Torque	62 lb-in. (7 Nm)		
Electrical	Operating Voltage	24 VAC ±20% 24 VDC ±15% at 50/60 Hz		120 VAC ±10% at 50/60 Hz
	Power Consumption	VAC - 5 VA Running, 3.5 VA Holding VDC - 4 W Running, 3 W Holding		≤7 VA/5W
	Control Input Signal	N/A	0 to 10 VDC (max. 35 VDC)	N/A
	Control Input Impedance	N/A	>100k Ohms	N/A
	Feedback Signal	N/A	Voltage output signal 0 to 10 VDC; Maximum output current +1 mA, -0.5 mA	N/A
	Auxiliary Switch Rating (-A Models Only)	**(-A) Models Only** Control signal adjustment - Offset (start point) Between 0 to 5 VDC; Span Between 2 to 30 VDC AC Rating (standard cable) 24 to 250 VAC, AC 6A resistive, AC 2A general purpose DC Rating (Standard/Plenum cable) 12 to 30 VDC, DC 2A		
	Switch Range (-A Models Only)	**(-A) Models Only** **Switch A -** 0° to 90° with 5° intervals; Recommended range usage 0° to 45°; Factory setting 5° **Switch B -** 0° to 90° with 5° intervals; Recommended range usage 45° to 90°; Factory setting 85°		
	Switching Hysteresis (-A Models Only)	**(-A) Models Only** 2°		
	Equipment Rating	Class 2, in accordance with UL/CSA, Class III per EN 60730		N/A
	Electrical Connection	**(-P or -AP) Models Only -** 36 in. (.9 m) Plenum Cable with 18 AWG (0.75 mm2) Wire Leads **(-A) Models Only -** 36 in. (.9 m) Standard Cable with 18 AWG (0.75 mm2) Wire Leads		
	Conduit Connections	Integral Connectors for 1/2 in. NPT		
Operation	Manual Override	3mm Hex Wrench		
	Spring Return	Direction is Selectable with Mounting Position of Actuator		
	Rotation Range	Nominal angle of rotation 90°; Maximum angular rotation 95°		
	Runtime for 90° of Rotation	Power On (Running) 90 Seconds for 62 lb-in (7 Nm) at (60 seconds max. at -25°F (-32°C)) Power Off (Returning) 15 Seconds Typical for 62 lb-in (7 Nm) at (60 seconds max. at -25°F (-32°C))		
	Cycle Life	60,000 Full stroke cycles (1,500,000 repositions)		
	Mechanical Connections	**Round Shafts** - 1/4 to 3/4-inch (6.4 to 20.5 mm) **Square Shafts** - 1/4 to 1/2-inch (6.4 to 13 mm)		
Environmental	Enclosure	NEMA 1 (IP54) limited mounting orientations		
	Ambient Conditions (Non-Condensing)	**Operating —** -25°F to 130°F (-32°C to 55°C); 95% RH Maximum, Noncondensing **Storage —** -40°F to 158°F (-40°C to 70°C); 95% RH Maximum, Noncondensing		
	Audible Noise Rating	40 dBA		
	Dimensions	8-3/8" (L) x 3-1/4" (W) x 2-2/3" (H)		
	Weight	2.9 lb (1.3 kg)		
Conditions	Agency Certifications	UL listed to UL60730 (to replace UL873) cUL certified to Canadian Standard C22.2 No. 24-93 Low voltage directive (LVD) 2006/95/EC - EN 60 730-2-14 (Type 1)		UL listed to UL60730 (to replace UL873) cUL certified to Canadian Standard C22.2 No. 24-93
	Warranty	5 Years limited from time of shipment.		

Warning - These actuators are designed for use only in conjunction with operating controls. Where an operating control failure would result in personal injury and/or loss of property, it is the responsibility of the installer to add safety devices or alarm systems that protect against, and/or warn of, control failure.

To avoid excessive wear or drive time on the motor, use a controller and/or software that provides a time-out function to remove the signal at the end of rotation (stall).

Disclaimer - The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the nearest Bray office. Bray controls shall not be liable for damages resulting from misapplication or misuse of its products.

Applications

The DC(M)S-62 direct-coupled spring return electronic actuator is designed for modulating, two-position, and three-position control of building HVAC dampers.

Used in constant or variable air volume installations for the control of return air, mixed air, exhaust, and face and bypass dampers requiring up to 62 lb-in (7 Nm) torque.

Designed for applications that require the damper to return to a fail-safe position when there is a power failure.

Features

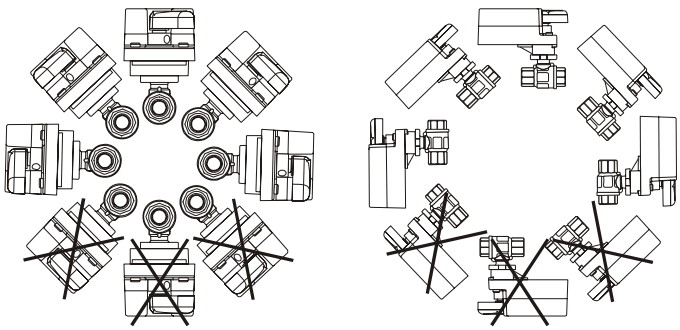
- Brushless DC motor technology with stall protection
- Bi-directional fail-safe spring return
- Models available with dual, independently adjustable auxiliary switches
- Unique self-centering shaft coupling
- Manual override
- Available in 62 lb-in torque
- 5° preload as shipped from factory
- Mechanical range adjustment capabilities
- UL and cUL listed, CE certified

IMPORTANT:
Use this DC(M)S24-62 Series Electric Spring Return Actuator only to control equipment under normal operating conditions. Where failure or malfunction of the electric actuator could lead to personal injury or property damage to the controlled equipment or other property, additional precautions must be designed into the control system. Incorporate and maintain other devices, such as supervisory or alarm systems or safety or limit controls, intended to warn of or protect against failure or malfunction of the electric actuator.

IMPORTANT:
Use this DC(M)S24-62 Series Electric Spring Return Actuator only to control equipment under normal operating conditions. Where failure or malfunction of the electric actuator could lead to personal injury or property damage to the controlled equipment or other property, additional precautions must be designed into the control system. Incorporate and maintain other devices, such as supervisory or alarm systems or safety or limit controls, intended to warn of or protect against failure or malfunction of the electric actuator.

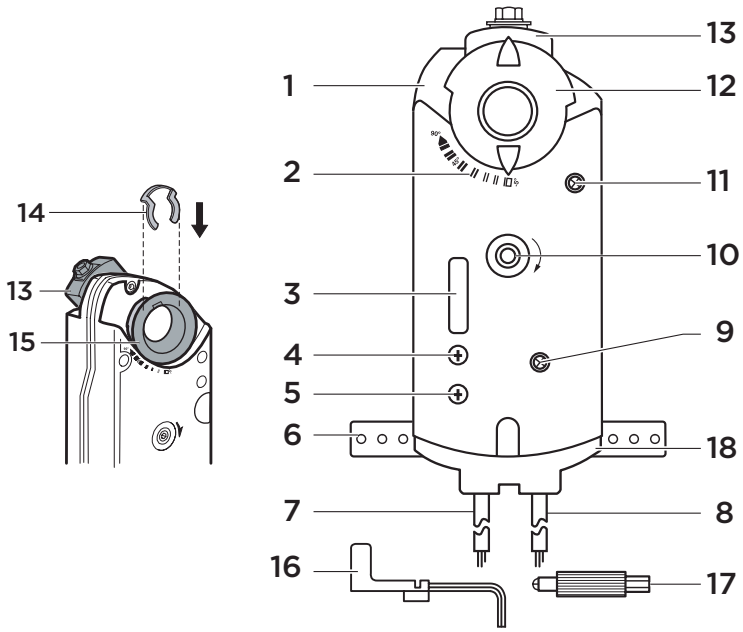
IMPORTANT:
Before specifying DC(M)S24-62 Series Electric Spring Return Actuators for plenum applications, verify acceptance of exposed plastic materials in plenum areas with the local building authority. Building codes for plenum requirements vary by location. Some local building authorities accept compliance to U L 1995, Heating and Cooling Equipment, while others use different acceptance criteria

IMPORTANT:
Do not install or use this DC(M)S24-62 Series Electric Spring Return Actuator in or near environments where corrosive substances or vapors could be present. Exposure of the electric actuator to corrosive environments may damage the internal components of the device, and will void the warranty.



Mounting Positions for Chilled Water and Condensing Atmosphere Applications

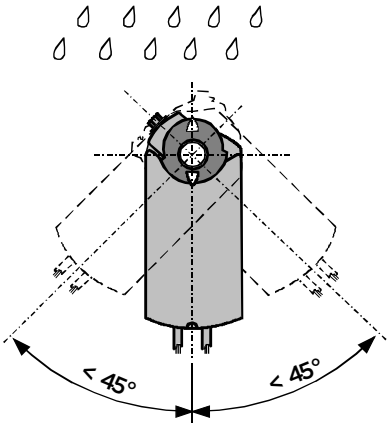
Actuator Components

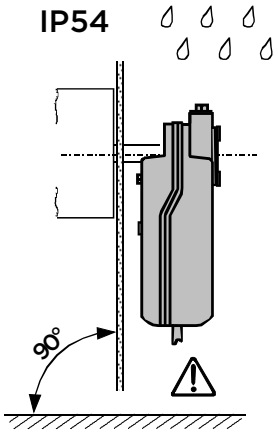


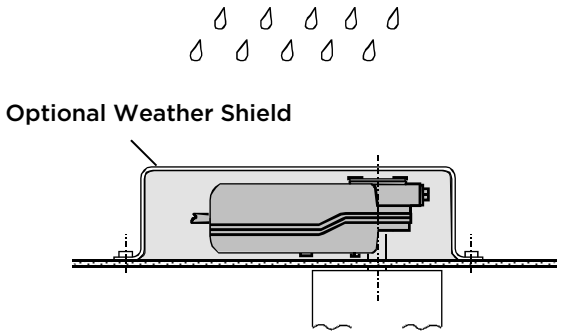
LEGEND

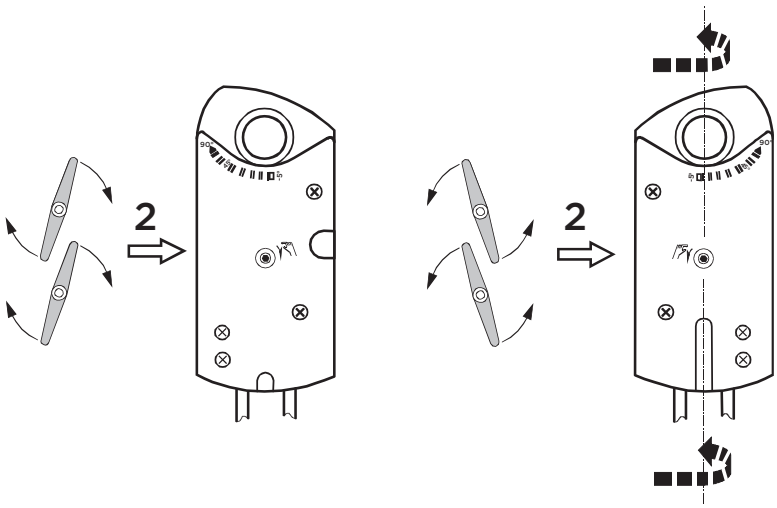
1. Actuator housing
2. Positioning scale for angle of rotation
3. DIP switches and cover
4. Span adjustment
5. Offset (start point) adjustment
6. Mounting bracket
7. Connection cable for power and control signals
8. Connection cable for auxiliary switches or feedback potentiometer
9. Gear train lock pin
10. Manual override wrench opening and direction of rotation arrow
11. Auxiliary switches A and B
12. Position indicator
13. Self-centering shaft adapter
14. Shaft adapter locking clip
15. Position indicator adapter
16. Key for manual adjustment
17. Adjustment tool for: auxiliaryswitches (11), offset/span (4 and 5), and lock pin (9)
18. 1/2-inch NPT conduit connections

Installation Options

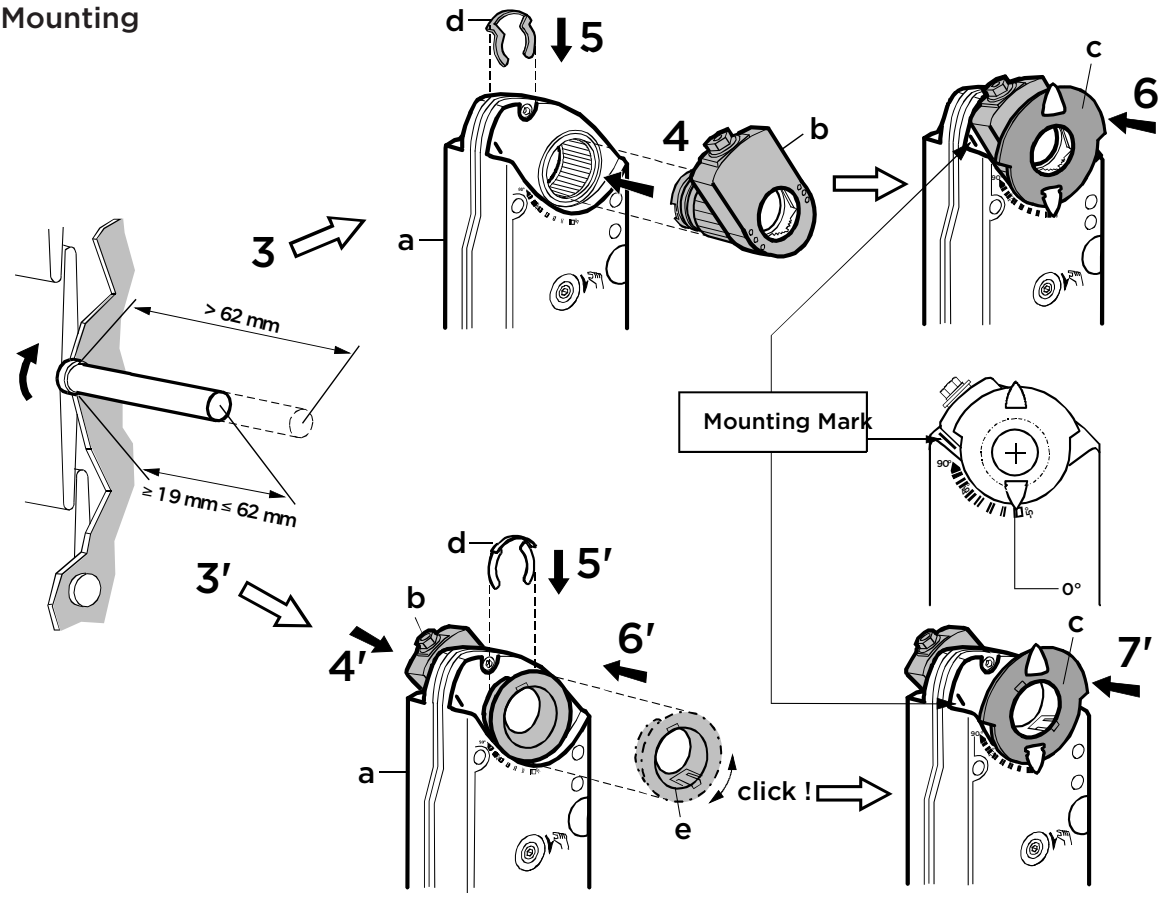




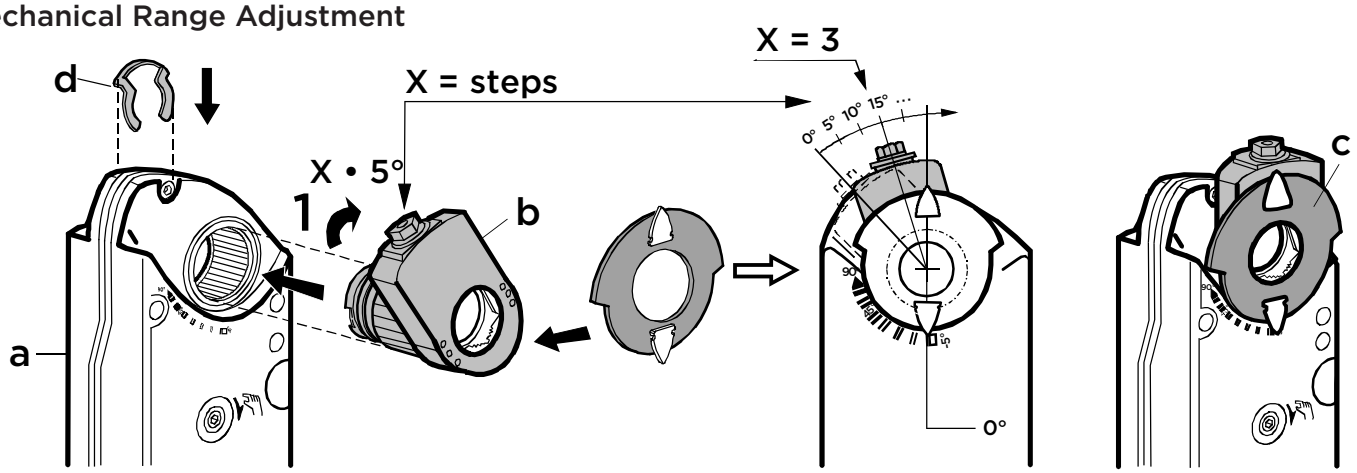




Adapter Mounting



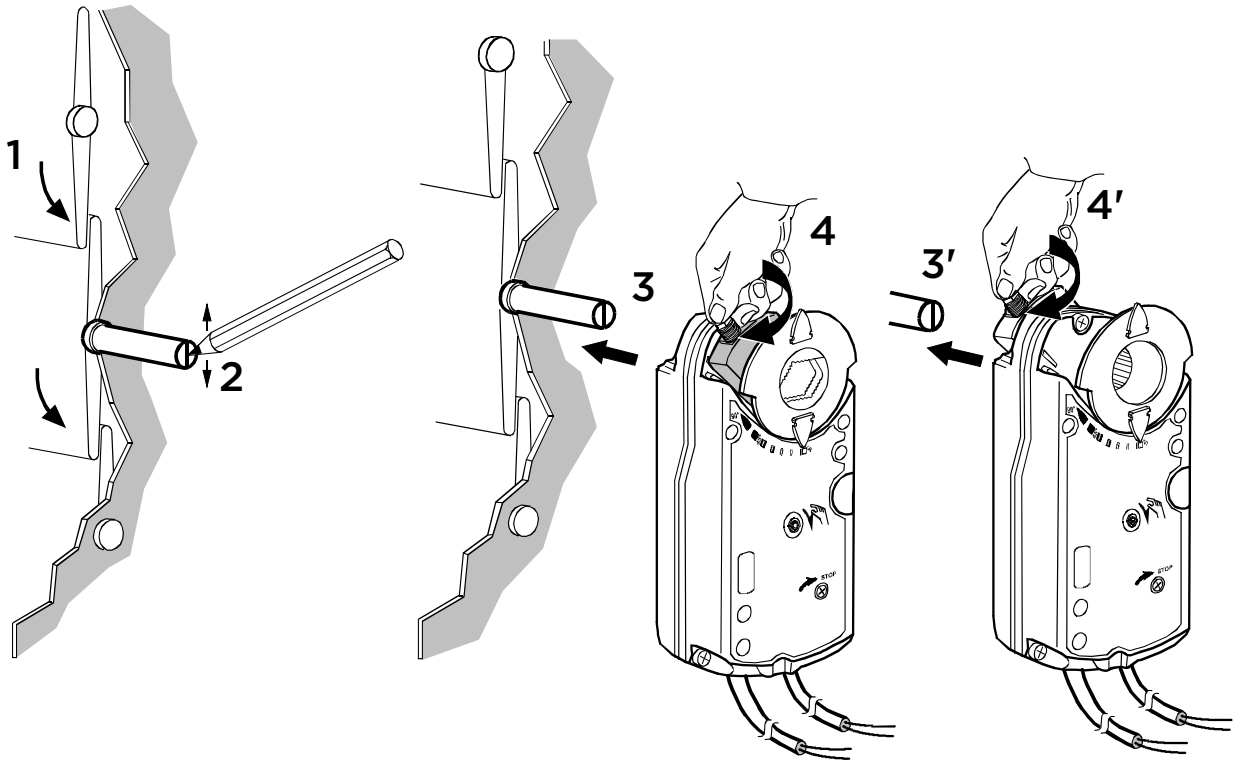
Mechanical Range Adjustment

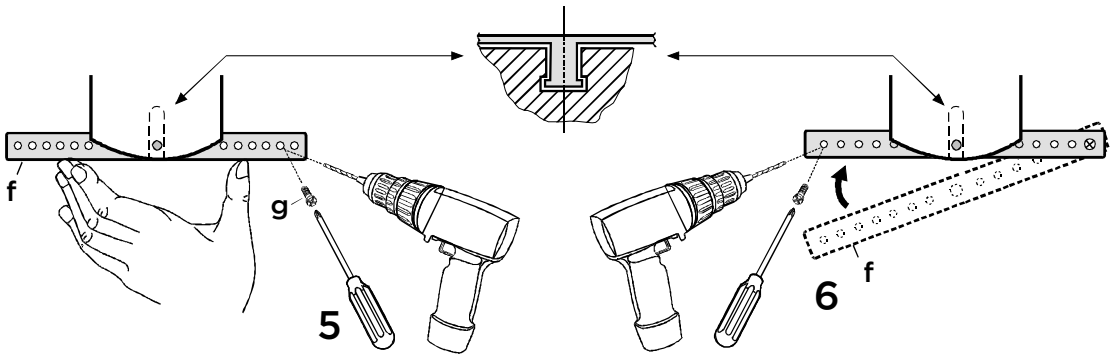


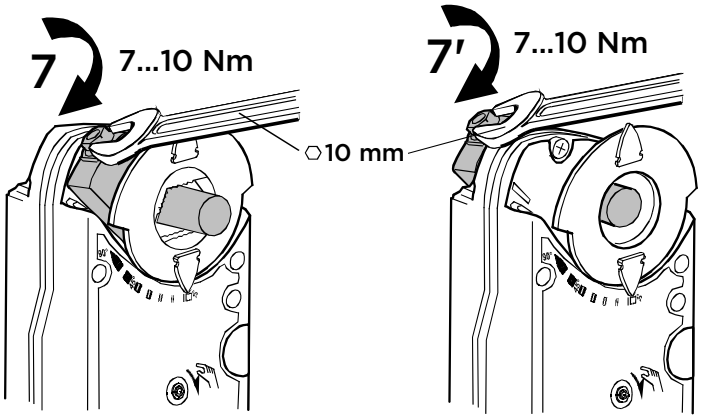
The angular rotation is adjustable between 0 and 90° at 5-degree intervals.
To limit the range of shaft movement:

1. Remove the locking clip and self-adjusting shaft adapter.
2. Rotate the damper blade shaft to its failed position.
3. Rotate the shaft coupling to the desired position.
4. Insert the shaft adapter into the actuator and fasten it with the locking clip. See Figure 2.

Shaft Mounting

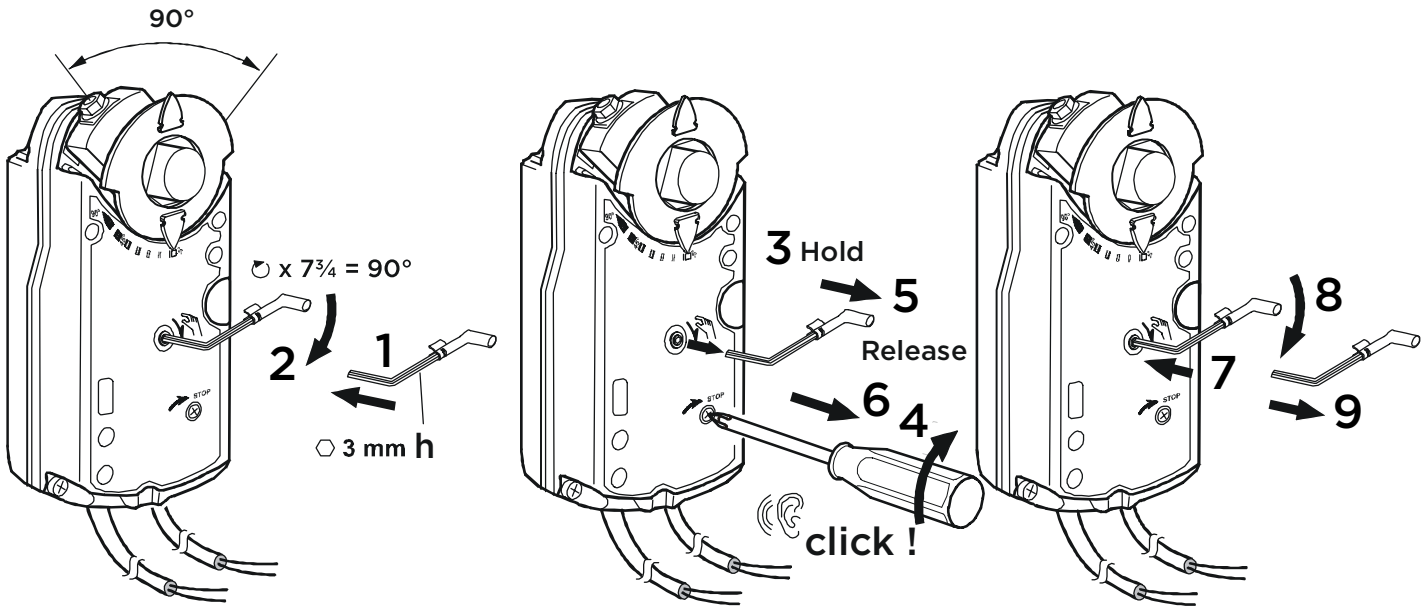






Manual Override

Rotating/Adjusting	Locking in Place	Releasing when power is absent



NOTE:
Always turn the key in the direction of the arrow.

CAUTION:
When engaging the gear train lock pin, carefully turn only about 5 degrees until you meet slight resistance. Turning too far will strip the lock pin.

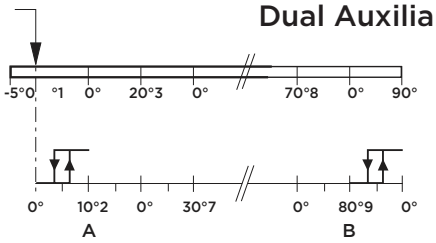
To Release Manual Override

Do one of the following:

- Restore power and send a control signal.
- When power is absent, do the following:
  1. Insert the 3 mm hex key in the override opening.
  2. Turn the key in the direction of the arrow.
  3. Remove the key.

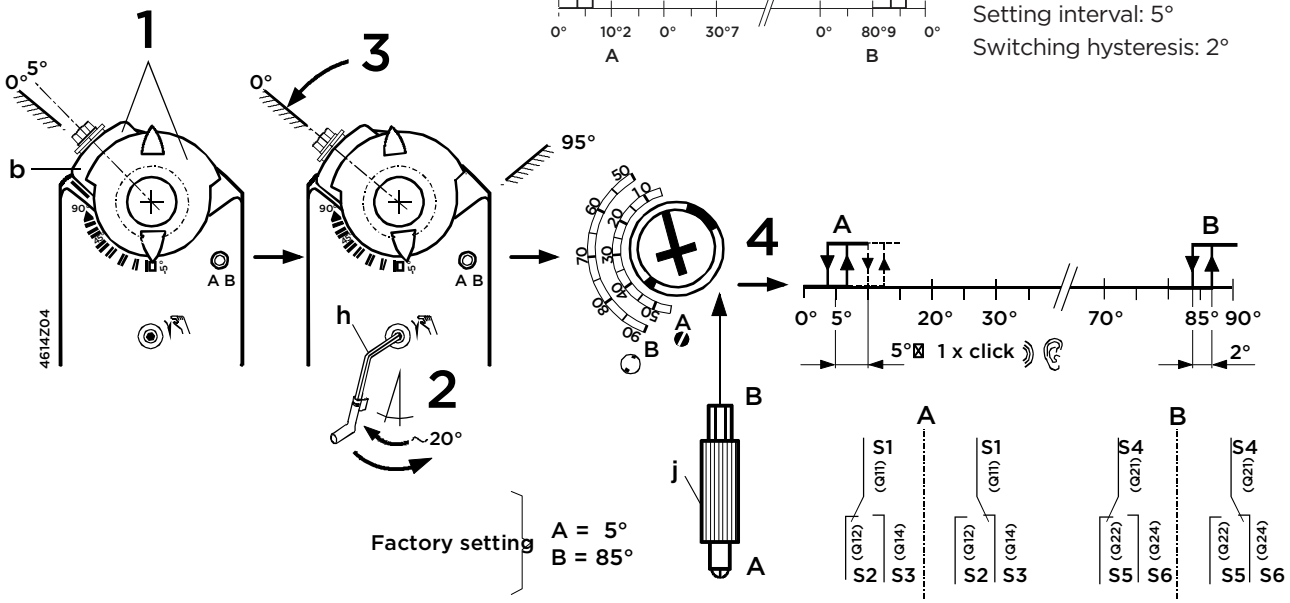
Manual Override
Setting: Auxiliary Switches A, B

Dual Auxiliary Switches



Actuator rotary range with the shaft adapter mounted at position "0".

Setting range for switches A and B
Setting interval: 5°
Switching hysteresis: 2°



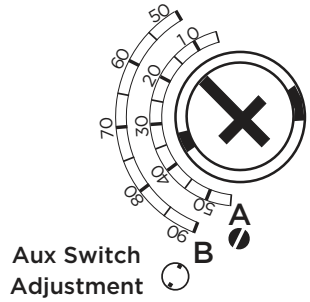
To change the settings of A and B

- Make sure the actuator is in the "0", fail safe position. The scale is valid only in the "0" position.
- Use the adjustment tool provided with the actuator to turn the switch adjustment dials to the desired setting at which a signal is to be given.

NOTE:
Use the long arm of the "†" to point to the position of Switch A. Use the narrower tab on the red ring to point to the position of Switch B

Factory Setting

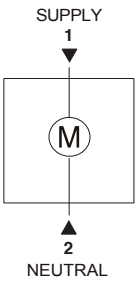
Switch A = 5° **Switch B = 85°**



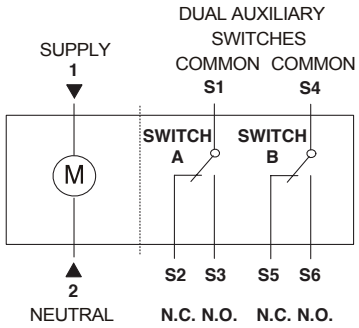
Adjustable Switching Values for the Dual Auxiliary Switches.

Wiring

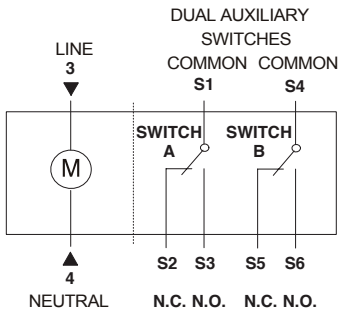
DCS24-62-(P)
CABLE
On/Off



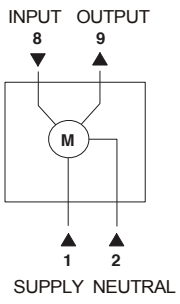
DCS24-62-(A), (AP)
CABLE
On/Off with AUX Switches



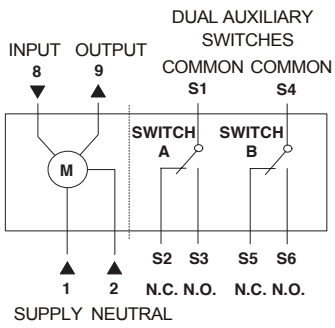
DCS120-62-(A)
CABLE
120 V On/Off with AUX Switches



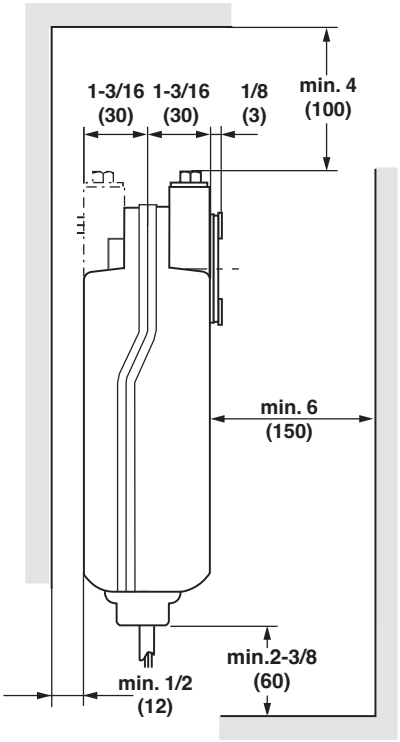
DCMS24-62-(P)
CABLE
Modulating

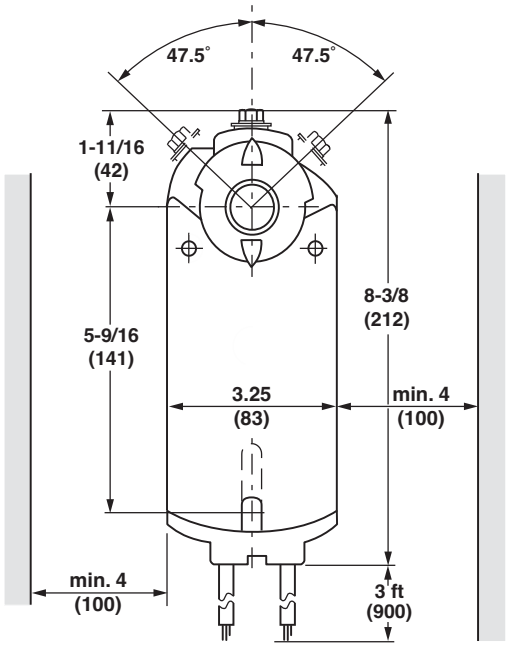


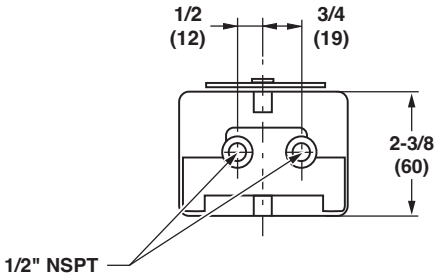
DCMS24-62-(A)
CABLE
Modulating with AUX Switches



Dimensions


1-3/16
(30)
1-3/16
(30)
1/8
(3)
min. 4
(100)
min. 6
(150)
min. 1/2
(12)
min.2-3/8
(60)


47.5°
47.5°
1-11/16
(42)
5-9/16
(141)
8-3/8
(212)
3.25
(83)
min. 4
(100)
min. 4
(100)
3 ft
(900)


1/2
(12)
3/4
(19)
2-3/8
(60)
1/2" NSPT