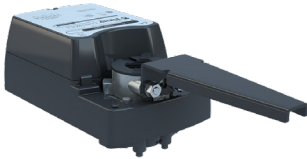
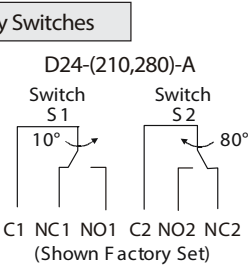
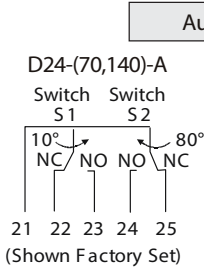
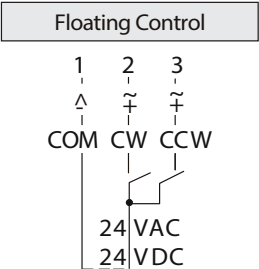
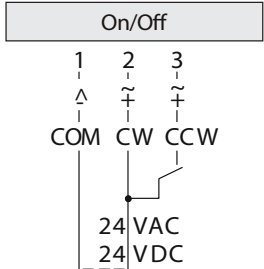


Non-Spring Return Commercial Actuators - D24-70, 140, 210, 280 Series



Technical Specifications - D24-70, 140, 210, 280 Series Actuator					
Type	Actuator Models	D24-70-(A)	D24-140-(A)	D24-210-(A)	D24-280-(A)
		Non-Spring Return - On/Off or Floating with optional Auxillary Switches (-A)			
	Torque	70 lb-in. (8 Nm)	140 lb-in. (16 Nm)	210 lb-in. (24 Nm)	280 lb-in. (32 Nm)
Electrical	Operating Voltage	24 VAC (20 to 30 V) at 50/60 Hz or VDC 24 V ±10%;		24 VAC (20 to 30 V) at 50/60 Hz or VDC 24 V ±10%;	
	Power Consumption	6.5 VA supply minimum		7.5 VA supply minimum	
	Input Signal	24 VAC +25%/-20% at 50/60 Hz, or DC 24 V			
	Input Signal Adjustments	Factory Setting, Terminals 1 and 2, CW rotation; Terminals 1 and 3, CCW rotation			
	Auxillary Switch Rating	Auxillary Switches (-A) - Two Single-Pole, Double-Throw (SPDT) switches rated at 24 VAC 1.5 A inductive, 3.0 A resistive, 35 VA maximum per switch, Class 2			
	Equipment Rating	Class 2 or Safety Extra-Low Voltage (SELV)			
	Electrical Connection	Screw terminals for 22 to 14 AWG; maximum of two 18, 20, or 22 AWG per terminal		1/4 in. spade terminals with pluggable 3-terminal blocks	
Operation	Manual Override	External Push Button			
	Time Out Feature	Electronic stall detection ensures higher reliability by deactivating the actuator motor when a stall condition is detected			
	Runtime for 90° of Rotation	30 seconds at 50% rated load, 25 to 50 seconds for 0 to 70 lb-in (0 to 8 N-m)	80 seconds at 50% rated load, 70 to 115 seconds for 0 to 140 lb-in (0 to 16 N-m)	130 seconds at 50% rated load, 115 to 175 seconds for 0 to 210 lb-in (0 to 24 N-m)	140 seconds at 50% rated load, 115 to 205 seconds for 0 to 280 lb-in (0 to 32 N-m)
	Rotation Range	0 to 90° in 5-degree increments, mechanically limited to 93° Rotation range is adjusted by repositioning the output hub			
	Cycle Life	60,000 cycles at rated load			30,000 cycles at rated load
Environmental	Mechanical Connections	Round Shafts - 3/8 to 3/4 in. (10 to 20 mm) diameter Square Shafts - 3/8 to 5/8 in. (10 to 16 mm), 1 in. (25.4 mm) diameter jackshaft with M9000-154 coupler			
	Enclosure	NEMA 2 (IP42)			
	Ambient Conditions (Non-Condensing)	Operating — -4 to 122°F (-20 to 50°C); 95% RH Max. Storage — -20 to 186°F (-29 to 86°C); 95% RH Max.			
	Audible Noise Rating	45 dBA at 39-13/32 in. (1 meter)			
	Dimensions	7.09 x 3.94 x 2.54 in. (180 x 100 x 64.5 mm)			
	Weight	2.9 lb (1.3 kg)			
Conditions	Agency Certifications	United States/Canada - UL 873 Listed, File E27734, CCN XAPX			Canada - CSA C22.2 No. 139 Certified, File LR85083, Class 3221 02
		Europe - CE Mark - Declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC.			
		Australia/New Zealand - C-Tick Mark Australia/NZ Emissions Compliant			
Warranty	5 Years limited from time of shipment.				

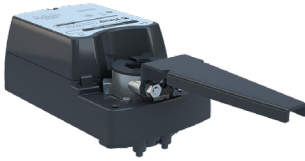
D24-70, 140, 210, 280 TERMINAL BLOCK



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.

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.

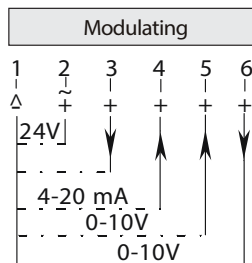
Non-Spring Return Commercial Actuators - DM24-70, 140, 210, 280 Series



Technical Specifications - DM24-70, 140, 210, 280 Series Actuator						
Type	Actuator Models	DM24-70-(A)	DM24-140-(A)	DM24-210-(A)	DM24-280-(A)	
	Non-Spring Return - Modulating with optional Auxillary Switches (-A)					
	Torque	70 lb-in. (8 Nm)	140 lb-in. (16 Nm)	210 lb-in. (24 Nm)	280 lb-in. (32 Nm)	
Electrical	Operating Voltage	24 VAC (20 to 30 V) at 50/60 Hz or VDC 24 V ±10%;		24 VAC (20 to 30 V) at 50/60 Hz or VDC 24 V ±10%;		
	Power Consumption	6.5 VA supply minimum		7.5 VA supply minimum		
	Input Signal	DC 0 (2) to 10 V, DC 0 (4) to 20 V, or DC 0 (4) to 20 mA				
	Input Signal Adjustments	Factory Setting - 0 to 10 VDC, 0 to 20 mA, CW rotation with signal increase Jumper Selectable - 0 (2) to 10 VDC, 0 (4) to 20 VDC, or 0 (4) to 20 mA Action is jumper selectable Direct (CW) or Reverse (CCW) with signal increase.				
	Input Impedance	Voltage Input - 205,000 ohms for 0 (2) to 10 V and 410,000 ohms for 0 (4) to 20 V Current Input - 500 Ohms				
	Feedback Signal	0 to 10 VDC or 2 to 10 VDC for 90° (10 VDC at 1 mA) Corresponds to input signal span selection.				
	Auxillary Switch Rating	Auxillary Switches (-A) - Two Single-Pole, Double-Throw (SPDT) switches rated at 24 VAC 1.5 A inductive, 3.0 A resistive, 35 VA maximum per switch, Class 2				
	Equipment Rating	Class 2 or Safety Extra-Low Voltage (SELV)				
	Electrical Connection	Screw terminals for 22 to 14 AWG; maximum of two 18, 20, or 22 AWG per terminal		1/4 in. spade terminals with pluggable 3-terminal blocks		
	Operation	Manual Override	External Push Button			
Time Out Feature		Electronic stall detection ensures higher reliability by deactivating the actuator motor when a stall condition is detected				
Runtime for 90° of Rotation		30 seconds at 50% rated load, 25 to 50 seconds for 0 to 70 lb-in (0 to 8 N-m)	80 seconds at 50% rated load, 70 to 115 seconds for 0 to 140 lb-in (0 to 16 N-m)	130 seconds at 50% rated load, 115 to 175 seconds for 0 to 210 lb-in (0 to 24 N-m)	140 seconds at 50% rated load, 115 to 205 seconds for 0 to 280 lb-in (0 to 32 N-m)	
Rotation Range		0 to 90° in 5-degree increments, mechanically limited to 93° Rotation range is adjusted by repositioning the output hub				
Cycle Life		60,000 cycles at rated load			30,000 cycles at rated load	
Environmental	Mechanical Connections	Round Shafts - 3/8 to 3/4 in. (10 to 20 mm) diameter Square Shafts - 3/8 to 5/8 in. (10 to 16 mm), 1 in. (25.4 mm) diameter jackshaft with M9000-154 coupler				
	Enclosure	NEMA 2 (IP42)				
	Ambient Conditions (Non-Condensing)	Operating — -4 to 122°F (-20 to 50°C); 95% RH Max. Storage — -20 to 186°F (-29 to 86°C); 95% RH Max.				
	Audible Noise Rating	45 dBA at 39-13/32 in. (1 meter)				
	Dimensions	7.09 x 3.94 x 2.54 in. (180 x 100 x 64.5 mm)				
	Weight	2.9 lb (1.3 kg)				
Conditions	Agency Certifications	United States/Canada - UL 873 Listed, File E27734, CCN XAPX Canada - CSA C22.2 No. 139 Certified, File LR85083, Class 3221 02 Europe - CE Mark -Declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC.				
	Warranty	5 Years limited from time of shipment.				

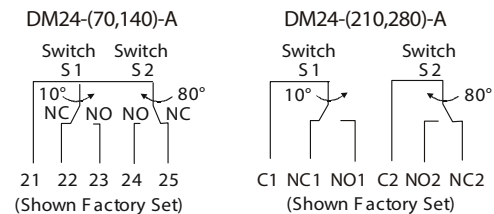
DM24-70, 140, 210, 280

TERMINAL BLOCK



- 1= Common
- 2= Power
- 3= Not Used
- 4= Current Input
- 5= Voltage Input
- 6= Feedback Output

Auxillary Switches



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.