

## D24-70-280 Series — Submittal/Technical Data

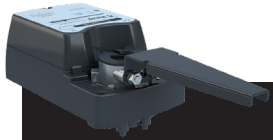
70, 140, 210, 280 lb-in. — Non-Spring Return — On/Off or Floating — Auxiliary Switches

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 Auxiliary Switches (-A)			
Electrical	Torque	70 lb-in. (8 Nm)	140 lb-in. (16 Nm)	210 lb-in. (24 Nm)	280 lb-in. (32 Nm)
	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	Auxiliary Switches (-A) - 24 VAC +25%/-20% at 50/60 Hz, or DC 24 V			
	Input Signal Adjustments	Auxiliary Switches (-A) - Factory Setting, Terminals 1 and 2, CW rotation; Terminals 1 and 3, CCW rotation			
	Auxiliary Switch Rating	Auxiliary 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
	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			
Environmental	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.			

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.



## DM24-70-280 Series — Submittal/Technical Data

70, 140, 210, 280 lb-in. — Non-Spring Return — Modulating — Auxiliary Switches

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 Auxiliary Switches (-A)			
Electrical	Torque	70 lb-in. (8 Nm)	140 lb-in. (16 Nm)	210 lb-in. (24 Nm)	280 lb-in. (32 Nm)
	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	Auxiliary Switches (-A) - 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.			
	Auxiliary Switch Rating	Auxiliary 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)			
Conditions	Weight	2.9 lb (1.3 kg)			
	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.			

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).

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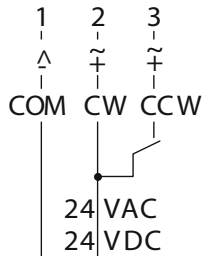
# D(M)24-70-280 Series — Submittal/Technical Data

## Wiring

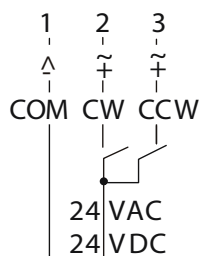
**D24-70, 140, 210, 280**

TERMINAL BLOCK

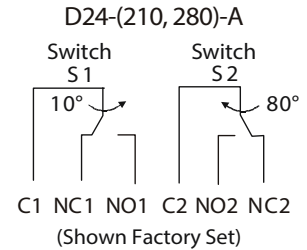
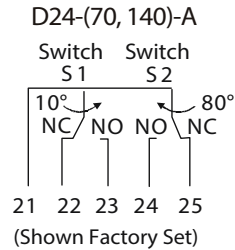
### On/Off



### Floating Control



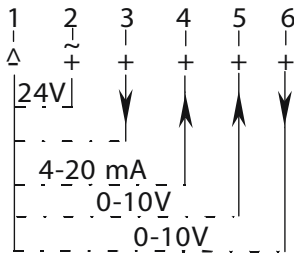
### Auxiliary Switches



**DM24-70, 140, 210, 280**

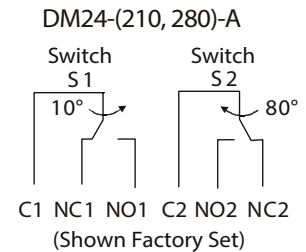
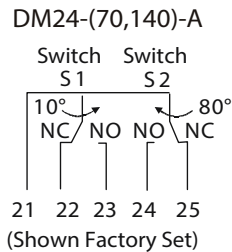
TERMINAL BLOCK

### Modulating



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

### Auxiliary Switches



## Dimensions

