

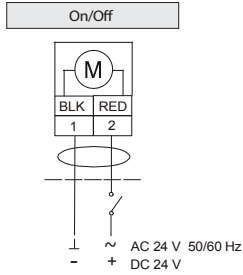
D(M)S-180 Series – Submittal/Technical Data

177 lb-in. – Spring Return – On/Off, Floating & Modulating – Auxiliary Switches

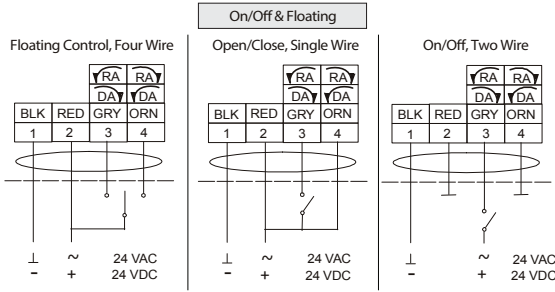
Technical Specifications - D(M)S-180 Series Actuator						
Type	Actuator Models	DS24-180-(A)	DS24-180-T-(A)	DMS24-180-(A)	DS120-180-(A)	
			Spring Return On/Off Opt. Auxiliary Switches (-A)	Spring Return On/Off & Floating Opt. Auxiliary Switches (-A)	Spring Return Modulating Opt. Auxiliary Switches (-A)	Spring Return On/Off Opt. Auxiliary Switches (-A)
	Torque	177 lb-in. (20 Nm)				
	Operating Voltage	24 VAC (19.2 to 30 V) at 50/60 Hz 24 VDC (21.6 to 26.4 V)			AC 120 V (102 to 132 V) at 60 Hz	
	Power Consumption	AC 24 V (19.2 to 30 V) at 50/60 Hz: Class 2, 24.6 VA running, 7.7 VA holding position; DC 24 V (21.6 to 26.4 V): Class 2, 17.6 W running, 2.8 W holding position	AC 24 V (19.2 to 30 V) at 50/60 Hz: Class 2, 15.5 VA running, 7.7 VA holding position; DC 24 V (21.6 to 26.4 V): Class 2, 6.7 W Running, 2.9 W holding position		AC 120 V (AC 102 to 132 V) at 60 Hz: 0.25 A running, 0.13 A holding position	
	Input Signal Adjustments	N/A	AC 19.2 to 30 V at 50/60 Hz or DC 24 V ±10%, Class 2; Switch selectable direct or reverse action with signal increase	Factory Set DC 0 to 10 V, CW Rotation with signal increase; Selectable DC 0 (2) to 10 V or 0 (4) to 20 mA with field furnished 500 Ohm, 0.25 W minimum resistor; switch selectable direct or reverse action with signal increase	N/A	
Electrical	Min. Transformer Size	25 VA per Actuator		20 VA per Actuator		
	Control Input Impedance	N/A		Voltage Input: 100,000 Ohms; Current Input: 500 Ohms with field furnished 500 ohm resistor		
	Feedback Signal	N/A		0 (2) to 10 VDC for desired rotation range up to 90°; Corresponds to rotation limits, 1 mA maximum		
	Auxiliary Switch Rating (-A Models Only)	Two Single-Pole, Double-Throw (SPDT), Double-Insulated Switches with Gold Flash Contacts:				AC 120 V, 5.8 A Resistive, 1/4 hp, 275 VA Pilot Duty
	Equipment Rating	AC 24 V, 50 VA Pilot Duty				N/A
	Transformer Sizing	25 VA Minimum per Actuator	20 VA Minimum per Actuator		25 VA Minimum per Actuator	
Electrical Connection	48 in. (1.2 m) Halogen-Free Cable with 18 AWG (0.75 mm ²) Wire Leads					
Conduit Connections	Integral Connectors for 3/8 in. Flexible Metal Conduit					
Manual Override	Manual override crank					
Spring Return	Direction is Selectable with Mounting Position of Actuator Side A - Actuator Face Away for CCW Spring Return Side B - Actuator Face Away for CW Spring Return					
Rotation Range	Adjustable from 30 to 90° CW or CCW with Optional Adjustable Stop Kit; Mechanically Limited to 90°					
Runtime for 90° of Rotation	Power On (Running) 24 to 57 Sec. for 0 to 177 lb-in (0 to 20 N-m) at All Operating Conditions; 35 Sec. Nominal at Full Rated Load Power Off (Returning) 11 to 15 Sec. for 0 to 177 lb-in (0 to 20 N-m) at Room Temperature; 35 Sec. Maximum for 0 to 177 lb-in (0 to 20 N-m) at -22°F (-30°C) 130 Seconds Maximum for 0 to 177 lb-in (0 to 20 N-m) at -40°F (-40°C)	Power On (Running) 150 Sec. for 0 to 177 lb-in (0 to 20 N-m) at All Operat- ing Conditions; Independent of Load Power Off (Returning) 20 Sec. for 0 to 177 lb-in (0 to 20 N-m) at Room Temperature			Power On (Running) 24 to 57 Sec. for 0 to 177 lb-in (0 to 20 N-m) at All Operating Conditions; 35 Sec. Nominal at Full Rated Load Power Off (Returning) 11 to 15 Sec. for 0 to 177 lb-in (0 to 20 N-m) at Room Temperature; 35 Sec. Maximum for 0 to 177 lb-in (0 to 20 N-m) at -22°F (-30°C) 130 Sec. Maximum for 0 to 177 lb-in (0 to 20 N-m) at -40°F (-40°C)	
Electric Stall Detection	Protects from overload at all angles of rotation					
Cycle Life	60,000 Full stroke cycles (1,500,000 repositions)					
Mechanical Connections	Round Shafts - 1/2 to 3/4 in. or 12 to 19 mm Square Shafts - 3/8 and 1/2 in. or 10, 12, and 14 mm					
Ambient Conditions (Non-Condensing)	Operating — 40 to 131°F (-40 to 55°C); 90% RH Maximum, Noncondensing Storage — 85 to 185°F (-65 to 85°C); 95% RH Maximum, Noncondensing					
Audible Noise Rating	Running < 66 dBA at 39-13/32 in. (1 m) Holding < 18 dBA at 39-13/32 in. (1 m) Returning < 66 dBA at 39-13/32 in. (1 m)	Running < 40 dBA at 39-13/32 in. (1 m) Holding < 20 dBA at 39-13/32 in. (1 m) Returning < 55 dBA at 39-13/32 in. (1 m)			Running < 66 dBA at 39-13/32 in. (1 m) Holding < 18 dBA at 39-13/32 in. (1 m) Returning < 66 dBA at 39-13/32 in. (1 m)	
Dimensions	10" (L) x 4" (W) x 3-3/16" (H)					
Weight	6.4 lb (2.9 kg)			7.6 lb (3.5 kg)		
Agency Certifications	UL Listed, CCN XAPX, File E27734; to UL 60730-1, Automatic Controls for Household and Similar Use: and UL 60730-2-14 Part 2, Particular Requirements for Electric Actuators. UL Listed, CCN XAPX7, File E27734; to CAN/CSA E60730-1, Automatic Controls for Household and Similar Use: and CAN/CSA E60730-2-14 Part 2, Particular Requirements for Electric Actuators CE Mark - Johnson Controls, Inc. declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive and Low Voltage Directive. RCM Mark, Australia/NZ Emissions Compliant					
Warranty	5 Years limited from time of shipment.					

Wiring

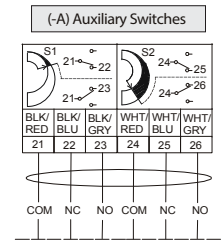
DS24-180-(A)
STANDARD CABLE



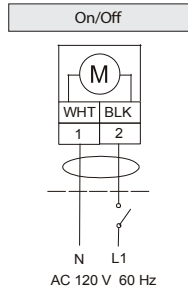
DS24-180-T(A)
STANDARD CABLE



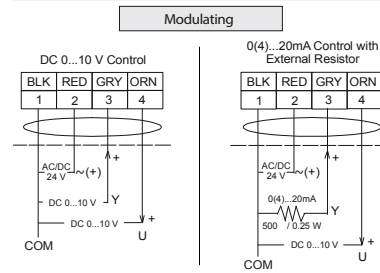
-(A)
AUXILIARY SWITCH WIRING



DS120-180-(A)
STANDARD CABLE



DMS24-180-(A)
STANDARD CABLE



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.

Dimensions

