





HVAC CONTROL PRODUCTS – NORTH AMERICA

# Direct mount actuators selection guide summary







# Non-Spring Return Actuator Product Range

		Rotation Time 90°	Power Requirements			Power Consumption		Input Signal				Position Feedback			Auxiliary Switches	Electrical Connection							
			24 VAC +25%/-20%, Class 2, SELV	24 VAC +25%/-15%, Class 2, SELV	24 VAC +25%/-15%, VDC +/- 10%	VA Rating, Transformer Sizing	VA: Running (Holding)	Floating Point without Timeout	On/Off and Floating Point	Resistive 100 to 10,000 Ω	0(2) to 10 VDC	0(4) to 20 mA (w/500Ω Resistor)	Adjustable Start and Span: Start: 0 to 10 VDC, Span 2 to 10 VDC	Resistive 135 Ω Potentiometer	Resistive 1,000 Ω Potentiometer	Resistive 10,000 Ω Potentiometer	0(2) to 10 VDC	2 SPDT, 3.0 A (1.5 A Inductive) @ 24 VAC	48 in. (1.2 m) 19 AWG Plenum Cable	Screw Terminals	¼" Spade Terminals	¼" Spade Terminals w/Pluggable Terminal Block	½" conduit connectors
 <p><b>M9102 Series</b> 18 in-lb (2) Nm and <b>M9104 Series</b> 35 in-lb (4) Nm</p>	M9102-AGA-2S	30	■			2.1	2.1 (0)	■									■						
	M9102-AGA-3S	30	■			2.1	2.1 (0)	■										■					
	M9102-IGA-2S	30	■			2.6	2.6 (0.4)		■									■					
	M9102-IGA-3S	30	■			2.6	2.6 (0.4)		■										■				
	M9104-AGA-2S	60	■			2.1	2.1 (0)	■										■					
	M9104-AGA-3S	60	■			2.1	2.1 (0)	■											■				
	M9104-IGA-2S	60	■			3.0	3.0 (0.4)		■										■				
	M9104-IGA-3S	60	■			3.0	3.0 (0.4)		■											■			
	M9104-GGA-2S	60	■			3.6	3.6 (1.0)				■				■				■				
M9104-GGA-3S	60	■			3.6	3.6 (1.0)				■									■				
 <p><b>M9104-AGx-2N0x Series</b> 35 in-lb (6 Nm) and <b>M9106-AGx-2N0x Series</b> VAV Systems 53 in-lb (6 Nm)</p>	M9104-AGA-2N	90		■		2.1	2.1 (0)	■											■				
	M9104-AGS-2N*	90		■		2.1	2.1 (0)	■												■			
	M9106-AGA-2N01	60		■		2.5	2.5 (0)	■												■			
	M9106-AGA-2N02	120		■		2.1	2.1 (0)	■												■			
	M9106-AGS-2N02*	120		■		2.1	2.1 (0)	■													■		
 <p><b>M9106 Series</b> 53 in-lb (6 Nm)</p>	M9106-AGA-2	60		■		2.5	2.5 (0)	■												■		■	
	M9106-AGC-2	60		■		2.5	2.5 (0)	■						■						■		■	
	M9106-AGF-2	60		■		2.5	2.5 (0)	■					■							■		■	
	M9106-IGA-2	60▲		■		2.8	2.8 (0.5)		■												■	■	
	M9106-IGC-2	60▲		■		2.8	2.8 (0.5)		■												■	■	
	M9106-GGA-2	60		■		3.2	3.2 (0.5)				■				■						■	■	
	M9106-GGC-2	60		■		3.2	3.2 (0.5)				■				■						■	■	
 <p><b>M9109 Series</b> 80 in-lb (9 Nm)</p>	M9109-AGA-2	60		■		2.5	2.5 (0)	■												■		■	
	M9109-AGC-2	60		■		2.5	2.5 (0)	■													■		■
	M9109-GGA-2	60		■		3.2	3.2 (0.5)				■				■						■		■
	M9109-GGC-2	60		■		3.2	3.2 (0.5)				■				■						■		■





▲ Factory Set for 60 seconds, User selectable for 90, 120, 330, and 660 seconds.

# Non-Spring Return Actuator Product Range

(continued)

		Rotation Time 90°	Power Requirements			Power Consumption		Input Signal				Position Feedback		Auxiliary Switches	Electrical Connection							
		Power On - Running (seconds)	24 VAC +25%/-20%, Class 2, SELV	24 VAC +25%/-15%, Class 2, SELV	24 VAC +25%/-15%, VDC +/- 10%	VA Rating, Transformer Sizing	VA: Running (Holding)	Floating Point without Timeout	On/Off and Floating Point	Resistive 100 to 10,000 Ω	0(2) to 10 VDC 0(4) to 20 mA (w/500Ω Resistor)	Adjustable Start and Span: Start: 0 to 10 VDC, Span 2 to 10 VDC	Resistive 135 Ω Potentiometer	Resistive 1,000 Ω Potentiometer	Resistive 10,000 Ω Potentiometer	0(2) to 10 VDC	2 SPDT, 3.0 A (1.5 A Inductive) @ 24 VAC	48 in. (1.2 m) 19 AWG Plenum Cable	Screw Terminals	¼" Spade Terminals	¼" Spade Terminals w/Pluggable Terminal Block	½" conduit connectors
 <p><b>M9108 Series</b> 70 in-lb (8 Nm)</p>	M9108-AGA-2	25 to 50			■	6.5	6.5 (0.9)		■										■			■
	M9108-AGC-2	25 to 50			■	6.5	6.5 (0.9)		■								■		■			■
	M9108-AGD-2	25 to 50			■	6.5	6.5 (0.9)		■				■						■			■
	M9108-AGE-2	25 to 50			■	6.5	6.5 (0.9)		■				■						■			■
	M9108-GGA-2	25 to 50			■	7.1	7.1 (1.5)			■					■				■			■
	M9108-GGC-2	25 to 50			■	7.1	7.1 (1.5)			■					■				■			■
	M9108-HGA-2	25 to 50			■	7.4	7.4 (1.8)				■				■				■			■
	M9108-HGC-2	25 to 50			■	7.4	7.4 (1.8)				■				■				■			■
	M9108-JGA-2	25 to 50			■	7.1	7.1 (1.5)			■					■				■			■
M9108-JGC-2	25 to 50			■	7.1	7.1 (1.5)			■					■				■			■	
 <p><b>M9116 Series</b> 140 in-lb (16 Nm)</p>	M9116-AGA-2	70 to 115			■	5.8	5.8 (0.9)		■										■			■
	M9116-AGC-2	70 to 115			■	5.8	5.8 (0.9)		■										■			■
	M9116-AGD-2	70 to 115			■	5.8	5.8 (0.9)		■				■						■			■
	M9116-AGE-2	70 to 115			■	5.8	5.8 (0.9)		■				■						■			■
	M9116-GGA-2	70 to 115			■	6.4	6.4 (1.5)			■					■				■			■
	M9116-GGC-2	70 to 115			■	6.4	6.4 (1.5)			■					■				■			■
	M9116-HGA-2	70 to 115			■	6.7	6.7 (1.8)				■				■				■			■
	M9116-HGC-2	70 to 115			■	6.7	6.7 (1.8)				■				■				■			■
	M9116-JGA-2	70 to 115			■	6.4	6.4 (1.5)			■					■				■			■
M9116-JGC-2	70 to 115			■	6.4	6.4 (1.5)			■					■				■			■	
 <p><b>M9124 Series</b> 210 in-lb (24 Nm)</p>	M9124-AGA-2	115 to 175			■	5.9	5.9 (1.5)		■										■			■
	M9124-AGC-2	115 to 175			■	5.9	5.9 (1.5)		■										■			■
	M9124-AGD-2	115 to 175			■	5.9	5.9 (1.5)		■				■						■			■
	M9124-AGE-2	115 to 175			■	5.9	5.9 (1.5)		■				■						■			■
	M9124-GGA-2	115 to 175			■	5.9	5.9 (1.5)			■					■				■			■
	M9124-GGC-2	115 to 175			■	5.9	5.9 (1.5)			■					■				■			■
	M9124-HGA-2	115 to 175			■	6.2	6.2 (1.8)				■				■				■			■
	M9124-HGC-2	115 to 175			■	6.2	6.2 (1.8)				■				■				■			■
	M9124-JGA-2	115 to 175			■	5.9	5.9 (1.5)			■					■				■			■
	M9124-JGC-2	115 to 175			■	5.9	5.9 (1.5)			■					■				■			■
 <p><b>M9132 Series</b> 280 in-lb (32 Nm)</p>	M9132-AGA-2	115 to 205			■	6.5	6.5 (1.5)		■										■			■
	M9132-AGC-2	115 to 205			■	6.5	6.5 (1.5)		■										■			■
	M9132-AGE-2	115 to 205			■	6.5	6.5 (1.5)		■				■						■			■
	M9132-GGA-2	115 to 205			■	6.5	6.5 (1.5)			■					■				■			■
	M9132-GGC-2	115 to 205			■	6.5	6.5 (1.5)			■					■				■			■

# Spring Return Actuator Product Range

		Rotation Time for 90°		Power Requirements				Power Consumption		Input Signal			Position Feedback	Auxiliary Switches		Electrical Connection								
		Power On - Running (seconds)	Power Off - Spring Return (seconds)	24 VAC +/- 25%, VDC +/- 10%	24 VAC +/- 20%, VDC +/- 10%	120 VAC +10%/-15% at 60 Hz	198 to 264 VAC at 50/60 Hz	85 to 264 VAC at 50/60 Hz	VA Rating, Transformer Sizing	VA: Running (Holding)	Amperage: Running (Holding)	On/Off	On/Off and Floating Point	0(2) to 10 VDC 0(4) to 20 mA (w/500Ω Resistor)	Adjustable Start and Span: Start: 0 to 10 VDC, Span 2 to 10 VDC	0(2) to 10 VDC	1 SPDT, 5.0 A (2.9 A Inductive) @ 240V	2 SPDT, 5.0 A (2.9 A Inductive) @ 240V	48 in. (1.2 m) 18 AWG Appliance Cable	120 in. (3.05 m) 19 AWG Plenum Cable	1/2" conduit connectors	Integral 3/8" FMC Connectors		
 <p><b>M9203 Series</b> 27 in-lb (3 Nm)</p>	M9203-AGA-2	150	<25		■			6	4.7 (2.7)			■									■	■		
	M9203-AGB-2	150	<25		■			6	4.7 (2.7)			■					■					■		
	M9203-AGA-2Z	90	<25		■			6	5.1 (2.8)			■										■		
	M9203-AGB-2Z	90	<25		■			6	5.1 (2.8)			■										■		
	M9203-BGA-2	<75	<25		■			6	5.0 (2.5)			■										■		
	M9203-BGB-2	<75	<25		■			6	5.0 (2.5)			■										■		
	M9203-BUA-2	<75	<25					■		.06 (.02)		■										■		
	M9203-BUB-2	<75	<25					■		.06 (.02)		■										■		
	M9203-BUA-2Z	<30	<25					■		.08 (.02)		■										■		
	M9203-BUB-2Z	<30	<25					■		.08 (.02)		■										■		
	M9203-GGA-2	150	<25		■				6	4.7 (2.7)				■								■		
	M9203-GGB-2	150	<25		■				6	4.7 (2.7)				■								■		
	M9203-GGA-2Z	90	<25		■				6	5.1 (2.8)				■								■		
M9203-GGB-2Z	90	<25		■				6	5.1 (2.8)				■								■			
 <p><b>M9208 Series</b> 70 in-lb (8 Nm)</p>	M9208-AGA-2	150	18 to 24▲		■			8	7.9 (5.5)			■										■		
	M9208-AGA-3	150	18 to 24▲		■			8	7.9 (5.5)			■											■	
	M9208-AGC-3	150	18 to 24▲		■			8	7.9 (5.5)			■											■	
	M9208-BGA-3	<75	13 to 26†	■				7	6.1 (1.2)			■											■	
	M9208-BGC-3	<75	13 to 26†	■				7	6.1 (1.2)			■											■	
	M9208-BAA-3	<75	13 to 26†			■				.05 (.03)		■											■	
	M9208-BAC-3	<75	13 to 26†			■				.05 (.03)		■											■	
	M9208-BDA-3	<75	13 to 26†				■			.04 (.03)		■											■	
	M9208-BDC-3	<75	13 to 26†				■			.04 (.03)		■											■	
	M9208-GGA-2	150	18 to 24▲		■				8	7.9 (5.5)				■									■	
	M9208-GGA-3	150	18 to 24▲		■				8	7.9 (5.5)				■									■	
	M9208-GGC-3	150	18 to 24▲		■				8	7.9 (5.5)				■									■	
	 <p><b>M9210 Series</b> 89 in-lb (10 Nm)</p>	M9210-AGA-3	150	26		■			15	9.6 (6.0)			■										■	
M9210-AGC-3		150	26		■			15	9.6 (6.0)			■											■	
M9210-BGA-3		24 to 57	11 to 15 ‡		■			25	17.7 (5.1)			■											■	
M9210-BGC-3		24 to 57	11 to 15 ‡		■			25	17.7 (5.1)			■											■	
M9210-BAA-3		24 to 57	11 to 15 ‡			■		25		.25 (.13)		■											■	
M9210-BAC-3		24 to 57	11 to 15 ‡			■		25		.25 (.13)		■											■	
M9210-BDA-3		24 to 57	11 to 15 ‡				■	25		.15 (.09)		■											■	
M9210-BDC-3		24 to 57	11 to 15 ‡				■	25		.15 (.09)		■											■	
M9210-GGA-3		150	26		■			15	9.6 (6.0)				■										■	
M9210-GGC-3		150	26		■			15	9.6 (6.0)				■										■	
M9210-HGA-3		150	26		■			15	9.6 (6.0)					■									■	
M9210-HGC-3		150	26		■			15	9.6 (6.0)					■									■	
 <p><b>M9220 Series</b> 177 in-lb (20 Nm)</p>		M9220-AGA-3	150	20		■			20	15.5 (7.7)			■											■
	M9220-AGC-3	150	20		■			20	15.5 (7.7)			■												■
	M9220-BGA-3	24 to 57	11 to 15 ‡		■			25	24.6 (7.7)			■												■
	M9220-BGC-3	24 to 57	11 to 15 ‡		■			25	24.6 (7.7)			■												■
	M9220-BAA-3	24 to 57	11 to 15 ‡			■		25		.25 (.13)		■												■
	M9220-BAC-3	24 to 57	11 to 15 ‡			■		25		.25 (.13)		■												■
	M9220-BDA-3	24 to 57	11 to 15 ‡				■	25		.15 (.09)		■												■
	M9220-BDC-3	24 to 57	11 to 15 ‡				■	25		.15 (.09)		■												■
	M9220-GGA-3	150	20		■			20	15.5 (7.7)				■											■
	M9220-GGC-3	150	20		■			20	15.5 (7.7)				■											■
	M9220-HGA-3	150	20		■			20	15.5 (7.7)					■										■
	M9220-HGC-3	150	20		■			20	15.5 (7.7)					■										■

▲ 22 seconds nominal @ room temp. and rated load, 94 seconds max. @ rated load and -40°F (-40°C)

† 21 seconds nominal @ room temp. and rated load, 39 seconds max. @ rated load and -4°F (-20°C), 108 seconds max. @ 53 lb-in. (6 Nm) and -40°F (-40°C).

‡ 13 seconds nominal @ room temp. and rated load, 35 seconds max. @ rated load and -22°F (-30°C), 130 seconds max. @ rated load and -40°F (-40°C).