

M9203-AGx-2(Z), M9203-GGx-2(Z), M9203-Bxx-2(Z)

M9203-xxx-2(Z) Series Electric Spring Return Actuators

Description

The M9203-xxx-2(Z) Series Electric Spring Return Actuators provide control of dampers in Heating, Ventilating, and Air Conditioning (HVAC) systems. All actuators in this series provide 27 lb-in (3 N-m) rated torque. A mechanical spring return system provides rated torque with and without power applied to the actuator. The series includes the following control options:

- On/Off, 24 V, 85 to 264 VAC power
- On/Off and Floating Point, 24 V power
- Proportional, 24 V power, for 0(2) to 10 VDC or 0(4) to 20 mA Control Signal

These actuators are configured for direct mounting and do not require a damper linkage. Actuators can be mounted directly to a damper shaft from 1/4 to 1/2 in. (6 to 12 mm) diameter with a universal clamp. An accessory crankarm and remote mounting kit are available for applications where the actuator cannot be direct-coupled to the damper shaft. An optional line voltage auxiliary switch indicates an end-stop position or performs switching functions within the selected rotation range.

Refer to the *M9203-xxx-2(Z) Series Electric Spring Return Actuators Product Bulletin (LIT-12011674)* for important product application information.

Features

- 27 lb-in. (3 N-m) rated torque
- direct-coupled design
- reversible mounting
- electronic stall detection
- double-insulated construction
- microprocessor-controlled brushless DC motor (-AGx and -GGx types)
- external mode selection switch (-AGx and -GGx types)
- integral cables with colored and numbered conductors
- integral 1/2 in. (13 mm) threaded conduit connectors
- optional integrated auxiliary switch
- plenum rated models
- override control (proportional models only)
- Underwriters Laboratories Inc.® (UL), CE, and C-Tick compliance
- manufactured under International Standards Organization (ISO) 9001 quality control standards
- 5-year warranty



M9203-xxx-2(Z) Series Electric Spring Return Actuator

Repair Information

If the M9203-xxx-2(Z) Series Electric Spring Return Actuator fails to operate within its specifications, replace the unit. For a replacement M9203-xxx-2(Z) actuator, contact the nearest Johnson Controls® representative.

Accessories and Replacement Parts (Order Separately)

| Code Number | Description |
|-------------------------|---|
| DMPR-KC003 ¹ | 7 in. (178 mm) Blade Pin Extension (without bracket) for Johnson Controls® Direct-Mount Damper Applications (quantity 1) |
| M9000-200 | Commissioning Tool that provides a control signal to drive 24 V On/Off, Floating, Proportional, and/or Resistive Electric Actuators (quantity 1) |
| M9000-321 | Weathershield Kit for Damper Application of M9203 and M9208 Series Electric Spring Return Actuators (quantity 1) |
| M9000-341 | Weathershield Kit for VG1000 Series Ball Valve application of M(VA)9104, M(VA)9203, and M(VA)9208 Series Electric Spring Return Actuators (quantity 1) |
| M9000-400 | Jackshaft Linkage Adapter Kit (quantity 1) |
| M9000-560 | Ball Valve Linkage Kit for applying M9104, M9203, and M9208 Series Electric Actuators to VG1000 Series Valves (quantity 1) |
| M9000-561 | Thermal Barrier Kit for M9000-560 Ball Valve Linkage. Extends M(VA)9104, M(VA)9203, and M(VA)9208 Series Electric Spring Return Actuators applications to include low pressure steam (quantity 1) |
| M9000-604 | Replacement Anti-Rotation Bracket Kit for M9203, M9208, M9210, and M9220 Series Electric Spring Return Actuators (quantity 1) |
| M9000-606 | Position Indicator for Damper Applications (quantity 5) |
| M9000-607 | Position Indicator for VG1000 Series Ball Valve Applications (quantity 5) |
| M9203-100 | Remote Mounting Kit with Crankarm Kit (quantity 1) |
| M9203-110 | Universal Mounting Kit without Crankarm Kit (quantity 1) |
| M9203-115 | Universal Mounting Kit with Crankarm Kit (quantity 1) |
| M9203-150 | Crankarm Kit (quantity 1) |
| M9203-250 | Remote Mounting Kit with Crankarm Kit and Damper Linkage for D1300 Dampers (quantity 1) |
| M9203-601 | Replacement Standard Coupler Kit (with Retainer) for Mounting M9203 Series Electric Spring Return Actuators (quantity 1) |
| M9203-602 | Replacement Retainer for M9203 Series Electric Spring Return Actuators (quantity 5) |
| M9203-603 | Adjustable Stop Kit for M9203 Series Electric Spring Return Actuators (quantity 1) |

1. Furnished with the damper and may be ordered separately.

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M9203-xxx-2(Z) Series Electric Spring Return Actuators (Continued)

Selection Chart

| Code Number | Rotation Time for 90° | | Power Requirements | | Power Consumption | | | Input Signal | | Position Feedback | Auxiliary Switch | Electrical Connection | | | | |
|--------------|------------------------------|-------------------------------------|----------------------------|---------------|-------------------------------|-----------------------|-----------------------------|--------------|---------------------------|-------------------|------------------|---|----------------|--|---------------------------------------|--------------------------------------|
| | Power On – Running (Seconds) | Power Off – Spring Return (Seconds) | 24 VAC +/- 20%, VDC +/-10% | 85 to 264 VAC | 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 (with 500 ohm Resistor) | 0(2) to 10 VDC | 1 SPDT, 5.0 A (2.9 A Inductive) at 240 V | 48 in. (1.2 m) 18 AWG Appliance Cable | 120 in. (3.05 m) 19 AWG Plenum Cable |
| M9203-AGA-2 | 150 | <25 | X | | 6 | 4.7 (2.7) | --- | | X | | | | | | X | X |
| M9203-AGB-2 | 150 | <25 | X | | 6 | 4.7 (2.7) | --- | | X | | | X | X | | X | X |
| M9203-AGA-2Z | 90 | <25 | X | | 6 | 5.1 (2.8) | --- | | X | | | | | X | X | X |
| M9203-AGB-2Z | 90 | <25 | X | | 6 | 5.1 (2.8) | --- | | X | | | X | X | | X | X |
| M9203-BGA-2 | <75 | <25 | X | | 6 | 5.0 (2.5) | --- | X | | | | | X | X | X | X |
| M9203-BGB-2 | <75 | <25 | X | | 6 | 5.0 (2.5) | --- | X | | | | X | X | X | X | X |
| M9203-BUA-2 | <75 | <25 | | X | | --- | .06 (.02) | X | | | | | | X | X | X |
| M9203-BUB-2 | <75 | <25 | | X | | --- | .06 (.02) | X | | | | X | X | | X | X |
| M9203-BUA-2Z | <30 | <25 | | X | | --- | .08 (.02) | X | | | | | | X | X | X |
| M9203-BUB-2Z | <30 | <25 | | X | | --- | .08 (.02) | X | | | | X | X | | X | X |
| M9203-GGA-2 | 150 | <25 | X | | 6 | 4.7 (2.7) | --- | | | X | X | | | | X | X |
| M9203-GGB-2 | 150 | <25 | X | | 6 | 4.7 (2.7) | --- | | | X | X | X | X | | X | X |
| M9203-GGA-2Z | 90 | <25 | X | | 6 | 5.1 (2.8) | --- | | | X | X | | | X | X | X |
| M9203-GGB-2Z | 90 | <25 | X | | 6 | 5.1 (2.8) | --- | | | X | X | X | X | | X | X |

Technical Specifications

| M9203-GGx-2(Z) Series Proportional Electric Spring Return Actuator (Part 1 of 2) | | |
|--|----------------|--|
| Power Requirements | -GGx-2 Models | AC 24 V (AC 19.2 V to 28.8 V) at 50/60 Hz: Class 2 (North America) or Safety Extra-Low Voltage (SELV) (Europe), 4.7 VA Running, 2.7 VA Holding Position DC 24 V (DC 21.6 V to 28.8 V): Class 2 (North America) or SELV (Europe), 1.8 W Running, 1 W Holding Position Minimum Transformer Size: 6 VA per Actuator |
| | -GGx-2Z Models | AC 24 V (AC 19.2 V to 28.8 V) at 50/60 Hz: Class 2 (North America) or Safety Extra-Low Voltage (SELV) (Europe), 5.1 VA Running, 2.8 VA Holding Position DC 24 V (DC 19.2 V to 28.8 V): Class 2 (North America) or SELV (Europe), 1.9 W Running, 1.1 W Holding Position Minimum Transformer Size: 6 VA per Actuator |
| Input Signal / Adjustments | | Factory Set at 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 |
| Control Input Impedance | | Voltage Input: 100,000 ohm Current Input: 500 ohm with Field Furnished 500 ohm Resistor |
| Feedback Signal | | DC 0 (2) to 10 V for Desired Rotation Range up to 95° Corresponds to Rotation Limits, 0.5 mA at 10 V Maximum |
| Auxiliary Switch Rating | -xxB Models | One Single-Pole, Double-Throw (SPDT), Double-Insulated Switch with Silver Contacts: AC 24 V, 50 VA Pilot Duty AC 120 V, 5.8 A Resistive, 1/4 hp, 275 VA Pilot Duty AC 240 V, 5.0 A Resistive, 1/4 hp, 275 VA Pilot Duty |
| Spring Return | | Direction is Selectable with Mounting Position of Actuator: Actuator Face Labeled A Is Away from Damper or Valve: CCW Spring Return Actuator Face Labeled B Is Away from Damper or Valve: CW Spring Return |

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M9203-xxx-2(Z) Series Electric Spring Return Actuators (Continued)

| M9203-GGx-2(Z) Series Proportional Electric Spring Return Actuator (Part 2 of 2) | | |
|--|-----------------------------------|---|
| Rated Torque | Power On (Running) | 27 lb-in. (3 N-m) All Operating Temperatures |
| | Power Off (Spring Returning) | 27 lb-in. (3 N-m) All Operating Temperatures |
| Rotation Range | | Maximum Full Stroke: 95° Adjustable Stop: 35° to 95° Maximum Position |
| Rotation Time for 90 Degrees of Travel | Power On (Running) -GGx-2 Models | 150 Seconds Constant for 0 to 27 lb-in. (3 N-m) Load, at all Operating Conditions |
| | Power On (Running) -GGx-2Z Models | 90 Seconds Constant for 0 to 27 lb-in. (3 N-m) Load, at all Operating Conditions |
| | Power Off (Spring Returning) | 12 to 17 Seconds for 0 to 27 lb-in. (3 N-m) Load, at Room Temperature 16 Seconds Nominal at Full Rated Load 22 Seconds Maximum with 27 lb-in. (3 N-m) Load, at -22°F (-30°C) |
| Life Cycles | | 60,000 Full Stroke Cycles with 27 lb-in. (3 N-m) Load 1,500,000 Repositions with 27 lb-in. (3 N-m) Load |
| Audible Noise Rating | Power On (Running) -GGx-2 Models | <28 dBA at 27 lb-in. (3 N-m) Load, at a Distance of 39-13/32 in. (1 m) |
| | Power On (Running) -GGx-2Z Models | <37 dBA at 27 lb-in. (3 N-m) Load, at a Distance of 39-13/32 in. (1 m) |
| | Power On (Holding) | <20 dBA at a Distance of 39-13/32 in. (1 m) |
| | Power Off (Spring Returning) | <56 dBA at 27 lb-in. (3 N-m) Load, at a Distance of 39-13/32 in. (1 m) |
| Electrical Connections | -GGA-2(Z) Models | 120 in. (3.05 m) UL 444 Type CMP Plenum Rated Cable with 19 AWG (0.75 mm ²) Conductors and 0.25 in. (6 mm) Ferrule Ends |
| | Auxiliary Switch (-xxB Models) | 48 in. (1.2 m) UL 758 Type AWM Halogen Free Cable with 18 AWG (0.85 mm ²) Conductors and 0.25 in. (6 mm) Ferrule Ends |
| Conduit Connections | | Integral 1/2 in. (13 mm) Threaded Conduit Connector(s) |
| Mechanical Connections | Round Shafts | Range of Sizes: 1/4 to 1/2 in. (6 to 12 mm) |
| | Square Shafts | Range of Sizes: 1/4 to 5/16 in. (6 to 8 mm) |
| Enclosure Rating | | NEMA 2 (IP54) for all Mounting Orientations |
| Ambient Conditions | Standard Operating | -22 to 140°F (-30 to 60°C); 90% RH Maximum, Noncondensing |
| | Storage | -40 to 185°F (-40 to 85°C); 95% RH Maximum, Noncondensing |
| Dimensions | | 6.38 x 3.23 x 2.26 in. (162 x 82 x 57.5 mm) |
| Compliance | United States | UL Listed, CCN XAPX, File E27734; to UL 60730-1A: 2003-08, Ed. 3.1, Automatic Electrical Controls for Household and Similar Use; and UL 60730-2-14: 2002-02, Ed. 1, Part 2, Particular Requirements for Electric Actuators. (Models: All) |
| | Canada | UL Listed, CCN XAPX7, File E27734; to UL 60730-1:02-CAN/CSA: July 2002, 3rd Ed., Automatic Electrical Controls for Household and Similar Use; and CSA C22.2 No. 24-93 Temperature Indicating and Regulating Equipment. (Models: All) |
| | Europe | CE Mark – Johnson Controls, Inc., declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC. |
| | Australia and New Zealand | C-Tick Mark, Australia/NZ Emissions Compliant. (Models: All) |
| Shipping Weight | | -GGA Models: 2.0 lb (0.9 kg) |
| | | -GGB Models: 2.4 lb (1.1 kg) |



| M9203-AGx-2(Z) Series On/Off and Floating Point Control Electric Spring Return Actuator (Part 1 of 3) | | |
|---|----------------|--|
| Power Requirements | -AGx-2 Models | AC 24 V (AC 19.2 V to 28.8 V) at 50/60 Hz: Class 2 (North America) or Safety Extra-Low Voltage (SELV) (Europe), 4.7 VA Running, 2.7 VA Holding Position DC 24 V (DC 21.6 V to 28.8 V): Class 2 (North America) or SELV (Europe), 1.8 W Running, 1 W Holding Position Minimum Transformer Size: 6 VA per Actuator |
| | -AGx-2Z Models | AC 24 V (AC 19.2 V to 28.8 V) at 50/60 Hz: Class 2 (North America) or Safety Extra-Low Voltage (SELV) (Europe), 5.1 VA Running, 2.8 VA Holding Position DC 24 V (DC 19.2 V to 28.8 V): Class 2 (North America) or SELV (Europe), 1.9 W Running, 1.1 W Holding Position Minimum Transformer Size: 6 VA per Actuator |

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M9203-xxx-2(Z) Series Electric Spring Return Actuators (Continued)

| M9203-AGx-2(Z) Series On/Off and Floating Point Control Electric Spring Return Actuator (Part 2 of 3) | | |
|---|-----------------------------------|--|
| Input Signal | -AGx-2(Z) Models | AC 19.2 to 28.8 V at 50/60 Hz or DC 24 V +20%/-10% Class 2 (North America) or SELV (Europe) Minimum Pulse Width: 500 msec |
| Control Input Impedance | -AGx-2(Z) Models | 4,700 ohm |
| Auxiliary Switch Rating | -xxB Models | One Single-Pole, Double-Throw (SPDT), Double-Insulated Switch with Silver Contacts: AC 24 V, 50 VA Pilot Duty AC 120 V, 5.8 A Resistive, 1/4 hp, 275 VA Pilot Duty AC 240 V, 5.0 A Resistive, 1/4 hp, 275 VA Pilot Duty |
| Spring Return | | Direction Is Selectable with Mounting Position of Actuator: Actuator Face Labeled A Is Away from Damper or Valve: CCW Spring Return Actuator Face Labeled B Is Away from Damper or Valve: CW Spring Return |
| Rated Torque | Power On (Running) | 27 lb-in. (3 N·m) All Operating Temperatures |
| | Power Off (Spring Returning) | 27 lb-in. (3 N·m) All Operating Temperatures |
| Rotation Range | | Maximum Full Stroke: 95° Adjustable Stop: 35 to 95° Maximum Position |
| Rotation Time for 90 Degrees of Travel | Power On (Running) -AGx-2 Models | 150 Seconds Constant for 0 to 27 lb-in. (3 N·m) Load, at All Operating Conditions |
| | Power On (Running) -AGx-2Z Models | 90 Seconds Constant for 0 to 27 lb-in. (3 N·m) Load, at All Operating Conditions |
| | Power Off (Spring Returning) | 12 to 17 Seconds for 0 to 27 lb-in. (3 N·m) Load, at Room Temperature 16 Seconds Nominal at Full Rated Load 22 Seconds Maximum with 27 lb-in. (3 N·m) Load at -22°F (-30°C) |
| Life Cycles | | 60,000 Full Stroke Cycles with 27 lb-in. (3 N·m) Load 1,500,000 Repositions with 27 lb-in. (3 N·m) Load |
| Audible Noise Rating | Power On (Running) -AGx-2 Models | <28 dBA at 27 lb-in. (3 N·m) Load, at a Distance of 39-13/32 in. (1 m) |
| | Power On (Running) -AGx-2Z Models | <37 dBA at 27 lb-in. (3 N·m) Load, at a Distance of 39-13/32 in. (1 m) |
| | Power On (Holding) | <20 dBA at a Distance of 39-13/32 in. (1 m) |
| | Power Off (Spring Returning) | <56 dBA at 27 lb-in. (3 N·m) Load, at a Distance of 39-13/32 in. (1 m) |
| Electrical Connections | -AGA-2(Z) Models | 120 in. (3.05 m) UL 444 Type CMP Plenum Rated Cable with 19 AWG (0.75 mm ²) Conductors and 0.25 in. (6 mm) Ferrule Ends |
| | Auxiliary Switch (-xxB Models) | 48 in. (1.2 m) UL 758 Type AWM Halogen Free Cable with 18 AWG (0.85 mm ²) Conductors and 0.25 in. (6 mm) Ferrule Ends |
| Conduit Connections | | Integral 1/2 in. (13 mm) Threaded Conduit Connector(s) |
| Mechanical Connections | Round Shafts | Range of Sizes: 1/4 to 1/2 in. (6 to 12 mm) |
| | Square Shafts | Range of Sizes: 1/4 to 5/16 in. (6 to 8 mm) |
| Enclosure Rating | | NEMA 2 (IP54) for all Mounting Orientations |
| Ambient Conditions | Standard Operating | -22 to 140°F (-30 to 60°C); 90% RH Maximum, Noncondensing |
| | Storage | -40 to 185°F (-40 to 85°C); 95% RH Maximum, Noncondensing |
| Dimensions | | 6.38 x 3.23 x 2.26 in. (162 x 82 x 57.5 mm) |

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M9203-xxx-2(Z) Series Electric Spring Return Actuators (Continued)

| M9203-AGx-2(Z) Series On/Off and Floating Point Control Electric Spring Return Actuator (Part 3 of 3) | | |
|--|----------------------------------|---|
| CE | United States | UL Listed, CCN XAPX, File E27734; to UL 60730-1A: 2003-08, Ed. 3.1, Automatic Electrical Controls for Household and Similar Use; and UL 60730-2-14: 2002-02, Ed. 1, Part 2, Particular Requirements for Electric Actuators. (Models: All) |
| | Canada | UL Listed, CCN XAPX7, File E27734; to UL 60730-1:02-CAN/CSA: July 2002, 3rd Ed., Automatic Electrical Controls for Household and Similar Use; and CSA C22.2 No. 24-93 Temperature Indicating and Regulating Equipment (Models: All) |
| | Europe | CE Mark – Johnson Controls, Inc., declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC. |
| | Australia and New Zealand | C-Tick Mark, Australia/NZ Emissions Compliant (Models: All) |
| Shipping Weight | | -AGA Models: 2.0 lb (0.9 kg) -AGB Models: 2.4 lb (1.1 kg) |

| M9203-Bxx-2(Z) Series On/Off Electric Spring Return Actuators (Part 1 of 2) | | |
|--|--|--|
| Power Requirements | -BGx-2 Models | AC 24 V (AC 19.2 V to 28.8 V) at 50/60 Hz: Class 2 (North America) or Safety Extra-Low Voltage (SELV) (Europe), 5 VA Running, 1.6 VA Holding Position DC 24 V (DC 21.6 V to 28.8 V): Class 2 (North America) or SELV (Europe), 2.8 W Running, 0.8 W Holding Position Minimum Transformer Size: 6 VA per Actuator |
| | -BUx-2 Models | AC 100 to 240 V (AC 85 V to 264 V) at 50/60 Hz: 0.06 A Running, 0.02 A Holding Position |
| | -BUx-2Z Models | AC 100 to 240 V (AC 85 V to 264 V) at 50/60 Hz: 0.08 A Running, 0.02 A Holding Position |
| Auxiliary Switch Rating | -xxB Models | One Single-Pole, Double-Throw (SPDT), Double-Insulated Switch with Silver Contacts: AC 24 V, 50 VA Pilot Duty AC 120 V, 5.8 A Resistive, 1/4 hp, 275 VA Pilot Duty AC 240 V, 5.0 A Resistive, 1/4 hp, 275 VA Pilot Duty |
| Spring Return | | Direction Is Selectable with Mounting Position of Actuator: Actuator Side A Is Away from Damper or Valve: CCW Spring Return Actuator Side B Is Away from Damper or Valve: CW Spring Return |
| Rated Torque | Power On (Running) | 27 lb-in. (3 N-m) All Operating Temperatures |
| | Power Off (Spring Returning) | 27 lb-in. (3 N-m) All Operating Temperatures |
| Rotation Range | | Maximum Full Stroke: 95° Adjustable Stop: 35 to 95° Maximum Position |
| Rotation Time for 90 Degrees of Travel | Power On (Running) -Bxx-2 Models | 53 to 71 Seconds for 0 to 27 lb-in. (3 N-m) Load, at Room Temperature 60 Seconds Nominal at Full Rated Load (0.25 rpm) |
| | Power On (Running) -BUx-2Z Models | 24 to 28 Seconds for 0 to 27 lb-in. (3 N-m) Load, at Room Temperature 27 Seconds Nominal at Full Rated Load (0.5 rpm) |
| | Power Off (Spring Returning) | 19 to 23 Seconds for 0 to 27 lb-in. (3 N-m) Load, at Room Temperature 22 Seconds Nominal at Full Rated Load 28 Seconds Maximum with 27 lb-in. (3 N-m) Load at -22°F (-30°C) |
| Life Cycles | | 60,000 Full-Stroke Cycles with 27 lb-in. (3 N-m) Load |
| Audible Noise Rating | Power On (Running) -Bxx-2 Models | <36 dBA at 27 lb-in. (3 N-m) Load, at a Distance of 39-13/32 in. (1 m) |
| | Power On (Running) -BUx-2Z Models | <45 dBA at 27 lb-in. (3 N-m) Load, at a Distance of 39-13/32 in. (1 m) |
| | Power On (Holding) | <20 dBA at a Distance of 39-13/32 in. (1 m) |
| | Power Off (Spring Returning) | <51 dBA at 27 lb-in. (3 N-m) Load, at a Distance of 39-13/32 in. (1 m) |
| Electrical Connections | Actuator (All Models) | 48 in. (1.2 m) UL 758 Type AWM Halogen-Free Cable with 18 AWG (0.85 mm ²) Conductors and 0.25 in. (6 mm) Ferrule Ends |
| | Auxiliary Switch (-xxB Models) | 48 in. (1.2 m) UL 758 Type AWM Halogen-Free Cable with 18 AWG (0.85 mm ²) Conductors and 0.25 in. (6 mm) Ferrule Ends |
| Conduit Connections | | Integral 1/2 in. (13 mm) Threaded Conduit Connector(s) |

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M9203-xxx-2(Z) Series Electric Spring Return Actuators (Continued)

| M9203-Bxx-2(Z) Series On/Off Electric Spring Return Actuators (Part 2 of 2) | | |
|---|--|---|
| Mechanical Connections | Round Shafts | Range of Sizes: 1/4 to 1/2 in. (6 to 12 mm) |
| | Square Shafts | Range of Sizes: 1/4 to 5/16 in. (6 to 8 mm) |
| Enclosure Rating | NEMA 2 (IP54) for All Mounting Orientations | |
| Ambient Conditions | Standard Operating | -22 to 140°F (-30 to 60°C); 90% RH Maximum, Noncondensing |
| | Storage | -40 to 185°F (-40 to 85°C); 95% RH Maximum, Noncondensing |
| Dimensions | 6.38 x 3.23 x 2.26 in. (162 x 82 x 57.5 mm) | |
| Compliance | United States | UL Listed, CCN XAPX, File E27734; to UL 60730-1A: 2003-08, Ed. 3.1, Automatic Electrical Controls for Household and Similar Use; and UL 60730-2-14: 2002-02, Ed. 1, Part 2, Particular Requirements for Electric Actuators. (Models: All) |
| | Canada | UL Listed, CCN XAPX7, File E27734; to UL 60730-1:02-CAN/CSA: July 2002, 3rd Ed., Automatic Electrical Controls for Household and Similar Use; and CSA C22.2 No. 24-93 Temperature Indicating and Regulating Equipment (Models: All). |
| | Europe | CE Mark – Johnson Controls, Inc., declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC. |
| | Australia and New Zealand | C-Tick Mark, Australia/NZ Emissions Compliant (Models: All) |
| Shipping Weight | -BxA Models: 2.0 lb (0.9 kg) -BxB Models: 2.4 lb (1.1 kg) | |



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