

SR-22XX Series
Electric Actuators
Spring Return



The SR-22XX Series is a direct-mount, spring return line of electric actuators that operates on 24/120/230 VAC or 24 VDC power and is available for use with on/off, floating, proportional, or resistive controllers. These bi-directional actuators do not require a damper linkage, and are easily installed on a round shaft up to 3/4 in. (19 mm) diameter or a square shaft up to 1/2 in. (13 mm). They can also be mounted to butterfly and ball valves using one of the Bray Valve Linkage Kits.

The SR models deliver up to 177 lb-in (20 Nm) of torque. The angle of rotation is mechanically adjustable from 30 to 90°. Optional auxiliary switches are available to indicate end-stop position or to perform switching functions at any angle within the selected rotation range. Position feedback is available through switches, a potentiometer, or a 0 (2) to 10 VDC signal.

FEATURES & BENEFITS

Bi-directional, Fail-safe Spring Return	Allows selectable rotation/spring return direction simplifying installation
Four Control Input Types	Meets the needs of most applications
Wide Range Resistive Input	Interfaces to 3-wire resistive controllers from 100 to 10,000 Ω
Zero and Span Adjustment on Proportional Models	Allows sequential operation of dampers from a single input signal of 0 (2) to 10 VDC or 0 (4) to 20 mA
On/Off Control	Provides simple, 2-wire control for low-cost applications
Electronic Stall Detection	Provides higher reliability by deactivating the actuator when a stall condition is detected
Output Position Feedback	Provides simple, closed-loop control with accurate position sensing (standard on proportional and resistive models, optional on floating models)
Calibration Output on Proportional Models	Increases speed and accuracy of zero and span adjustments over the entire range without waiting for mechanical rotation
Manual Override	Allows manual positioning when the actuator is not powered; simplifies setup and field adjustments
NPT Conduit Adaptor (Included)	Meets electrical code requirements

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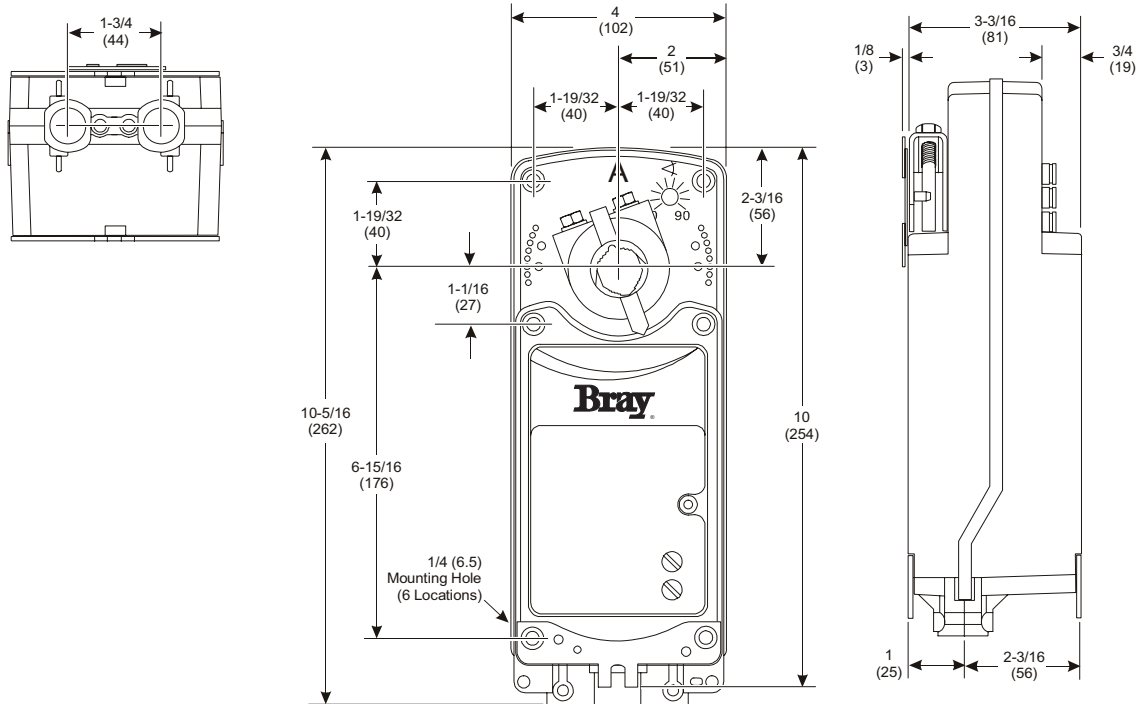
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MODEL INFORMATION

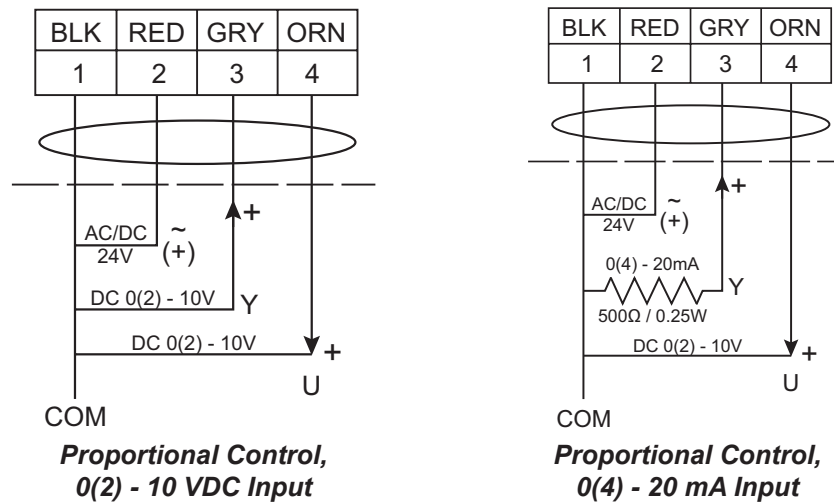
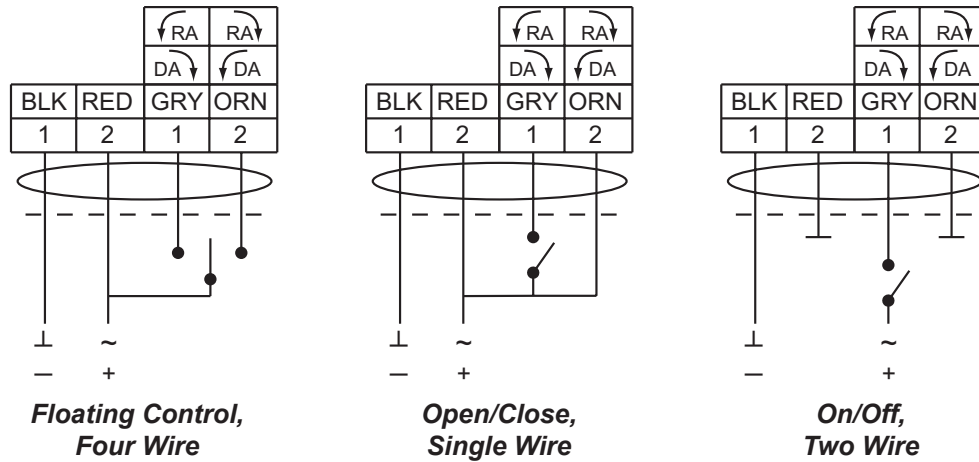
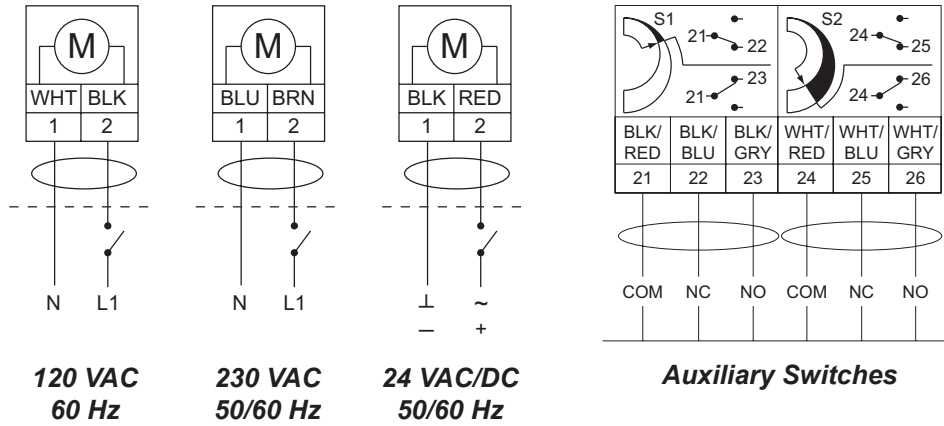
	89 lb-in (10 Nm)														177 lb-in (20 Nm)													
	SR-2210-111	SR-2210-112	SR-2210-311	SR-2210-312	SR-2210-511	SR-2210-512	SR-2210-521	SR-2210-522	SR-2210-531	SR-2210-532	SR-2210-541	SR-2210-542	SR-2210-551	SR-2210-552	SR-2220-111	SR-2220-112	SR-2210-311	SR-2210-312	SR-2220-511	SR-2220-512	SR-2220-521	SR-2220-522	SR-2220-531	SR-2220-532	SR-2220-541	SR-2220-542	SR-2220-551	SR-2220-552
On/Off Control	•	•	•	•	•	•									•	•	•	•	•	•								
Floating Control							•	•													•	•						
Proportional Control											•	•	•	•										•	•	•	•	
Adjustable Zero/Span													•	•											•	•	•	
Resistive Input Control									•	•													•	•				
24 VAC/DC					•	•	•	•	•	•	•	•	•	•					•	•	•	•	•	•	•	•	•	
120 VAC			•	•													•	•										
230 VAC	•	•													•	•												
0 to 10 VDC Feedback									•	•	•	•	•	•									•	•	•	•	•	
2 Auxiliary Switches		•	•	•	•	•	•	•	•	•	•	•	•	•			•	•	•	•	•	•	•	•	•	•	•	

DIMENSIONS



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WIRING



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SPECIFICATIONS

Power	On/Off	120 VAC at 60 Hz or 230 VAC at 50/60 Hz
Requirements	Floating/Proportional	24 VAC ± 20% at 50/60 Hz, Class 2 or 24 VDC ± 10%, Class 2
Transformer Sizing	SR-2210	On/Off 20 VA minimum per Actuator
		Floating/Proportional 15 VA minimum per Actuator
Transformer Sizing	SR-2220	On/Off 14 VA minimum per Actuator
		Floating/Proportional 20 VA minimum per Actuator
Input Signal	Factory set 0 to 10 VDC, CW rotation with signal increase Selectable 0 to 10 VDC or 0 to 20 mA with optional 500 Ω, 0.25 W minimum resistor	
Input Impedence	Voltage	200,000 Ω
	Current	500 Ω with field furnished 500 Ω resistor
Feedback Signal	0 to 10 VDC for desired rotation range up to 90°; corresponds to rotation limits, 500 mA max.	
Auxiliary Switch Rating	2 single-pole, double-throw (SPDT), double-insulated switches with gold flash contacts: 24 VAC, 50 VA pilot duty; 120 VAC, 5.8 A resistive, 1/4 hp, 275 VA pilot duty 230 VAC, 5.0 A resistive, 1/4 hp, 275 VA pilot duty	
Running Torque	SR-2210	89 lb-in (10 Nm)
	SR-2220	177 lb-in (20 Nm)
Rotation Range	Adjustable from 30 to 90° CW or CCW with optional adjustable stop kit, limited to 90°	
Rotation Time (Power On)	On/Off	24 to 57 seconds, 35 seconds nominal at full-rated load
	Floating/Proportional	150 seconds, independent of load
Rotation Time (Spring Return)	On/Off	11 to 15 seconds at room temperature
		35 seconds maximum at -22°F (-30°C) 130 seconds maximum at -40°F (-40°C)
	Floating/Proportional	26 seconds for 89 lb-in (10 Nm) at room temperature
		20 seconds for 177 lb-in (20 Nm) at room temperature
Electrical Connections	48 in. (1.2 m) halogen-free cable with 18 AWG (0.75 mm ²) wire leads	
Mechanical Connections	1/2 to 3/4 in (12 to 19 mm) diameter round shafts	
	3/8 to 1/2 in (10, 12, and 14 mm) square shafts	
Enclosure	NEMA 2 (IP54) for all mounting orientations	
Ambient Conditions	Operating	-40 to 131°F (-40 to 55°C); 90% RH maximum, noncondensing
	Storage	-85 to 185°F (-65 to 85°C); 90% RH maximum, noncondensing
Weight	24 VAC models, 6.4 lb (2.9 kg); 120/230 VAC models, 7.6 lb (3.5 kg)	

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local BRAY office. BRAY shall not be liable for damages resulting from misapplication or misuse of its products.

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