

# Direct Coupled, Spring Return Actuators, 135 in-lb



## DESCRIPTION

Electronic, motor-driven, reversible, noiseless, direct coupled spring return actuators with fail-safe control.

**GA-SRT135-024**  
**Spring Return**  
**Tri-state or On/Off**

## APPLICATION

Actuators may be easily installed by direct shaft mounting on air dampers, shutters and butterfly valves in ventilation and air conditioning systems. The mechanical spring return function operates only upon a power failure or power interruption caused by an unsafe condition. Can be controlled by any compatible electric or electronic analog controller, DDC/PLC control or automation system.

## FEATURES

- *Direct coupled, easy to install*
- *Optional aux. switches*
- *Manual override*
- *Overload protected*
- *Tested for 60,000+ full operations including safety strokes for mechanical spring return*
- *Maintenance-free*
- *Five-year warranty*



CE  
 ISO 9001



## SPECIFICATIONS

### Control

Input signal                      Tri-state (3-pt. floating) or On/Off, 24 VAC/DC

### Electrical

Power supply                    24 VAC/VDC ± 20%, 50/60 Hz  
 Over voltage                    Up to 40 V, max. 5 sec.  
 Power consumption            6.5 W (8.5 VA)  
 - holding                         4.0 W

### Performance

Torque                            135 in-lb (15 Nm)  
 Damper size                    Up to 34 sq. ft. (3.0 m<sup>2</sup>)  
 Angle of rotation              100° (-5 to 95°)  
 - direction                      Spring return can be selected by CCW/CW mounting

### Rotation time

- actuator rotation            < 150 sec/0-90°  
 - spring return                < 20 sec/90-0°  
 Power failure                    Spring return to -5° position

Position indicator              Visual scale  
 Synchronization               ± 1%

Overload protection            Electronic throughout rotation  
 Manual override                3 mm hex crank, shipped w/actuator

### Motor type

DC motor  
 Noise level  
 - motor                            Max. 50 dB(A)  
 - spring return                Max. 62 dB(A)

### Environmental

Permissible ambient  
 - working temperature        -22°F to 122°F (-30°C to 50°C)  
 - storage temperature        -40°F to 176°F (-40°C to 80°C)  
 - humidity                        5-95% RH, non-condensing

### Physical

Enclosure  
 - cover plates                    Zinc coated steel  
 - base                            PA 6.6  
 - color                            Silver and black  
 - protection                    NEMA 2  
 Mounting position            Any position  
 Anti-rotation bracket        Included w/actuator  
 Stacking/paralleling        Refer to Table  
    "Multiple Actuators"  
 Clamp connection to  
 - round shaft                    Ø 3/8" to 3/4" (9 to 20 mm)  
 - square shaft                   □ 3/8" to 5/8" (9 to 16 mm)  
 Wire connection              3 ft. (0.9 m) appliance cable, color coded

- option, on request  
 Wire size                        Plenum rated cable  
 Conduit connector            18 AWG (0.75 mm<sup>2</sup>)  
 Dimensions                    1/2", built-in  
    9.84 x 3.86 x 2.28 in.  
    (250 x 98 x 58 mm)  
 Weight                            4.4 lbs. (2.0 kg)

**Manufacturing Listings/Approvals**  
 ISO 9001 certified  
 CE  
 UL and CSA

**Warranty**  
 Five-year material and workmanship  
 (Two-year standard, three-year conditional)

## OPTIONS

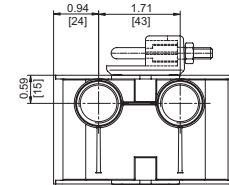
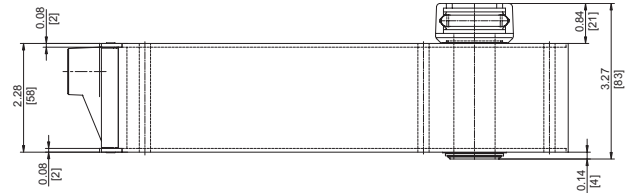
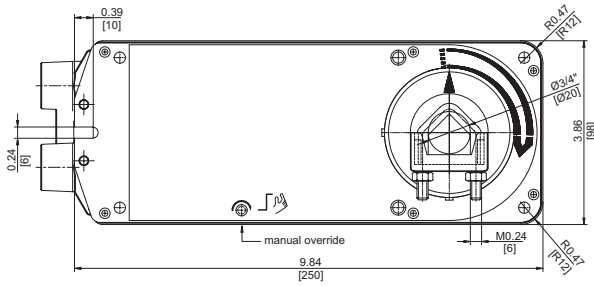
- **S2** (2) Aux. switches built-in                    SPDT 250 VAC, 5 (2.5) A, position adj. between 0-72° and 18-90°, incl. 3 ft. (0.9 m) appliance cable, number coded, and 1/2" conduit connector

## ORDERING INFORMATION

**GA-SRT135-024**                    Standard  
**GA-SRT135-024-S2**            w/(2) Aux. switches

## DIMENSIONS

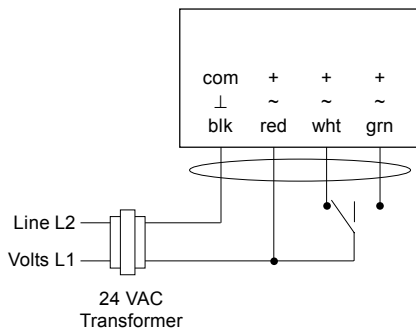
inches (mm)



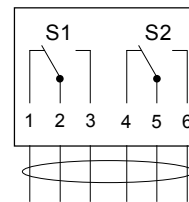
Note: Anti-rotation mounting bracket and 3 mm hex crank for manual override supplied w/actuator

## WIRING CONFIGURATION

### GA-SRT135-024 Tri-state (3-point floating) control



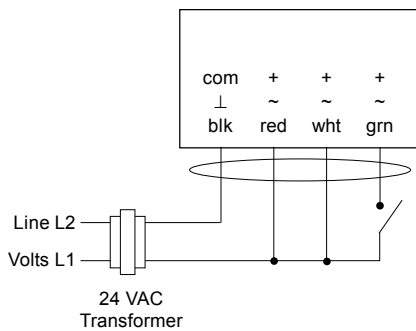
### Option S2



(2) Auxiliary switches, SPDT, 250 VAC, 5 (2.5) A, w/ adjustable cam for setting between 0-72° and 18-90°  
Factory set: S1 @ 4.5°  
S2 @ 72.0°

Multiple Actuators (maximum quantities)	GA-SRT135-024 Tri-state or On/Off
Stacking (torque is additive)	4*
Parallel connection	20

### GA-SRT135-024 On/Off control



\* Stacking options for continuous control

#### Sum of total torque:

- 2 actuators = (2 x 100%)
- 3 actuators = (2 x 100%) + (1 x 80%)
- 4 actuators = (2 x 100%) + (1 x 80%) + (1 x 50%)

- Notes:
- Actuators are provided with color coded wires. Wires for optional switches are number coded.
  - Observe polarity on secondary transformers. Incorrect polarity can cause controller damage or operation error.
  - Provide overload protection for line voltage and disconnect as required.
  - Power supply and auxiliary switch connections meet UL and CSA requirements without the need of an electrical ground connection.

Pos. of Select.	Angle of Rotation	Selection of direction, control wiring connect			
		Spring return CCW mounted		Spring return CW mounted	
		Tri-state	On/Off	Tri-state	On/Off
CW	0 - 90°	red-white connect	green open	red-green connect	green closed
CW	90 - 0°	red-green connect	green closed	red-white connect	green open
CCW	0 - 90°	red-green connect	green closed	red-white connect	green open
CCW	90 - 0°	red-white connect	green open	red-green connect	green closed