

# Direct Coupled, Non-Spring Return Actuators, 45 in-lb



**GA-(S)T45-024**  
Tri-state or On/Off

## DESCRIPTION

Electronic, motor-driven, reversible, noiseless, direct coupled actuators.

## APPLICATION

Actuators to be easily installed by direct shaft mounting on air dampers and shutters for standard or fast rotation in ventilation and air conditioning systems. Can be controlled by any compatible electric or electronic analog controller, DDC/PLC control or automation system.

## FEATURES

- *Direct coupled, easy to install*
- *Ridged V-clamp connector for better shaft gripping*
- *Plenum rated cable or terminal block connections*
- *Tested for 60,000+ full operations*
- *Manual override*
- *Overload protected*
- *Maintenance-free*
- *Five-year warranty*



## SPECIFICATIONS

<p><b>Control</b> Input signal</p> <p><b>Electrical</b> Power supply Over voltage Power consumption - ST speedy version</p> <p><b>Performance</b> Torque Damper size Angle of rotation - CCW(L) and CW(R)</p> <p>Rotation time - ST speedy version Power failure Position indicator</p> <p>Synchronization Overload protection Manual override Motor type Noise level</p> <p><b>Environmental</b> Permissible ambient - working temperature - storage temperature - humidity</p> <p><b>Physical</b> Enclosure - cover - base</p>	<p>Tri-state (3-pt. floating) or On/Off, 24 VAC/DC</p> <p>24 VAC/VDC ± 20%, 50/60 Hz Up to 40 V, max. 5 sec. 2.0 W (3.0 VA) 3.5 W (6.5 VA)</p> <p>45 in-lb (5 Nm) Up to 11 sq. ft. (1 m<sup>2</sup>) 0-95°/95-0°, selectable, adj. angle with integral stops L/R selector, built-in actuator cover (Terminal version is w/o L/R selector)</p> <p>60 to 120 sec/0-90° 20 to 35 sec/0-90° Stays in last position of operation 0-10 divisions, and adj. visual indicator (Terminal version is w/o visual indicator)</p> <p>± 1%</p> <p>Electronic throughout rotation Built-in disengage button DC motor Max. 35 dB(A)</p> <p>-22°F to 122°F (-30°C to 50°C) -40°F to 176°F (-40°C to 80°C) 5-95% RH, non-condensing</p> <p>ABS, UL 94-5V PA 6.6</p>	<p>- color - protection</p> <p>Mounting position Anti-rotation bracket Stacking/paralleling</p> <p>Clamp connection to - round shaft - square shaft Wire connection</p> <p>Wire size Terminal version - wire connection</p> <p>Dimensions</p> <p>Weight</p> <p><b>Manufacturing Listings/Approvals</b></p> <p><b>Warranty</b></p>	<p>Gray and black NEMA 2, NEMA 1 for Terminal version Any position Included w/actuator Refer to table "Multiple Actuators"</p> <p>Ø 5/16" to 5/8" (8 to 16 mm) □ 5/16" to 15/32" (8 to 12 mm) 3 ft. (0.9 m) cable, color coded, plenum rated 18 AWG (0.75 mm<sup>2</sup>)</p> <p>Terminal block, outside of cover, screw type for lead wire, min. 26 AWG (0.14 mm<sup>2</sup>) max. 14 AWG (2.5 mm<sup>2</sup>) 4.53 x 2.56 x 2.40 in. (115 x 65 x 61 mm) 1.2 lbs. (0.53 kg) ISO 9001 certified CE UL and CSA Five-year material and workmanship (Two-year standard, three-year conditional)</p>
		<p><b>OPTIONS</b></p> <p>- <b>S1</b> (1) Aux. switch built-in</p> <p>- <b>P1</b> (1) Feedback pot</p>	<p>SPDT 24 VAC, 5 (2.5) A, adj. at any position, incl. 3 ft. (0.9 m) cable, number coded, plenum rated, or terminal block 1 kΩ pot, incl. 3 ft. (0.9 m) cable, number coded, plenum rated, or terminal block</p>

# GA-(S)T45-024



## ORDERING INFORMATION

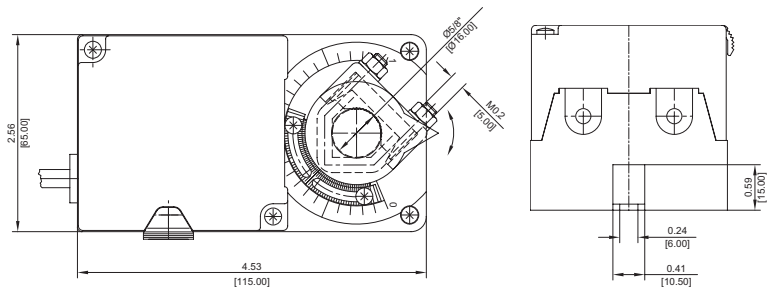
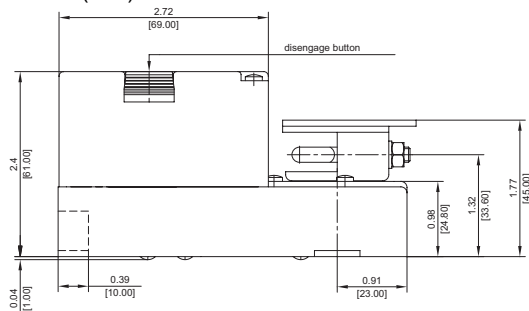
**GA-T45-024** w/ Plenum rated cable  
**GA-T45-024-S1** w/ Plenum rated cable, and (1) aux. switch  
**GA-T45-024-P1** w/ Plenum rated cable, and (1) 1 kΩ Pot  
**GA-T45-024T** w/ Terminal block  
**GA-T45-024T-P1** w/ Terminal block, and (1) 1 kΩ Pot

*Note: Terminal version actuator comes without L/R selector and adj. visual position indicator*

**GA-ST45-024** Speedy, 20-35 sec./0-90°, w/ plenum rated cable  
**GA-ST45-024-S1** Speedy, 20-35 sec./0-90°, w/ plenum rated cable and (1) aux. switch  
**GA-ST45-024-P1** Speedy, 20-35 sec./0-90°, w/ plenum rated cable and (1) 1 kΩ Pot  
**GA-ST45-024T** Speedy, 20-35 sec./0-90°, w/ terminal block  
**GA-ST45-024T-P1** Speedy, 20-35 sec./0-90°, w/ terminal block and (1) 1 kΩ Pot

## DIMENSIONS

inches (mm)

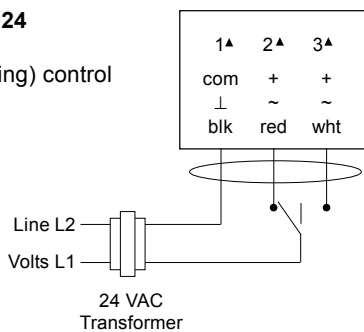


*Note: Anti-rotation mounting bracket supplied w/actuator*

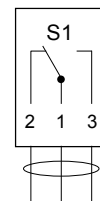
## WIRING CONFIGURATION

### GA-(S)T45-024

Tri-state  
(3-point floating) control

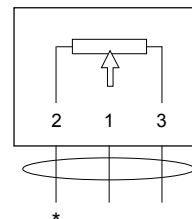


### Option S1



(1) Auxiliary switch, SPDT, 24 VAC, 5 (2.5) A, w/ adjustable cam for any position setting

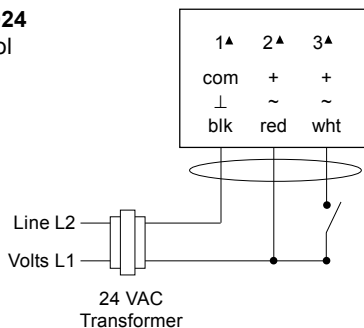
### Option P1



(1) Feedback pot, 1 kΩ,  
\* = 0 Ω at 0° angle of rotation

### GA-(S)T45-024

On/Off control



### L/R selector (built-in actuator cover)

Select	Angle of rotation
R	CW/0-90° w/red connect
R	CCW/90-0° w/white connect
L	CW/0-90° w/white connect
L	CCW/90-0° w/red connect

^Terminal version, wiring connection:

1= com    2= + (CW/0-90°)    3= + (CCW/90-0°)

Multiple Actuators (maximum quantities)	GA-(S)T45-024 Tri-state or On/Off
Stacking (torque is additive)	4*
Parallel connection	20

\* 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 and feedback pot 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.