

Direct Coupled, Non-Spring Return Actuators, 44 in-lb



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*
- *Switch selectable:*
 - *Control signal*
 - *Direction of rotation*
- *Angle of rotation selectable*
- *Removable terminal strip connector for easy wiring*
- *Manual override*
- *Optional, 1/2" conduit connector*
- *Full control signal auto-adjust to actual angle of rotation "Teach-in of Range"*
- *Optional, aux. switches adj. from the outside*
- *Tested for 60,000+ full operations*
- *Tested for electromagnetic compatibility*
- *Overload protected*
- *Maintenance-free*
- *Five-year warranty*

GA-(S)P44-024T
(0)2-10 VDC, or (0)4-20 mA



CE
ISO 9001

UL LISTED
"Pending"

SPECIFICATIONS

Control

Input signal Proportional
(0)2-10 VDC, or
(0)4-20 mA, switch selectable

Input impedance 50 kΩ

Feedback signal (0)2-10 VDC
Refer to table
"Function and Signal Selection"

Electrical

Power supply 24 VAC/VDC ± 20%, 50/60 Hz

Over voltage Up to 40 V, max. 5 sec.

Power consumption 1.5 W (2.5 VA)

- SP speedy version 2.5 W (4.0 VA)

Performance

Torque 44 in-lb (5 Nm)

- start-up 54 in-lb (6 Nm)

- nominal 36 in-lb (4 Nm)

Damper size Up to 11 sq. ft. (1 m²)

Angle of rotation 0-95°(CW)/95-0° (CCW) dip
switch selectable, adj. angle
with internal stops,
span signal auto-adjustment
to actual angle of rotation,
disabled/enabled switch
selectable

Rotation time 60 to 120 sec/0-90°

- SP speedy version 20 to 35 sec/0-90°

Power failure Stays in last position of operation

Position indicator 0-10 divisions

Synchronization ± 1%

Overload protection Electronic throughout rotation

Manual override Built-in disengage button

Motor type

DC motor

Noise level

Max. 35 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 PP-H, UL 94-5V
- base PA 6.6
- color Black and white
- protection NEMA 2 (IP 42)

Mounting position Any position

Anti-rotation bracket Included w/actuator

Stacking/paralleling Refer to table
"Multiple Actuators"

Clamp connection to

- round shaft Ø 5/16" to 5/8" (8 to 16 mm)
- square shaft □ 5/16" to 15/32" (8 to 12 mm)

Cable entry 1 slotted hole,
Ø 3/8 in. (Ø 10 mm)

Wire connection Below actuator cover, pluggable/
removable connector(s),
terminal block, number coded,
screw type for lead wire;
min. 20 AWG (0.5 mm²),
max. 16 AWG (1.5 mm²)

- for power/signal (1) connector
- for optional **S2**, (2) aux. switches (2) connectors

GA-(S)P44-024T



SPECIFICATIONS

Physical (cont...)

Conduit connector, option on request	1/2" NPT female, for flexible field connector
Dimensions	5.71 x 2.56 x 2.40 in. (145 x 65 x 61 mm)
Weight	1.1 lbs. (0.5 kg)
Manufacturing	ISO 9001 certified
Listings/Approvals	CE, 73/23/EWG, 89/336/EWG UL and CSA (pending)
Warranty	Five-year material and workmanship (Two-year standard, three-year conditional)

OPTIONS

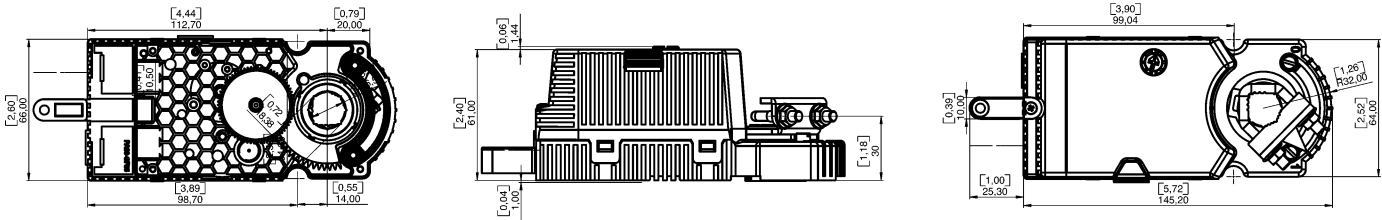
- S2 (2) Aux. switches built-in w/selector outside of cover	SPDT, 24 VAC, 5 (2.5) A adjustable at any position
- A-GA-CA05 (1) Conduit connector	1/2" NPT female, field connectable

ORDERING INFORMATION

GA-P44-024T	Standard
GA-P44-024T-S2	w/(2) Aux. switches
GA-SP44-024T	Speedy, 20-35 sec./0-90°
GA-SP44-024T-S2	Speedy, 20-35 sec./0-90°, w/(2) Aux. switches
A-GA-CA05	Conduit connector

DIMENSIONS

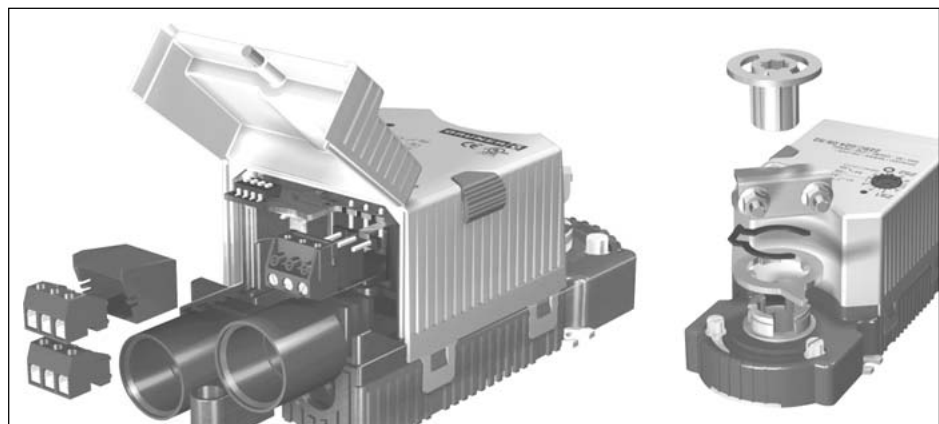
mm (inches)



*Note: - Actuator base provides integrated flanges w/mounting holes
- Anti-rotation mounting bracket supplied w/actuator*

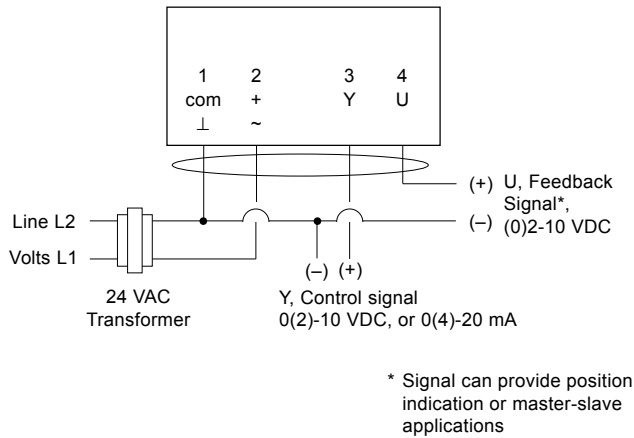
Modular wiring connection solutions

Various damper shaft coupling capabilities

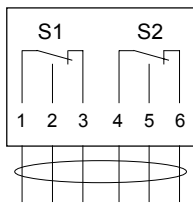


WIRING CONFIGURATION

GA-(S)P44-024T Proportional control



Option S2



(2) Auxiliary switches, SPDT, 24 VAC, 5 (2.5) A, w/ adjustable cam for setting between 0-90°

Multiple Actuators (maximum quantities)	GA-(S)P44-024T Proportional
Stacking (torque is additive)	4*
Parallel connection, 2-10 VDC	20
Parallel connection, 4-20 mA, w/500 Ω resistor	10
Master-slave, via U, feedback signal	10

* 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%)

GA-(S)P44-024T Function and Signal Selection

Signal selector
(dip switch built-on printed circuit-board)



Dip switch setting

Off On

Angle of rotation:
(with increase of signal)

• CW/0-90°	3	-
• CCW/90-0°	-	3

Y, control signal: U, feedback signal:

• 2-10 VDC	• 2-10 VDC	1,2	-
• 0-10 VDC	• 0-10 VDC	2	1
• 4-20 mA	• 2-10 VDC	1	2
• 0-20 mA	• 0-10 VDC	-	1,2

Full control signal adaptation to actual angle of rotation "Teach-in"

• Disabled (Off)	4*	-
• Enabled (On)	-	4*

Factory set: All dip switches in the Off position

*** Dip switch #4 function**

Teach-in feature can be used to adapt the full control signal range to the actual angle of rotation.

ANGLEmax - ANGLEmin ≥ 30°
A minimum of 30° "angle of rotation" range is required.

Teach-in procedure:

1. Adjust the mechanical end-stops
2. Apply power to actuator
3. Change dip switch #4 from Off to On
4. Teach-in process starts automatically and concludes in 15 secs.
5. Change dip switch #4 from On to Off
6. Actuator full-signal (Y) match actual "angle of rotation" range

Notes: • Observe polarity on secondary of transformers. All common and signal (-) must be connected in line. Incorrect polarity can cause controller damage or operation error.

- Long wire runs requires a 4-wire configuration (connect common for power and control signal at the actuator or close by). Greater than a 0.2 V drop must be avoided for any common wire.
- Always use a separate transformer when controller power is full-wave rectified.
- Controller and actuators must have separate transformers for paralleled multi-actuator application.
- Provide overload protection for line voltage and disconnect as required.