

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



DESCRIPTION

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

GA-VSP135-024
(0)2-10 VDC, or (0)4-20 mA
"Very Speedy"

APPLICATION

Actuators to be easily installed by direct shaft mounting on air dampers, and shutters for super 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.



CE
 ISO 9001



FEATURES

- *Very speedy, 5 sec. rotation*
- *Direct coupled, easy to install*
- *Ridged V-clamp connector for better shaft gripping*
- *Position indicator*
- *Switch selectable:*
 - *Control signal*
 - *Direction of rotation*
- *Angle of rotation selectable*
- *Full control signal auto-adjust to actual angle of rotation "Teach-in of Range"*
- *For 20,000 to 60,000 full operation cycles*
- *Plenum rated cable*
- *Manual override*
- *Overload protected*
- *Maintenance-free*
- *Five-year warranty*

SPECIFICATIONS

Control

Input signal Proportional, (0)2-10 VDC or (0)4-20 mA (switch selectable), or On/Off 24 VAC/VDC
 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 20.0 W (26.0 VA)

Performance

Torque 135 in-lb (15 Nm)
 Life cycles, break in/out torque
 - 70 in-lb (8 Nm) 60,000 full operations
 - 135 in-lb (15 Nm) 20,000 full operations
 Damper size Up to 18 sq. ft. (1.6 m²)
 Angle of rotation 0-95°(CW)/95-0°(CCW) dip switch selectable, adj. angle with integral stops
 Rotation time 5 sec./0-90°
 - allowable continuous duration Max 50 sec. per cycle; minimum cool down period must be equal to running time
 Power failure Stays in last position of operation
 Position indicator 0-10 divisions and adj. visual indicator
 Synchronization ± 1%
 Overload protection Electronic throughout rotation
 Manual override Built-in disengage button
 Motor type DC motor
 Noise level Max. 70 dB(A)

Environmental

Permissible ambient
 - working temperature -4°F to 122°F (-20°C to 50°C)
 - storage temperature -40°F to 176°F (-40°C to 80°C)
 - humidity 5-95% RH, non-condensing

Physical

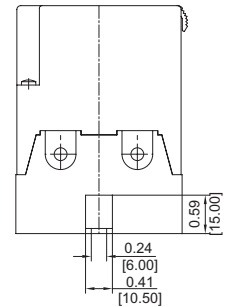
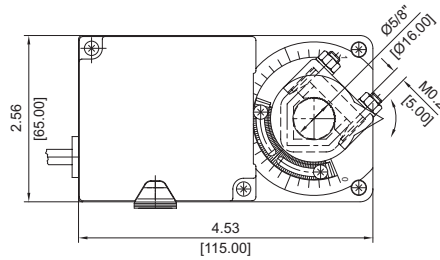
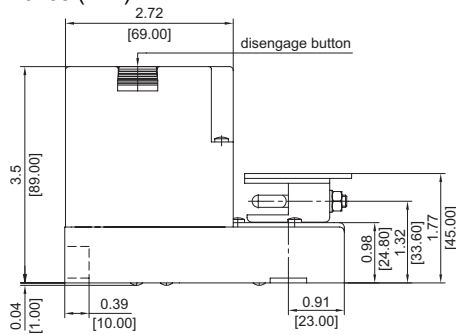
Enclosure
 - cover ABS, UL 94-5V
 - base PA 6.6
 - color Grey and black
 - protection NEMA 2
 Mounting position Any position
 Anti-rotation bracket Included w/actuator
 Paralleling Refer to table
 "Multiple Actuators"
 Clamp connection to
 - round shaft Ø 5/16" to 5/8" (8 to 16 mm)
 - square shaft □ 5/16" to 15/32" (8 to 12 mm)
 Wire connection 3 ft. (0.9 m) cable, color coded, plenum rated
 Wire size 18 AWG (0.75 mm²)
 Dimensions 4.53 x 2.56 x 3.50 in. (115 x 65 x 89 mm)
 Weight 1.6 lbs. (0.75 kg)
Manufacturing ISO 9001 certified
Listings/Approvals CE
 UL and CSA
Warranty Five-year material and workmanship (Two-year standard, three-year conditional)

ORDERING INFORMATION

GA-VSP135-024 Standard, 5 sec. over 0-90° angle of rotation

DIMENSIONS

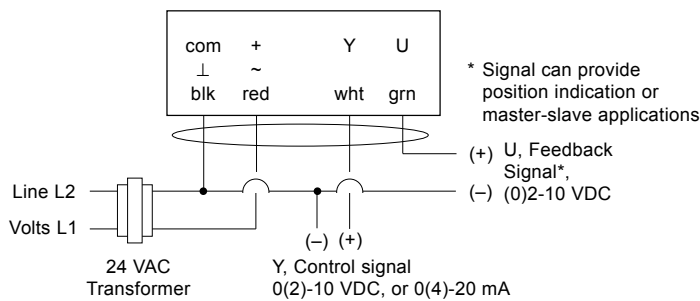
inches (mm)



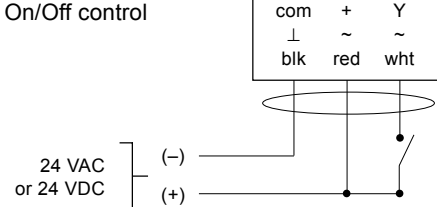
Note: Anti-rotation mounting bracket supplied w/actuator

WIRING CONFIGURATION

GA-VSP135-024 Proportional control



GA-VSP135-024 On/Off control



- Notes:
- Actuators are provided with color coded wires.
 - 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.

GA-VSP135-024 Function and Signal Selection

Signal selector (dip switch built-on printed circuit-board)		On	
		Off 1 2 3 4*	
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

Multiple Actuators (maximum quantities)	GA-VSP135-024 Proportional
Parallel connection, 0(2)-10 VDC	20
Parallel connection, 0(4)-20 mA	10
Master-slave, via U, feedback signal	10
<i>Actuator stacking is NOT recommended</i>	