SIEMENS

Submittal Sheet
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GBB Series, Enhanced Non-spring Return, 221 lb-in, Direct Coupled, Electronic Damper Actuators

Product Number	Operating Voltage	Control		Pre-Cabled			Built-in Control Options			
	24 Vac/dc +/-20%	0(2) to 10 Vdc	2-Position/Floating	Standard, 18 AWG, 3 ft (0.9 m)	Plenum, 18 AWG, 3 ft (0.9 m)	Plenum, 18 AWG, 6 ft (1.8 m)	Feedback	Potentiometer	Dual Auxiliary Switches	Span and Offset
GBB141.1U	●		●	●						
GBB141.1P	●		●		●					
GBB142.1U	●		●	●				●		
GBB146.1U	●		●	●					●	
GBB146.1P	●		●		●				●	
GBB161.1U	●	●		●			●			
GBB161.1P	●	●			●		●			
GBB163.1U	●	●		●			●			
GBB163.1P	●	●			●		●			
GBB164.1U	●	●		●			●			●
GBB164.1P	●	●			●		●			●
GBB166.1U	●	●		●			●		●	
GBB166.1P	●	●			●		●		●	

Technical Data

Torque:	221 lb-in (25 Nm)			
Runtime for 90°:	150 seconds opening and closing			
Frequency:	50/60 Hz			
Power consumption:	**Running**		**Holding**	
	VA	**Watt**	**VA**	**Watt**
GBB14x	2.1	1.4	.08	0.5
GBB16x	2.0	1.5	0.9	0.6
Equipment rating (24 Vac):	Class 2 per UL/CSA			
Noise level:	<45 dBA (running)			
Angle of rotation:	90° nominal, 95° maximum			
Shaft dimensions:	3/8…1 in. (8…25.6 mm) dia., 3/4 to 5/8 in. square 3/4 in. (20 mm) min. length			
Operating temperature:	-25°F…130°F (-32°C…55°C)			
Storage temperature:	-40°F…158°F (-40°C…70°C)			
Ambient humidity:	95% rh (non-condensing)			
Enclosure:	NEMA 2, IP54 per EN60529 (Not with cable-up mounting orientation)			
Material:	Die-cast aluminum alloy			
Agency listings:	UL listed to UL60730			
CE: conformity	Electromagnetic compatibility 2014/30/EU Low-voltage directive 2014/35/EU CSA E60730			
Gear Lubrication:	Silicone-free			
Weight	4.8 lb (2.22 kg)			
With switches	5.2 lb (2.35 kg)			
Country of Origin	USA			

Description

Non-spring return, direct-coupled, electronic damper actuators provide 2-position/floating and modulating control of building HVAC dampers.



Features

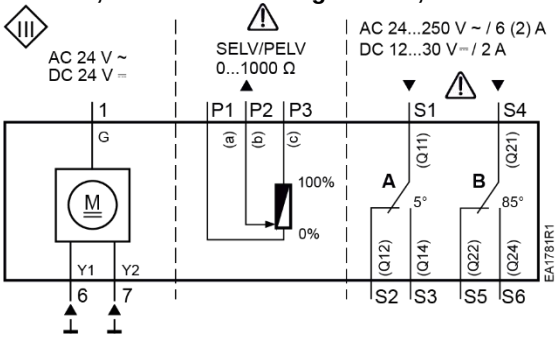
- Selectable modulating control signal (0…10 Vdc or 2…10 Vdc).
- 24 Vac/dc compatible.
- Two-position and floating control with motor shut off at end of stroke.
- 250% reduction in power consumption.
- Self-centering shaft coupling
- Integral 1/2-inch conduit connection.
- Manual override.
- Low energy consumption.
- Quiet operation.
- Independently adjustable dual auxiliary switches available.
- UL60730 and cuL listed; CE-certified.
- Feedback potentiometer UL/cUL-Class 2 (SELV/PELV for CE)
- EN61000-6-3 Emissions for all models
- EMC 2004/108/EC
- 2006/95 Low voltage directive

Typical Specifications

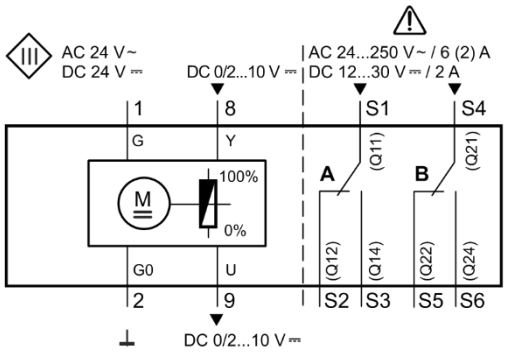
- Non-spring return damper actuators shall be the direct-coupled type that requires no connecting linkages.
- The non-spring return actuators shall have a self-centering damper shaft coupling that ensures concentric alignment of the actuator's output coupling with the damper shaft and be capable of direct mounting to a shaft up to a 1-inch (25 mm) diameter.
- Actuators shall provide stall protection throughout the full range of rotation.
- All non-spring return actuators shall be capable of both clockwise and counterclockwise operation.
- All non-spring return actuators shall hold position in the event of a power failure.
- All modulating actuators shall return to the 0 position in the event only the control signal is lost.
- All actuators shall provide a means of manually positioning the output coupling in the absence of power. Dual independently adjustable auxiliary switches must be integral to the actuator.
- All actuators must provide an easily readable high contrast yellow on black position indicator.
- All actuators shall be UL60730 UL 2043, CAN/CSA E60730, 2006/95/EC low voltage directive, EN 60 730-2-14 (type 1), EMC 2004/108/EC, EN61000-6-3 Emissions for all models and manufactured under ISO 9002 and ISO 14000 procedures.
- Actuators shall be designed for a minimum of 60,000 full stroke cycles, 5,000,000 repositions at the actuators rated torque and temperatures.
- Actuators shall be as manufactured by Siemens Industry, Inc.

Wiring Diagrams

GBB14x, 2-Position/Floating Control, 24 Vac/dc:



GBB16x, 0(2) to 10 Vdc Modulating, 24 Vac/dc:



Dimensions

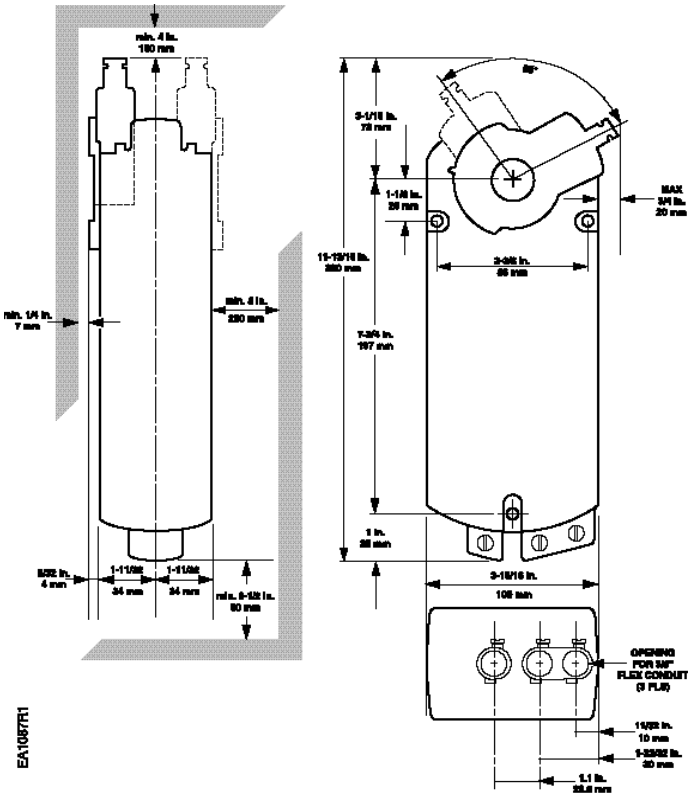


Figure 1. GBB Actuator Dimensions in Inches (mm).

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