SIEMENS

Technical Specification Sheet
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LA546 Laboratory Electronic Actuator

Figure 1. Laboratory Electronic Acutator.

Description

The Laboratory Electronic Actuator is designed to work in airflow applications where rapid movement of the damper actuator is required for control of pressurization of the space. Typical applications include fume hood damper actuation and room pressurization control.

Features

- Maintenance free high speed actuator
- Accepts industrial standard analog control signals (0-10Vdc, 4-20mA) as well as the proprietary Siemens Fume Hood Controller pulsed signal
- Power failure options: hold in last position or fail-safe Normally Open / Normally Closed
- Selectable fail-safe action: retract, extend
- NEC Class 2 with Isolated Interface Board
- Manual override at the interface board
- Actuator protection with integral current sensing
- 45°, 60° and 90° rotation angles
- Assembly available in Galvanized enclosure suitable to mount on 90° rotation terminals.

Application

LA 546 laboratory electronic damper actuators are designed specifically for applications in critical environments where rapid response to change in pressurization is required. This includes operation of the exhaust dampers in terminal units and venturi air valves for fume hoods as well as supply and exhaust units for room pressurization.

The actuator is offered with two selectable control inputs. One is “floating” or “3-position”, using two digital 24Vac input signals to extend, retract or hold position. The other uses a modulated 0-10Vdc or 4-20mA input control signal. Choose control signal to match the output signal of the controlling device. The actuator is offered for linear stroke and with mounting bracket and crank arms for 45°, 60° or 90° rotation.

Specifications

Power Supply	Operating Voltage	24Vac (18-30)
	Frequency	50/60Hz
	Peak Load (at power up)	25 VA
	Maximum Operating Load (typ.):	
	Terminal Units	12 VA
	Venturi Air Valves	25 VA
Mounting on rotating shaft	Shaft size	½ in to ¾ in (12.7mm to 19mm)
	Minimum shaft length	2.5 inches (63.5mm)
Control Signal	Input Signal	
	Floating (pulse)	15-35Vac or 10-47 Vdc
	Analog (0-10Vdc)	
	Voltage input	0-10Vdc
	Input resistance	100 K Ohms
	Analog (4-20mA)	
	Current input	4-20mA
	Input resistance	250 Ohms
Function	Stroke	Maximum Thrust
	2.75" (70mm)	50 lbf (220N)
	Rotation / Crank Length	Maximum Torque
	90° / 1.94" (49mm)	97 in-lb(11.0 Nm)
	60° / 2.75" (70mm)	137 in-lb(15.5 Nm)
	45° / 3.59" (91mm)	179 in-lb(20.3 Nm)
	Stroke time (end-to-end)	
	_1.8s (No Load) / 2.3s (Max Load)	
	Flow Response time	
	_< 1.0s for flow change of 5:1 using Siemens Lab Exhaust Terminal or Venturi Air Valve	
Enclosure	Material	18 gage Galv steel
	Dimensions	See Figure 2
Ambient	Temperature	
	Operation	40 to 104°F (5 to 40°C)
	Transportation and storage	15 to 140°F (-9 to 60°C)
	Humidity	5% to 95% (non-condensing)
Misc.	Weight	
	Enclosed Assembly	12.3 lbs. (5.6 kg)
	Actuator Only	3.0 lbs. (1.4 kg.)
	US Patent	5,833,529
Agency Listings	CE (including EN61326)	
UL Listing	UL 916, PAZX,	
cUL Listed	Canadian Standards C22.2 No. 205-M1983, PAZX7	
FCC Compliance	47 CFR Part 15	

Interface board requires an earth ground.

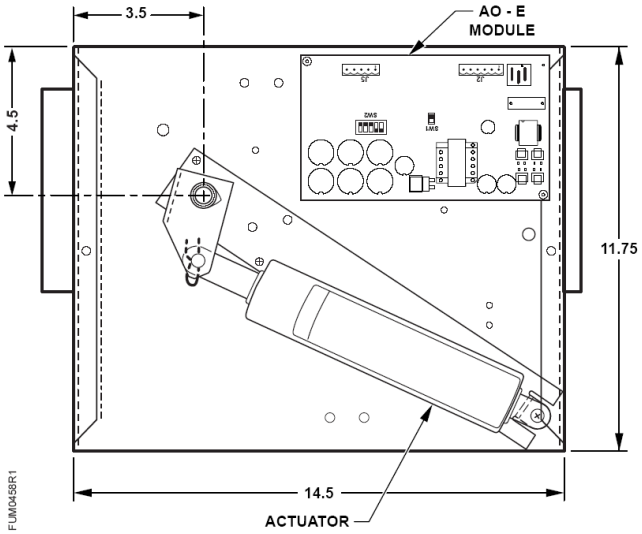

Figure 2. LEA Enclosed Assembly (5" deep) Complete with Interface, Actuator, 90° crank

Operation

Floating control	Commands the actuator to extend or retract using the proprietary Siemens FHC/LRC pulsed control signal or industry standard 3-position pulsed signals.
0-10Vdc/4-20mA	0-10Vdc or 4-20mA control signal controls the damper actuator. The actuator stroke is proportional to the control signal.
Power failure	Either maintain current position or fail NO/NC. User selects the appropriate failsafe position for application.
Wiring	All wiring must conform to NEC and local codes and regulations.

Product Ordering Information

Part No.	Lab Electronic Actuator (LEA) Descriptions	Order For	
546-00450	Interface Board (AO-E module)	VENTURI	TERMINAL
546-00437B	LEA – Actuator Only		
546-00581	LEA Bracket Kit, 90° rotation		
546-00582	LEA Bracket Kit, 45°&60°rot.	NAILOR ANEMOSTAT	
546-00438	LEA Enclosed Assembly	TERMINAL UNITS, 90°	

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