

ENGINE GOVERNING SYSTEMS

ALN Series

Electric Linear Actuators



- Low-Cost, Compact Design
- Fast Response
- Precise Repeatability

- Spring Return to Minimum Fuel
- Maintenance Free
- Small Size

INTRODUCTION

The linear actuators are designed to provide highly accurate precise positioning for a close loop control with a minimum number of moving parts, which prolong the life of the actuator.

The linear actuators provide a quick response time and can be used for different applications. The fast-acting actuator is completely self-contained. It requires only a firm mounting surface, appropriate linkage to the fuel control and electrical connection to the speed control unit. The actuators are not gravity sensitive and therefore can operate in any position. The actuators are compatible with GAC's standard speed control units.

The linear actuators are a maintenance free devices.



DESCRIPTION

The linear actuator provides a pushing force from its output shaft to control engine fuel in an electric engine governor system. It is a proportional solenoid actuator and therefore the output shaft position varies proportionally to the current strength. An integral return spring is provided as a fail-safe feature to insure that when the system is turned off or when battery power is lost, the return spring forces the output shaft to its zero fuel position, which can cut-off fuel to the engine

CAUTION

The engine should be equipped with an independent shut down device to prevent overspeed, which can cause equipment damage or personal injury.

WIRING

The ALN Series Electric Actuator is pre-wired for 12 or 24VDC operation.

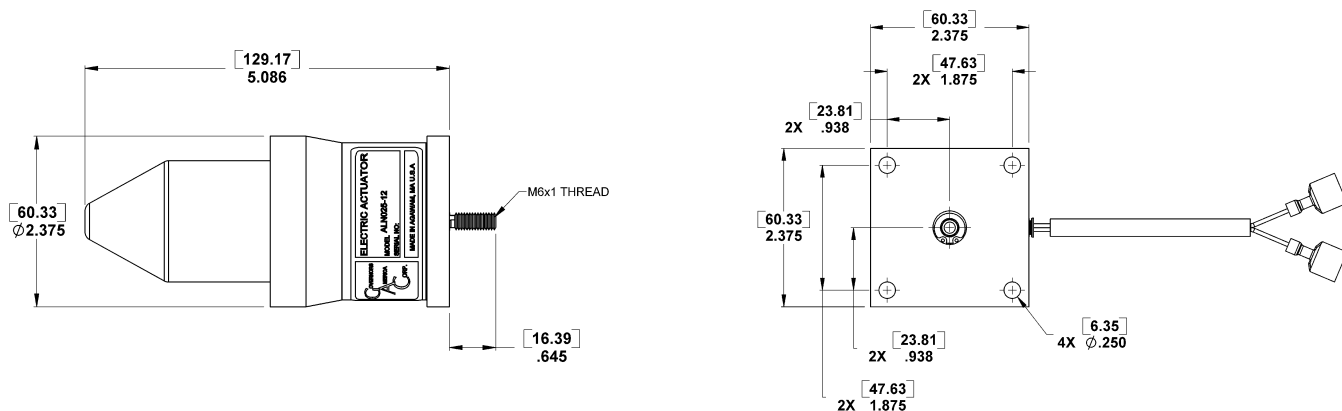


Fig.1 ALN025 Outline Dimensions in: inches, [mm]



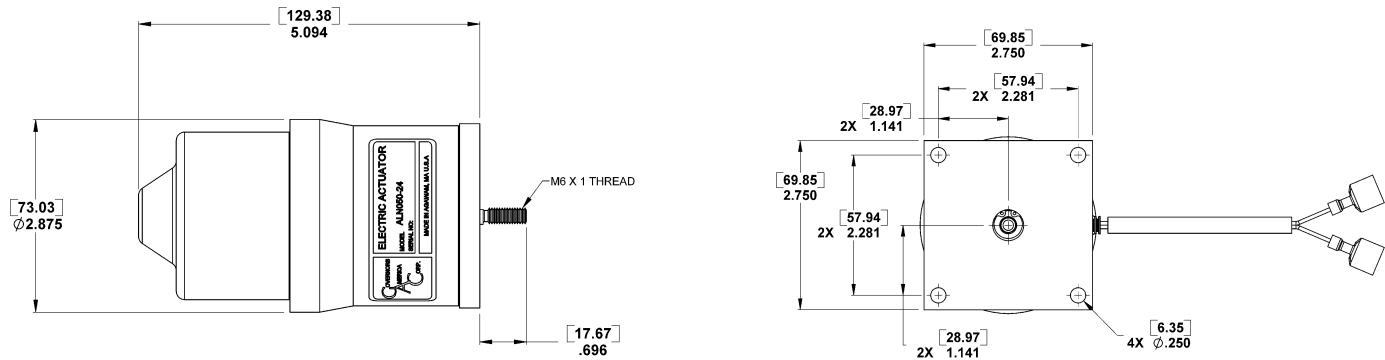


Fig.2 ALN050 Outline Dimensions in: inches, [mm]

SPECIFICATIONS

Performance

Operating Work	ALN025	0.25 ft-lb (0.34 Nm)
	ALN050	0.50 ft-lb (0.34 Nm)
Maximum Force	ALN025	6.5 lbF (28.9 N)
	ALN050	13.0 lbF (57.8 N)
Operating Stroke		0.9 in. (22.86 mm)
Response Time (10-90%, 2-18mm)		35 msec

Electrical

Operating Voltage (Dedicated Coil)		12 or 24 VDC \pm 20%
Nominal Operating Current	ALN025 & 050	1.6 A @ 12 VDC
		0.8 A @ 24 VDC
Maximum Continuous Current	ALN025 & 050	3.8 A @ 12 VDC
		1.8 A @ 24 VDC
Coil Resistance	ALN025-12	1.8 \pm 0.2 Ohms
	ALN025-24	7.3 \pm 0.2 Ohms
	ALN050-12	1.9 \pm 0.2 Ohms
	ALN050-24	7.7 \pm 0.2 Ohms
Connection		18 AWG (0.8 mm ²) leads with length of
		4 in. (102 mm) with insulated tab terminals

Environmental

Operating Temperature		-40 to 200 °F (-40 to 95 °C)
Relative Humidity		Up to 100%
Vibration		20 g @ 20 to 500 Hz
Shock		20 g @ 11 msec.
All Surface Finishes		Fungus Proof and Corrosion Resistant
Sealing		Oil, water, and dust resistant

Physical

Dimensions		See Figs.1 & 2
Weight	ALN025	2.5lb (1.1 kg)
	ALN050	4.3lb (2.0 kg)

Hardware (not included)

Mating Connector		AMP P/N 2-520184-2
Rod end Bearings	BR400	(6mm Thread)
	BR200	(1/4"-28 Thread)
Linkage installation kit		KT130 (clevis & nut)