

ALN Series Electric Linear (Push Type) Actuators

1 SELECTION CHART

| Product No. | SYSTEM VOLTAGE | | AVAILABLE MOUNTING KITS | | | |
|-------------|----------------|--------|---------------------------|----------------------------|-----------------------------|---------------------------|
| | 12 VDC | 24 VDC | Included KT130 Clevis Kit | KT231M Bosch RSV Left Side | KT232M Bosch RSV Right Side | 0150-2878 Cummins/ Kubota |
| ALN025-12 | ■ | | | | | |
| ALN025A-12 | | ■ | | | | |
| ALN025-24 | | ■ | | | | |
| ALN025A-24 | | | ■ | | | |
| ALN050-12 | ■ | | | | | |
| ALN050A-12 | | ■ | | | | |
| ALN050-24 | | ■ | | | | |
| ALN050A-24 | | | ■ | | | |

* KT130 Clevis Kit may be purchased separately

2 SPECIFICATIONS

| PERFORMANCE | |
|------------------------------------|--|
| Operating Work | ALN025.....0.25 ft-lb (0.34 Nm) ALN050.....0.50 ft-lb (0.68 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 POWER INPUT | |
| Operating Voltage (Dedicated Coil) | 12 or 24 VDC ±20% |
| Nominal Operating Current | ALN025 & 050 1.6 A @ 12 VDC 0.8 A @ 24 VDC |
| Maximum Current (Continuous) | ALN025 & 050 3.8 A @ 12 VDC 1.8 A @ 24 VDC |
| Coil Resistance | ALN025-12.....1.8 ± 0.2 Ohms ALN025-24.....7.3 ± 0.2 Ohms ALN050-12.....1.9 ± 0.2 Ohms ALN050-24.....7.7 ± 0.2 Ohms |
| Connection | 18 AWG (0.8 mm ²) leads |
| 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 Section 3 |
| Weight | ALN025.....2.5lb (1.1 kg) ALN050.....4.3lb (2.0 kg) |

3 OUTLINE DIAGRAM

Figure 1 ALN025 Outline Dimensions: [mm] inches

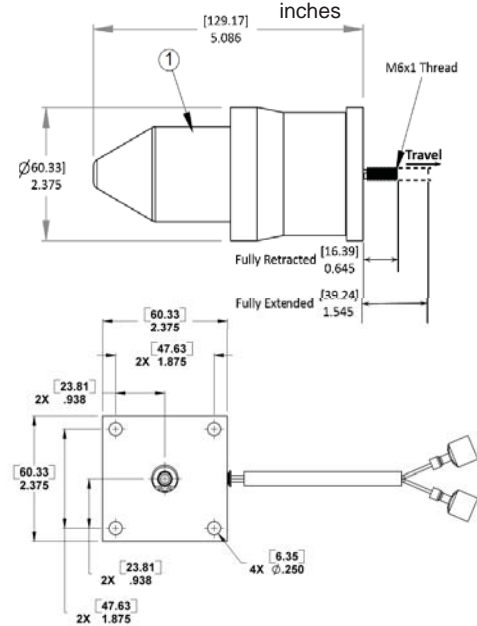
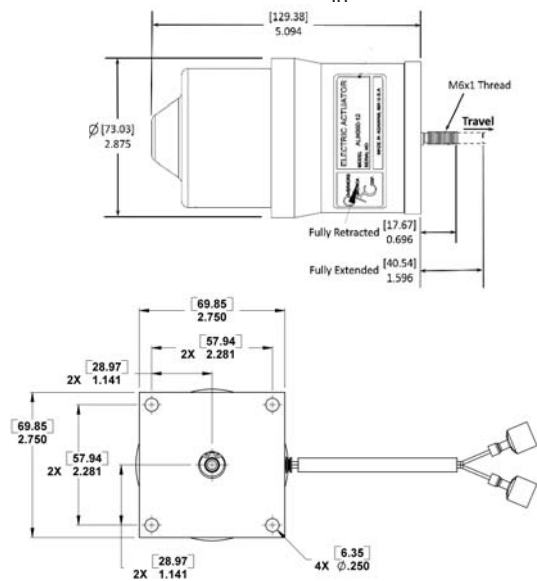


Figure 2 ALN050 Outline Dimensions: [mm] in



4 INSTALLATION

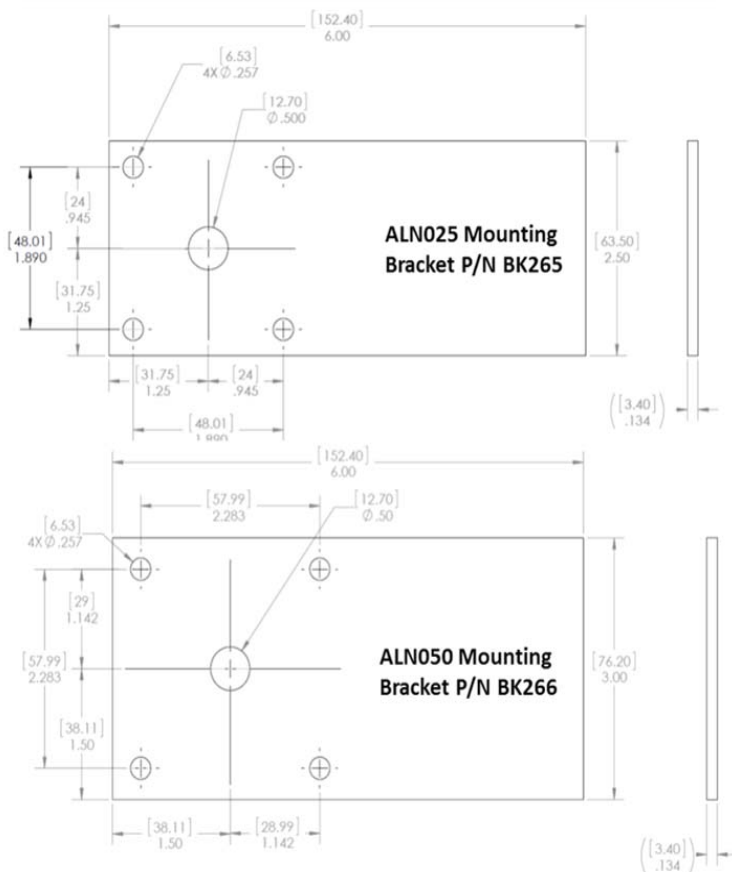
The actuator must be rigidly mounted as close as possible to the fuel control lever of the engine. The actuator can be mounted in any orientation. The linkage between the actuator and the fuel control lever shall be as short as practical and in a straight line to ensure maximum force is available for best operation. Normal vibration from the engine will not affect the operation of the actuator. High quality rod end bearings should be used. Rod end bearings that have high friction can cause instability and ultimately require servicing. The linkage should be sturdy yet low in mass for faster speed of response.

NOTE A torque for the nut and clevis link is 6 - 7 lb-ft (8 - 9.5 Nm).

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

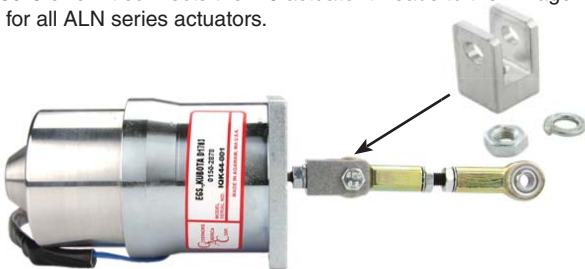
ACTUATOR MOUNTING PLATES

“Starter Plates” are available for both the ALN025 and ALN050 actuators to speed-up and simplify their installation, Zinc plated (per ASTM-B-633 Type II) for corrosion resistance.



KT130 CLEVIS KIT FOR ALN SERIES ACTUATORS

The KT130 Clevis Kit connects the M6 actuator threads to the linkage Bearing Rod End for all ALN series actuators.



Linkage Components:

Bearing Rod Ends part numbers, BR200 (1/4-24), BR300 (M5), BR400 (M6) and BR500 (M8) and Threaded Rods, part number RD102 (1/4-28) and RD233 (M6) are available for ease of linkage assembly.



5 WIRING

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

WARNING Do not use the ALN Series actuator on a 32-volt system, contact the factory for assistance.

| DESCRIPTION | PART NUMBER | QTY PER ACTUATOR |
|---|--------------------------------------|------------------|
| Mating Connector | GAC: EC05-02-0035 AMP: 2-520184-2 | 2 |
| Cable Harness Assembly; 18 AWG, 5 in, (1.52m) Long | CH415-127 | 2 |
| Cable Harness Assembly; 18 AWG, 10 in, (3.1m) Long | CH415-254 | 2 |

6 TROUBLESHOOTING

IF THE ACTUATOR FAILS TO MOVE TO FULL FUEL

If the actuator fails to move to full fuel, make the following tests:

1. Measure battery voltage at controller (see specification for the operating voltage).
2. Check linkage. Manually operate linkage to see that it is not sticking or binding.

IF THE ACTUATOR FAILS TO MOVE

If the actuator fails to move, make the following tests:

1. Measure the coil resistance between the leads (see specification for resistance).
2. Measure the resistance between one lead of the actuator and the housing of the actuator (infinity).
3. Energize the actuator, follow the procedure identified in the control unit publication, to full fuel. If the actuator does not move it is defective.
4. Clean any dirt or debris build up on the shaft causing binding.