ALN Series
Electric Linear (Push Type) Actuators

1 SELECTION CHART

<table>
<thead>
<tr>
<th>SYSTEM VOLTAGE</th>
<th>AVAILABLE MOUNTING KITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product No.</td>
<td>12 VDC</td>
</tr>
<tr>
<td>ALN025-12</td>
<td>✔</td>
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<tr>
<td>ALN025A-12</td>
<td>✔</td>
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<tr>
<td>ALN025-24</td>
<td>✔</td>
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<tr>
<td>ALN025A-24</td>
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<tr>
<td>ALN050-12</td>
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<tr>
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<td>✔</td>
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<tr>
<td>ALN050-24</td>
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<td>ALN050A-24</td>
<td>✔</td>
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</tbody>
</table>

* 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 mm²) 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......2.5 lb (1.1 kg)
  ALN025......4.3 lb (2.0 kg)

3 OUTLINE DIAGRAM

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.
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.
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.

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.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PART NUMBER</th>
<th>QTY PER ACTUATOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mating Connector</td>
<td>GAC: EC05-02-0035 AMP: 2-520184-2</td>
<td>2</td>
</tr>
<tr>
<td>Cable Harness Assembly; 18 AWG, 5 in, (1.52m) Long</td>
<td>CH415-127</td>
<td>2</td>
</tr>
<tr>
<td>Cable Harness Assembly; 18 AWG, 10 in, (3.1m) Long</td>
<td>CH415-254</td>
<td>2</td>
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</tbody>
</table>

**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.

**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.