

- Easy Installation
- Universal Design
- Multiple Voltage Selection
- Internal Return Spring

- Rapid Response to Transient
- Multiple Mounting Positions
- Maintenance Free
- Proven Reliability

INTRODUCTION

The 225 Series electric actuator is a rotary output, linear torque, proportional servo. This electromechanical actuator is typically used as an engine fuel control positioning device. An internal spring provides fail safe operation by forcing the actuator to the fuel shut off position when the actuator is de-energized. This design combines fast operation, multi voltage usage, wider rotation angles, and proven reliability. The actuator can operate directly from 12 and 24 volt battery supplies.

The speed of operation of the actuator is typically faster than competitive units, thus it provides more stable and rapid response to transient conditions.

Applications include most block pumps, with or without mechanical governors, distributor type pumps, and medium sized carbureted engines. The 25 degrees of rotation expands the application to a wider variety of engines.



DESCRIPTION

The actuator is an electromagnetic servo device which can be integrated into a closed loop control system. An engine control system can be described as follows. An electrical signal is generated by a magnetic speed sensor which is proportional to engine speed. This signal is sent to the electronic speed control unit which compares it to the preset engine speed setting. If the magnetic Speed sensor signal and the preset engine speed setting are not equal, a change in current from the speed control unit to the actuator will change the magnetic force in the actuator.

The rotation of the actuator shaft will then adjust the fuel to the engine to cause the engine speed to be equal to the preset engine speed setting. Shaft rotation is proportional to the amount of actuator current and counterbalanced by the internal spring.

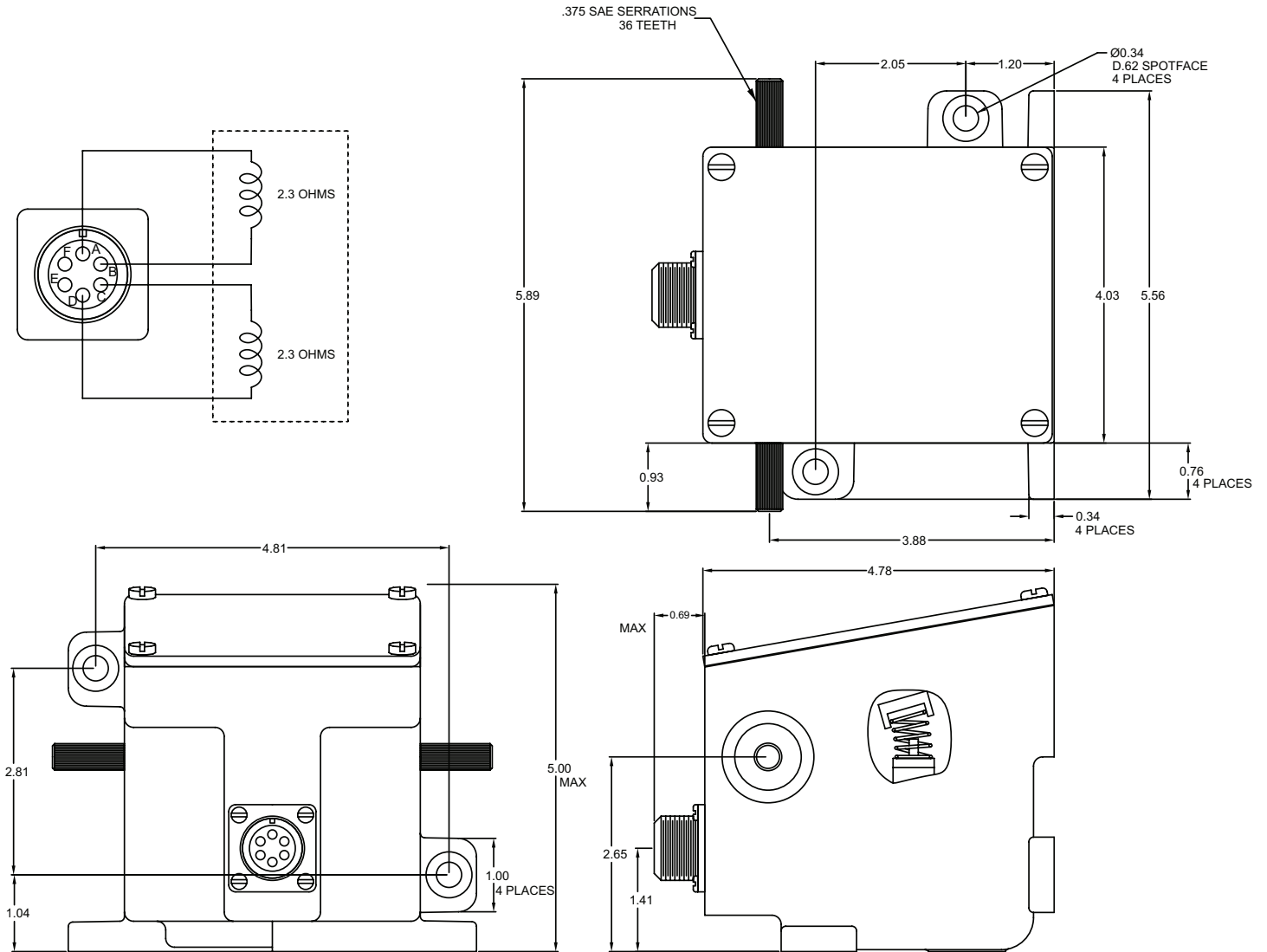
Since the design has no sliding parts and is totally sealed, outstanding reliability is achieved. A single compression spring is used to improve reliability. No maintenance is necessary.

SELECTION CHART

| MODEL | CONNECTOR |
|-----------|--|
| ADB225 | MILITARY CONNECTOR / 12 OR 24 VDC |
| ADB225F | MILITARY CONNECTOR / FEEDBACK / 12 OR 24 VDC |
| ADB225G | MILITARY CONNECTOR / LESSOR SPRING RETURN FORCE / 12 or 24 VDC |
| ADC225GAS | COMMERCIAL CONNECTOR / LESSOR SPRING RETURN FORCE/ LONGER STROKE / SERRATED SHAFT / 12 OR 24 VDC |
| ADC225GS | COMMERCIAL CONNECTOR / LESSOR RATE RETURN SPRING / SERRATED SHAFT / 12 OR 24 VDC |
| ADC225J | COMMERCIAL CONNECTOR / GREATER RATE RETURN SPRING / 12 OR 24 VDC |
| ADC225JS | COMMERCIAL CONNECTOR / GREATER RATE RETURN SPRING / SERRATED SHAFT / 12 OR 24 VDC |
| ADC225KS | COMMERCIAL CONNECTOR / HIGH TEMPERATURE APPLICATION / SERRATED SHAFT / 12 OR 24 VDC |
| ADC225S | COMMERCIAL CONNECTOR / SERRATED SHAFT / 12 OR 24 VDC |
| ADD225S | PACKARD CONNECTOR / SERRATED SHAFT / 12 OR 24 VDC |



DIAGRAM 1 OUTLINE AND DIMENSIONS



SPECIFICATIONS

PERFORMANCE

Available Torque.....Max 2.2 lb-ft (2.7 Nm)
 Maximum Operating Shaft Angular Travel..... 25 ± 1 degree CW/CCW

POWER INPUT

Operating voltage.....12, 24VDC
 Normal Operating Current.....3 A at 12 VDC
1.5 A at 24 VDC
 Maximum Current-Continuously Rated.....8 A at 12 VDC
4 A at 24 VDC

ENVIRONMENTAL

Ambient Temperature..... -65°F to 200°F (-54°C to +95°C)
 Relative Humidity.....up to 100%
 All Surface Finishes.....Fungus proof and corrosion resistance

PHYSICAL

Dimensions.....See Diagram 1
 Weight.....8.25 lb. (3.75 kg)
 Mounting.....Any Position, electrical connector at the top preferred

RELIABILITY

Vibration.....Up to 20 G, 50-500 Hz
 Testing.....100% Tested

This document is subject to change without notice.
 Caution: None of GAC products are flight certified controls including this item.

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