

- A Low-Cost Integral Actuator
- Proven Electromechanical Design with High Reliability
- Easy Installation with Minimal Setup Time
- Fast Response (< 45msec)
- Environmentally Sealed, All Metal Design
- Increased Operational Integrity and Security

INTRODUCTION

The 103 Series Integral Actuator is a field-proven proportional actuator designed to mount directly to the Delphi DPG/DP210 Pump. No external linkage or brackets are required to install this actuator. When de-energized the 103 Series electric actuator provides the function of the fuel-shutoff solenoid. This is accomplished by an internal spring that returns the fuel-metering valve linkage to the no fuel position when the actuator is de-energized.

Installing the 103 Series actuator does not defeat the engine’s mechanical governor operation. During the installation process, the mechanical governor must be set to a higher speed than the electric governor’s operating speed. In this configuration the mechanical governor acts as a speed limiter, but does not interfere with the operation of the actuator.



SYSTEM DESCRIPTION

This integral actuator is an electromagnetic servo device which, when installed becomes part of a closed loop fuel control system. This system can be described as follows: Electrical pulses, generated by the magnetic speed sensor, are directly proportional to the engine speed. These pulses are transmitted to the speed control unit, which will compare the real-time pulses to the preset engine speed setting. If the real-time pulses differ from the preset speed setting, the speed control unit will deviate the current to the electric actuator in an amount proportional to the difference. This deviation in current will cause the actuator shaft to rotate thus adjusting engine speed to match the preset engine speed setting. Since there are no sliding parts in the 103 Series electric actuator and the unit is sealed, outstanding reliability and no maintenance are the resulting qualities.

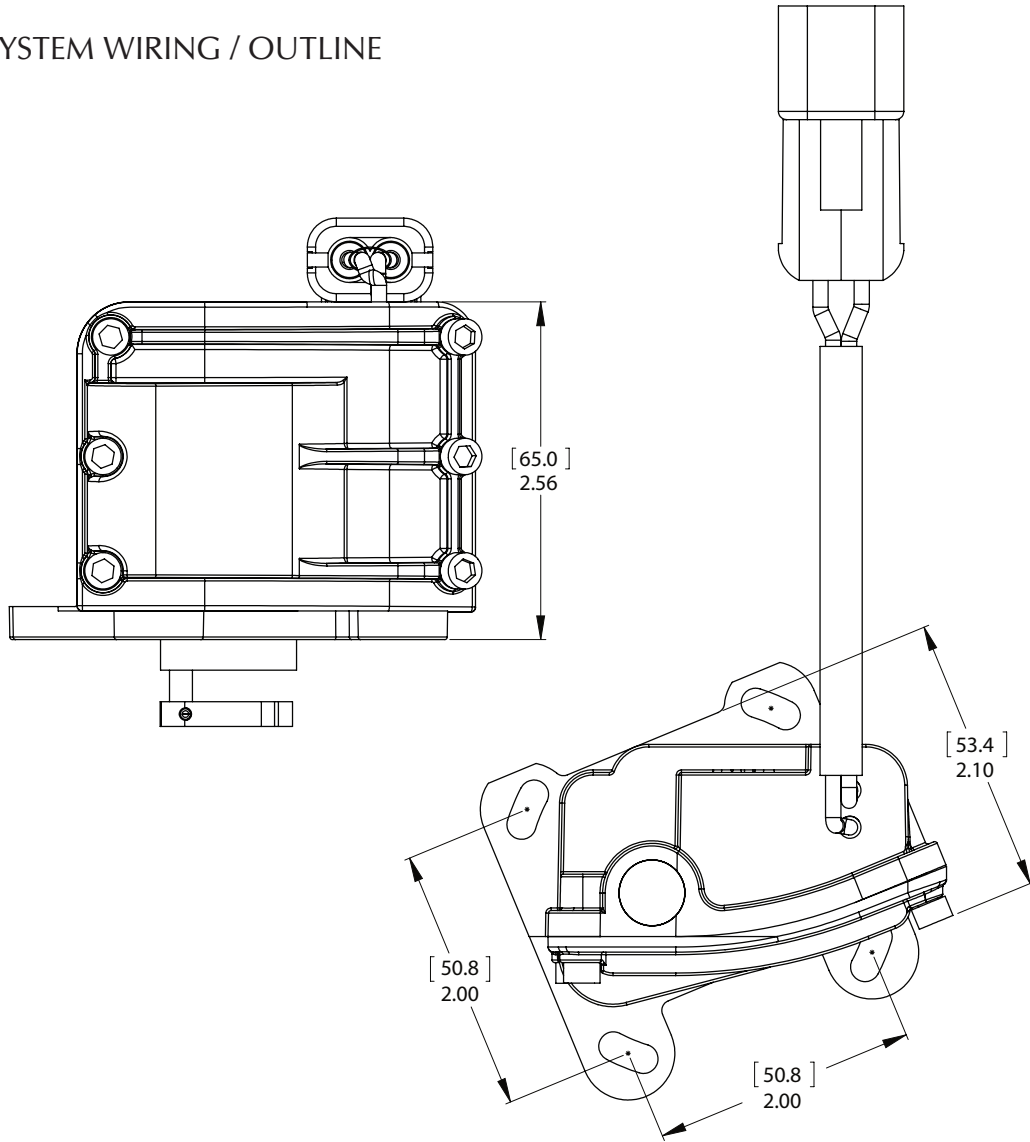
SELECTION TABLE

Compatible GAC Controls

| Analog | Digital |
|----------------|------------|
| ECC328-12 | SDG Series |
| ESD2244-12/-24 | IGC Series |
| ESD2402-12/-24 | |
| ESD5120 | |
| ESD5331 | |
| ESD5520E | |
| ESD5570 | |

The 103 Series actuator is designed to operate with a wide selection of GAC analog and digital controls.

DIAGRAM 1 SYSTEM WIRING / OUTLINE



SPECIFICATIONS

Power Input

Operating Voltage (Dedicated Coil).....12 or 24Vdc Available
 Nominal Operating Current.....1.9A @ 12VDC
or 1.5A @ 24VDC
 Maximum Current (Continuous).....2.7A @ 12VDC
or 1.9A @ 24VDC

Environmental

Operating Temperature Range.....-40° to 180°F
(-40° to 85°C)
 Relative Humidity.....Up to 100%
 Shock.....20g, 11msec.
 Vibration..... +/- 4g, 25 to 100 Hz

Physical

Dimensions.....See Diagram 1
 Weight..... 2 lbs.
 Mounting.....Directly to Delphi Type DPG / DP210G

Reliability

Testing.....All Units 100% Tested

Mating Hardware

- All models come with mounting hardware and O-ring.
- ADD models come with mating connector.
- ADE models come with cable harness already installed to mating connector.

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

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