

Speed Control Unit

ESD5300 SERIES

The ESD5300 Series speed control unit is designed to precisely control engine speed and provide a fast precise response to transient engine loads. The ESD speed control is intended to be used with all GAC Actuators and has a high output actuator driver capable of driving GAC's largest actuators including the ACB2001. A complete closed loop control system is formed with the addition of a magnetic pickup signal sensing engine speed and 24 Volt DC power.



FEATURES

- Variable Speed Governing
- Two Speed Element Switch
- Unique Actuator Power Drive Circuit
- Starting Fuel Control for Lower Engine Exhaust Emissions
- Accessory Inputs for Load Sharing
- Protection Against Transient Voltage
- Protection Against Reverse Battery Voltage
- Speed Ramping from Idle to Operating Speed

SELECTION CHART

| | Standard Features | Dynamic Starting Aid |
|---------|-------------------|----------------------|
| ESD5330 | • | |
| ESD5340 | • | • |

ACCESSORIES

LSM672/LSM672N *(extra filtering)* Load Sharing Module



- 24 VDC
- Isochronous Load Sharing
- Forward-Reverse Power Monitors

A Load Sharing Module proportionally shares the load between two or more generator sets while the system frequency is held constant. As an accessory, the LSM672 measures the true power current, and through a parallel cable interconnection, continuously controls the governing system.

SPECIFICATIONS

Performance

| | |
|--|--|
| Isochronous Operation | ±0.25% |
| Speed Range | 1 - 7.5 KHz Continuous |
| Speed Drift with Temperature | ±1% |
| Idle Speed Adjust Range | 25 - 85% of Rated Speed |
| Droop Range | 1 - 5% Regulation |
| Speed Trim Range | ±200 Hz |
| Remote Variable Speed Range | 25 - 100% of Rated Speed |
| Speed Ramp Time Acceleration. Adj. Range | 266 Hz/sec to 1300 Hz/sec |
| Deacceleration. Adj. Range | 250 Hz/sec to 1000 Hz/sec |
| Starting Fuel Adjustment | |
| 0.0 - 1.5 A | 120, 175, 225, 275 Actuators / SW2-7 "OFF" |
| 0.3 - 4.0 A | (24 Volt Only) 2000 Actuators / SW2-7 "ON" |
| Overspeed Set Point | 2400 Hz to 9300 Hz |
| Crank Termination Set Point | 200 Hz to 2050 Hz |
| Terminal Sensitivity | |
| H | 105 Hz., ±15 Hz/Volt @ 5 K Impedance |
| M | 130 Hz., ±15 Hz/Volt @ 1 M Impedance |
| K | 685 Hz., ±40 Hz/Volt @ 225 K Impedance |
| N | 1000 Hz., ±50 Hz/Volt @ 8 K Impedance |

Environmental

| | |
|-----------------------------|--|
| Operating Temperature Range | -40 ° F to +185 ° F (-40 ° C to +85 ° C) |
| Relative Humidity | up to 95% |
| Vibration | 5 G @ 20 - 500Hz |
| All Surface Finishes | Fungus Proof and Corrosion Resistant |

Electrical

| | |
|---|---|
| Power Supply | 24 VDC Battery Systems (Transient and Reverse Voltage Protected) |
| Maximum Continuous Supply Voltage | 18 or 32 Volts |
| Polarity | Negative Ground (Case Isolated) |
| Power Consumption | 100 mA (No Actuator Current) |
| Maximum Actuator Current | 9 A Continuous |
| Speed Sensor Signal | 0.5 - 50 VAC |
| Maximum Current, Speed Switch Contact (Terminals 1-6) | 6 Amps |

Physical

| | |
|------------|--|
| Dimensions | 6.63 in x 10.28 in x 1.25 in (168 mm x 261 mm x 31.8 mm) |
| Weight | 3.0 lb (1.36 kg) |
| Mounting | Any Position, Vertically Preferred |

Conforms to CE directive for light and heavy industrial usage when installed in accordance with special instructions and as per the wiring diagram which is found in PIB1041.

OPTIONS

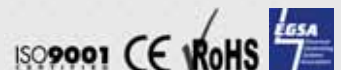
ACB2001 Series Universal Electric Actuator



GAC's ACB2001 actuator is a rotary output, 24V, linear torque proportional electric servo designed for mechanical actuation of fuel system control levers requiring torques in the 5 ft-lb range. Energized by GAC's ESD5300 Series speed control units, the actuator is capable of 35 degrees of rotation with torques as high as 12 ft-lb. Internal springs provide fail safe operation by forcing the actuator to the fuel shut off position when the actuator is de-energized. Since the design has no sliding parts, and is totally sealed, its reliability is outstanding and no maintenance necessary. Engine applications include large block pumps, dual medium carburetors, and some large size carburetors.

- CW & CCW Shafts Available
- Multiple Mounting Positions
- Universal Design
- Internal Return Spring
- Rapid Response to Transient Conditions
- High Performance SYNXTREME HD-2 Lubricant

Governors America Corp.
720 Silver Street Agawam, MA 01001
Phone: 413.233.1888 Fax: 413.789.7736
www.governors-america.com
info@governors-america.com



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