

# Speed Control Unit

## ESD5100 SERIES

The ESD5100 Series speed control unit is designed to precisely control engine speed with rapid responses to transient load changes. The ESD is compatible with all GAC proportional actuators except the ACB2001 electric actuator since this high torque actuator also requires current limiting. Ruggedly built to withstand all engine environments, the ESD will control a wide variety of engines in an isochronous or droop mode. Simplicity of installation and adjustment was foremost in the design.

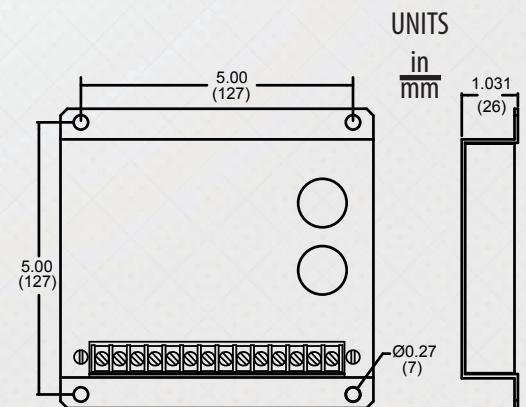


## FEATURES

- Simple Installation and Adjustability
- Auxiliary Accessory Input
- Idle Speed Circuit
- Adjustable PID
- 10 VDC Supply for Accessories
- 10 Amp Drive Circuit
- Isochronous, Droop, & Variable Speed Operation

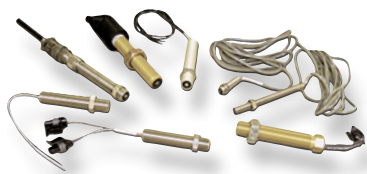
## SELECTION CHART / DIMENSIONS

	Standard Features	Temperature Compensated	EFC Reverse Acting	EFC Forward Acting	Light Force	Soft Coupling	Speed Detection Circuit
ESD5111	•						
ESD5111T		•					
ESD5119			•		•		
ESD5120				•	•		
ESD5131						•	•



# ACCESSORIES

## Magnetic Speed Pickups



The Magnetic Speed Sensor detects when ring gear teeth, or other ferrous projections, pass the tip of the sensor. Electrical impulses are produced by the sensor's internal coil and sent to the speed control unit. The signal from the magnetic speed sensor, teeth per second (Hz.), is directly proportional to engine speed. Speed sensors are available in various lengths in both U.S. and metric threads. Wire leads, military connectors, automotive connectors or stud terminals are also available. Over 30 styles currently available.

# SPECIFICATIONS

## Performance

Isochronous Operation	±0.25%
Speed Range	1 - 7.5 KHz Continuous
Speed Drift with Temperature	±0.5%
Idle Speed Adjust CW	Min. 1200 Hz. Below Set Speed
Idle Speed Adjust CCW	Min. 4100 Hz. Below Set Speed
Droop Range	1 - 5% Regulation
Droop Adj. Max. (K-L Jumpered)	875 Hz., ±75 Hz per 1.0 A change
Droop Adj. Min. (K-L Jumpered)	15 Hz., ±6 Hz per 1.0 A change
Speed Trim Range	±200 Hz
Remote Variable Speed Range	500 - 3.7 KHz
Terminal Sensitivity	
J	115 Hz., ±15 Hz/Volt @ 5 KΩ Impedance
L	735 Hz., ±60 Hz/Volt @ 65 KΩ Impedance
N	148 Hz., ±10 Hz/Volt @ 1 MΩ Impedance
P	10 VDC Supply @ 20 mA Max

## Environmental

Operating Temperature Range	-40 °F to +185 °F (-40 °C to +85 °C)
Relative Humidity	up to 95%
Vibration	1 G @ 20 - 100Hz
All Surface Finishes	Fungus Proof and Corrosion Resistant

## Electrical

Power Supply	12 or 24 ±20% VDC Battery Systems (Transient and Reverse Voltage Protected)
Polarity	Negative Ground (Case Isolated)
Power Consumption	100 mA (No Actuator Current)
Actuator Current Range @ 77°F (25°C)	10 Amps Continuous
Speed Signal Range	1.0 - 50 VAC
Speed Signal	1.0 - 120 VRMS

## Compliance / Standards

Agency	CE Requirements / RoHS Compliance
--------	-----------------------------------

## Physical

Dimensions	See front page
Weight	1.2 lb (0.544 kg)
Mounting	Any Position, Vertically Preferred

# OPTIONS

## GAC ACTUATORS

GAC actuators incorporate fast response, multi voltage usage, and a field proven electromechanical design that allows for precise control when coupled with GAC's speed control devices. All of GAC actuators are easy to install with no maintenance required.

- Throttle Body
- Pump Mounted
- Engine Mounted
- Universal



Governors America Corp.  
720 Silver Street Agawam, MA 01001  
Phone: 413.233.1888 Fax: 413.789.7736  
[www.governors-america.com](http://www.governors-america.com)  
[info@governors-america.com](mailto:info@governors-america.com)



8.13 PT11000 D

© 2013 Governors America Corp. All rights reserved.