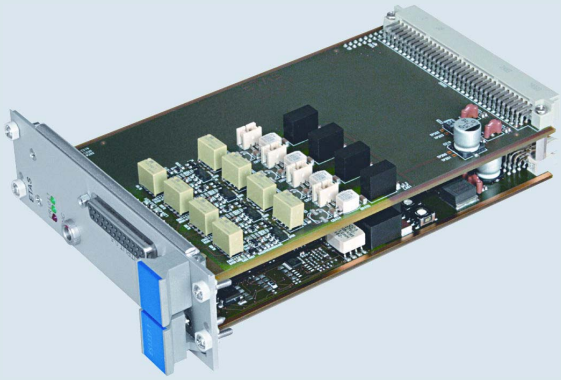
ES1337.2
Wheel Speed Sensor Simulation Board



Key Features

- Four identical, galvanically isolated signal generators for generating speed signals
- Two identical, galvanically isolated voltage outputs
- Configurable reference voltages (internal/external)
- Every channel is protected against overvoltages to ±60 V
- All outputs with a cut-off relay
- Stand still detection (DF11i, VDA) is supported
- Mixed sensor configurations possible

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Applications

The correct determination of the wheel speed by wheel speed sensors is an important prerequisite for the functioning of lots of ECUs for controlling the braking force on each individual wheel (ABS, TCS and ESP). The control prevents either the wheels blocking or the wheels spinning in an uncontrolled manner. Navigation systems also access vehicle speed when the GPS signal is weak or non-existent.

The ES1337.2 Wheel Speed Sensor Simulation Board provides four electrically isolated signal generators for the generation of different wheel speed sensor signals.

The ES1337 further provides 2 electrically isolated analog voltage outputs.

Features

It is possible to simulate five different kinds of wheel speed sensors. It is also possible to simulate different sensors on each virtual wheel.

The following types of sensor can be simulated:

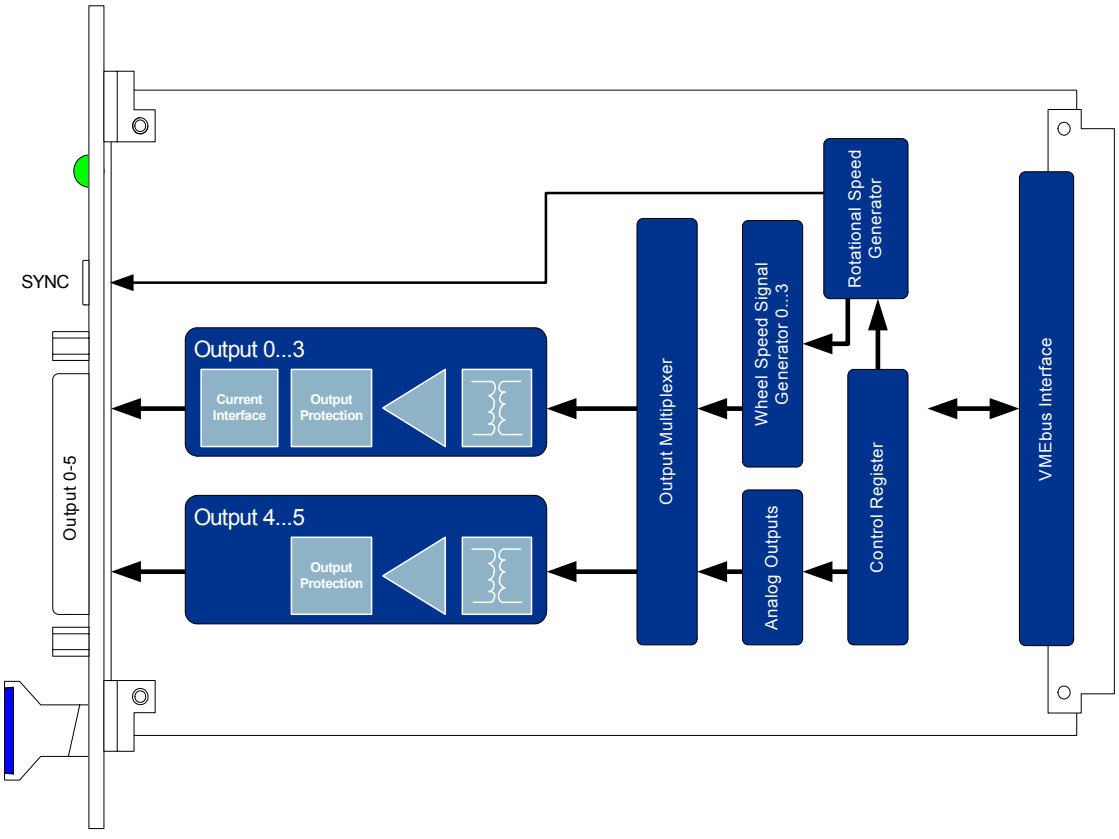
- Passive analog sensors with a sinusoidal output signal (type “DF6”)
- Active digital sensors with a current interface with two current levels (type “DF10”)
- Active digital sensors with a current interface with three current levels and forwards/backwards coding (type “DF10-RotDir”)
- Active digital sensors with a current interface with two current levels and additional information (type “DF11i”)
- Active digital sensors with a current interface with three current levels and additional information (type “VDA”)

Software Control Interface

The ES1337.2 Wheel Speed Sensor Simulation Board is completely configurable and controllable by software.

This software control interface (LABCAR-RTC) is supported by LABCAR-OPERATOR V4.1 and higher.

Block Diagram



Technical Specifications

Names	Features
Wheel Speed Outputs	
Output voltage	-10 V...+10 V
Accuracy	±50 mV
Output current	0...40 mA
Accuracy	±0.5 mA
Overvoltage protection	±60 V
Galvanic isolation	Yes
Analog Voltage Outputs	
External reference voltage	-10 V ... +10 V
Output voltage range	-10 V ... +10 V (internal reference) $-V_{ext}$ ... $+V_{ext}$ (external reference)
Accuracy	With internal reference: 10 Bit (±50 mV)
Output current	±30 mA
Overvoltage protection	±60 V
Galvanic isolation	Yes
Electrical Data	
Current Consumption	10 mA @ +5 V DC 160 mA @ +12 V DC 160 mA @ -12 V DC 700 mA @ +3.3 V DC
Environmental Conditions	
Operating temperature	5 °C to 35 °C (41 °F to 95 °F)
Relative humidity	0 to 95% (non-condensing)
Dimensions	
Height	3 U
Width	4 HP

Ordering Information

Order Name	Short Name	Order Number
Wheel Speed Sensor Simulation Board	ES1337.2	F-00K-106-637

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