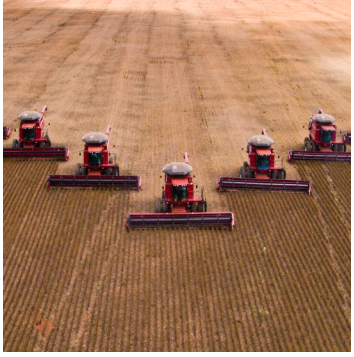


aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Advanced True Ground Speed Sensor (ATGSS)

ENGINEERING YOUR SUCCESS.

Application

True Ground Speed Radars continue to provide the most accurate and dependable speed sensing technology. The next generation Advanced True Ground Speed Sensor (ATGSS) uses Doppler beam technology to determine true ground speed, as well as distance and object detection via frequency signal. The sensor offers both CAN and analog PWM outputs, broadcasting the measured data over a CAN bus using SAE J1939 protocol. OEMs can customize multiple parameters like baud rate, message frequency rate, and source address which provide easy tuning of the sensor according to the application requirements. ATGSS is designed for reliability and ease of installation making it suitable for a wide variety of mobile equipment.

Properties

Features

ATGSS uses a dynamic array of sensors, resulting in more accurate speed calculations and increased resolution, especially at lower speeds. Multiple radar beams eliminate dropouts and false target detection. The sensor offers a smaller form factor, as well as wider range of operating angles and heights than previous generation products or those available in the marketplace. ATGSS utilizes the 77-81 GHz radar frequency band, which allows for a single unit that covers all international regions.

ATGSS is backwards compatible with previous generation products. The sensor provides improved performance and functionality vs TGSS; improved resolution at low speeds, distance and speed forward/reverse.

Reliability

ATGSS is specifically designed for the mobile equipment industry. The sensor has a sealed ABS plastic construction for sturdiness and corrosion resistance. The 3-point, shock absorbing mounting pattern in the base simplifies alignment. These features provide for easy installation and removal, even in field conditions. ATGSS is designed to be robust to support the shock and vibration present in Ag and Construction equipment. The design adheres to industry standards for the environment (ANSI/ASAE EP455). All of these features make ATGSS easy to integrate into any type of mobile equipment.

General

Weight	200g
Temperature (operating)	-40˚C to 85˚C
Temperature (storage)	-55˚C to 125˚C
Sealing Protection	IPX6 equivalent
Speed Range	.022 - 44 mph (0.35 - 71 kph)
Speed Accuracy (Calibrated)	
2 - 44 mph (3.2 - 71 kph)	± 1%
0.22 - 2 mph (0.35 - 3.2 kph)	± 3%

Communication (CAN and analog PWM)

CAN Protocol	SAE J1939
CAN Messages	See part drawing
CAN Bus Speed	250 kbps (CAN Configurable)
Data Broadcast Rate	100 ms, up to 2000 ms
CAN Source Address	0xA0
CAN Broadcast PGN	0xFE49
Analog PWM Output	44.2 Hz/mph (27.46 Hz/kph) 58.9 Hz/mph (36.6 Hz/kph)

Mechanical Characteristics

Housing	PPA Plastic
Radome	PC Plastic
Mounting Flange	M6 Bolt (3x)
Mounting Torque	65 in-lb. (7.3 N-m) Max
Connector (integrated)	DT06-4S-E003
Pin 1	Red (Battery)
Pin 2	Black (Ground)
Pin 3	White (CANL/Radar Present)
Pin 4	Green (CANH/Output Speed)

Electrical Specifications

Supply Voltage	8 - 36 Vdc
Supply Current	250 mA Maximum
Microwave Frequency	77-81 Ghz

Mounting (Ground Speed)

Angle	20 - 55˚ from mounting space
Height	20 - 122 cm from target

Ordering Part Number

ATGSS TGS STD 44.2Hz/mph	177111ECD
ATGSS TGS STD 58.9Hz/mph	177112ECD

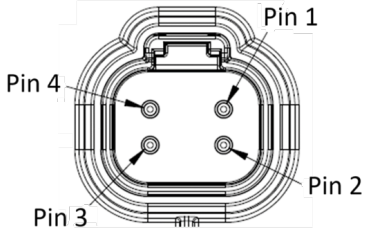
Regulatory Compliance

Environmental Protection

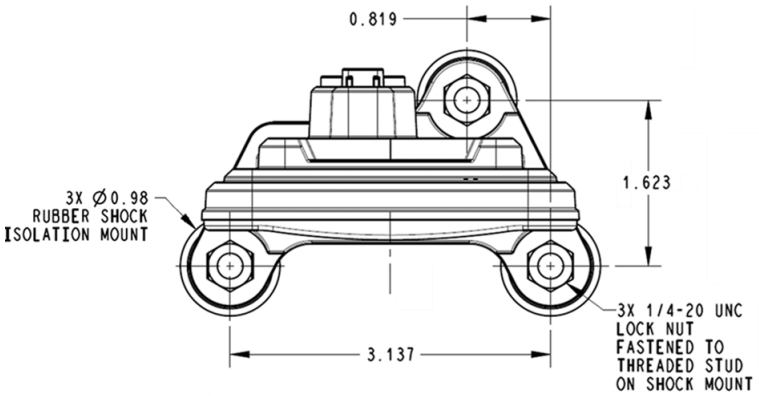
ANSI/ASAE EP455:2008
EN ISO 14982
RoHS 2011/65/EU

Markings and Approvals

eMark
CE 2014/30/EU EMC
FCC, CSA



Parker Hannifin Corporation
Electronic Motion & Controls Division
Morton, IL 61550 USA

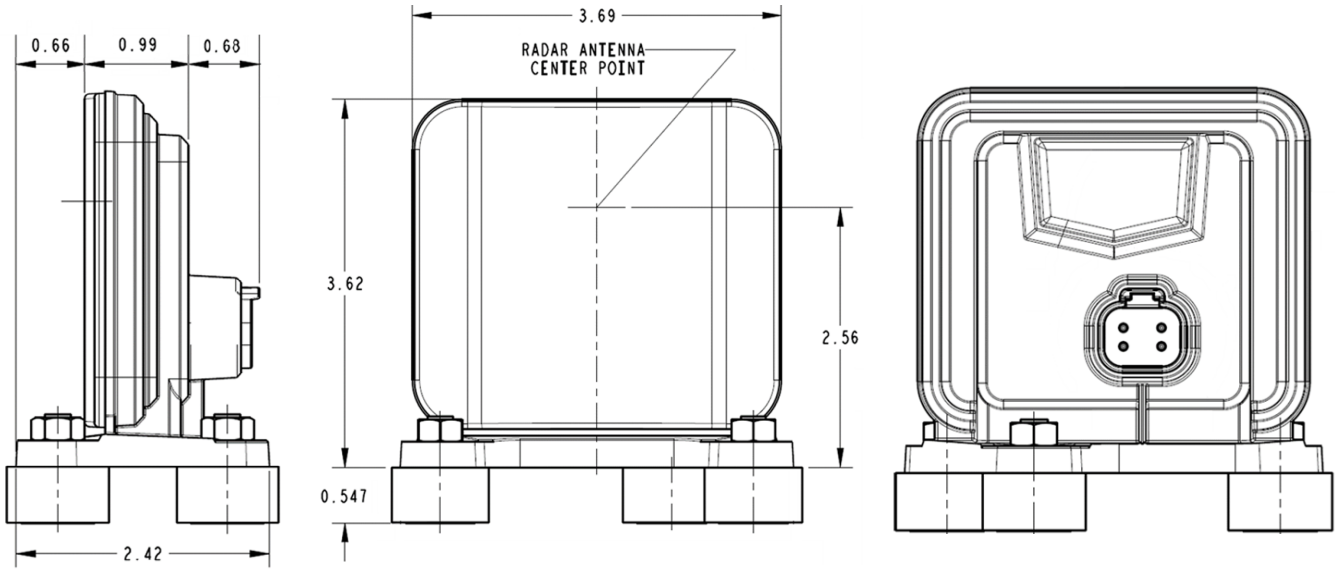


This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Units = inch



WARNING - USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

- This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.
- The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concern- ing the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.
- To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

OFFER OF SALE

The items described in this document are hereby offered for sale by Parker-Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the detailed “Offer of Sale” available from your Parker representative or at www.parker.com.

WARNING - California Proposition 65

This product can expose you to chemicals including 4,4’-(PROPANE-2,2-DIYL)DIPHENOL, BPA, P,P’-ISOPROPYLIDENEBISPHENOL, which is known to the State of California to cause birth defects or other reproductive harm.
For more information go to www.P65Warnings.ca.gov

Parker Hannifin Corporation
Electronic Motion & Controls Division
Morton, IL 61550 USA

04/2025

Parker Hannifin Corporation
Electronic Motion and Controls Division
1651 N Main St.
Morton, IL, 61550 USA
phone 309 263 7788
www.parker.com/emc

Your Local Authorized Parker Distributor