



## **SENSOR FUSION OF 3D ACCELEROMETER AND GNSS FOR TRUE GROUND SPEED MEASUREMENT AND POSITIONING**



The **AccoSAT** system combines the advantages of GNSS-based speed measurement with the high dynamics of a 3D accelerometer.

Thus a reliable and fast true ground speed measurement is achieved.

In addition to a “RADAR-compatible” pulse signal GNSS positioning data (NMEA-0183) are optionally output.

### **Speed measurement:**

- with high dynamics and accuracy
- with fast detection of start, stop and acceleration
- no calibration, plug and play
- dead reckoning of speed signal on short GNSS outages e.g. in tunnels
- pulse output signal proportional to speed
- “RADAR - compatible” pulse output
- easy mounting, magnet plate optionally

The **AccoSat** system measures the true speed of a vehicle over ground using an acceleration sensor and GNSS receiver. The GNSS receiver has particularly strong reception and is optimized for speed measurement.

Unlike measurements taken from the transmission or wheel, this measurement is not affected by effective wheel circumference, sinking, or wheel slip. This is particularly advantageous for all applications that require an accurate speed signal, e.g., for distance- or area-proportional application such as sowing, fertilizing, and spraying.

The **AccoSat** sensor system is characterized by high accuracy, dynamics, and reliability. It uses the information provided by a GNSS receiver and the measurement data from an acceleration sensor to calculate the speed.

The **AccoSat** provides the current speed for controlling or regulating machine functions in outdoor/off-highway applications.

Optionally, the **AccoSat** POS system outputs GNSS positioning data via a serial interface (RS232) in NMEA-0183 format.

### BENEFITS

- Easy installation, even under a plastic cover, e.g., under a cabin roof
- Connection of the “radar-compatible” pulse output to all common on-board computers
- Accurate, contactless measurement of true speed independent of wheel and transmission encoders
- No calibration required
- Fast response to speed changes and start/stop processes with 25 Hz update rate of the pulse output
- Optional positioning with latest-generation GNSS receiver (72-channel GNSS receiver with differential correction, simultaneous use of GPS/Galileo/GLONASS/BeiDou, tracking sensitivity - 165 dBm)

### Technical Data:

Sensor Components:	triaxial acceleration sensor, GNSS receiver
Power supply:	+8 to +28 VDC /100 mA maximum
Temperature Range:	-20 °C to +70 °C
Output Signal:	frequency signal proportional to speed 130 pulses / m (36,1 Hz per km/h) according to DIN 9684 / ISO 11786 Option: RS-232, 19,200 Baud, 8N1, NMEA GGA, RMC, VTG with 5Hz
Dynamics:	25 Hz update rates
Size:	94 mm x 59 mm x 35 mm L x W x H, with mounting tabs, without cable)
Mounting:	level to ground, direction according to arrow showing forward direction bolted on, option magnetic
Warranty:	2 years

### Produkt of:



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