



# AccoSat

## *Sensor Fusion of 3D Accelerometer and DGPS for True Ground Speed Measurement and Positioning*



The **AccoSat System** combines the advantages of DGPS-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 DGPS 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 DGPS outages e.g. in tunnels
- pulse output signal proportional to speed
- “RADAR - compatible” pulse output
- easy mounting, magnet plate optionally available

# AccoSat Speed Sensor

The **AccoSat** System measures the forward speed by means of a triaxial accelerometer and a DGPS receiver. **AccoSat** deploys a DGPS receiver optimized for speed measurement. The speed measurement - in contrary to detection on gearbox or wheel - is unaffected by effective tyre circumference, sinking-in and wheel slip. This is particularly advantageous for all applications needing an accurate speed signal for example for product application proportional to distance / area e.g. seeding, spraying and spreading.

The **AccoSat** System does achieve high accuracy, dynamics and reliability of the speed measurement by means of a sensor fusion of a 3D accelerometer with a DGPS receiver.

The **AccoSat** provides for real time true ground speed for "outdoor / off - highway" applications for monitoring, control and closed loop control of machinery functions.

Optionally DGPS Positioning data (NMEA-0182) are output over a serial (RS232) Interface.

## BENEFITS

- Accurate measurement of forward speed under adverse soil conditions without calibration
- Contactless speed measurement independent on gearbox / wheel Sensors
- Fast response to speed changes enables accurate control of distribution processes
- Optional NMEA standard data format output (GGA, RMC, VTG)
- Latest generation DGPS receiver (66 channel DGPS receiver with SBAS / EGNOS diff. correction, 1 Hz update rate, tracking sensitivity -165 dBm)

## Technical Data:

Sensor Components: triaxial accelerometer, DGPS-receiver, microcontroller  
Power supply: 10 - 16 VDC / 400mA max  
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, 8Bit, No Parity, 1 Stopbit  
NMEA GGA, RMC, VTG with 1Hz  
Dynamics: 25 Hz  
Size: over all 94 mm x 58 mm x 35 mm (L x W x H, without cable)  
Mounting: level to ground, direction according to arrow showing forward direction  
bolted on, option magnetic  
Warranty: 2 Years

## Product of:



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