

# IGPS.1

Communication Module for SMT Systems for Acquiring GPS Signals in Mobile Applications

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The IGPS.1 is used to acquire typical GPS information such as the geographical position, current speed, acceleration and direction of movement. The receiver data is read in and processed simultaneously with other SMT signals.



## Areas of Application

- Common time base of different data acquisition systems
- Speed and acceleration measurements
- Tracing the geographical position, for example in endurance tests and extensive field tests
- Calculation of lap times on circuits
- Support (drift correction) of local sensor technology

## Advantages

- Synchronization of external GPS receivers with other physical measured data not necessary
- Precise time resolution of signal changes

## Design

The GPS receiver is a fixed component part of the IGPS.1. The only additional external component is thus an active antenna that can be connected via the antenna socket on the front.

## Data Preparation

Once data has been read out of the GPS receiver, the received data is formatted for further processing in the SMT system by the module. The relevant variables are available in the system software PEA as single channels incl. description, physical unit and value range.

## Time Response

Depending on the configuration, the data rate of the module is much faster than the actual update rate of the GPS receiver. Together with additional synchronization channels that are made available, signal changes can thus be acquired absolutely precisely in terms of time which is a decisive advantage particularly with input variables for closed-loop controls and simulations.



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## Technical Data

General	
Update rate	5 SPS
Data rate	1 SPS ... 1 kSPS online, can be set per module
Supported signals	Date and time Latitude and longitude Altitude Direction of movement Speed over ground Speed in all three spatial directions Acceleration in the plane Number of visible satellites Precision and status information
Time to first fix (TTFF)	26 s
Position accuracy	2.5 m (CEP) 2.0 m (CEP, SBAS)
SBAS	WAAS, EGNOS, MSAS
GPS module	ublox LEA-6S
Environmental Conditions	
Storage	-30 °C ... +85 °C, 10 % ... 90 % rel. humidity, non-condensing
Operation	-30 °C ... +70 °C, 10 % ... 90 % rel. humidity, non-condensing

## Order Numbers

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