

gps100VIEW

100Hz GPS Measuring System

100 Hz Dual GPS System

Brake and acceleration tests

Intelligent slip and traction detection

Noise free standstill detection

Brake coefficients

Multiple online plausibility check

Latency free signal output/time stamp function

Threshold monitoring/ flexible trigger

Online display with drivers aid function



Tyre test

The test vehicles which are used for evaluation of tyres convey the differences of smallest deviations of material conditions or technical changes of the test specimen subjectively. However an objective comparison of test results is inevitable regarding competition differences and homologation.

Significant requirements for measuring technology is:

- Suitability for acceleration and braking measurements
- Minimal set-up time / quick availability
- Reproducible slip and traction measurements
- Stable standstill detection
- High accurate measuring resolution by entering the required vehicle speed window

Leading tyre and vehicle manufacturers confirm to meet the requirements with *gps100VIEW* system. The sophisticated GPS technology of the system can reach location resolution in the lower cm range with adequate system equipment.

Intelligent traction detection

For evaluation of traction behaviour of standard and snow tyres the system *gps100VIEW* is equipped with an sophisticated traction control module. Therefore many parameters of propulsion incl. GPS data and/or in combination with integrated triaxial accelerometers/gyro sensors are interpreted. For evaluation of traction behaviour the test engineer can select single informations from setups or correlated data for tyre slip. Depending on traction the increasing vehicle speed is being provided with high resolution up a given limit.

Interaction of measuring system with driver

Mounted at the wind shield the current measuring values as well as limiting threshold values are displayed in visual field. In addition the 7" touch display conveys the status of actively monitored run charts over graphical and acoustical messages to the driver. The measuring sequences are displayed graphically and tabularly, stored in the system and/or transmitted the control station over radio path.

High demands in the scope of driving performance measuring and product homologation

The system *gps100VIEW* fulfills all requirements for all parameters which are mandatory in regard of signal stability and accuracy to measure driving performance and product homologation.

Stable standstill signal

The intelligent standstill determination, with interaction of main and assist GPS, provides a reliable and precise switching threshold from a range of 0.15 kph (!) already. Especially for taking standardized measurements this trigger is essential. The process being used in the *gps100VIEW* allows to reduce the lower switching threshold up to 70% compared to other standard gps receivers.

Online plausibility check

With every detection of a non-plausible speed change the data of the sensitive main system are being compared for the length of the disturbance with the less-sensitive 20Hz assist GPS and replaced in the system when a non-plausibility occurs.

Latency free signal output for objective offline signal correlation

The required precision of the raw data for post-processing evaluation are being secured through the *gps100VIEW* by a time stamp function derived from the gps signal. The GPS signals are being „stamped“ after validation by the CPU and issued per CAN together with the time stamp line.

The latency free GPS information now can be used with a suitable evaluation software to make a correlation with other time stamped signals. Through the known point of time for acquisition of position and speed calculation the unwanted affects of signal run times, CAN latencies and influences of the subsequent measuring chain can be adjusted. Just a synchronicity of measuring data ensures an objective interpretation.

Vmax measurement: Secured signal behaviour at various setting speeds

A reference measurement against a high end inertial system (OXTS) confirms that the system *gps100VIEW* can reach the required accuracies for standardized measuring processes at constant setting speeds 30, 60, 180, 200 kph.

Economically through powerful modular concept

The system *gps100VIEW* combines high-end GPS data acquisition and multi-functional display system to a compact unit. The functional scope can be reached by configuration of independent devices either. The single components can be equipped individually and prepared for various measuring tasks in an economical matter.



System variant *gps100PRO*

With *gps100PRO* we can offer an enhanced version with identical performance. The system additionally provides 3 freely configurable analog/TTL outputs, OBD/WWH-OBD interface, memory function with threshold monitoring and versatile triggering options. Data storage up to 128 GB over exchangeable SDHC cards.

VarioVIEW7 / *gps100BS + PRO*

With multifunctional 7" display *VarioVIEW7* and *gps100PRO* there is an option to realize all benefits of the system *gps100VIEW* in two separate and independent units. Both systems can be used either together or each one autarchic depending on availability and efficiency. For both systems there are several interface options available.



Technical details

- ◇ Intelligent Dual GPS System 100Hz / 20Hz.
- ◇ Integrated colour-touch-display 128x64 Pixel
- ◇ CPU ARM7, 72MHz, 16MB RAM, Mini USB 2.0,
- ◇ 2 trigger inputs (light barrier, brake contact, pushbutton etc.).
- ◇ 2 trigger outputs 12 Volt / 500 mA
- ◇ Anodized aluminum housing
- ◇ Power supply +8 to +32 Volt

Options / System extension

- ◇ **OBD2** Tapping of correlating vehicle data over diagnosis bus OBD2/WWH-OBD (*gps100PRO*)
- ◇ **GEARTH** Data converter *.KML for processing of GPS coordinates into Google Earth
- ◇ **Triax-ACC-EXT** Triax accelerometer transducer +/- 5 g, DC-330 Hz. Externally via CAN! Dynamic Auto zero
- ◇ **Triax-GYRO -Ext** Triax gyro transducer $\pm 75^\circ/\text{sec}$, $\pm 150^\circ/\text{sec}$, $\pm 300^\circ/\text{sec}$., static up to 300 Hz. Externally via CAN!