

|                                              |                                         |
|----------------------------------------------|-----------------------------------------|
| Input protection                             | Polarity & short overvoltage protection |
| Shock limit                                  | MIL-STD 810 F                           |
| Dimensions                                   | 115 x 93 x 35 mm                        |
| Weight                                       | 740 g                                   |
| <b>INERTIAL SENSORS</b>                      |                                         |
| Accelerometer                                | -                                       |
| Gyroscope                                    | -                                       |
| Magnetometer                                 | -                                       |
| Pressure sensor                              | -                                       |
| <b>APPLICATIONS</b>                          |                                         |
| Synchronization and timing with DEWESoft DAQ | ✓                                       |
| Simple positioning                           | ✓                                       |
| Brake/Acceleration test                      | ✓                                       |
| Vehicle dynamics                             | -                                       |
| Lane change                                  | ✓                                       |
| Circle drive                                 | ✓                                       |
| Chassis development                          | -                                       |
| Advanced driver assistance systems testing   | ✓                                       |
| Comfort testing                              | -                                       |
| Pass by Noise                                | ✓                                       |
| FuSi                                         | ✓                                       |
| Orientation of different object              | -                                       |

\*All navigation specifications are valid in open sky conditions

### 3.4. Device overview

With the DS-VGPS-HS, DewesoftX® offers the latest 100 Hz technology of GPS based speed and displacement sensors. The result of this highest dynamic GPS receiver is the most easy to use speed/distance sensor with that bandwidth. In addition to this no calibration drives for different road conditions (ice, water, snow, off road) are needed.

Using the unique PPS sync technology of DewesoftX® the latency time of the digital interface (RS-232) is corrected online.

Beside the filter characteristic of the internal algorithm, the latency time on the serial interface is related to the basic structure of any GPS-based sensor. After acquiring the GPS raw data, the time consuming

## 5. Connection

### 5.1. Connector overview



Image 5: Inputs

#### 5.1.1. Aerial connector

Connect the GPS aerial to the SMA connector.

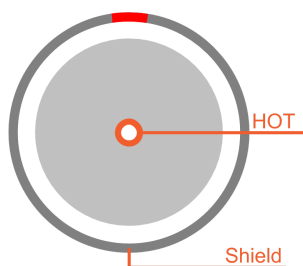


Image 6: SMA connector

### 5.1.2. RS-232 interface

The RS-232 interface connector (female) is configured as standard RS-232 interface.

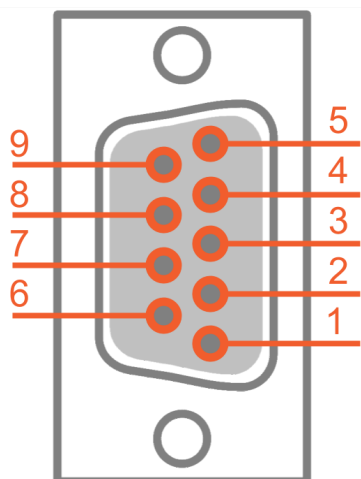


Image 7: RS-232 connector (DSUB-9 female)

| Pin | Description            |
|-----|------------------------|
| 1   | Free run operation     |
| 2   | TXD (Transmitted Data) |
| 3   | RXD (Received Data)    |
| 4   | Not connected          |
| 5   | GND (Ground)           |
| 6   | PPS (pulse per second) |
| 7   | Not connected          |
| 8   | Not connected          |
| 9   | Not connected          |

### 5.1.3. VGPS – Display connector

To connect the external display to the DS-VGPS-HS system.

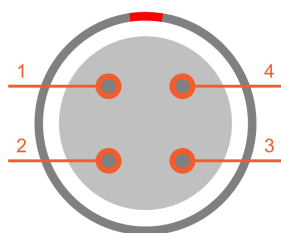


Image 8: VGPS display connector  
EXG.1B.304.HLN

| Pin | Description |
|-----|-------------|
| 1   | +5V         |
| 2   | GND         |
| 3   | TXD         |
| 4   | RXD         |

### 5.1.4. Mark input connector

Connects an external trigger source to the DS-VGPS-HS system.

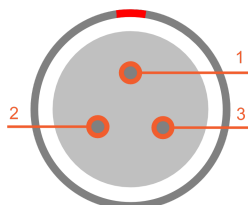


Image 9: Mark input connector: pin-out (3-pin LEMO female)  
EXG-1B.303.HLN

| Pin | Description                |
|-----|----------------------------|
| 1   | +9 to +36 VDC power supply |
| 2   | GND power supply           |
| 3   | Signal                     |

### 5.1.5. Power supply connector

Connects the DS-VGPS-HS system to an external DC power supply.

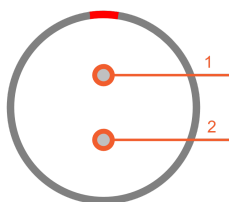


Image 10: Power supply connector (2-pin LEMO male)  
EXJ.1B.302.HLD

| Pin | Description                |
|-----|----------------------------|
| 1   | +9 to +36 VDC power supply |
| 2   | GND power supply           |