**Leica Viva NetRover Datasheet**

**Built for the Field**
- Designed for the extreme environments, you can always rely on your CS10 field controller. Comfortable in the hand and easy-to-use for all tasks.
- Integrated 3.5G mobile broadband for high-speed connection in the field
- With internna technology, not an antenna in sight that can be lost or broken
- IP67 and operating temperature -30°C to +60°C
- Tactile, fully illuminated, numeric rubber keypad
- 2 Megapixel camera (perfectly placed for taking pictures when in hand or mounted on pole)

**Proven GNSS technology**
- Built on years of knowledge and experience, the GS08 SmartAntenna delivers the hallmarks of Leica GNSS – reliability and accuracy.
- SmartCheck – RTK data-processing to guarantee correct results
- SmartTrack – Excellent signal tracking for best possible performance
- SmartRTK – delivers consistent results in all networks

**Simply productive surveying software**
- With clear graphics, non-technological terminology and simplified workflows:
  - Survey, coding and linework
  - Full support of RTCM 3.1 transformation message
  - Wide range of apps for all surveying and staking tasks

- when it has to be right
### Technical Specifications

#### Leica Viva NetRover

<table>
<thead>
<tr>
<th>CS10 Field Rover</th>
<th>CS15 Field Rover</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating System</strong></td>
<td>Microsoft Windows CE 6.0</td>
</tr>
<tr>
<td><strong>Processor</strong></td>
<td>Freescale MX611 533 MHz ARM Core with 512 MB DDR SDRAM</td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td>8.9 cm (3.5”) 640 x 480 pixel (VGA) colour touch screen, sunlight-readable, backlit</td>
</tr>
<tr>
<td><strong>Keyboard</strong></td>
<td>26 keys, numeric keypad, fully illuminated</td>
</tr>
<tr>
<td><strong>Data storage</strong></td>
<td>1 GB internal flash, SD-card slot, CF-card Type I / II slot, USB connector port</td>
</tr>
<tr>
<td><strong>Audio</strong></td>
<td>Integrated sealed speaker and microphone</td>
</tr>
<tr>
<td><strong>Camera</strong></td>
<td>Integrated 2 Megapixel fixed focus camera</td>
</tr>
<tr>
<td><strong>Integrated wireless connectivity</strong></td>
<td>Bluetooth® 2.0 Class 2, Wireless LAN 802.11b/g (option), high speed broadband 3.5G GSM &amp; UMTS (option)</td>
</tr>
<tr>
<td><strong>Application Software</strong></td>
<td>Leica SmartWorx Viva LT</td>
</tr>
<tr>
<td><strong>Standard Software</strong></td>
<td>Internet Explorer Mobile, File Explorer, Word Mobile, Windows Media Player, Camera Software, Online Help</td>
</tr>
</tbody>
</table>

#### GNSS Antenna

- **No. of channels**: 72 channels
- **Satellite signals tracking**: GPS: L1, L2, L2C (C/A, P Code); GLONASS: L1, L2 (C/A, P narrow Code)
- **User interface**: On / Off key, Satellite tracking, Bluetooth® communication & battery power LED status indicators
- **Communication ports**: Bluetooth® 2.0 Class 2, 8-pin Lemo combined USB / power port
- **Field controller connection**: By Bluetooth® or with GEV237 Lemo plug cable
- **Accuracy and reliability**
  - **RTK Static mode**: Horizontal: 5 mm + 0.5 ppm (rms), Vertical: 10 mm + 0.5 ppm (rms)
  - **RTK Moving mode**: Horizontal: 10 mm + 1 ppm (rms), Vertical: 20 mm + 1 ppm (rms)
  - **Post Processing static mode**: Horizontal: 3 mm + 0.5 ppm (rms), Vertical: 6 mm + 0.5 ppm (rms)
- **Reliability**: Better than 99.99% using Leica SmartCheck technology
- **Time for initialisation**: Typically 8 sec 

#### Network Specifications

- **RTK data formats**: Leica proprietary formats (Leica, Leica 4G), OM48, RTKNet2.x, RTKNet3.x, full support of RTCM 3.1 transformation message
- **Position update rate**: 1 Hz standard, Optional 5 Hz (0.2 sec)
- **Network positioning**: VRS, FK0, IMAX, MAX, Nearest Station

#### Physical Specifications

- **Weight of pole setup**: 2.80 kg for complete rover setup, including batteries and telescopic pole
- **Temperature, operating**: -30°C to +60°C (-22°F to +140°F), CS10 only: -40°C to +65°C (-40°F to +149°F) 
- **Temperature, storage**: -40°C to +80°C (-40°F to +176°F) 3
- **Humidity**: 100% 4
- **Sealed against water, sand and dust**: IP67: Temporary submersion into water (max. depth 1m)
- **Vibration**: Withstands vibrations in compliance with ISO9022-36-08
- **Drops**: Withstands 1 m drop onto hard surface
- **Topple over**: Withstands topple over from a 2 m survey pole onto hard surface
- **Functional shock**: No loss of lock to satellite signals when used on a pole setup and submitted to pole bumps up to 150 mm

#### Power Management

- **Supply Voltage**: Nominal 12V DC, Range 10.5 – 28V DC
- **Internal power supply**: Removable & rechargeable Li-Ion battery, 2.6 Ah / 7.4 V (1x in CS10 and 1x in GS08)
- **CS10**: 10 hours using Bluetooth® device only 5, 7 hours using Bluetooth® and 3.5G devices 5
- **Battery charging**: 2 hours with GLR2121 charger or with GEV235 field controller power supply

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1 Measurement precision, accuracy and reliability are dependent upon various factors including number of satellites, geometry, obstructions, observation time, ephemeris accuracy, ionospheric conditions, multipath etc. Figures quoted assume normal to favorable conditions. GPS and GLONASS can increase performance and accuracy by up to 30% relative to GPS only.

2 May vary due to atmospheric conditions, multipath, obstructions, signal geometry and number of tracked signals.

3 Compliance with ISO9022-10-08, ISO9022-11-special and MIL-STD-810F Method 502.4-II, MIL-STD-810F Method 501.4-II

4 Compliance with ISO9022-13-06, ISO9022-12-04 and MIL-STD-810F Method 507.4-I

5 May vary with temperature, battery age and transmit power of data link device.

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