

LES

Levelling
Equipment
Services



Leica iCON gps 70 series



Tilt - Traceability - Trust

There is no need to hold the pole vertical when taking measurements. Full traceability by storing tilt values with each measurement improves the quality control of any measured point. The permanent tilt compensation extends your measurement possibilities, improves quality and accuracy of your collected data as well as eliminating critical errors as levelling the bubble is no longer necessary.



iCON field solution - unmatched simplicity

Leica iCON field offers a smart and customised positioning solution for all construction sites. Improve your performance with intelligent software applications, workflows and an innovative software design. The seamless integration into all iCON sensors and Leica ConX cloud-based collaboration tool, provides you with all the tools to increase the efficiency of your field operations. The iCON gps 70 series follows this concept and perfectly complements the existing iCON field solution.

ACC»

Active Customer Care

As a reliable partner, we offer an extensive range of customer services designed specifically for machine control and construction professionals. The wide range of technical services including on-site support, technical support, repairs and preventative maintenance are carried out by experts. Our global team of highly-skilled and experienced support engineers and service technicians are committed to help you meet your deadlines and reduce your downtime.

leica-geosystems.com



- when it has to be **right**

Leica
Geosystems

PART OF
HEXAGON

Leica iCON gps 70 series

GNSS TECHNOLOGY

| | | |
|--------------------------------|--|---|
| Self-learning GNSS | Leica RTKplus SmartLink fill (worldwide correction service) | Adaptive on-the-fly satellite selection Bridging of RTK outages up to 10 min (3 cm 2D) ¹ |
| Leica SmartCheck | Continuous check of RTK solution | Reliability 99.99% |
| Signal tracking | | GPS (L1, L2, L2C, L5), Glonass (L1, L2, L3 ³), BeiDou (B1, B2, B3 ³), Galileo (E1, E5a, E5b, Alt-BOC, E6 ³) |
| Number of channels | | 555 (more signals, fast acquisition, high sensitivity) |
| Tilt compensation ¹ | Increased measurement productivity and traceability | Calibration-free Immune to magnetic disturbances |

MEASUREMENT PERFORMANCE & ACCURACY²

| | | |
|--|--|--|
| Time for initialisation | | Typically 4 s |
| Real-time kinematic (Compliant to ISO17123-8 standard) | Single baseline Network RTK | Hz 8 mm + 1 ppm / V 15 mm + 1 ppm Hz 8 mm + 0.5 ppm / V 15 mm + 0.5 ppm |
| Real-time kinematic tilt compensated ¹ | Topographic points (not for static control points) | Additional Hz pole tip uncertainty typically less than 8 mm + 0.4 mm/° tilt down to 30° tilt |
| Post processing | Static (phase) with long observations Static and rapid static (phase) | Hz 3 mm + 0.1 ppm / V 3.5 mm + 0.4 ppm Hz 3 mm + 0.5 ppm / V 5 mm + 0.5 ppm |

COMMUNICATIONS

| | | |
|-------------------------|--|---|
| Communication ports | Lemo Bluetooth® | USB and RS232 serial Bluetooth® v2.1 + EDR, class 1.5 |
| Communication protocols | RTK data protocols NMEA output Network RTK | Leica, Leica 4G, CMR, CMR+, RTCM 2.2, 2.3, 3.0, 3.1, 3.2 MSM NMEA 0183 v4.00 and Leica proprietary VRS, FKP, iMAX, MAX (RTCM SC 104) |
| Built-in data links | Radio modem | Fully integrated, receive and transmit, external antenna 403 - 470 MHz, 1 W output power, up to 28800 bps over air or 902-928 MHz (licence free in North America); up to 1.0 W output power |
| External data links | | UHF / VHF modem |

GENERAL

| | | |
|-------------------------------|--|---|
| Field controller and software | Leica iCON site/build | Leica CC80 field controller |
| User interface | Buttons and LEDs Web server | On / Off and Function button, 8 status LEDs Full status information and configuration options |
| Data recording | Storage Data type and recording rate | Removable SD card, 1 or 8 GB Leica GNSS raw data and RINEX data at up to 20 Hz |
| Power management | Internal power supply External power supply Operation time ⁴ | Exchangeable Li-Ion battery (2.8 Ah / 11.1 V) Nominal 12 V DC, range 10.5 - 26.4 V DC 7h receiving (Rx) data with internal radio, 5 h transmitting (Tx) data with internal radio, 6 h Rx/Tx data with internal phone modem |
| Weight and dimensions | Weight Dimensions | 1.20 kg / 3.50 kg standard RTK rover setup on pole 173 mm x 173 mm x 108 mm |
| Environmental | Temperature Drop Proof against water, sand and dust Vibration Humidity Functional shock | -40 to 65°C operating, -40 to 85°C storage Withstands topple over from a 2 m survey pole onto hard surfaces IP66 / IP68 (IEC60529 / MIL STD 810G CHG-1 510.6 I / MIL STD 810G CHG-1 506.6 II / MIL STD 810G CHG-1 512.6 I) Withstands strong vibration (ISO9022-36-08 / MIL STD 810G 514.6 Cat.24) 95% (ISO9022-13-06 / ISO9022-12-04 / MIL STD 810G CHG-1 507.6 II) 40 g / 15 to 23 msec (MIL STD 810G 516.6 I) |

| LEICA iCON GPS 70 SERIES GNSS RTK ROVER | VALUE | PERFORMANCE | ULTIMATE |
|---|--------------------|---------------|-------------------|
| SUPPORTED GNSS SYSTEMS | | | |
| L5 | . | . | ✓ |
| GPS / GLONASS / Galileo / BeiDou | ✓ / ✓ / ✓ / ✓ | ✓ / ✓ / ✓ / ✓ | ✓ / ✓ / ✓ / ✓ / ✓ |
| SUPPORTED GNSS SYSTEMS | | | |
| DGPS/RTCM, RTK Unlimited, Network RTK | ✓ | ✓ | ✓ |
| SmartLink fill | . | . | ✓ |
| POSITION UPDATE & DATA RECORDING | | | |
| 5 Hz / 20 Hz positioning | ✓ / ✓ ¹ | ✓ / ✓ | ✓ / ✓ |
| RINEX data logging | . | ✓ | ✓ |
| ADDITIONAL FEATURES | | | |
| Tilt compensation ¹ | ✓ | ✓ | ✓ |
| RTK reference station functionality | . | ✓ | ✓ |
| UHF Radio (receive & transmit) modem | . | . | . |

✓ Standard · Optional

¹ Only available for Leica iCON gps 70 T
² Measurement precision, accuracy, reliability and time for initialisation are dependent upon various factors including number of satellites, observation time, atmospheric conditions, multipath etc. Figures quoted assume normal to favourable conditions. A full BeiDou and Galileo constellation will further increase measurement performance and accuracy.

³ Believe to comply, but subject to availability of BeiDou ICD and Galileo commercial service definition. Glonass L3, BeiDou B3 and Galileo E6 will be provided through future firmware upgrade.

⁴ Might vary with temperature, age of battery, transmit power of data link device.