subtop
PARTENAIRE DISTRIBUTEUR
INTÉGRATION VENTE LOCATION
www.subtop.fr
contact@subtop.fr
01 64 55 80 40

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

Leica iCON gps 70 series

GNSS TECHNOLOGY		
Self-learning GNSS	Leica RTKplus	Adaptive on-the-fly satellite selection
Leica SmartCheck	Continuous check of RTK solution	Reliability 99.99%
Signal tracking		GPS (L1 C/A, L2P, L2C, L5), Glonass (L1 C/A, L2P, L2C, L3), BeiDou (B1I, B1C, B2I, B2a, B3I), Galileo (E1, E5a, E5b, Alt-BOC, E6) QZSS (L1, L2C, L5, L6)[1], L-Band (Terrastar)
Number of channels		555 (more signals, fast acquisition, high sensitivity)
Tilt compensation[2]	Increased measurement productivity and traceability	Calibration-free Immune to magnetic disturbances
MEASUREMENT PERFORMANCE & ACCURACY[3]		
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[2]	Topographic points (not for static control points)	Additional Hz pole tip uncertainty typically less than 5 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
RTK bridging	Up to 10 min bridging of RTK outages	Hz 2.5 cm / V 5 cm
PPP	Initial convergence to full accuracy typically 10 min	Re-convergence < 1 min | Hz 2.5 cm / V 5 cm
COMMUNICATIONS		
Communication ports	Lemo Bluetooth®	USB and RS232 serial Bluetooth® v2.1 + EDR, class 1.5
Communication protocols	RTK data protocols Network RTK	Leica, Leica 4G, CMR, CMR+, RTCM 2.2, 2.3, 3.0, 3.1, 3.2 MSM 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 CC200/CC180/CC170 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	BASE	VALUE	PERFORMANCE	ULTIMATE
SUPPORTED GNSS SYSTEMS				
Multi-frequency (L2, L5, L-band)	•	•	•	✓
GPS / GLONASS / Galileo / BeiDou / QZSS	✓ /•/•/•/•	✓ /•/•/•/•	✓ / ✓ /•/•/•	✓ / ✓ / ✓ / ✓/•
RTK PERFORMANCE				
DGPS/RTCM, RTK Unlimited, Network RTK	•	✓	✓	✓
HxGN SmartNet PPP	-	•	•	•
POSITION UPDATE & DATA RECORDING				
5 Hz / 20 Hz positioning	✓ /•	✓ / ✓	✓ / ✓	✓ / ✓
RINEX data logging	✓	•	✓	✓
ADDITIONAL FEATURES				
Tilt compensation[2]	-	✓	✓	✓
RTK reference station functionality	✓	•	✓	✓
UHF Radio (receive & transmit) modem	✓	•	•	•
Interference mitigation	•	•	•	•

✓ Standard • Optional

[1] QZSS L6 will be provided through future firmware upgrade
[2] Only available for Leica iCON gps 70 T
[3] 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.
[4] Might vary with temperature, age of battery, transmit power of data link device.

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Leica Geosystems AG
Heinrich-Wild-Strasse
9435 Heerbrugg, Switzerland
+41 71 727 31 31

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