

# Leica iCON gps 70 series



## Tilt - traceability - trust

There is no need to hold the pole vertical when taking measurements. Leica iCON gps 70 provides full traceability by storing tilt values with each measurement, giving you improved quality control for every measured point. The permanent tilt compensation extends your measurement possibilities, improves the accuracy of your collected data and eliminates critical errors since leveling the bubble is no longer necessary.



## iCON field solution - unmatched simplicity

Leica iCON field offers a smart, customizable positioning solution for all construction sites. Improve your performance with intelligent software applications, streamlined workflows and an intuitive software design. The seamless integration between all iCON sensors and software and the Leica ConX cloud-based collaboration tool enables you to increase the efficiency of your field operations.

## ACC»

### Active customer care

As a reliable partner, we offer an extensive range of services designed specifically for machine control and construction professionals. Whether you need on-site support, technical assistance, repairs or preventative maintenance, our global team of skilled and experienced support engineers and service technicians are ready to assist you. We are committed to helping you meet your deadlines and maximize your productivity.



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- when it has to be **right**

**Leica**  
Geosystems

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## 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) <sup>1</sup>
Leica SmartCheck	Continuous check of RTK solution	Reliability 99.99%
Signal tracking		GPS (L1, L2, L2C, L5), Glonass (L1, L2, L3 <sup>3</sup> ), BeiDou (B1, B2, B3 <sup>3</sup> ), Galileo (E1, E5a, E5b, Alt-BOC, E6 <sup>3</sup> )
Number of channels		555 (more signals, fast acquisition, high sensitivity)
Tilt compensation <sup>1</sup>	Increased measurement productivity and traceability	Calibration-free Immune to magnetic disturbances

## MEASUREMENT PERFORMANCE & ACCURACY<sup>2</sup>

Time for initialization		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 <sup>1</sup>	Topographic points (not for static control points)	Additional Hz pole tip uncertainty typically less than 8 mm + 0.4 mm <sup>9</sup> 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
Code differential	DGPS / RTCM	Typically 25 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 (license 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 <sup>4</sup>	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 70 SERIES GNSS RTK ROVER	VALUE	PERFORMANCE	ULTIMATE
<b>SUPPORTED GNSS SYSTEMS</b>			
L5	.	.	✓
GPS / GLONASS / Galileo / BeiDou	✓ /   · / ·	✓ / ✓ /   ·	✓ /   ✓ /   ✓ / ✓
<b>SUPPORTED GNSS SYSTEMS</b>			
DGPS/RTCM, RTK Unlimited, Network RTK	✓	✓	✓
SmartLink fill	.	.	✓
<b>POSITION UPDATE &amp; DATA RECORDING</b>			
5 Hz / 20 Hz positioning <sup>1</sup>	✓ / ✓	✓ / ✓	✓ / ✓
RINEX data logging	.	✓	✓
<b>ADDITIONAL FEATURES</b>			
Tilt compensation <sup>1</sup>	✓	✓	✓
RTK reference station functionality	.	✓	✓
UHF Radio (receive & transmit) modem	.	.	.

✓ Standard · Optional

<sup>1</sup> Only available for Leica iCON gps 70 T

<sup>2</sup> Measurement precision, accuracy, reliability and time for initialization are dependent upon various factors including number of satellites, observation time, atmospheric conditions, multipath etc. Figures quoted assume normal to favorable conditions. A full BeiDou and Galileo constellation will further increase measurement performance and accuracy.

<sup>3</sup> 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.

<sup>4</sup> Might vary with temperature, age of battery, transmit power of data link device.