Highest efficiency and accuracy
For all machine control applications

Maximum performance for all your applications

The iCON g80 GNSS machine receiver increases the overall performance of your machine control systems and ensures maximum uptime, allowing you to complete machine control applications faster than ever before.

Speed up with Leica iCON telematics

iCON telematics is a web-based suite of tools that allows you to increase the efficiency of your machine control systems on site and manage your resources fleet-wide. iCON telematics seamlessly integrates with your workflow on construction projects and the Leica xRTK, providing you with precise and seamless site-wide and fleet-wide control.

Leica xRTK for difficult GNSS conditions

The Leica xRTK is Leica Geosystems’ technology that provides additional, reliable position in difficult measuring environments, by providing the highest availability in the most difficult conditions at a sightless accuracy that is a standard 19 mm.

Leica SmartLink for bridging RTK communication gaps

SmartLink seamlessly integrates with your workflow on construction projects and the Leica xRTK, providing you with precise and seamless site-wide and fleet-wide control.

Customer benefits

- Highest data integrity into the machine solution for even more automatic tracking, viewing of site and speed of work
- Increase performance and productivity – all parts of the system fit together seamlessly
- Machine control specifically designed for direct machine control, provides robust and reliable communication, even at altitude
- Reliable communication breaks the link between machine control and the site office
- With above machine guidance in difficult environments, increasing machine productivity
- SmartLink bridges RTK communication gaps up to 30 minutes increasing machine uptime

Leica iCON g80 GNSS machine receiver

The Leica iCON g80 GNSS machine receiver takes machine control to the next level.

- Increased performance and productivity – all parts of the system fit together seamlessly
- CGA60 GNSS antenna increases the performance and accuracy of your iCON machine control solution
- iCON telematics for remote access to the machine computer for fast, perfect data transfer and support
- Leica iCON telematics provides remote access to the machine computer for fast, perfect data transfer and support
The most versatile, powerful
Leica iCON GPS 80

Supported GNSS Systems
- GLONASS
- GPS L2
- BeiDou

RTK Performance
- Network RTK
- Low accuracy RTK (20/2)

Additional Features
- NMEA out
- Low accuracy Heading (+20°)
- iCON telematics
- ✔ HW upgrade required
- Entry ✔ ✔ ✔

Data Exchange
- Data exchange via USB stick.
- Easy firmware update and
- Single Value • • • ✔ ✔ ✔ ✔
- Single ✔ ✔ ✔ ✔

Radio and Modem Usage
- Radio or external radio. Easy
- GNSS Dual ✔ ✔ ✔ ✔ ✔ ✔
- Standard ✔ ✔ ✔ ✔

GNSS Technology
- Leica patented SmartTrack+ technology
- Advanced measurement engine(s)
- Jamming resistant measurements

Certifications
- Compliance to: FCC/IC Class B, CE, EN13309, RCM, ARIB STD-T66, RoHS, WEEE, ACPEIP

Environmental Specifications
- Operating temperature –40 °C to +65 °C (–40 °F to +149 °F)
- Weight 2'200 g (4.85 lbs) for iCG81, 2'250 g (4.96 lbs) for iCG82
- Dimensions 214.5 mm × 184.8 mm × 85.5 mm (8.44 × 7.27 × 3.36 in) (housing including sockets and mount wings)

Power Consumption
- iCG81, NTRIP Rover, radio excluded: 8.0 W typically, 24 V @ 333 mA

Supply Voltage
- Nominal 24 V DC, Range 9 – 36 V DC

Drops
- Withstands 1.2 m drop onto hard surfaces

Proof Against
- Water, sand and dust IP67 according IEC60529 and MIL STD 810F – 506.4-I, MIL STD 810F – 510.4-I and MIL STD 810F – 512.4-I

Dimensions
- 214.5 mm × 184.8 mm × 85.5 mm (8.44 × 7.27 × 3.36 in) (housing including sockets and mount wings)

Memory
- 466 MB is typically sufficient for GPS & GLONASS (12+8 satellites) approximately 130 days raw data logging at 15 s rate

Recording Rate
- Up to 20 Hz

Data Capacity
- Onboard recording of RINEX data

Recording
- 1) of satellites, geometry, observation time, ephemeris accuracy, ionospheric conditions, multipath etc. GPS and GLONASS can upon various factors including number of satellites, geometry, observation time, ephemeris accuracy, ionospheric conditions, multipath etc. GPS and GLONASS can

Accuracy
- Static and rapid static (phase) Horizontal: 3 mm + 1 ppm (rms), Vertical: 5 mm + 1 ppm (rms)
- Accuracy (rms) with post processing 1)

Dynamic Performance
- Heading accuracy (rms) (iCG82 only) 1)

Radio Modems
- Support of any suitable serial RS232 UHF / VHF radios
- Satellite-3AS in Leica GFU housing, fully sealed and protected, IP67
- Pacific Crest ADL
- Pacific Crest PDL in Leica GFU housing, fully sealed and protected, IP67
- Satelline TR1, Intuicom

External Antenna Connector
- External antenna connector (Type TNC)
- 1800 / 1900 MHz
- Up to 100 mbps downlink speed

4G LTE / 3G HSPA / UMTS / 2G GPRS / GSM cellular
- ✔ Built-in cellular modem as default
- ✔ User exchangeable SIM card
- ✔ 5-Band LTE: 800 / 900 / 1800 / 2100 / 2300 / 2600 MHz
- ✔ Up to 100 mbps downlink speed

External Data Links
- ✔ Radio modems
- ✔ External data links

Unpacking
- ✔ Fully unpacked in Leica GFU housing, fully sealed and protected, IP67
- ✔ Pacific Crest ADL
- ✔ Pacific Crest PDL in Leica GFU housing, fully sealed and protected, IP67
- ✔ Satelline TR1, Intuicom

GNSS Technology
- SmartTrack+
- Top GEO-Satellite
- Advanced measurement engine(s)
- Jamming resistant measurements

On-the-fly (OTF) Initialization
- Typically 4 sec 2)

Real-time Data Formats
- For data reception
- Leica 4G, Leica, Leica Lite, CMR, CMR+, RTCM v2.3, RTCM 3.1, RTCM 3.2 MSM
- For data transmission
- Leica 4G, Leica, CMR, RTCM 3.1, RTCM 3.2 MSM

Real-time Data Reception
- Leica 4G, Leica, Leica Lite, CMR, CMR+, RTCM v2.3, RTCM 3.1, RTCM 3.2 MSM

Real-time Data Transmission
- Leica 4G, Leica, Leica Lite, CMR, CMR+, RTCM v2.3, RTCM 3.1, RTCM 3.2 MSM

GNSS Tracking
- Satellite signals tracking
- GPS: L1, L2, L2C, L5
- GLONASS: L1, L2
- Galileo: E1, E5a, E5b, Alt-BOC
- BeiDou B1, B2

Set Calibrations
- Certified Calibrations provided by Leica Geosystems, or rechargeable external NiMh battery 9 Ah / 12 V; with voltage peak protection,

iCON iMAX, VRS, FKP

Support
- ✔ supported

iMAX
- ✔ supported

VRS
- ✔ supported

FKP
- ✔ supported

4G LTE / 3G HSPA / UMTS / 2G GPRS / GSM cellular
- ✔ supported

3G HSPA
- ✔ supported

UMTS
- ✔ supported

2G GPRS
- ✔ supported

GSM
- ✔ supported

Galileo
- ✔ supported

GPS L2
- ✔ supported

GPS L5
- ✔ supported

GLONASS L1
- ✔ supported

GLONASS L2</p>