MOBA
MOBILE AUTOMATION

GNSS LEANDER SERIES

20
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GNSS LEANDER WITH CALIBRATION-FREE TILT COMPENSATION

MOBA-AUTOMATION.FR

GNSS **LEANDER** - **CALIBRATION** FREE TILT **COMPENSATION**

GNSS **LEANDER**
HIGH ACCURACY AND **STABLE** SIGNAL DETECTION

Empowered by a high precision inertial measurement unit (IMU) on Ultimate version, **GNSS Leander** receiver is a new generation of tilt survey GNSS receiver. This kind of calibration-free tilt compensation is immune to magnetic disturbances. **Leander** gives a surveyor unprecedented flexibility and efficiency — holding the survey pole upright is no longer necessary.
With an internal high-performance multi-constellation and multi-frequency GNSS board, the **GNSS Leander** Receiver can provide high accuracy and stable signal detection.

The built-in high-performance antenna can speed up the time to first fix (TTFF) and improve anti-jamming performance. With a Nano-SIM card inserted in **Leander**, it can access Internet, transmit and receive correction data through 4G/WiFi network. The built-in UHF radio module supports long distance communication. The built-in large capacity battery is detachable and can display power level. Two batteries support up to 16 hours of fieldwork in **2G/3G/4G** network and Rover radio mode.

Leander can be easily configured with 1.54-inch interactive screen on Ultimate and Advanced versions. The rugged housing protects the equipment from harsh environments.

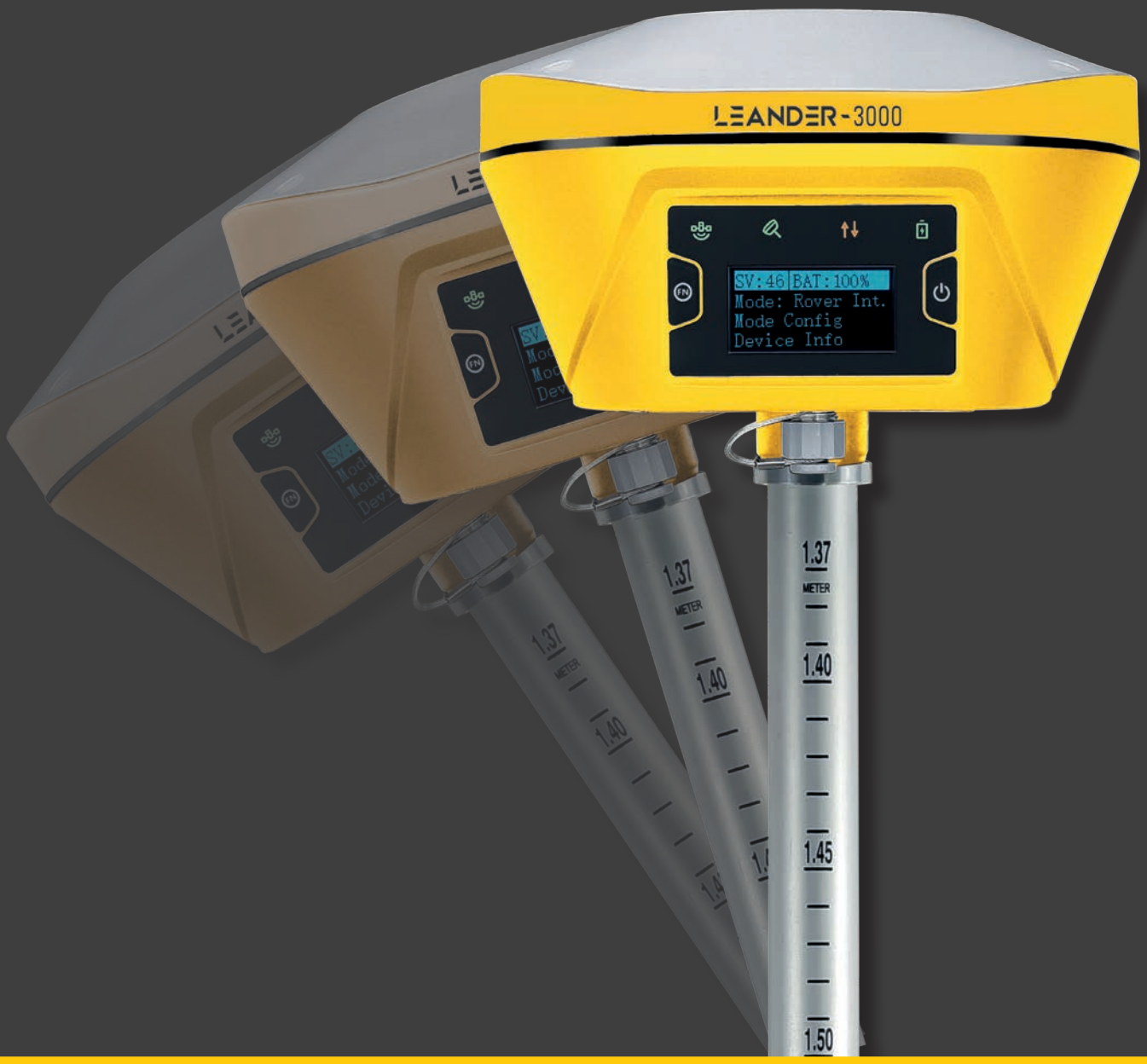
Customers also have an easy backup from Tersus Caster Server (TCS), so that a GNSS BASE station can be quickly set up to broadcast correction stream via mobile networks instead of radio. Natively supported by FieldGenius and Nuwa App, **Leander** can be configured to different work modes to suit various daily jobs. Also pillared by the prompt technical supports from MOBAs global partner network, **GNSS Leander** receiver is a surveyor's capable and reliable workmate.

GNSS **LEANDER KEY FEATURES**

- Supports multiple constellations & frequencies: GPS, GLONASS, BeiDou, Galileo, SBAS, QZSS
- 576 Supports 576 channels
- Tilt compensation without calibration, immune to magnetic disturbances
- Battery displays power level, two batteries support up to 16 hours working in 2G/3G/4G network and Rover radio mode
- IP67-rated dust- & waterproof enclosure, for reliability in harsh environmental conditions
- 16GB/8GB internal storage
- 410-470MHz UHF radio, 4G network, Wi-Fi, Bluetooth, NFC
- TCS Transmit the correction data from Leander Base to Rover via internal 4G network or controller network

GNSS LEANDER - COMPARISON
1000, 2000 & 3000

The **GNSS Leander** Receiver has three versions. It provides selectivity for the requirement from different users.



VERSION	DISPLAY	LED INDICATORS	IMU (TILT COMPENSATION)	MEMORY	WARRANTY PERIOD
LEANDER-3000	1.54" OLED	Satellite, Tilt, Correction Data, Power	☑	16GB	2 Years
LEANDER-2000	1.54" OLED	Satellite, Static, Correction Data, Power	☒	16GB	2 Years
LEANDER-1000	☒	Satellite, Static, Correction Data, Power, Bluetooth, Solution Status	☒	8GB	1 Year

SPECIFICATIONS
HIGH ACCURACY AND STABLE SIGNAL DETECTION

PERFORMANCE:

Signal tracking:
GPS L1C/A, L2C, L2P, L5; GLONASS L1C/A, L2C/A; BeiDou B1, B2, B3; Galileo E1, E5A, E5B; QZSS L1C/A, L1C, L2C, L5; SBAS (EGNOS, WAAS, MSAS, GAGAN) L1C/A

Channels:	576
Single Point Positioning Accuracy (RMS):	
» Horizontal:	1.5m
» Vertical:	3.0m
DGPS Positioning Accuracy (RMS):	
» Horizontal:	0.4m
» Vertical:	0.8m
SBAS Differential Positioning Accuracy (RMS):	
» Horizontal:	0.6m
» Vertical:	1.2m
High-Precision Static (RMS):	
» Horizontal:	3mm+0.1ppm
» Vertical:3.5mm+0.4ppm	
Static & Fast Static (RMS):	
» Horizontal:	3mm+0.5ppm
» Vertical:	5mm+0.5ppm
Post Processed Kinematic (RMS):	
» Horizontal:	8mm+1ppm
» Vertical:	15mm+1ppm
Real Time Kinematic (RMS):	
» Horizontal:	8mm+1ppm
» Vertical:	15mm+1ppm
Network Real Time Kinematic (RMS):	
» Horizontal:	8mm+0.5ppm
» Vertical:	15mm+0.5ppm
Observation Accuracy (zenith direction):	
» C/A Code:	15cm
» P Code:	20cm
» Carrier Phase:	
Time To First Fix (TTFF):	
» Cold Start:	<35s
» Warm Start:	<10s
» Reacquisition:	<1s

PERFORMANCE - CONTINUED

Tilt Compensation Accuracy (within 30°)	≤2cm(1)
Timing Accuracy (RMS):	20ns
Velocity Accuracy (RMS): 0.03m/s	
Initialization (typical):	<10s
Initialization Reliability:	>99.9%

SYSTEM & DATA:

Operating system:	Linux
Storage:	built-in 16GB/8GB(1)
Data format:	CMR, RTCM 2.X/3.X
Data output:	RINEX, NMEA-0183, Tersus Binary
Data update rate:	20Hz

PHYSICAL:

Display:	1.54" OLED1
Dimension:	157x157x103mm
Weight:	≈ 1.2kg (without battery) ≈ 1.4kg (with a battery)
Operating temperature:	-40°c ~ +75°c
Storage temperature:	-55°c ~ +85°c
Relative humidity:	100% not condensed
Dust- & Waterproof:	IP67
Pole drop onto concrete:	2m

ELECTRICAL:

Input voltage:	9~28V DC
Power consumption (typical):	
Network or Radio receive mode:	≈5W
Radio transmit mode (0.5:	≈8W
Radio transmit mode (1W:	≈9W
Radio transmit mode (2W:	≈11W
Lithium battery:	7.4V 6400mAh x2(2)

COMMUNICATION:

Cellular: 4G LTE/TD-SCDMA/WCDMA/GPRS/GSM

Cellular bands (EU version):
LTE FDD B1/B2/B3/B4/B5/B8/B20
WCDMA B1/B2/B5/B8
GSM/GPRS 1900/1800/900/850MHz

Network protocols:
Ntrip Client, Ntrip Server, Tersus Caster Service (TCS)

Wi-Fi:	802.11b/g(3)
Bluetooth:	4.1

INTERNAL RADIO:

RF transmit power:	0.5W/1W/2W
Frequency range:	410MHz ~ 470MHz
Operating mode:	Half-duplex
Channel spacing:	12.5KHz / 25KHz
Modulation type:	GMSK, 4FSK
Air baud rate:	4800 / 9600 / 19200bps
Distance (Typical):	>5km
Radio protocols:	TrimTalk450, TrimMark 3, South, Transparent, Satel

WIRED COMMUNICATION:

USB OTG:	USB 2.0 x1
Serial ports:	RS232 x1
COM baud rate:	up to 921600bps

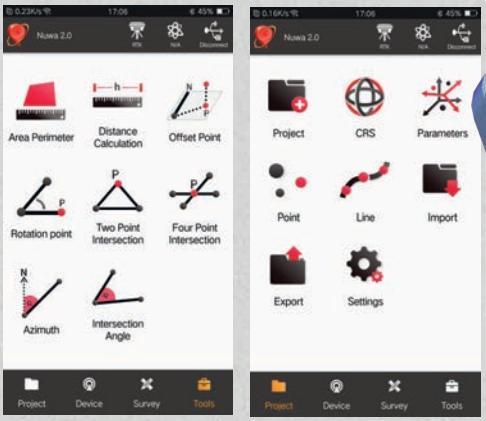
SOFTWARE SUPPORT

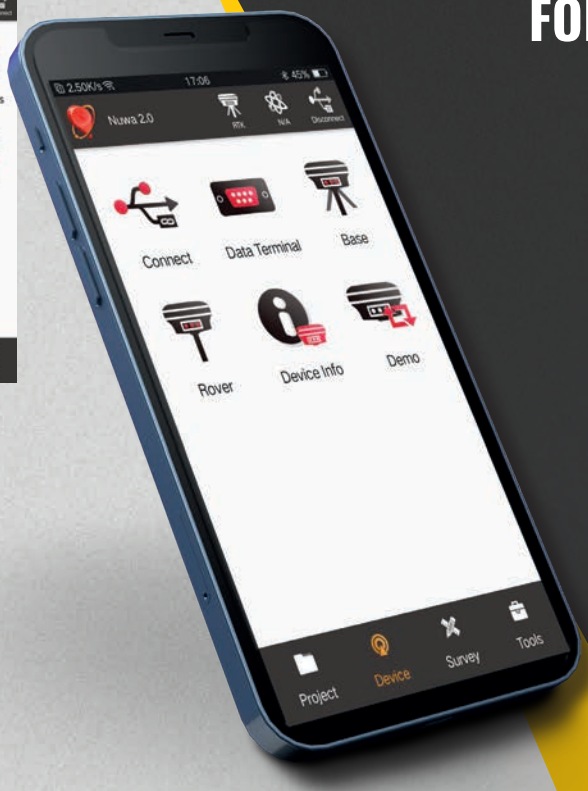
Tersus Nuwa

MicroSurvey FieldGenius

Note: (1): Details refer to performance comparison table.
Note (2): Leander uses one battery at a time, the other is a substitute. Each battery lasts up to 8 hours when Leander works in 4G/3G/2G network and Rover radio mode.
Two batteries add up to 16 hours of continuous use.
Note (3): Hardware of Wi-Fi module is ready, the function will be supported by firmware update.

MOBILE APP FOR ANDROID PHONES





NUWA 2.0 APP
FOR GOOGLE PLAY

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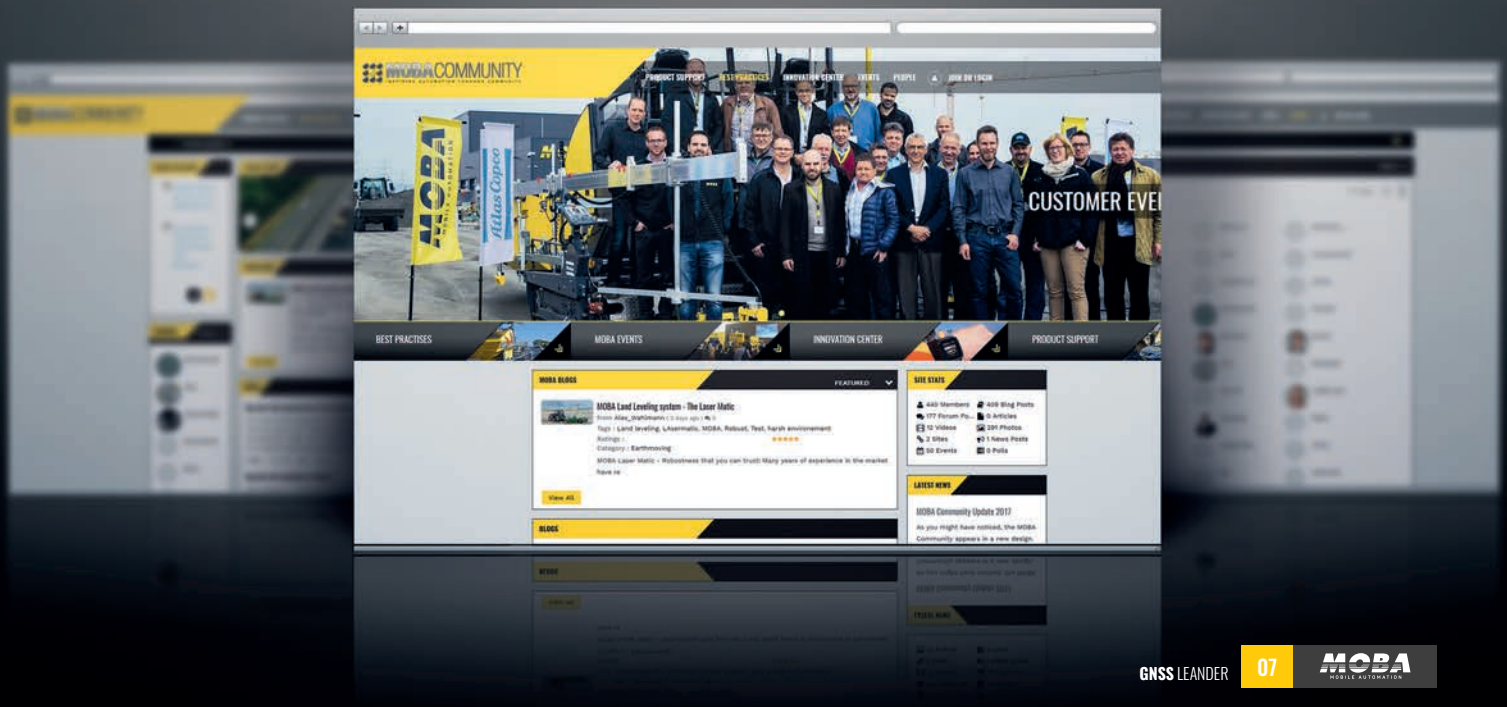

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The **MOBA GROUP** is a leading global player in the world of mobile automation. Close collaborations between the headquarters in Limburg an der Lahn and subsidiaries all over Europe, Asia, North and South America create new perspectives for recent and future developments.

Superior technical know-how and more than 40 years of experience combined with an international dealer network guarantee a premium support – **worldwide**. **INSPIRING MOBILE AUTOMATION** - this is what the **MOBA GROUP** stands for since more than **40 years**.

MOBA GERMANY
65555 Limburg / Germany
Phone: +49 6431 9577-0
E-mail: sales@moba.de

MOBA USA
30269 Peachtree City / USA
Phone: +1 678 8179646
E-mail: mobacorp@moba.de

MOBA CHINA
116600 Dalian / China
Phone: +86 411 39269388
E-mail: sales@mobachina.com

MOBA INDIA
B 210-211 Gandhinagar / India
Phone: +91 989 855 6608
E-mail: sdesai@moba.de

MOBA SPAIN
08211 Barcelona / Spain
Phone: +34 93 715 87 93
E-mail: moba-ise@moba.de

MOBA UK
S72 7PD Barnsley / UK
Phone: +44 (0) 1226 444250
E-mail: info-uk@moba.de

MOBA FRANCE
77164 Ferrières en Brie / France
Phone: +33 (0) 1 64 26 61 90
E-mail: infos@mobafrance.com

MOBA AUSTRALIA
Victoria 3076 / Australia
Phone: +61 3 9357 0055
E-mail: aumoba@moba.de

MOBA SWEDEN
861 36 Timrå / Sweden
Phone: +46 (0) 73-3750097
E-mail: pwallgren@moba.de

MOBA BRASIL
Belo Horizonte - MG / Brasil
Phone: +55 31 7513-4959
E-mail: mobadobrasil@moba.de

MOBA SPAIN
08700 Barcelona / Spain
Phone: +34 93 804 24 85
E-mail: moba-tecmaserm@moba.de

MOBA DENMARK
5250 Odense / Denmark
Phone: +45 70 26 96 91
E-mail: jlindskov@moba.de

MOBA CHILE
Avda. Providencia 1476
Phone: +56 (9) 61678464
E-mail: mjmarco@moba.de

MOBA AUSTRIA
A-2544 Leobersdorf / Austria
Phone: +43 664 251 0906
E-mail: gschmid@moba.de

NOVATRON FINLAND
33960 Pirkkala / Finland
Phone: +358 (0) 3 357 26 00
E-mail: sales@novatron.fi

MOBA ITALY
37069 Villafranca di Verona / Italy
Phone: +39 045 630-0761
E-mail: salesitaly@moba.de

YOUR LOCAL MOBA PARTNER:

www.mobile-automation.eu
www.mobacommunity.com

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