



PRECISE BASE2
Enjoy a
PRECISE,
RELIABLE,
and **EASY**
experience!

Ultra-portable long-range GNSS base station.

Super-high Fix Rate

99.9%

All You Need for Surveying, All in One.

M MATRIX

Enhanced by
the MATRIX ALGORITHM

Think **PRECISE!**

WWW.PRECISE-GEO.COM
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@PRECISE-GEO





“PRECISE BASE2

Ultra-portable long-range GNSS base station.”

SPEED

Faster Field Readiness

Start work sooner with a base station engineered to reduce setup time and eliminate unnecessary equipment. Ideal for workflows where every minute saved at setup compounds into meaningful productivity throughout the day.

Integrated Design

Fully integrated form factor with no external radios or cables

Lightweight Mobility

Over 70% lighter than conventional base-radio configurations

Rapid Deployment

Deployment efficiency improved by up to three times

RANGE

Confident Long-Distance Performance

Deliver stable RTK coverage across large and varied environments with powerful long-range radio capability. Built to maintain dependable positioning where distance, terrain, and obstructions typically challenge performance.

5W FarRadio UHF

Stronger penetration and longer-range signal stability

Extended Coverage

Up to 30 km in open environments with consistent performance

Terrain Adaptability

Robust behaviour across suburban, mixed, and uneven terrain

Reliable Links

Engineered to hold FIX where conventional radios begin to weaken



Ultra-portable
integrated design



Built-in 5W
FarRadio UHF

30 km

Up to 30 km
long-range coverage



12+ hours
for base mode



UHF + 4G correction
transmission



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ENDURANCE

All-Day Operational Stability

Sustain uninterrupted productivity with an energy-optimized architecture designed for full-day use. A dependable power foundation that removes the need for mid-day exchanges or external power systems.

12-Hour Runtime for Base Mode

Continuous RTK operation that lasts an entire workday

Power Efficiency

Low-consumption UHF design optimized for long sessions

Zero Interruptions

No spare batteries or external power cables required

DURABILITY

Built for Demanding Sites

Perform with confidence in environments where equipment must withstand the unexpected. Engineered to endure weather, impact, vibration, and interference—so reliability remains constant even when conditions do not.

IP68 Protection

Fully sealed against water, dust, and environmental exposure

Magnesium-Alloy Body

Strong yet lightweight structural durability

Impact Resistance

Tested to withstand a 2-meter drop onto hard surfaces

Advanced GNSS Engine

1920-channel multi-constellation tracking with anti-multipath

Interference Self-Test

Identifies cleaner UHF channels for more stable FIX results



1920-channel
multi-GNSS tracking



RTCM 3.x
compatibility



32 GB onboard
storage



IP68 rugged
protection



Magnesium
alloy housing

Technical Parameters

GNSS Configuration

Channel Count	1920 channels
Satellite Tracking	GPS:L1C/A/L2P(Y)/L2C/L5 GLONASS:L1/L2 BDS:B1I/B2I/B3I/BIC/B2a/B2b Galileo:E1/E5a/E5b/E6 QZSS:L1/L2/L5/L6 SBAS:L1 NavIC/IRNSS: L5
Output Frequency	Up to 50Hz
Operating System	Linux
Initialization Time	<5s(typical)
Initialization Reliability	99.99%
Static Horizontal Accuracy	±(2.5mm+0.5x10-6xD)
Static Elevation Accuracy	±(5mm+0.5x10-6xD)
RTK Horizontal Accuracy	±(8mm+1.0x10-6xD)
RTK Elevation Accuracy	±(15mm+1.0x10-6xD)

INS Characteristics

INS	Supported
INS Accuracy	Accuracy <2cm within 60°
INS Tilt Angle	0° ~ 120°

FIELD SOFTWARE

Software	X FIELD PRO
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Data Formats

Differential Data	RTCM2.X, RTCM3.X
GPS Output Data Format	NMEA 0183, Binary Code

Function Configuration

Tilt Measurement	Supported
PPK Measurement	Supported
Buzzer	Supported
Voice	Supported
NFC	NFC Flash Connect
Bluetooth	5.0

APPLICATION

Topographic and geodetic surveying

Physical Characteristics

Dimensions	152*152*103MM (without TNC dust cap)
Weight	1.308kg
Operating Temperature	-45°C ~ +75°C
Storage Temperature	-55°C ~ +85°C
Water & Dust Resistance	IP68
Impact Resistance	IK08
Drop Resistance	Resistant to drops from a 2-meter pole

Static Storage

Static Data Format	TXT
Storage Capacity	32G

Electrical Specifications

Battery Capacity	7.2V, 13200mAh battery
Operating Time	36 hours in mobile CORS mode 12 hours in base station mode (common protocol)

Data Communication

I/O Interface	1 USB Type-C, supports charging 1 TNC radio antenna interface 1 five-pin Lemo interface (9V-14V) 1 NanoSIM card socket 1 button
Wireless Communication	Supports Bluetooth, handheld 4G, Wi-Fi, built-in 4G-LTE, WEB
Built-in Network	LTE-TDD B38/B40/B41 LTE-FDD B1/B3/B5/B7/B8/B20 UMTS/HSPA+ B1/B8 GSM/GPRS/EDGE 900/1800 MHz Universal transceiver radio + Lora (5W) 410-470MHZ TRIMTALK450S, TRIMMARKIII, SOUTH9600, SOUTH19200,SATEL-4FSK TRIMTALK4800,LORA11000 Client / Server or Caster
Built-in Radio Power	
Built-in Radio Frequency	
Communication Protocol	
NTRIP	

LCD Display

Size	1.39 inch
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Think PRECISE!

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