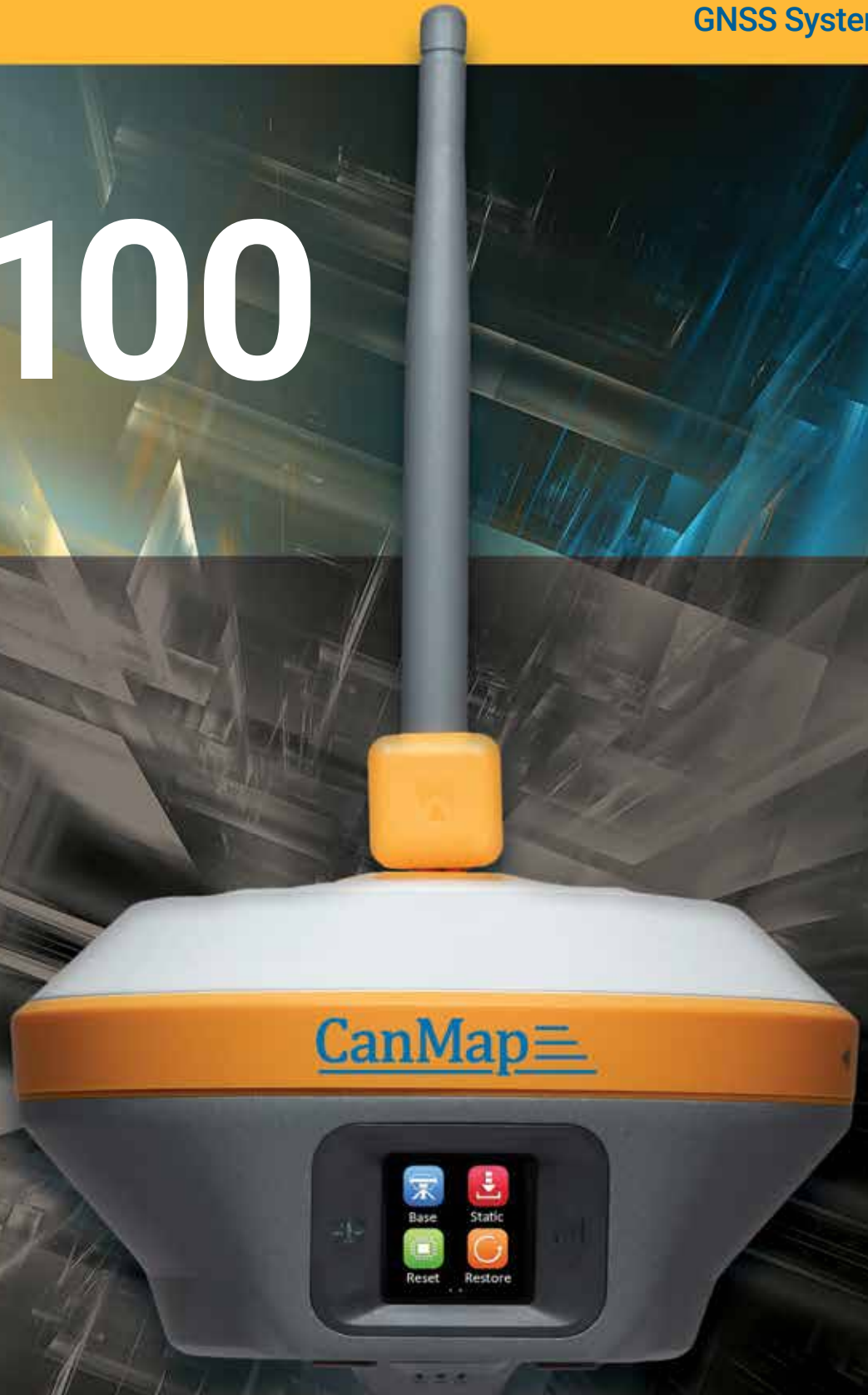


CM100





CM100

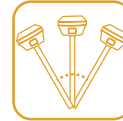
GNSS RTK SYSTEM

Benefiting from the next-generation GNSS engine, unlimited communication technology and innovative designs, the CM100 is a high quality scalable GNSS receiver, providing an industry leading GNSS RTK surveying solution.



Next-Generation GNSS Engine

With the full-wave GNSS antenna and the next-generation GNSS engine, the CM100 supports 800+ channels, enhanced initialization speed and anti-noise performance.



Revolutionary Tilt Survey with Built-in IMU

A calibration free tilt survey compared to bubble leveling boosts working efficiency by 20%.

The error is less than 2 cm within a 30° inclination.

Resistance to magnetic interference improves overall accuracy.



Hi-Fix Technology

Works in the background to provide highly accurate and reliable positioning during outages from an RTK base or VRS network.



Unlimited Communication

The 360° omni-directional top-mounted radio antenna extends the radio working range by 20%. Multi-protocol radio support includes TRIMTALK450S, TRIMMARK III, TRANSEOT, SATEL-3AS, etc.



Innovative Design

- Reddot design award
- Waterproof Touchscreen
- Power Indicator
- 3rd Party Software
- Web UI



Hi-Survey Software

- A new UI, intuitive menu navigation, supported with a Waterproof Touchscreen.
- Includes professional programs in road application such as side slope setting out, DTM staking out etc.
- Contains Basemap from online maps, DXF and SHP data.

DC200

The DC200 field controller provides the ultimate in control and is a rugged, ergonomic and reliable companion to the CM100 and the surveyor.

The DC200 Handheld Controller is a professional field controller with a big vision. Adopting a full alphanumeric keyboard design and capacitive touchscreen, the DC200 lithium battery supports a fast charge. Combined with the feature rich Hi-Survey Software, the DC200 and CM100 make data measurements simple.

Hardware Configuration

- OS: Android 10
- Processor: CPU: 8 core; 2.0 GHZ
- Storage: 2 GB RAM + 16 GB ROM; T-Flash memory card, up to 128 GB
- Display: 720 x 1280, 5.5", bright Outdoor Color capacitive touchscreen (with touch pen, can be operated with gloves)
- Input Configuration: Physical full keyboard, number / letter separate, professional custom smart input method

Communication Interface

- Cellular mobile: 4 GB, Dual SIM
- WiFi: IEEE 802.11 b / g / n, Wapi, AP
- Bluetooth: Built-in Bluetooth (2.1 + 4.0) NFC
- USB: USB, Type C interface, OTG

Physical Features

- Weight: 480 g (within battery)
- Size: 236 mm x 85 mm x 25 mm
- Operating temperature: -20 C ~ +60 C
- Storage temperature: -30 C ~ +70 C
- Free fall: 1.2 m
- Shock and vibration: MIL-STD-810H
- IP 68



PERFORMANCE SPECIFICATIONS

GNSS TECHNOLOGY

Satellite Signals Tracked Simultaneously

Channels.....	800+
GPS.....	L1C/A, L2E, L2C, L5
BeiDou.....	B1, B2, B3 ¹
GLONASS.....	L1C/A, L1P, L2C/A, L3 CDMA ²
IRNSS.....	L5
Galileo ³	E1, E5A, E5B, E5AltBOC, E6 ²
SBAS.....	L1C/A, L5 (QZSS, WAAS, MSAS, GAGAN)

POSITIONING PERFORMANCE

High-precision static GNSS Surveying

Horizontal.....	2.5 mm + 0.1 ppm RMS
Vertical.....	3.5 mm + 0.4 ppm RMS

Static and Fast Static

Horizontal.....	2.5 mm + 0.5 ppm RMS
Vertical.....	5 mm + 0.5 ppm RMS

Post Processing Kinematic (PPK / Stop & Go)

Horizontal.....	8 mm + 1 ppm RM
Vertical.....	15 mm + 1 ppm RMS
Initialization time.....	Typically 10 min for base and 5 min for Rover
Initialization reliability.....	Typically > 99.9%

Code Differential GNSS Positioning

Horizontal.....	25 cm + 1 ppm RMS
Vertical.....	50 cm + 1 ppm RMS
SBAS.....	0.5 m (H), 0.85 m (V)

Real Time Kinematic (RTK) Single Baseline

Horizontal.....	8 mm + 1 ppm RMS
Vertical.....	15 mm + 1 ppm RMS

Network RTK (VRS/FKP/MAC)

Horizontal.....	8 mm + 0.5 ppm RMS
Vertical.....	15 mm + 0.5 ppm RMS
Initialization time.....	Typically 2-10s
Initialization reliability.....	Typically > 99.9%

Hi-Fix⁵

Horizontal.....	RTK ⁶ + 10 mm / min RMS
Vertical.....	RTK ⁶ + 20 mm / min RMS

Tilt Survey Performance

Additional horizontal pole-tilt uncertainty typically less than 10 mm +0.7 mm / °tilt (2 cm accuracy in the inclination of 30° under good condition)

HARDWARE

Physical

Dimensions (W x H).....	158 mm x 98 mm (6.22 inch x 3.86 inch)
Weight.....	lighter than 1.3 kg (2.65 lb) with internal battery
Operation temperature.....	-40° C ~ +75° C (-40° F ~ +167° F)
Storage temperature.....	-50° C ~ +85° C (-58° F ~ +185° F)
Temperature control — Auto-adjust the working power to maintain the temperature	
Humidity.....	100%, condensing

Water / dustproof — IP67 dustproof, protected from temporary immersion to depth of 1 m (3.28 ft)

Shock and vibration.....MIL-STD-810G, 514.6

Anti-salt spray.....MIL-STD-810G, 509.4, 96h

Free fall.....MIL-STD-810G, 516.6 designed to survive a 2 m (6.56 ft) natural fall onto concrete

Electrical

6 V to 28 V DC external power input (5-pin port), with over-discharge protection power. Consumption is 4.4 W automatic switching between internal power and external power.

Control Panel

Physical button.....1

Display.....240 x 240 px, 261 ppi

Touchscreen.....Supports glove mode and wet-finger mode

Internal Battery

7.4 V, 6800 mAh lithium-ion rechargeable and removable battery

RTK rover (UHF / Cellular) for 10 hours

Power indicator embedded

Quick charge within 3.5 hours

I/O Interface

Bluetooth 4.0 / 2.1+ EDR, 2.4 GHz. USB 3.0 port, OTG function

1 SMA antenna connector

1 DC power input (5-pin), 1 SIM card slot

Near Field Communication (NFC)

COMMUNICATION

Network Communication

Full band support for cellular mobile network (LTE, WCDMA, EDGE, GPRS, GSM). 2.4 GHz Wi-Fi, supports the standard protocol 802.11 b / g / n. Network RTK (in CORS) range is 20-50 k

Internal UHF Transceiver Radio

Frequency.....403 ~ 473 MHz

Transmitting power.....1 ~ 4 W Advanced Radio

Supports protocols.....TRIMTALK450S, TRIMMARK III, SATEL-3AS, TRANSEOT

Working Range.....Typically 3 ~ 5 km, optimal 5 ~ 8 km

External UHF Radio

Frequency.....410 ~ 470 MHz

Transmitting power.....5 W / 25 W

Compatible with third party radio

Working Range.....Typically 3 ~ 5 km, optimal 5 ~ 8 km

SYSTEM CONFIGURATION.

System

Data storage — Circulating 16 GB Internal storage Record GNS and RINEX format simultaneously

Data Formats

1 Hz positioning output, up to 50 Hz. CMR, RTCM2.X, RTCM3.0, RTCM3.1, RTCM3.2

Navigation outputs ASCII: NMEA-0183 GSV, AVR, RMC, HDT, VDG, VHD, ROT, GKG, GGA, GSA, ZDA, VTG, GST, PJT, PJK, BPO, GLL, GRS, GBS

Binary: Trimble GSOF, NMEA2000

1. The hardware of this product is designed for Beidou B3 compatibility (trial version) and its firmware will be enhanced to fully support such new signals as soon as the officially published signal interface control documentation (ICD) becomes available.

2. There is no public GLONASS L3 CDMA or Galileo E6 ICD. The current capability in the receivers is based on publicly available information.

3. Developed under a License of the European Union and the European Space Agency.

4. Input only network correction.

5. Accuracies are dependent on GNSS satellite availability. Hi-Fix positioning ends after 5 minutes of radio downtime. Hi-Fix is not available in all regions, check with your local sales representative for more information.

6. RTK refers to the last reported precision before the correction source was lost and Hi-Fix started.

Descriptions and Specifications are subject to change without notice