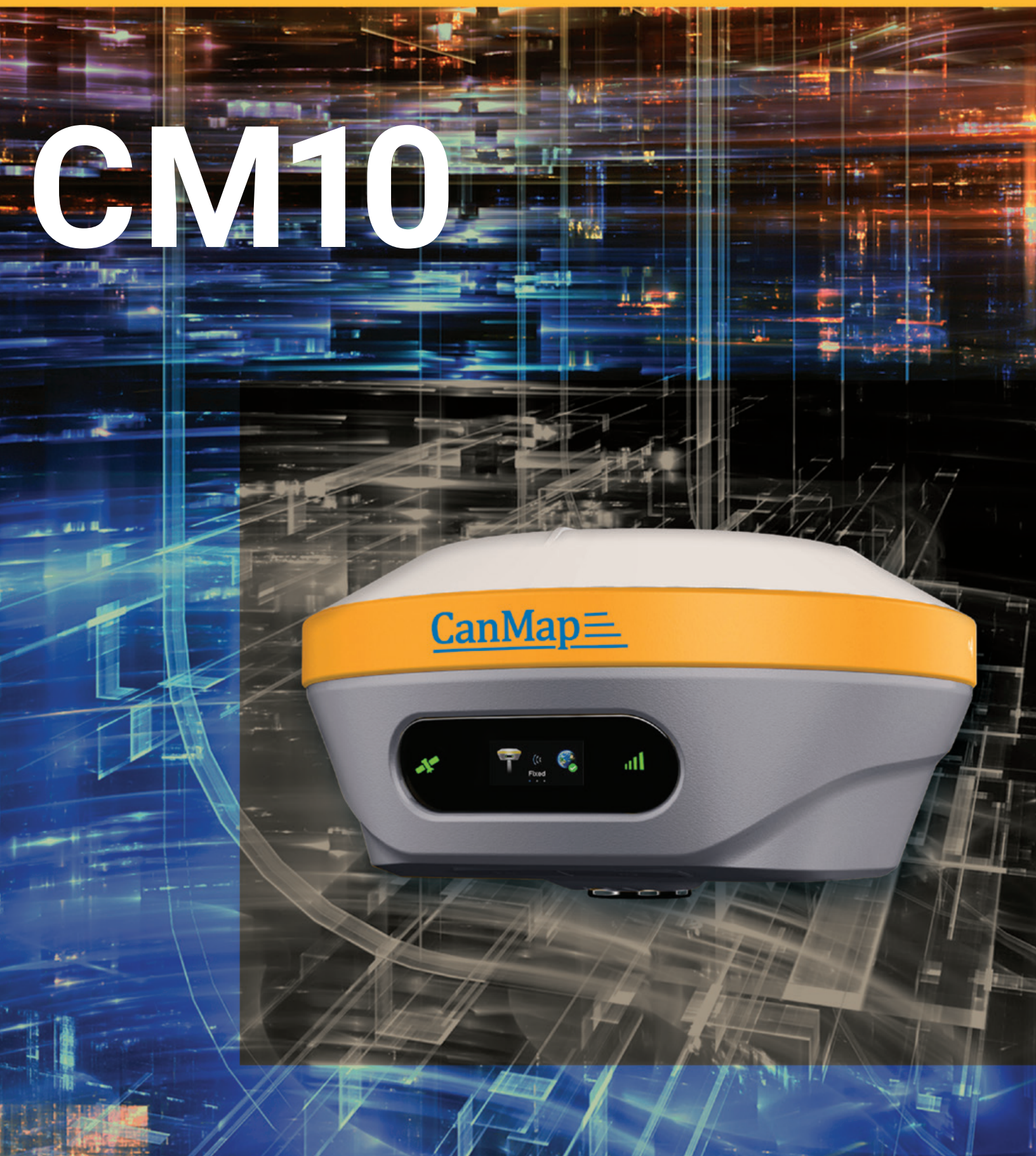
CanMap
Geomatics Solutions

Surveys made Affordable

GNSS Systems

CM10



CM10 A Simple but not Simplistic GNSS System

CM10 is a full-featured, intelligent GNSS receiver system equipped with an integrated new-generation full-frequency antenna and advanced multi-channel engine, allowing users to attain accurate, reliable solutions. Users can also take advantage of calibration free tilt compensation technology without leveling the survey pole to collect point data in more places.

The CM10 system can maximize your productivity in challenging environments with these powerful features and Hi-Survey Road Field Software.

Advanced RTK Engine

Flexible Satellite signal management helps you to get a more accurate solution and provides a 20 percent improved performance in challenging GNSS environments.

IMU

The calibration free tilt compensation technology assists you to survey or stake out points accurately without leveling the pole, which boosts the working efficiency by 20 per cent, with error that is less than 3cm within a 45° inclination.

Fast-Charge

With fast-charge it takes only 50 minutes to charge the battery to 50%, saving valuable survey time.

Web UI

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.

Hi-Fix Technology

Reduces downtime in the field with continuous RTK coverage during correction outages from a RTK base station or VRS network.

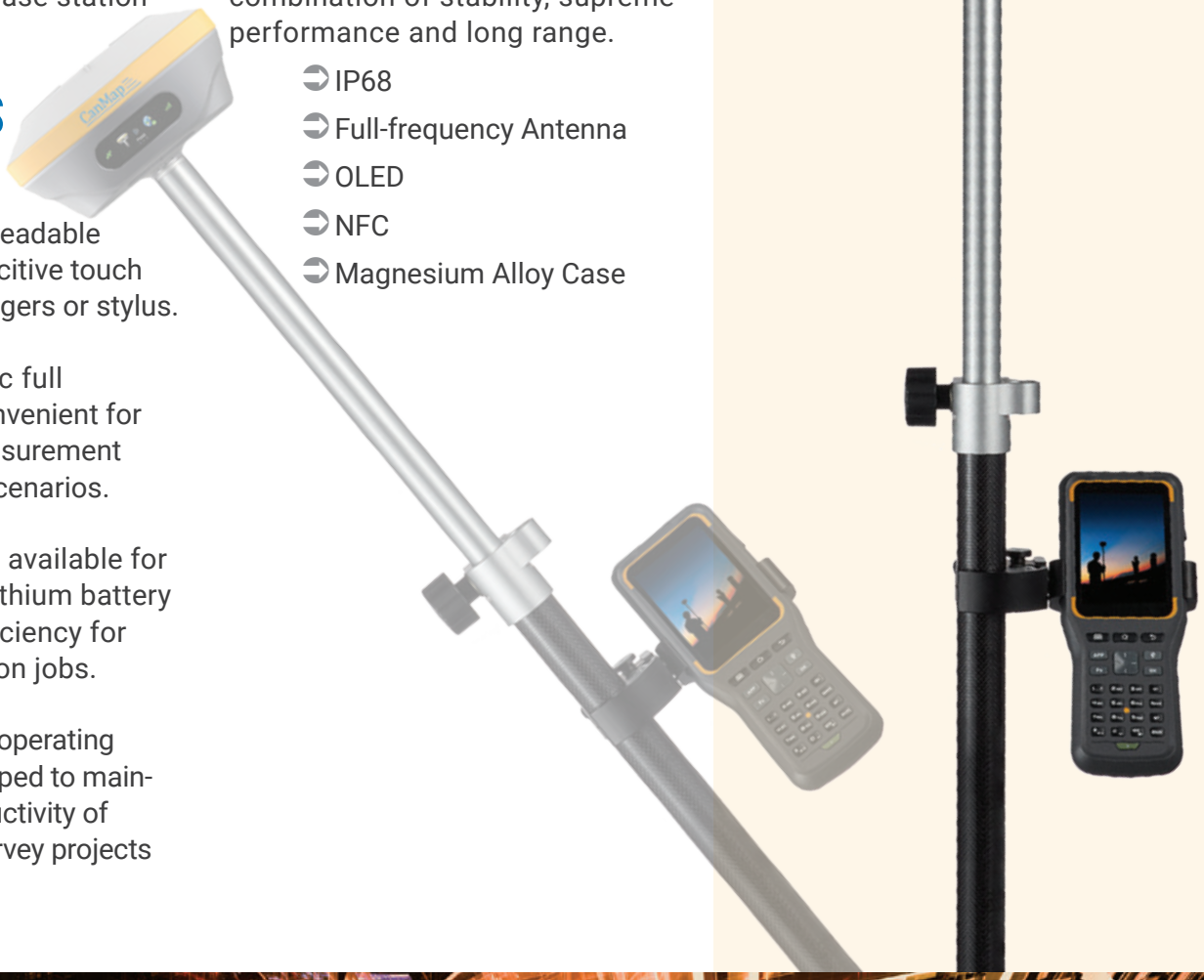
DC200

HDL-460A

New Generation External Radio

HDL-460A provides reliable data communications for mission-critical applications that require a combination of stability, supreme performance and long range.

- IP68
- Full-frequency Antenna
- OLED
- NFC
- Magnesium Alloy Case



FEATURES

DC200

5.5”sunlight readable display, capacitive touch screen for fingers or stylus.

Alphanumeric full keyboard, convenient for different measurement application scenarios.

Quick-charge available for the internal lithium battery improves efficiency for longer duration jobs.

Android 10.0 operating system equipped to maintain the productivity of numerous survey projects and data.

PERFORMANCE SPECIFICATIONS

GNSS TECHNOLOGY

Satellite Signals Tracked Simultaneously[1]

Channels.....800+
GPS.....L1, L2, L5, L2C
GLONASS.....L1, L2, L3[2]
BDS.....B1, B2, B3, B1C, B2A[1]
Galileo.....E1, E5, AltBOC, E5A, E5B, E6
SBAS.....L1, L5
QZSS.....L1, L2, L5, L6
IRNSS.....L5

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 RMS
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)

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

Hi-Fix[5]

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

Tilt Survey Performance

2 cm accuracy in the inclination of 30°
3 cm accuracy in the inclination of 45°

HARDWARE

Communication

Bluetooth 4.2 / 2.1+ EDR, 2.4 GHz
Network Communication:
4 GB cellular mobile network (TDD-LTE, FDD-LTE, WCDMA, EDGE, GPRS, GSM)
Wi-Fi frequency is 2.4 GB, support 802.11 b / g / n protocol

Internal UHF Radio

Frequency.....403 ~ 473 MHz
Channel.....116 (16 scalable)
Transmitting power.....1 ~ 4 W Advanced Radio
Supports multiple protocols:
TRIMTALK450S, TRIMMARK III, TRANSEOT, SATEL-3AS, etc
Working Range.....Typically 3 ~ 5 km, optimal 5 km

External UHF Radio

External HDL-460A Full Protocols Radio
Frequency.....403 ~ 473 MHz
Channel.....116 (16 scalable)
Transmitting power.....10 W / 35 W adjustable
Protocols:
TRIMTALK450S, TRIMMARK III, TRANSEOT, etc
Working Range.....Typically 8 ~ 10 km, optimal 15 ~ 20 km

PHYSICAL

Internal Battery

Internal 7.4 V, 6800 mAh lithium-ion rechargeable battery
Charging: Supports USB PD3.0 quick charge, quick charge within 3.5 hours
RTK Rover (Network) for 10 hours

External Power

7-28 V DC external power input (5-pin port), with over-discharge protection
Power Consumption.....4.2 W
Support Power Bank charging
Dimensions (W x H).....156 mm x 77 mm
Weight.....≤ 1.2 kg (includes battery)
Data Storage.....8 GB ROM internal storage

Control Panel

Physical button.....2
LED Lamp.....Satellite, Signal

Environment

Water / dustproof.....IP68
Shock and vibration: Designed to survive a 2 m natural fall onto concrete
Humidity.....100%, condensing
Operation temperature.....-30° C ~ +70° C
Storage temperature.....-40° C ~ +80° C

I/O Interface

1 x USB port, Type C, OTG function
1 x SMA antenna connector
1 x DC power input (5-pin)
1 x Nano SIM card slot

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

CanMap Geomatics Solutions

HQ: Innovation Boost Zone, 20 Dundas St W Suite 921, Toronto, ON M5G 2H1.
www.canmapgs.com | info@canmapgs.com