



ProMark™ 700



The Perfect Network RTK Rover:
Lightweight, Rugged and Simply Reliable

FLEXIBLE
RELIABLE RTK
PRODUCTIVE

MULTI GNSS



ProMark 700

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The Spectra Precision ProMark™ 700 GNSS receiver is the lightest network RTK rover on the market today. Very compact, slim and cable-free, ProMark 700 is portable, ergonomic and comfortable for all-day use in the field. Its long-lasting battery allows all-day operations without any need for battery recharging or replacement. And, thanks to the extremely rugged, shock-proof and waterproof design, ProMark 700 withstands the most extreme outdoor conditions.

ProMark 700 provides all the necessary features for effective network RTK operations, without the unnecessary complexity of rarely-used modules and options. The dual-frequency, dual-constellation GNSS receiver has 220 channels to ensure that all available satellite signals are tracked. Together with a choice of rugged data collectors and productive field software – Survey Pro or FAST Survey – ProMark 700 creates a perfect network RTK solution.

The lightest RTK rover on the market

- RTK network rover with 220 channels
- Extremely light and compact
- Reliable and proven technology

Built for the field

- Ultra-rugged and shock resistant design
- Truly waterproof and dust-proof
- All-day battery life

Easy-to-use, easy-to-own

- Ready-to-use configuration
- Ergonomic operation in the field
- Simple and affordable solution



Choice of Data Collectors

Pair the ProMark 700 receiver with a choice of data collectors, field and office software to create a robust, ready-to-use, cable-free RTK solution. With such features as large color touch screens, SDHC memory slots, cellular modems, WLAN and Bluetooth™ wireless technologies, you can choose from among the following data collectors:

- **The MM10 Data Collector:** A very lightweight but rugged design, with extremely long battery life (over 20 hours) making it a perfect tool for long surveying jobs
- **The T41™ Data Collector:** A rugged, connected, slim and compact handheld, offering class-leading performance with a high-resolution outdoor readable display
- **The Ranger™ 3 Data Collector:** An ultra-rugged field terminal with full alphanumeric keyboard, for use in tough outdoor environments
- **The ProMark™ 100 Data Collector:** A rugged GNSS handheld that can also be used for additional work such as pre-survey and GIS data collection

Survey Pro Field Software

Survey Pro field software provides you with a complete set of capabilities for all your survey projects. It's fast, reliable and easy to use. It provides unparalleled integration, data integrity, and efficiency. Survey Pro software is offered in a variety of modules to best fit the job, and features can be added as needed. Survey Pro is unmatched in its capabilities and is one of the reasons it has been a top choice of surveyors for more than 20 years.

FAST Survey Field Software

Advanced FAST Survey field software meets the most demanding survey requirements. It includes topographic features typically associated with dual-frequency GNSS surveying, and provides extensive data formats and local coordinate system support. Added options make it possible to interact with a wide range of survey instruments and accessories to run complete survey jobs, including site calibration, stake out, and survey projects where total stations are used.

ProMark 700 Technical Specifications

GNSS Characteristics

- 220 GNSS channels
 - GPS L1 C/1, L2 P and L2 C
 - GLONASS L1 C/A and L2 C/A
 - SBAS: code and carrier (WAAS/EGNOS/MSAS/GAGAN)
- Very low noise GNSS carrier phase measurements
- Proven low elevation tracking technology
- Up to 5 Hz real-time position output
- Supported data formats: RTCM 2.0, 2.1, 2.3, 3.0 and 3.1, CMR, CMR+
- RTK networks: VRS, FKP, MAC

Real-Time Accuracy (RMS) ^{1 2}

SBAS (WAAS/EGNOS/MSAS/GAGAN)

- Horizontal < 50 cm (1.64 ft)
- Vertical < 85 cm (2.79 ft)

Real-Time DGPS position

- Horizontal 25 cm (0.82 ft) + 1 ppm
- Vertical 50 cm (1.64 ft) + 1 ppm

Real-Time Kinematic position (fine mode) (< 30 km baseline)

- Horizontal 10 mm (0.033 ft) + 1 ppm
- Vertical 20 mm (0.065 ft) + 1 ppm

Real-Time Performance

- Initialization time: typically < 10 sec (for baselines < 20 km)
- Initialization reliability: > 99.9%

Post-Processing Accuracy (RMS) ^{1 2}

Static, Rapid Static

- Horizontal 5 mm (0.016 ft) + 0.5 ppm
- Vertical 10 mm (0.033 ft) + 0.5 ppm

High-Precision Static³

- Horizontal 3 mm (0.009 ft) + 0.5 ppm
- Vertical 6 mm (0.019 ft) + 0.5 ppm

Post-Processed Kinematic

- Horizontal 10 mm (0.033 ft) + 1 ppm
- Vertical 20 mm (0.065 ft) + 1 ppm

Data logging Characteristics

Recording Interval

- 1 - 60 seconds

Physical Characteristics

Size

- Unit: 20.5x20.5x6.2 cm (8.1x8.1x2.4 in)

Weight

- GNSS receiver: 650 g (1.4 lb)

I/O Interface

- 9-16 V DC input power
- RS232 serial link
- Bluetooth 2.0 class 2 (SPP profile)

Memory

- 6 MB internal memory (expandable through data collector memory)
- Up to 100 hours of 15 sec. raw GNSS data from 18 satellites

Operation

- RTK network rover: VRS, FKP, MAC
- Point-to-point through Real-Time Data Server (RTDS) software
- NTRIP, Direct IP

Environmental Characteristics

- Operating temperature: -30° to +65°C (-22° to +149°F) ⁴
- Storage temperature: -40° to +70°C (-40° to +158°F)
- Humidity: 100% condensing
- IP67 waterproof, sealed against sand and dust
- Shock: ETS300 019
- Drop: 2 m pole drop on concrete

Power Characteristics

- Li-Ion battery, 5000 mAh
- Battery life time: 10 hrs
- Nominal voltage: 3.7 V
- External DC power: 9-16 V with reverse polarity protection (ISO 7637)

Standard System Components

- ProMark 700 receiver
- Power cable
- AC/DC adaptor
- CLA adaptor
- Soft bag

Optional System Components

- RS232 to USB adaptor kit
- Data collectors
 - T41
 - MM10
 - Ranger 3
 - ProMark 120
 - Nomad
- Field software
 - Survey Pro
 - FAST Survey

FAST Survey Field Software

Key software functions include:

- Complete GPS/GNSS instrument support
- Volume computation
- Background raster images
- Network connectivity
- Coordinate system support: predefined grid systems, predefined datums, projections, geoids, local grid
- Map view with colored lines
- Geodetic geometry: intersection, azimuth/distance, offsetting, poly-line, curve, area
- Data Import/Export: DXF, SHP, RW5, LandXML
- Survey utilities: calculator, RW5 file viewing
- Optical surveying instruments (optional)
- Road construction (optional)
- Robotic total stations (optional)

Survey Pro Field Software

Key software functions include:

- Complete GPS/GNSS instrument support
- Complete mechanical instrument support
- All data collection features
- Basic point stakeout
- Basic COGO including inverses, intersections, manual traverse, area and much more
- Advanced COGO and curve solutions including station offsets
- Average points, and spiral tools
- Advanced stakeout including offset staking, slope staking and stake to a DTM
- Road Layout – Complete road layout and staking tool set
- Extensive data collection routines with easy to use, step-by-step setup features
- Survey Pro Robotic (optional)

¹ Accuracy and TFF specifications may be affected by atmospheric conditions, signal multipath, satellite geometry and corrections availability and quality.

² Performance values assume minimum of five satellites, following the procedures recommended in the product manual. High multi-path areas, high PDOP values and periods of severe atmospheric conditions may degrade performance.

³ Depending on baselines, precise ephemeris and long occupations up to 24 hr may be required to achieve the high precision static specifications.

⁴ At very low temperature, the unit will start, and will operate after short warm-up time.

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