



ProFlex 500

Magellan's new high-performance GNSS receiver is designed for a wide range of applications.

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Magellan Professional's ProFlex 500 positioning solution delivers RTK features in a rugged, highly integrated receiver design. The company developed the ProFlex 500 to extend the benefits of its new BLADE GNSS technology to a wider variety of survey and positioning applications. Primary markets are expected to be in topographic and construction survey, marine survey, and machine control and guidance.

The receiver is available with several application packages for easy adaptation to a wide variety of customer needs. It can be mounted on a machine or vehicle for land or sea operations. It can be fitted in a backpack for rover applications or used as a base station for precise land surveying.

Its easy adaptability to almost any type of precise positioning work is expected to generate wide interest with end-users, and with systems integrators.

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GPS+Glonass Technology

The heart of the ProFlex 500 is a 75-channel GNSS board. It tracks dual-frequency GPS and Glonass signals, as well as space-based augmentation of signals (SBAS) – all of which are optimally processed by the patented BLADE technology.

The technology uses multiple GNSS constellations for high-accuracy positioning, maximising the benefits of the additional satellites with GPS signals. It ensures fast initialisation, long-range accuracy and extensive compatibility with other manufacturers' GNSS products.

BLADE has been integrated into the latest Magellan Professional products for almost two years, and has been well received within its target markets and their end-users. The key differentiators and user benefits of the ProFlex 500 are:

- Optimal use of SBAS and Glonass to strengthen the GPS solution, allowing more reliable RTK
- Full compatibility with any third party reference stations for Glonass correction data, resulting in reliable rover operations in any RTK network
- Advanced centimetre RTK solutions with constant checking for correct ambiguity resolution
- Faster time to a decimetre-accurate solution up to 1000 kilometres (Flying RTK), offering a good alternative for agricultural applications (versus L-Band) provided a mobile telephone network is available

- Routinely operates over baselines up to 70 kilometres
- Strong multi-path mitigation, optimised to overcome environmental challenges in urban canyons and dense foliage.

BLADE technology combines with the ProFlex highly-integrated design to yield a robust and high performing solution.

Flexible and Rugged Design

The ProFlex 500 receiver includes a unique set of embedded communication options for maximum operational flexibility. It contains completely integrated GSM, UHF and Bluetooth for wireless communications, and Ethernet, RS-232/422 and USB connections. The hardware design adds to the flexibility of the receiver. It includes various mounting capabilities, internal and removable battery, internal memory and various application kits. It also has full compatibility with a wide variety of proprietary software solutions.

It has been manufactured to withstand harsh environments. It is 100 per cent humidity and condensation proof, salt mist resistant, and shock and vibration resistant as defined in military standard MIL STD 810 F. It is housed in a rugged aluminum casing and is IP67 rated. These attributes are valuable whether it is integrated in machinery and equipment or used in stand-alone applications.



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Application Packages

Survey Backpack

The survey backpack application package is designed for land surveying. It includes a purpose-built, robust and comfortable water-resistant backpack. Accessories include a UHF pole and cable, a GPS cable with quick release system for easy backpack removal, a second Li-ion battery and a tape measure. It also comes with Magellan's GNSS Solutions software for project and geoid management.

The package is ideal for construction companies looking for an extremely rugged survey system. It outputs RTCM versions 2 and 3 and CMR/CMR+ standard formats. This enables easy data flow to the numerous software packages and equipment typically found in construction projects. ProFlex 500's flexibility delivers a high return on investment for companies that frequently work in different environments, with particular requirements for each job.

Marine Application

The BLADE long-range RTK capability, combined with Magellan's dependable UHF communications, is well suited for marine survey applications. Specifically designed for coastal works, dredging, bathymetry or offshore user needs, the marine package includes GPS and UHF marine aerials, low-loss GPS or UHF cables (10 or 30 metres) and UHF antenna. It has rugged mounting parts for installation on ships.

The ProFlex 500 is well suited for users who are looking for a single receiver for on-board use, or in a backpack for coastal survey work. It can be adapted between applications and carried from site to site, so it is ideal for optimising deployments of crew and equipment.

Onboard Machine Integration

ProFlex 500 is an alternative for original equipment manufacturers and value-added resellers who need precise

positioning for machine guidance, or control markets such as agriculture, construction or mining. Magellan's 20 years of expertise in precise positioning combines with the receiver's ruggedness and mounting capabilities to position it as a serious new player in this market.

Base Station

Last but not least, ProFlex 500 is not only a rover, but can also be used as a base station. With its built-in Ethernet capability, it can be accessed from any computer connected to the internet. Control and monitoring and data streaming functions work as if using a serial port.

In addition, it can be used with the Magellan Real Time Data Server (RTDS) software to build a custom RTK corrections server via Direct IP. This software offers land surveyors an efficient alternative to RTK networks (public or private), and also helps solve radio propagation issues, provided a cellular network is available.

A Multi-Purpose Receiver

Magellan has created a single receiver for precise positioning in a wide and varying range of applications. It delivers a unique optimisation of Glonass for reliable and precise RTK surveying, a highly rugged solution, a large choice of integrated options for easy product upgrade to meet current and future user needs.

The ProFlex 500 is ideal when configurations and applications change between jobs. It not only delivers state of the art technology for precise positioning, but also the optimal use and deployment of equipment among crews for multi-application purposes.

Interest in the ProFlex is expected to span the field, from dealer and systems integrators to large construction firms, marine surveys, and inclusion by original equipment manufacturers in complete solutions for mining, construction and agriculture.

Magellan Professional has positioned its new GNSS receiver in the high-end range of the GNSS features and performance, but at an outstanding price-to-performance ratio.

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