Alberding

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Telemetry and Positioning System

A10: Key features

- Scalable GNSS hardware (from L1 GPS to L1/L2 GNSS RTK)
- RTK and post-processing
- · Easy handling and web user interface
- · Customised configuration
- Automatic data flow
- Server/Client communication
- Integration of application software
- · GPS-only, GLONASS-only or BeiDou-only solutions possible
- Heading acquisition

Integrated hardware

- Dual-frequency GNSS board
- LTE modem
- Bluetooth module with antenna
- Data storage
- · Processor for data management
- Embedded PC with Linux operating system (optional)

Examples of application fields















System description

The Alberding A10 sensor combines a GNSS board, a Bluetooth module with antenna, a LTE modem, a memory card and several other components in one robust housing. The core of the system is an integrated processor, controlling the sensor components and transferring data automatically.

The integrated GNSS board has a web user interface and a scalable architecture from L1 GPS to L1/L2 GNSS (GPS/GLONASS/BeiDou/Galileo) and heading, so that the functionality of the system can be flexibly adapted to the applications.

In the "RTK" variation (L1 RTK or L1/L2 RTK), the Alberding A10 delivers GNSS positions in real time with centimetre accuracy. After pre-configuring the system, Ntrip-based RTK correction data reception starts with pressing a single button. Depending on the application, the RTK positions (NMEA format) can be stored internally, transmitted via Bluetooth to a tablet PC or sent to a server via mobile Internet.

Embedded PC for customised software

The Alberding A10 sensor can optionally be provided with a built-in PC (Linux operating system), so algorithms for GNSS correction data conversions (SSR \rightarrow OSR) or for sensor fusion can be implemented directly in the Alberding A10 sensor. The integration with the Alberding Monitoring Software enables generation of on-site warnings.

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GNSS specifications (Trimble MB-Two)



Technical specifications

3.3 cm					
Physical	Dimensions (LxWxH): Weight (without battery): Status indicators (LEDs): Buttons: Antenna connector: ⁶ :	13.0 cm x 15.3 cm x 3.3 cm (5.12" x 6.02" x 1.30") 656 g (1.45 lb) 1227 g (2.71 lb) with pole holder System, GSM, Bluetooth, GNSS status, charging status Power, Log GNSS: TNC female, GSM: SMA female	Data and memory	Data storage: Wireless data output: Wireless data input : Wired data output: Wired data input:	Integrated memory card Bluetooth, mobile internet Bluetooth, mobile internet LAN, Serial RS232, Serial USB ⁵ , PPS out LAN, Serial RS232, Serial USB ⁵ , Event In
Communications	Bluetooth 2.1 + EDR: Cellular: Data/Power:	Class 2, range: ~5 m, SPP protocol, Apple iAP LTE (800/850/900/1800/2100/2600 MHz) Sub-D HD26 (Octopus cable ⁵ , Multiport adapter ⁵)	Environmental	Operating temperature: Humidity: Ingress protection: Enclosure material: Compliance:	-20 °C to +55 °C (-4 °F to +131 °F) up to 80% IP67 Metal (AIMgSi 0.5) powder coated CE, RoHS and Lead-free
Electrical	External power input: Power consumption ⁹ : Rechargeable LiPo battery ⁵ : Recharge power consumption: Full recharge time: Protections:	12 - 24 V DC Typ. 5 W with Linux board and RTCM3 data corrections 3.7 V, 5 Ah with LED status indicator max. 5 W ~ 6 h with LED status indicator Short-circuit Overcurrent charge and discharge Overvoltage charge (overcharge) Undervoltage charge (over-discharge) Temperature	Optional accessories	 Octopus cable (LAN, RS232-female, RS232-male, PSS out, Event In, USB, Power) Multiport adapter (LAN, RS232, Power) External GNSS antenna Integrated Linux board (Cortex A8, 512MB DDR3, 1GHz, openSUSE) Memory card 	

¹Depends on baseline length, number of satellites in view, satellite geometry, GNSS antenna, multipath environment and atmospheric conditions ²ppm limited to baselines up to 10 km ³ppm even for baselines greater than 40 km ⁴Limited to baselines up to 100 m ⁵Optional ⁶Additionally TNC female connector for heading ⁷ATOM: Open Ashtech file format ⁸CMR: A Trimble proprietary file format

⁹Varies depending on the equipment

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+49 (0) 3375 / 52 50 370 +49 (0) 3375 / 52 50 377 : http://www.alberding.eu ail: info@alberding.eu Specifications subject to change without notice. November 2017, Alberding GmbH P/N: Alberding A10 Made in Germany

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