

## Key features

- Affordable RTK rover
- RTK and post-processing
- RTK rover (Surveying App)
- Flexible system adaptation
- Automatic data transmission
- Server/client communication

## Integrated hardware

- Multifrequency GNSS RTK board
- LTE modem
- Bluetooth module with antenna
- Data storage (Installed: 32 GB)
- Power supply (Li-Po battery)
- Processor for data management



## Examples for application areas



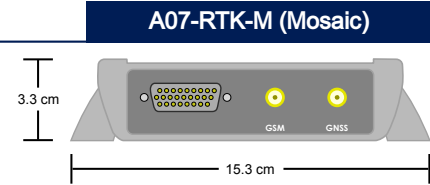
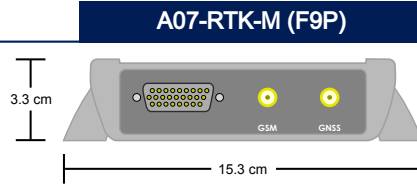
## System description

The Alberding A07-RTK-M sensor combines a multi-frequency GNSS board, an LTE modem, a Bluetooth module with antenna, a data memory, a battery and various other components in one housing. The heart of the system is an integrated processor that controls the sensor components and enables an automated data flow.

In RTK rover mode, the A07-RTK-M provides centimeter-precise GNSS positions in real time. After pre-configuration of the system, the Ntrip dial-in (RTK correction data service) is done in a user-friendly way by a simple push of a button. Depending on the application, the RTK positions (NMEA format) can be transmitted via Bluetooth to a tablet PC, stored internally or sent to a server via mobile internet.

Besides the use as RTK rover in connection with a surveying app (Alberding AGIS) the A07-RTK-M can also be used as intelligent sensor self-sufficient (without tablet PC or smartphone). Possible applications are the precise positioning of moving objects (machines) and the monitoring of buildings and settlement areas (geomonitoring). The data transfer to the server can be carried out as real-time streaming or by sending files.

## Interface



## GNSS specifications

	A07-RTK-M (F9P)	A07-RTK-M (Mosaic)
<b>Tracking</b>	GNSS signals: GPS GLONASS BeiDou Galileo Number of channels: Max. update rate:	L1C/A & L2C code and carrier L10F & L20F code and carrier B1I & B2I code and carrier E1-B/C & E5b RTK: 5 Hz RAW: 10 Hz
<b>Accuracy</b>	Standalone: RTK <sup>1</sup> (horizontal): RTK <sup>1</sup> (vertical): RTK convergence time <sup>1</sup> :	L1C/A, L1C, L1PY, L2C, L2P, L5 L1CA, L2CA, L2P, L3 CDMA B1I, B1C, B2a, B2I, B3 E1, E5a, E5b, E5 AltBoc, E5 448 RTK: 5 Hz RAW: 10 Hz
<b>Time to First Fix</b>	Cold start: Aided start: Reacquisition:	< 45 s < 20 s 1 s
<b>Technical specifications</b>		
<b>Physical</b>	Dimensions (LxWxH): Weight: Status indicators (LEDs): Buttons: Antenna connector:	13.0 cm x 15.3 cm x 3.3 cm (5.12" x 6.02" x 1.30") 675 g (1.49 lb) 1239 g (2.73 lb) with pole holder System, GSM, BT, GNSS status, battery status Power, Log GNSS: SMA female, GSM: SMA female
<b>Communications</b>	Bluetooth: Cellular: Cabel:	BT 2.0, BT 2.4, WLAN (not parallel usable) LTE (800/850/900/1800/2100/2600 MHz) Multiport connector (USB, Serial, Power)
<b>Data transfer and storage</b>	Data storage: Real-time data output: Real-time data input:	Integrated memory card NMEA-0183, Binary, RTCM version 3.x RTCM version 3.x
<b>Environmental</b>	Operating temperature: Humidity: Ingress protection: Enclosure material: Compliance:	-20 °C to +55 °C (-4 °F to +131 °F) up to 80% IP67 Metal (AlMgSi 0.5) powder coated CE, RoHS and lead-free
<b>Electrical properties</b>	External power input: Rechargeable LiPo battery: Power consumption <sup>3</sup> : Battery life <sup>4</sup> : Recharge power consumption: Full recharge time: Protections:	12 V DC 3.7 V, 5 Ah with LED status indicator 1.3 W ~ 12:00 h at 20 °C max. 5 W ~ 6 h with LED status indicator Short-circuit Overcurrent charge and discharge Overvoltage charge (overcharge) Undervoltage charge (over-discharge) Temperature
<b>Optional accessories</b>	1. AC-DC power supply 100-240 V 2. Multiport cable 3. External GNSS antenna 4. External GSM antenna	1. AC-DC power supply 100-240 V USB charger 2. USB cable 2.0, A plug to mini-USB 1.5 m 3. External GNSS antenna 4. External GSM antenna

<sup>1</sup>Depends on baseline length, number of satellites in view, satellite geometry, GNSS antenna, multipath, environment and atmospheric conditions

<sup>2</sup>ppm limited to baselines up to 20 km

<sup>3</sup>Varies with temperature and wireless data rate

<sup>4</sup>At 1 Hz NMEA output rate with RTCM3.x corrections

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 P/N: Alberding A07-RTK-M  
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