

Key features

- Compact and attractively priced system
- Easy to install and set up
- Automated data flow
- Autonomous operation via solar power supply
- Remote configuration (intervals, measurement methods)
- No separate base station required (RTK service)

Integrated sensor hardware

- Scalable GNSS module (from L1 to L1/L2/L5 RTK)
- Integrated tilt and acceleration sensor
- Additional sensors (temperature, pressure, humidity)
- Integrated memory
- Integrated GSM module (4G-LTE)
- Connection option for external sensors



Examples of application fields

- Mountains, glaciers
- Embankments, break lines
- Dams, dykes, landfills
- Subsidence/uplift of the ground surface
- Structures (e.g. bridges, buildings)
- Other monitoring tasks



System description

The Alberding A08-MONIPOL is a precise GNSS monitoring sensor that combines a sensor box and a solar module on a single pole. The system is characterised by an attractive sensor price, a compact design, straightforward installation, and extensive protection against vandalism.

The MONIPOL is compatible with GNSS receivers from various manufacturers. Multi-frequency GNSS receivers and the RTK method are preferred for fast movements. Low-cost GNSS modules with low energy consumption and the near-online method are used for monitoring slow movements.

The sensor configuration can be adjusted remotely via the mobile internet in response to seasonal or weather-related changes in solar radiation. In addition to the 3D position, the MONIPOL provides information about pole inclination and weather data. External sensors can also be connected.

The entire monitoring process is fully automated with the A08-MONIPOL. Once installed, the sensor transmits its measurement data to the server at preconfigured intervals via the integrated 4G LTE modem. The raw GNSS data is automatically evaluated in the Alberding Monitoring Software (AMoS).

The web-based AMoS software is used to record, display, analyse and archive measurement data. If definable threshold values are exceeded, a configurable group of users is notified via SMS and/or email. An API is also available for transferring data to external software packages.

Technical specifications

Physical	Dimensions (without pole) (LxWxH):	59 cm x 13 cm x 3 cm (23.23" x 5.12" x 1.18")
	Dimensions (with pole) (LxWxH):	102 cm x 13 cm x 15 cm (40.16" x 5.12" x 5.91")
	Weight (without pole): Weight (with pole):	1.4 kg (3.09 lb) 2.6 kg (5.73 lb)
Communi- cations	Data/Power:	Service connector
	GNSS antenna connector:	SMA female
Electrical	Solar power:	6 W
	Internal battery:	15 Ah
	Safety protection:	Undervoltage
		Overvoltage Automatic shutdown Temperature
Data and memory	Data storage:	SD card (industrial)
	Data transmission:	Mobile network (4G with 2G fallback)

¹Depending on: measurement interval, distance to reference station, number of satellites in view, satellite geometry, GNSS antenna, ambiguity resolution and atmospheric conditions
²Averaging over multiple measurements, baselines up to 5 km

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 P/N: Alberding A08-MONiPOL
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GNSS manufacturer specifications (Example - L1/L2)

GNSS tracking	GNSS signals:	L1C/A & L2C code and carrier phase
	GPS	L1OF & L2OF code and carrier phase
	GLONASS	B1I & B2I code and carrier phase
	BeiDou	E1-B/C & E5b
Accuracy (3D) ¹	Galileo	L1C/A & L2C
	QZSS	L1C/A
	SBAS	184
	Number of channels:	RTK: 1 Hz
Time to First Fix	Max. update rates:	RAW: 15 s
	Autonomous L1:	1.5 m
	RTK ² :	< 10 mm
	RTK convergence time:	< 10 s
Time to First Fix	Near online postprocessing ² :	< 5 mm
	Cold start:	24 s
	Warm start:	2 s
Time to First Fix	Signal re-acquisition:	2 s

GNSS manufacturer specifications (Example - L1)

GNSS tracking	GNSS signals:	L1 code and carrier phase
	GPS	L1OF code and carrier phase
	GLONASS	B1I code and carrier phase
	BeiDou	E1
Accuracy (3D) ¹	Galileo	L1
	QZSS	167
	Number of channels:	167
	Max. update rates:	RAW: 15 s
Accuracy (3D) ¹	Autonomous L1:	2.5 m
	Near online postprocessing ² :	< 10 mm
	Cold start:	29 s
Time to First Fix	Warm start:	3.5 s
	Signal re-acquisition:	1 s