# GMB

## Programmable GNSS RTK receiver with LTE modem

The compact GNSS receiver with integrated LTE modem is also ideal for small machines.
The compact design without external antennas is easy to integrate into a mobile work machine, the system allows the implementation of individual software applications according to customer requirements.

By means of RTK correction service a position determination with 2.5 cm accuracy is possible.

The Völkel GMA makes a machine accessible via the Internet. It communicates with the Völkel cloud server via LTE. The bidirectional communication enables the transmission of user and machine data, as well as remote diagnosis and secure remote maintenance.

### Properties:

- Uses all common navigation satellite systems (GPS, GLONASS, Galileo, Beidou)
- integrated, dual-frequency capable GNSS antenna
- RTK correction via NRTIB client
- Modem for 4G (LTE) and 2G (GSM)
- integrated cell phone antenna
- Völkel SIM card with national roaming
- Can be flexibly expanded with customer-specific software applications
- Powerful ARM controller and embedded Linux system
- integrated inclination sensor

### Technical data:

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|---|---|
| **GNSS Accuracy** | with RTK: 0,03 m + 1ppm CEP95 (or 0,01m + 1ppm CEP) <br> uncorrected: 4,5m CEP95 (or 1,5m CEP) |
| GNSS Systems / Signals | GPS: L1, L2 <br> GLONASS: L1, L2 <br> GALILEO: E1, E5 <br> BEIDOU: B1, B2 |

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|---|---|
| GNSS Position refresh rate | up to 20 Hz |
| GNSS Time to First Fix | Cold Starts: 24 s; Aided Start: 2 s |
| Mobile data connection | LTE Cat1 with 2G fall back (EU, other regions on request) |
| Microcontroller | ARM Cortex - A5, 536MHz with 256MB RAM |
| Mass storage | 4GB |
| Inputs | 1 activation input with 4,7 k$\Omega$ pull-down |
| Interfaces | RS232, maximum baud rate: 115kBaud (NMEA0183)<br>CAN 2.0B, maximum baud rate: 1Mbit/s (NMEA2000)<br>Ethernet, maximum data rate: 100Mbit/s<br>USB 2.0 Host High Speed 480Mbit/s |
| Supply | UB = 8 ... 32V |
| Power consumption | approx. 0,23A at 12V;  standby: 4mA and 13mA (red LED on) |
| Interfaces | M12 8-pole for power supply and interfaces<br>M12 5-pin for USB<br>M12 4-pin D-coded, Industrial Ethernet |
| Degree of ingress protection | IP69k |
| Operation temperature range | -40 ... 85°C (housing temperature) |
| Housing dimensions | (L/B/H) 176mm x 125mm x 72mm |
| Weight | ~0,6kg |
| EMV | Directive 2014/30/EU<br>Road vehicles: ISO 10605, ISO 7637-1, ISO 7637-2, ISO 7637-3<br>Construction machinery: DIN EN ISO 13766-1<br>Agriculture and<br>forestry machinery: DIN EN ISO 14982<br>Industrial use: DIN EN 61000-6-2, DIN EN 61000-6-4 |
| Industrial environments | Vibration: DIN EN 60068-2-6<br>Shocks, permanent repeat shocks: DIN EN 60068-2-27<br>Rough handling shocks: DIN EN 60068-2-31<br>Cold: DIN EN 60068-2-1<br>Dry heat: DIN EN 60068-2-2<br>Temperature change: DIN EN 60068-2-14<br>Damp heat: DIN EN 60068-2-30 |

# GMB housing dimensions