

# VASCO®-B

High Precision GNSS Base for Machine Control



## BEST-IN-CLASS GNSS BASE STATION

The VASCO-B GNSS base station is designed for office or harsh environment installation. A flexible and easy to setup base station for all your GNSS applications, the VASCO-B can be configured as your base for a localized site or as part of a base network configuration.

- Broadcast RTK over cellular, UHF or Network
- Remote web interface for easy setup and troubleshooting
- Track all satellite constellations

## GNSS+ technologies

**AIM+** Industry-leading anti-jamming, anti-spoofing interference monitoring & mitigation technology

**IONO+** Advanced protection against ionospheric disturbances

**APME+** Multipath mitigation to remove reflected signals

**LOCK+** For robust tracking during high vibrations and shocks

**RAIM+** Receiver autonomous integrity monitoring



Experts in Machine Control  
Applications since 1996  
- Mining - Landfill - Piling - Dredging -  
- Construction - Contract Drilling -  
- Custom Applications -

Learn more: [www.carlsonsw.com/mc](http://www.carlsonsw.com/mc)  
or contact at: [machinecontrol@carlsonsw.com](mailto:machinecontrol@carlsonsw.com)

BREAK NEW GROUND

## GNSS Subsystem

**Receiver Type:** High Precision GNSS  
**Channels:** 448  
**Protocols:** RTCM3.4, CMR, CMR+, NMEA, RINEX, Proprietary Binary Format (NJS)  
**GNSS:** GPS, GLONASS, Galileo, BeiDou, NavIC, QZSS  
**RTK Accuracy (RMS)\*:**  
 Horizontal: 0.6 cm + 0.5 ppm  
 Vertical: 1 cm + 1 ppm

## Communications

**Bluetooth:** Bluetooth 2.1 + EDR  
**Wi-Fi:** 2.4 GHz, 802.11 ac/a/b/g/n  
**Cellular Radio:** Integrated, 4G LTE Cat-12 with 3G fallback, global coverage  
**UHF Radio:** Fully configurable, with TX and RX capability for base and rover or rover and base

## Connector Ports

**Ethernet 1 & 2:** 4 pin, M12 connector(s), D-Code, 100/10 Mbit/s  
**Power:** 3 pin, M12 connector, A-Code, Power input  
**Serial:** 12 pin, M12 connector, A-Code, RS232, RS422, PPS, 5 V power output. Multi-peripheral connector, for optional external modules  
**Wi-Fi / BT:** RP-SMA connector For external Wi-Fi/BT antenna  
**UHF:** TNC connector For external UHF antenna  
**Cell Aux:** SMA connector For external main cellular antenna  
**Cell Main:** SMA connector For external auxiliary cellular antenna  
**GNSS:** TNC connector For main external GNSS antenna

## CPU System

**CPU Module:** ARM quad-core 1.2 GHz 64 bit Processor  
**OS:** Linux

## Physical

**Weight:** 1.8 Kg (without mounting fixtures)  
**Dimensions:** 180 x 200 x 50 mm  
**Material:** Anodized aluminum housing, nitrile rubber, stainless steel screws

## Environmental

**Operating Temp.:** -40°C ~ +65°C  
**Storage Temp.:** -40°C ~ +85°C  
**Waterproof:** IP67  
**Vibration & Shock Resistance:** BS EN 60068, sinusoidal 10-150Hz 2g, random 20-150Hz 0.02g<sup>2</sup>/Hz, shock 50G 6ms  
**Impact:** IK10, 20J impact energy, IEC 62262  
**Unprotected Drop:** Drop from 1.5 m onto concrete- operational  
**Humidity:** 95% RH, non-condensing

## Power

**Input Voltage:** 10 to 30 V DC  
**Power Consump.:** 35 W max, 15 W nominal  
**Serial:** Output, 5 V DC, 200 mA, switchable  
**GNSS:** Output, 5V DC, 100 mA, Antenna Bias

## Regulatory

CE, UKCA, FCC, IC, UL/CSA Safety, CB, RCM, RoHS, REACH (some approvals pending)

\*Standard open-sky operating conditions (depends on baseline length, multipath environment, number of satellites in view, satellite geometry and ionospheric activity).

VASCO-B  
S/N 22233653584



GLO 8/8



GAL 7/11



BDS 5/7



NMEA: 8082 + 8092 (1Hz)

RTCM 3.3: NTRIP + UHF

CMR+: Listen-Listen

Streams

Map

Overview

Data Logging

Settings

Admin

Learn more: [www.carlsonsw.com/mc](http://www.carlsonsw.com/mc) or contact us at: [machinecontrol@carlsonsw.com](mailto:machinecontrol@carlsonsw.com)