BRx6
GNSS Receiver

Carlson
BREAK NEW GROUND

GNSS Technology

The BRx6 features the modern Athena™ GNSS RTK engine, designed with an architecture to accommodate the multiple frequencies from current satellite constellations. Users will experience fast initialization to RTK, as well as more robust performance from reception of multiple GNSS satellite constellations. The powerful and lightweight BRx6 receiver may be used as a Base or Rover.

Wireless Options

The BRx6 has an integrated UHF transceiver and a Quad-Band GSM modem for differential corrections, together with Wi-Fi and Bluetooth. Base or Rover configuration is user selectable with the UHF transceiver or GSM Modem for independent RTK operations. Carlson's Listen-Listen service allows Base/Rover operation via the cellular modem. For RTK networks, the BRx6 can connect to a server with the integrated GSM modem for worldwide operation. The BRx6 also has Atlas L-Band corrections for Precise Point Positioning for a third correction option with subscription. In addition, SurvCE/SurvPC provides the option to utilize the cellular modem or Wi-Fi in the handheld computer via the Data Collector Internet feature.

SurvCE/SurvPC

Carlson's SurvCE/SurvPC allows users to continue operations with the familiar application software. SurvCE/SurvPC has full BRx6 configuration, system status and data logging directly from the handheld computer via Bluetooth. For improved Quality Control and efficiency, SurvCE/SurvPC features an intuitive Live Digital Level with an auto record option when the BRx6 is level. With SurvCE/SurvPC, users continue to have the direct attention of Carlson's software team to support and expand features for quality and productivity.

The BRx6 GNSS receiver with SurvCE/SurvPC delivers a modern and flexible GNSS RTK product for precision surveys, with an intuitive and familiar application software.

KEY FEATURES

- Athena™ GNSS RTK engine
- Integrated UHF radio
- Integrated GSM Modem
- Base or Rover functionality
- Tilt Sensor
- Integrated Bluetooth & Wi-Fi
- 4 GB Internal memory + microSD card to 64 GB
- IP67 Enclosure

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Carlson BRx6 GNSS Receiver - Specifications

GPS Receiver

Receiver Type: Multi Frequency GNSS
Positioning Modes: RTK, L-band, DGNSS, SBAS, Autonomous
Channels: 372
RTK Formats: RTCM3, ROX, CMR, CMR+[4]
L-Band Formats:[3] Atlas H100, Atlas H30, Atlas H10
Update Rate / Recording Interval: Selectable from 1, 2, 4, 5, 10 Hz (20 Hz available)

Performance (RMS)

	Horizontal	Vertical
RTK:[1]	8 mm + 1 ppm	15 mm + 1 ppm
Static Performance (long occupation):	3 mm + 0.1 ppm	3.5 mm + 0.4 ppm
Static Performance (rapid occupation):	3 mm + 0.5 ppm	5 mm + 0.5 ppm
L-band Performance: [3]	0.08 m	0.16 m
SBAS (WAAS):	0.3 m	0.6 m
Autonomous, no SA:[2]	1.2 m	2.4 m

Satellite Tracking

GPS: L1C/A, L1P, L2P, L2C
GLONASS: L1C/A, L2C/A
BeiDou: B1, B2, B3
QZSS: Firmware Upgrade option
Galileo: Firmware Upgrade option
SBAS: MSAS, WAAS, EGNOS, GAGAN

Communication

Connectors I/O:
5-pin Lemo connector for external power supply and external radio devices

7-pin Lemo connector for USB OTG connection and a serial port interface

1 TNC antenna connector for internal radio

WebUI: To upgrade the software, manage the status and settings, data download, via smart phone, tablet or other electronic device

TTS: Smart voice broadcast system. "Speaking" receiver

Reference Outputs:
RTCM2.1, RTCM2.3, RTCM3.0, RTCM3.1, RTCM3.2 including MSM, NMEA

Radio

Frequency Range: 410 - 470 MHz
Channel Spacing: 12.5 KHz / 25 KHz
Emitting Power: 0.5 / 1 W

Wireless Module

Wi-Fi: Integrated module with internal Wi-Fi antenna
Bluetooth: Bluetooth 2.1 + EDR Integrated
Bluetooth (BT) communication module with internal BT antenna

Cellular

Type: UMTS/HSPA+/GSM/GPRS/EDGE
Function: Data
Supported Frequencies: GSM/GPRS/EDGE (850, 900, 1800, and 1900 MHz)
HSDPA (850/800, 900, 1800, and 1900 MHz)

Power

Battery: Rechargeable 11.1 V -37.74 Wh intelligent lithium battery
Battery life: 5 hours with one battery and UHF radio in Rx mode
Voltage: 9 to 22V DC external power input with over-voltage protection (5-pin Lemo)
Charge Time: Typically 7 hours

Memory

SIM card: User accessible SIM card slot
Memory: Internal 4GB, accessible through USB and Wi-Fi.
SD card: External Micro SD card slot, supports up to 64 GB.

Environmental

Operating Temperature:
-30°C to 60°C (-22°F to 140°F)
Storage Temperature:
-40°C to 80°C (-40°F to 176°F)
Waterproof/Dustproof: IP67.
Protected from temporary immersion to a depth of 1 meter

Shock Resistance:

MIL-STD-810G, method 516.6
Designed to survive a 2 m pole drop on concrete floor with no damage; designed to survive a 1 m free drop on hardwood floor with no damage

Vibration: MIL-STD-810G, method 514.6E-I
Humidity: Up to 100%
Inflammability: UL, 94HB Flame Class Rating (3). 1.49 mm
Chemical Resistance: Cleaning agents, soapy water, industrial alcohol, water vapor, solar radiation (UV)

Mechanical

Size: 14.1 D x 14.0 H (cm), 5.5 D x 5.5 H (in),
Weight: <1.38 kgs (<3.05 lbs)
Mounting: 5/8"x11, 55° thread angle, stainless steel insert
Phase center offset:
GPS L1 and L2 offset below 2.5 mm

1. Depends on multipath environment, number of satellites in view, satellite geometry, and ionospheric activity
2. Depends also on baseline length
3. Requires a subscription from Hemisphere GNSS
4. CMR and CMR+ do not cover proprietary messages outside of the typical standard

710-210-21

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