

Specifications

Trimble BX982 Modular GNSS Heading Receiver



	BX982 GNSS Heading Receiver
Receiver Name	30/30 Rover
Configuration Option	Modular
Base and Rover interchangeability	Rover only
Rover position update rate	1 Hz, 2 Hz, 5 Hz, 10 Hz, 20Hz
Rover maximum range from base radio	Unrestricted
Rover operation within a VRS™ network	Yes
Heading and Moving Base operation	Yes
Factory options	See Receiver Upgrades below
General	
Keyboard and display	None
Dimensions (L x W x D)	261 mm x 140 mm x 55 mm
Weight	1.6 kg (3.52 lb) receiver only
Antenna Options	
GA510 (Discontinued)	Not supported
GA530 (Discontinued), Rugged GA530	Not supported
GA810	L1/L2/L2C GPS, QZSS, Glonass, Galileo, BeiDou, RTX, OmniSTAR, SBAS
GA830	Triple Frequency GNSS (GPS, QZSS, Glonass, Galileo, BDS), MSS (RTX, OmniSTAR), L1 SBAS
L1/Beacon, DSM 232 (Discontinued)	Not supported
Zephyr™ Model 2	Triple Frequency GNSS (GPS, QZSS, Glonass, Galileo, BDS), MSS(RTX, OmniSTAR), L1 SBAS
Zephyr Geodetic™ Model 2	Triple Frequency GNSS (GPS, QZSS, Glonass, Galileo, BDS), MSS(RTX, OmniSTAR), L1 SBAS
Zephyr Model 2 Rugged	Triple Frequency GNSS (GPS, QZSS, Glonass, Galileo, BDS), MSS(RTX, OmniSTAR), L1 SBAS
Zephyr, Zephyr Geodetic, Z-Plus, Micro-Centered™ (Discontinued)	
Temperature	
Operating ¹	–40 °C to +70 °C
Storage	–55 °C to +85 °C
Humidity	
Waterproof	IP67 for submersion to depth of 1 m (3.3 ft), dustproof
Shock and Vibration	
Pole drop	
Shock – Non-operating	MIL810D, To 75 g, 6 ms
Shock – Operating	MIL810D, To 40 g, 10 ms, saw-tooth
Vibration	MIL810F, tailored Random 6.2 g RMS operating Random 8 g RMS survival

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Measurements

Advanced Trimble Maxwell™ 6 Custom GPS Chips
High-precision multiple correlator for GNSS pseudorange measurements
Unfiltered, unsmoothed pseudo-range measurements data for low noise, low multipath error, low-time domain correlation, and high-dynamic response
Very low noise carrier phase measurements with <1 mm precision in a 1 Hz bandwidth
Trimble EVEREST™ multipath signal rejection
MSS Band: CenterPoint RTX and OmniSTAR by subscription

440 channel GNSS
GPS L1 C/A, L2C, L2E, L5 (Trimble method for tracking unencrypted L2P)
GLONASS L1/L2C/A, L2P Full Cycle Carrier
Upgradeable to Galileo: L1 CBOC, E5A, E5B & E5AltBOC⁸
Upgradeable to BeiDou: B1, B2
4-channel SBAS L1 C/A, L5 (WAAS/EGNOS/MSAS/GAGAN)
QZSS: L1 C/A, L1C, L1 SAIF, L2C, L5

SBAS (WAAS/EGNOS/MSAS) Positioning³

Accuracy

Horizontal ± 0.50m (1.6 ft), Vertical ± 0.85m (2.8 ft)

Code Differential GPS Positioning²

Horizontal accuracy

0.25 m + 1 ppm RMS (0.8 ft + 1 ppm RMS)

Vertical accuracy

0.50 m + 1 ppm RMS (1.6 ft + 1 ppm RMS)

OmniSTAR Positioning

VBS service accuracy

Horizontal <1 m (3.3 ft)

XP service accuracy

Horizontal 0.2 m (0.66 ft), Vertical 0.3 m (1.0 ft)

HP service accuracy

Horizontal 0.1 m (0.33 ft), Vertical 0.15 m (0.5 ft)

CenterPoint RTX Positioning

Accuracy¹²

Horizontal 4cm (0.13 ft) RMS, Vertical 9cm (0.30 ft) RMS

Convergence time for specified precisions¹²

5 minutes in select regions, and within 30 minutes worldwide

xFill Positioning

xFill accuracy

N/A

Location RTK Positioning

Horizontal accuracy

Location RTK (10/10) or (10/2) 10 cm + 1 ppm RMS (0.32 ft + 1 ppm)

Vertical accuracy

Location RTK (10/10) 10 cm + 1 ppm RMS (0.32 ft + 1 ppm)

Location RTK (10/2) 2 cm + 1 ppm RMS (0.065 ft + 1 ppm)

Real-Time Kinematic (RTK up to 30 km)

Positioning²

Horizontal accuracy

8 mm + 1 ppm RMS (0.026 ft + 1 ppm RMS)

Vertical accuracy

15 mm + 1 ppm RMS (0.05 ft + 1 ppm RMS)

Trimble VRS⁹

Horizontal accuracy

8 mm + 0.5 ppm RMS (0.026 ft + 0.5 ppm)

Vertical accuracy

15 mm + 0.5 ppm RMS (0.05 ft + 0.5 ppm)

Precise Heading

Heading accuracy

2 m antenna separation

0.09° RMS

10 m antenna separation

0.05° RMS

High Precision Static

Horizontal accuracy

Vertical accuracy

Initialization Time

Regular RTK operation with base station

Single/Multi-base
typically less than 8 seconds

Initialization reliability⁴

>99.9%

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Power

Internal

None

Power

External

Power input on the 26-pin D-sub connector

9 VDC to 28 VDC Max 4.1 W

Power over Ethernet (PoE)

N/A

Power consumption

4.1 W

Operation Time on Internal Battery

Rover

Base station

450 MHz systems

220 MHz systems

900 MHz systems

Regulatory Approvals

FCC Part 15 Subpart B (Class B Device)

Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

R&TTE Directive: EN 301 489-1/-3, EN 300 440-2, EN 60950-1

CE mark compliant

RoHS compliant

WEEE compliant

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Communications

Lemo (Serial 1)		N/A
Modem 1 (Serial 2)	26-pin D-sub, Serial 2, Full 9-wire RS232, using adaptor cable	
Modem 2 (Serial 3)	26-pin D-sub, Serial 3, 3 wire RS-232, using adaptor cable	
Serial 4	9 pin D-sub, Serial 4, Full 9-wire RS232	
1PPS (1 Pulse-per-second)		Supported
Ethernet		Through a multi-port adaptor
WiFi		N/A
Bluetooth wireless technology		N/A
Integrated radios (optional)		N/A

Channel spacing (450 MHz)
Sensitivity (450 MHz)
450 MHz output power
220 MHz output power (China only)
900 MHz output power
Frequency approvals (902-928 MHz)

External GSM/GPRS, cell phone support	Supported for direct-dial and Internet-based correction streams – directly using the external SNM940 or using the SCS900 software Cell phone or GSM/GPRS modem inside controller or external SNM940	
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Internal MSK Beacon receiver		N/A
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Receiver position update rate	1 Hz, 2 Hz, 5 Hz, 10 Hz, and 20 Hz positioning	
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Correction data input	CMR™, CMR+™, CMRx™, RTCM 2.x, RTCM 3 (require Rover upgrade)	
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Correction data output		N/A
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Data outputs	NMEA, GSOFF, 1PPS Time Tags	
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Receiver Upgrades

Precision upgrades	Location RTK (10/2), (10/10) Precision RTK Rover	
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Signal / Constellation upgrades	GALILEO and BeiDou GNSS ¹⁰	
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Feature upgrades	(Comes standard with GPS and GLONASS tracking) Data Logging option, Moving Base	
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Notes

2 Accuracy and reliability may be subject to anomalies such as multipath, obstructions, satellite geometry, interference and atmospheric conditions. Always follow recommended survey practices.

3 Depends on SBAS system performance.

4 May be affected by atmospheric conditions, signal multipath, and satellite

8 Galileo Commercial Authorization

Developed under a Licence of the European Union and the European Space Agency.

9 Networked RTK PPM values are referenced to the closest physical base station

10 This Trimble Receiver is capable of supporting existing and planned GNSS satellite signals, including GPS, GLONASS, GALILEO, BeiDou and QZSS, and

12 Receiver accuracy and convergence time varies based on GNSS constellation health, level of multipath, and proximity to obstructions such as large trees and buildings.

Specifications subject to change without notice.

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