



BX992-ER

BX992-ER DUAL GNSS-INERTIAL SOLUTION FOR HIGH-ACCURACY POSITIONING AND ORIENTATION ON AUTONOMOUS GROUND VEHICLES

The BX992-ER is available as a turn-key or OEM GNSS-Inertial solution that supports two antenna heading for the highest accuracy in all dynamic conditions.

Autonomous vehicles require accurate heading information immediately and in all phases of operation from stop-and-go traffic to highway speeds.

With a compact footprint, ease of integration, and fast setup the BX992-ER uses on-board inertial sensors calibrated with the Applanix SmartCal™ software compensation technology for superior performance to meet the needs of autonomous vehicle manufacturers in mining, trucking, mapping, and vehicle testing.

Easily integrated with many types of sensors including optical, infrared, and lidar, the BX992-ER delivers Inertially-Aided Real-Time Kinematic (IARTK) positioning in a small, lightweight form factor.

The BX992-ER product uses state-of-the-art low noise multi-frequency Trimble Maxwell GNSS technology, and tracks all current satellite signals including GPS L1/L2/L2C/L5 and GLONASS L1/L2, QZSS, Beidou, IRNSS, and Galileo, and supporting SBAS, RTK, and Trimble CenterPoint® RTX positioning modes.

Key Features

- ▶ Cost effective and high-performance position and orientation solution in a small form factor enclosure
- ▶ Fully integrated, turnkey solution for efficiency and ease-of-use
- ▶ Stable, reliable and repeatable positioning solution for land-based autonomous applications
- ▶ BX992-ER is a new configuration of dual GNSS INS designed for the smaller, modular system
- ▶ For the same performance in an OEM offering, see the BD992-INS-ER
- ▶ Applanix SmartCal™ compensation technology for superior position and orientation performance



TECHNICAL SPECIFICATIONS

- ## LAN INPUT/OUTPUT

HTTP

LOGGING:
Internal Logging
External Logging
Parameters

SERIAL INPUT/OUTPUT

Other I/O
PPS (pulse-per-second)
Event Input (2)
DMI Input

Time Sync Pulse output
Two time mark of external event
Quadrature pulse with reference voltage

No GNSS outages, standard road vehicle dynamics

1 km or 1 minute GNSS outage, standard road vehicle dynamics⁶

PHYSICAL CHARACTERISTICS

Connectors..... I/O: DA26
DMI: DE9

GNSS Antenna LNA Power Input:	Antenna (2): TNC (Female) Trimble 540AP included
Minimum required LNA gain:	31.0 dB (> 35 dB Recommended)

ENVIRONMENTAL CHARACTERISTICS

Temperature	-40 deg C to +75 deg C (Operational)
	-55 deg C to +85 deg C (Storage)
Measurement Range	+/- 6g, +/- 350 psd
Mechanical Shock	+/- 75g Survival
Operating Humidity	5% to 95% R.H. non-condensing at +60 deg C
Maximum Operating Limits	515 m/sec
	18,000 m alt
IP rating	IP67

(1) The hardware of this product is designed for Beidou B3 compatibility (trial version) and its firmware will be enhanced to fully support such new signals as soon as the officially published signal interface control documentation (ICD) becomes available

(2) There is no public GLONASS L3 CDMA or Galileo E6 ICD. The current capability in the receivers is based on publicly available information. As such, Trimble cannot guarantee that these receivers will be fully compatible.

(3) Developed under a License of the European Union and the European Space Agency

(4) Typical performance. Actual results are dependent upon satellite configuration, atmospheric conditions and other environmental effects

(5) With two metre antenna baseline

(6) With DMI option

(7) Sensor bandwidth (~3 dB amplitude) ~ 50 Hz

Specifications subject to change without notice.

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