Trimble MB-Two
HIGH PERFORMANCE COMPACT OEM MODULE

RTK/PPP AND HEADING IN A SINGLE OEM MODULE

The Trimble MB-Two is the successor to the Trimble MB-One OEM receiver module. The MB-two maintains the identical form-factor as its predecessor and offers customers a drop-in replacement to utilize the latest GNSS design innovations. Versatile, powerful, compact and smart, the Trimble MB-Two provides faster dual-frequency-based heading acquisition and an improved RTK/PPP positioning engine with multiple GNSS signals. In addition, two MB-Two modules can be easily connected to each other to build a Precise Platform Positioning module (no firmware upgrade required), utilizing up to four dual-band GNSS antennas for multisensory raw data output, precise position and attitude simultaneously.

The MB-Two allows a wide range of option-upgradable GNSS configurations from single antenna/frequency (GPS) to dual antenna/frequency (GPS, QZSS, GLONASS, Beidou, Galileo). Ashtech’s patented Z-Blade technology drives a powerful GNSS agnostic engine allowing MB-Two to use any single GNSS system for positioning (or any combination of them) without relying on GPS. The GNSS engine utilizes over-the-air satellite corrections via embedded L-band hardware to achieve centimeter/decimeter level accuracy with PPP Trimble™ RTX corrections removing the dedicated base station/Network and communication link.

DUAL ANTENNA SENSOR
► Heading + Pitch/Roll
► Accurate/Fast Heading using dual-frequency multi-GNSS algorithms
► Dual GNSS sensor raw data with common clock
► Single board for RTK/PPP and heading simultaneously

POWERFUL RTK ENGINE

The MB-Two has a powerful RTK engine that delivers centimeter-level accuracy for systems using corrections from a local base or an RTK network. It also features RTK against a moving base for relative positioning. The network RTK capabilities include third-party network corrections such as VRS, FKP, and MAC. When two or more alternative RTK correcting data are available, MB-Two runs the Ashtech Hot Standby RTK algorithm allowing it to use them simultaneously in the positioning process.

NEXT GENERATION HARDWARE DESIGN
• Low power consumption in a compact size
• Dual-core CPU for optimal performance
• Web User Interface for ease of use and evaluation
• Two tightly integrated dual-band GNSS engines
• L-band RF/digital with up to two MSS channels

Key Features
► Z-Blade technology
► 5 dual-band GNSS
► Conventional and Advanced RTK
► Precise Point Positioning
► Heading + Pitch/Roll
► Full Attitude
► Web User Interface
► Superior Connectivity
► Standardized form factor and interfaces
► Low power consumption
**Trimble MB-Two Module**

**I/O INTERFACE**
- SAMTEC 28 Pin I/O Connector (TMM-114-03-G) with backward compatibility for current industry standards
- 3 x LVTTL (UART types) serial ports allowing up to 921,600 bps
- USB 2.0 OTG port allowing up to 12Mbps (USB/Serial Link, USB Memory Stick, Onboard Memory Access)
- CAN bus interface (hardware ready)
- 1 PPS out / Event In
- 1 LAN Ethernet port:
  - Supports links to 10BaseT/100BaseT networks
- All functions are performed through a single IP address simultaneously including web GUI access and raw data streaming
- Network Protocols supported:
  - HTTP (web GUI)
  - NTP Server
  - NTRipCaster, NTripServer, NTRipClient
- Dynamic DNS

**PHYSICAL AND ELECTRICAL CHARACTERISTICS**
- **Size (W x H x D):** 71 mm x 46 mm x 11 mm
- **Power Consumption:** 3.2 to 4.5 V DC
- **Power Consumption:** 1.2 Watt
- **Weight:** 24 grams

**Antenna LNA Power Input**
- **Input Voltage Range:** 4.0 to 12.0 V DC on I/O connector pin 5
- **Maximum current:** 150 mA
- **Minimum current:** 5 mA
- **LNA Gain Range (minus signal loss):** 17 to 37 dB

**ENVIRONMENTAL CHARACTERISTICS**
- **Operating Temperature:** –40°C to +85°C
- **Storage Temperature:** –40°C to +125°C
- **Vibration:** MIL-STD-810F, Fig. 514.5C-17
- **Random 6.2 gRMS operating:** 0.15 gRMS
- **Random 8 gRMS survival:** 0.3 gRMS
- **Mechanical Shock:** MIL-STD-810F, Fig. 516.5-10
- **Operating Humidity:** 95% non-condensing
- **Maximum Acceleration:** 11 g

**RECOMMENDED ANTENNAS**
- **Compact GNSS Machine/ Marine/Aviation Antennas:** Trimble AV33 & AV34
- **GNSS Machine/Marine/Aviation Antennas:** Trimble AV59 & LV 59

**ORDERING INFORMATION**
- **Module Part Number:** 106960-XX

**Specifications subject to change without notice.**