

# MR-2



## MR-2 Modular GNSS Receiver

Whether needing a modular mobile RTK base station, a receiver for marine navigation, or a positioning device for mobile mapping, the MR-2 by Topcon is your versatile solution. It is built for harsh environments, offering IP67 dust and water protection as well as a superior level of vibration and shock tolerance (MIL spec). Flexible communication interfaces make it easy to integrate into a myriad of applications.

Tracking every available signal from all the current and planned constellations is made possible by Topcon's patented Universal Tracking Channel technology, thus ensuring that your investment is secure for today and into the future. Dual antenna input support enables precision heading determination (and inclination) using Topcon HD2 technology alongside high-precision real time kinematic positioning.

Specifications subject to change without notice.  
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| GNSS                    |  |
|-------------------------|--|
| Channels                | 226 with Universal Tracking Channel Technology   |
| Signals Tracked         | GPS: L1 C/A, L1C, L1P(Y), L2P(Y), L2C, L5<br>GLONASS: L1 C/A, L1P, L2 C/A, L2P, L3C<br>Galileo: E1, E5a, E5b, E5AltBoc<br>BeiDou: B1, B2<br>SBAS Corrections: WAAS/EGNOS/MSAS<br>QZSS: L1 C/A, L1C, L2C, L5C<br>IRNSS (NavIC): L5<br>L-band: Yes (1525-1560 MHz) |
| Antenna Type            | External dual antenna input for heading determination through Topcon HD2 technology  |
| ACCURACY                |  |
| RTK                     | H: 5 mm+ 0.5 ppm (x baseline length)<br>V: 10 mm + 0.8 ppm (x baseline length)   |
| Static/Fast Static      | H: 3 mm + 0.5 ppm (x baseline length)<br>V: 5 mm + 0.8 ppm (x baseline length)   |
| DGPS (RTCM)             | H: 0.3 m, V: 0.5 m   |
| SBAS                    | H: 0.8 m, V: 1.2 m   |
| Heading                 | 0.3°/D*  |
| Inclination             | 0.5°/D*  |
| Velocity                | 0.02 m/sec   |
| Time                    | 30 nsec  |
| DATA AND MEMORY         |  |
| Internal Memory         | Up to 8GB for each B125 board  |
| Data Update/Output Rate | Up to 100 Hz (20 Hz standard, no interpolation)  |
| Real Time Data Output   | Proprietary TPS format, RTCM SC104 ver. 2.x, 3.0 and 3.1; CMR/CMR+; MSM; NMEA 0183 version 2.x, 3.0, and 3.01  |
| Heading Determination   | Yes  |
| COMMUNICATIONS          |  |
| Antenna Connectors      | 2x TNC (Antenna power 4.75-5.10 VDC)   |
| Ports                   | Deutsch DTM Series 12-pin Receptacle for power and communications, Serial (x3), CAN, and PPS on main connector<br>Turck M12 8-Pin, and Breaks out to RJ45 and SAE power  |
| ENVIRONMENTAL           |  |
| Temperature             | Operating: -40°C to 75°C      Storage: -50°C to 85°C   |
| Enclosure               | Aluminum alloy   |
| Waterproof Rating       | IPX7 (1 meter submersion)  |
| Dust Rating             | IP6X (fully dust proof)  |
| Humidity                | 100%, condensing   |
| POWER                   |  |
| Internal Voltage Range  | 9-36 VDC Reverse Polarity Protected  |
| Power Consumption       | 10 W at 9-36 VDC   |
| PHYSICAL                |  |
| Dimension (w x d x h)   | 172 x 166 x 49 mm  |
| Weight                  | 0.95 kg  |
| LED Indicators          | Power, Ethernet, Primary Antenna, Secondary Antenna  |

\* D = inter-antenna distance in meters

