



Advanced Technology, Rugged Design, Simple Integration.

The new MR-1 receiver from Topcon is a ruggedized GNSS platform that delivers proven Topcon G3 and VISOR™ technology in a compact and easy to integrate package. The MR-1 receiver incorporates 72 Universal Tracking Channels and is capable of tracking all signals from GPS, GLONASS and SBAS satellite systems that are currently operational and available for public use. Dual antenna input support on the receiver extends capabilities to enable precision heading determination (and inclination) using Topcon's VISOR™ technology.

- Paradigm G3 – dual frequency / constellation receiver
- 72 Universal Tracking Channels
- Proven Topcon GNSS technology delivers precise RTK positioning at up to 100 Hz
- Dual antenna inputs support superior heading determination using Topcon's VISOR™ technology
- Simple and robust communication interface (API) supports easy system integration and setup
- High performance signal acquisition and tracking in the most challenging environments



MR-1 Modular GNSS Receiver

The MR-1 is built for harsh environments, offering IP67 dust and water resistance as well as a superior level of vibration on shock tolerance (SAE J1455 and MIL-STD 202G and 810F). The mature Topcon communication interface allows you to quickly integrate Topcon's premium GNSS performance within new systems, and quickly deliver world-class positioning and navigation support to your applications.

SPECIFICATIONS

Tracking

Number of Channels	72 Universal Tracking Channels
Signals Tracked	L1 C/A, L2C, L2 P(Y) code and carrier L1 and L2 Code and Carrier WAAS/MSAS/EGNOS
GPS	
GLONASS	
SBAS	
Antenna Type	External. Dual antenna input for heading determination through Topcon VISOR™ technology

Accuracy (RMS)

RTK	H: 10mm + 1.0ppm (x baseline length) V: 15mm + 1.0ppm (x baseline length)
Static	H: 3mm + 0.5ppm (x baseline length) V: 4mm + 1.0ppm (x baseline length)
DGPS (RTCM)	H: 0.4 m, V: 0.6m (CEP)
SBAS	H: 1.0 m, V: 1.5m (CEP)
Heading	0.1°/L* (Field and Marine Environments) 0.2°/L* (Urban Environment)
Inclination	0.07°/L* (Field and Marine Environments) 0.15°/L* (Urban Environment)
Velocity	0.02 m/sec (CEP)
Time	25 nsec (CEP)

Data and Memory

Internal Memory	None
Data Update/Output Rate	1-100 Hz Scalable
Real Time Data Output	Proprietary TPS format, RTCM SC104 ver 2.x , 3.0 and 3.1, CMR/CMR+ (public version), NMEA 0183 version 2.x, 3.0 and 3.01 and BINEX
Heading Determination	Yes

Power and Communications

Ports	DEUTSCHE DTM SERIES 12 PIN Receptacle for Power and Communications
Antenna Connectors	2 x TNC (+4.75 to +5.10 VDC at 0-70 mA)

Physical Characteristics

Status Indicator	Power LED
Dimension (W x H x L)	115 mm x 35 mm x 155 mm (4.53" x 1.38" x 6.10")
Weight	0.4 Kg (0.88 lbs.)

Power

Input Voltage Range	9-36 VDC. Reverse Polarity Protected.
Power Consumption	4.0 W max @ 24 VDC

Environmental

Enclosure	Magnesium Alloy
Operating Temperature	-40°C to 75°C
Storage Temperature	-50°C to 85°C
Environmental	
Humidity	SAE J1455 Sec 4.2
Waterproof & Dust Rating	IP67
Random Vibration	SAE J1455 Sec 4.10, MIL STD 202G Method 2014A, MIL -STD-810F Method 514.5
Sinusoidal Vibration	SAE J1455 Sec 4.10, MIL STD 202G Method 204D
Shock	SAE J1455 Sec 4.11, MIL-STD 202G Method 213B, MIL-STD-810F Method 516.5

*L - separation of antennas (meter)

Your local Authorized Topcon dealer is:



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