



MR-1 GNSS Receiver

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

OEM-1 GNSS Board

Low power consumption and comprehensive communication interfaces and peripheral support make the OEM-1 extremely flexible and easy to integrate into any precise positioning application. The OEM-1 is also electrically and mechanically compatible with other 60x100 mm OEM boards, allowing a quick and easy retrofit to a superior Topcon positioning engine.

GNSS		
Channels	72 with Universal Tracking Channel Technology	
Signals Tracked	GPS: L1, L2, L2C GLONASS: L1, L2 SBAS WAAS/MSAS/EGNOS	
Antenna Type	External dual antenna input for heading determination through Topcon VISOR™ technology	
Accuracy		
RTK	H: 10 mm + 1.0 ppm (x baseline length) V: 15 mm + 1.0 ppm (x baseline length)	
Static	H: 3 mm + 0.5 ppm (x baseline length) V: 4 mm + 1.0 ppm (x baseline length)	
DGPS (RTCM)	H: 0.4 m, V: 0.6 m (CEP)	
SBAS	H: 1.0 m, V: 1.5 m (CEP)	
Heading	0.1°/L*	
Inclination	0.1°/L*	
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	
Communications		
Ports	DEUTSCHE DTM Series 12 Pin Receptacle for Power and Communications	
Antenna Connectors	2x TNC (VDC at 0-70 mA)	
Environmental ²		
Temperature	Operating: -40°C to 75°C Storage: -50°C to 85°C	
Enclosure	Magnesium Alloy	
Dust / Water Rating	IP67	
Humidity	SAE J1455 Sec 4.2	
Vibration	4g Sine Vibe (SAEJ1211)	
Shock	7.7g Random Vibe (MIL-STD 810F)	
Power		
	MR-1	OEM1
Input Voltage Range	9-36 VDC Reverse Polarity Protected	+3.3 (+5/-3)%VDC
Power Consumption	4.0 W max at 24 VDC	1.8 W typical, 2.5 W max RF Input/LNA Power Output
Physical		
Dimension (w x h x l)	115 x 35 x 155 mm	60 x 100 x 13 mm
Weight	0.4 kg	≤ 60 g
Status Indicators	Power LED	-

* L = antenna separation in meters