

VIAVI

M12M Replacement Receiver

Replacement Receiver with 72 Channels GNSS support

Additional Features over M12M legacy product:

- Can operate as a replacement for M12+ or M12M receivers, or in standalone mode with USB power
- High timing and position/velocity accuracy in 3D mobile applications
- Dual GNSS (GPS + Glonass, etc.) concurrent capability
- LED 7-segment status indicator, 5 status LED's, DIP switch
- Automatic internal 3 V Antenna Power Supply
- Two USB interfaces for configuration, control, and status
- Generic buffered NCO synthesizer output (0.25 Hz to 10 MHz+, 114 MHz typical) synchronized to GNSS, U.FI coax connector

Typical Electrical Specifications

Module Specifications	
Form, Fit, Function Compatibility	Motorola/iLotus M12+, M12M Timing and Navigation receivers
Dimensions	40 mm x 60 mm x 9 mm (1.575 x 2.362 x 0.35 inch)
Weight	15 grams
Data/Power Header	10 pins, 5 x 2 rows, 1.27 mm spacing (M12M compatible)
1 PPS Stability	<5 ns RMS stability, GPS Locked, and using quantization correction message
1 PPS Outputs	One 3 V CMOS outputs, one DCD# on USB port for NTP, one NCO buffered output
Position Accuracy	Better than 0.7 m RMS horizontal with GPS and SBAS (WAAS)
	Better than 0.5 m with Auto Survey mode and Position hold position
USB Control	SCPI-99 Control at 9.6 K, 19.2 K, 38.4 K, 57.6 K, 115.2 K
NMEA Output Sentences	NMEA 0183 rev. 2.3, Sentences: GGA, RMC, ZDA, GSV, PASHR, and others
Motorola Binary Protocol	TTL level serial interface on 10 pin connector, compatible to most Motorola M12M Binary sentences, 9600 baud, guaranteed to operate with Fury GPSDO



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Module Specifications continued

GNSS Frequency, Antenna	L1 GPS and/or Glonass, Active Antenna 3 V to 5 V, +5 dB to +35 dB
GNSS Receiver	72 Channels, GPS, Glonass, BeiDou, QZSS, SBAS: WAAS/EGNOS/MSAS/GAGAN
GNSS Sensitivity	
Acquisition	-148 dBm
Tracking	-167 dBm (GPS and Glonass)
GPS Receiver Motion Adaptive Filter Settings	Optimized depending on vehicle velocity (Auto-sensing, Auto-switching option)
Supply Voltage (Vdd)	+2.9 V to +3.45 V max, or 5 V USB power option
Power Consumption	0.185 W (display off)
	0.31 W (display on)
Battery Backup (optional)	Stores Almanac, Ephemeris, Time, and Date for faster cold-start
	1.4 V to 3.6 V max (3 V nominal), 15 μ A
Temperature	
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +90°C
MTBF	>600,000 Hours at +40°C

NOTE: Specifications subject to change without notice.



Contact Us +1 800 835 2352
avcomm.sales@viavisolutions.com

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