GMS-TIM Receiver

Features

- ❒ **Concurrent reception of up to 3 GNSS (GPS, Galileo, GLONASS, BeiDou)**
- ❒ **Supports all satellite augmentation systems and *Assisted GNSS* (A-GNSS)**
- ❒ **30 nanosecond time accuracy (RMS)**
- ❒ **< 2.5 m position accuracy GPS**
- ❒ **< 1 seconds re-acquisition**
  5 seconds warm acquisition
  45 seconds cold acquisition
- ❒ **RS232 or optionally RS485 communication**
- ❒ **Built in antenna or external antenna**
- ❒ **Rugged, water resistant housing**

Outline

The GMS-TIM is a state-of-the-art, precision GNSS time receiver module employing U-BLOX NEO-M8N and embedded antenna, designed for a broad spectrum of system application.

The NEO-M8 module is concurrent GNSS receiver which can receive and track multiple GNSS systems: GPS, Galileo, GLONASS and BeiDou. Its far-reaching capability meets the sensitivity requirements of seismic applications and low power consumption.

The NEO-M8N design utilises the latest technology and high level circuit integration to achieve superior performance while minimising space and power requirements.

The GMS-TIM is housed in a water-resistant case and designed to withstand rugged operating conditions. The host system may communicate with the GMS-TIM via a dedicated, compatible, bi-directional communication channel. Internal memory backup allows the GMS-TIM to retain critical data such as satellite orbital parameters, last position, date, and time.

Specifications

General Characteristics

Receiver	Differential-ready 12 parallel channel receiver tracks and uses up to twelve satellites to compute and update.
Supported GNSS	GPS, Galileo, GLONASS and BeiDou
Cable	20 m standard, up to 70 m possible with RS232. Or up to 300 m with RS485 option
Antenna	Built in (or optionally external)

Cable Specifications

Conductor	5 x 0.25 for RS232, or 4 x 2 x 0.25 for RS485
Conductor marking	DIN 47100
Outer jacket	PVC UL Style, grey
Temperature range	-30°C to +80°C
Min. bending radius	10 x cable-∅
Diameter ∅	5.1 mm

Acquisition Times

Update Rate	1 sec, continuous
Acquisition	< 1 sec; re-acquisition 2 sec; warm (all data known) 45 sec; cold (position, time and almanac known)
Interfaces	RS-232 or RS485 compatible
Protocol	NMEA 0183, version 4.0

Accuracy

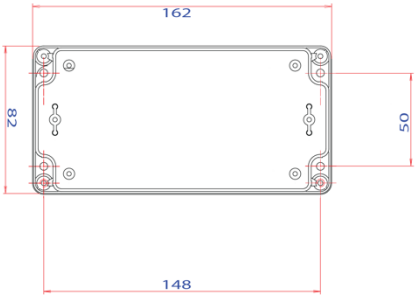
Time	30 nanosecond RMS, (60ns within 99% pulses)
Position	
Differential GPS (DGPS):	< 3 m
Non-differential GPS:	< 15 m Subject to accuracy degradation to 100 m 2DRMS under the Selective Availability Program.

Power

Input Voltage	4.5 - 15 VDC, typically 65 mA @ 12 VDC. All signals have overvoltage and overcurrent protections.

Environment/Housing

Size	82 mm x 162 mm x 55 mm
Weight	200 g, not including cable
Operating Temperature	-30°C to +80°C (internal temperature)
Storage Temperature	-40°C to +80°C
Index of Protection	IP 65



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