Introduction

Dear Partner

We're delighted to introduce the GPS160, a new high performance positioning sensor using GPS, Galileo and Glonass satellite systems for exceptional positioning accuracies and redundancies.

TriNav technology allows all three systems to be simultaneously utilised for navigation. The device can also be field programmed for a variety of modes such as single GNSS operation (eg Galileo only) as well as output configurations such as update rate, NMEA sentence structure etc

The GPS160 is available with a NMEA 0183 output (4800, 38400 and 115200 baud programmable) and a USB variant for PC, MAC and Linux. For NMEA 2000 systems, a bundle is available with iKonvert allowing easy and flexible NMEA 2000 installation without the need for cumbersome drop cables.

The GPS160 also support an external MOB switch or device. When activated, it creates a "synthesised" AIS SART MOB message on the NMEA output which can be interfaced with a local plotter for MOB identification

The Digital Yacht team
Tel 978 277 1234

NEW! Galileo GNSS

The GPS160 supports GPS, Glonass and Galileo positioning. Our TriNav technology is used to combine signals from all three systems to compute the best possible fix accuracy and reliability.

Galileo is the new global navigation satellite system (GNSS) that has been developed over the past two decades. It joins the GPS and GLONASS systems and offers mariners a 3rd reliable positioning source. It is planned to be fully operational in 2020.

The EU funded €10 billion project is named after the Italian astronomer Galileo Galilei. One of the aims of Galileo is to provide an independent high-precision positioning system so European nations do not have to rely on the U.S. GPS or the Russian GLONASS systems which could be disabled or degraded by their operators at any time. That said, it's still a global system so can benefit all mariners. The use of basic Galileo services will be free and open to everyone. Galileo is intended to provide horizontal and vertical position measurements within 1m precision and better positioning services at higher latitudes than other positioning systems. Galileo will also provide a new global search and rescue (SAR) function as part of the MEOSAR system enabling an acknowledgement signal for EPIRBs of a distress signal received.


There are currently 22 satellites in usable condition (operational and contributing to the service provision), 2 satellites are in "testing" and 2 more are marked as not available. The final constellation should be deployed by 2020 and will consist of 30 satellites (24 operational and 6 spares).

Standard Features

- 72 channel GPS, Glonass and Galileo GNSS positioning receiver
- Typically sub 1m accuracy thanks to TriNav technology – combines all satellite data for optimum accuracy
- Can be configured as dedicated GPS, Glonass or Galileo only device
- Sophisticated anti-spoofing algorithm for robust positioning performance and interference rejection
- Available in NMEA 0183, NMEA 2000 (with iKonvert interface)and wireless (with WLN10SM) variants
- GPS160USB also available with USB connection for PC/MAC
- User/field selectable 4800, 38400 and 115200 baud operation through simple internal DIP switches
- Multiple formats of NMEA data output including datum information – user configurable through internal DIP switches
- Up to 18Hz update rate (user selectable)
- Ultra low (<20mA) power consumption at 12V DC
- Input for MOB switch/system – when activated generates synthetic AIS MOB NMEA output to activate MOB position on plotter
- Professional system (ECDIS) support with datum sentence structure (DTM/GBS/GNS/GRS/GSA/GST)
- Puck installation or fits 3rd party industry standard 1" x 14TPI threaded mount
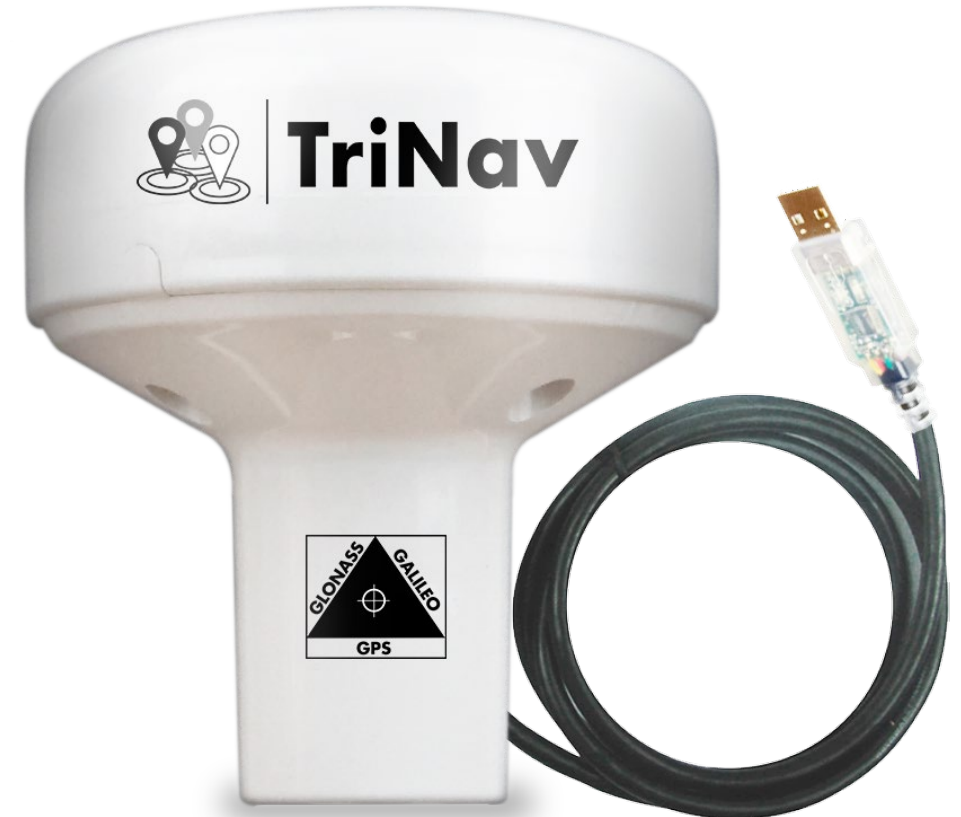
Interfacing Options (NMEA Version)

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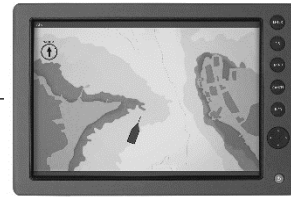
NMEA 0183

The GPS160 has a standard NMEA 0183 output for connection to plotters, instruments and systems

NMEA 2000

For NMEA 2000 systems utilise our iKonvert gateway which allows an easy and thin cable to be run from the GPS160 to the nearest point on the NMEA 2000 backbone for the iKonvert to connect to. A bundle is available of both items

SeaTalk 1

For legacy SeaTalk 1 systems, we offer a bundle with the SeaTalk to NMEA adaptor allowing easy replacement of older Raystar sensors

WIRELESS

For wireless navigation with tables and iPads, use our WLN10SM NMEA to wifi gateway. A bundle is available of both items

Interfacing Features (USB Version)

The GPS160USB variant ships with a 5m cable. It's self powered from the USB source (PC, MAC or Linux). When installed, a virtual COM port is created on the host PC so navigation programs can receive positioning data.

If a longer cable or the MOB feature is required, it's best to utilise the GPS160 (standard NMEA version) with our USB-NMEA adaptor cable.
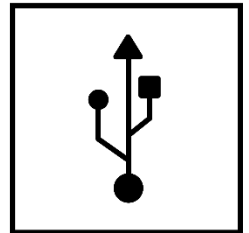
USB

MOB Feature

- GPS160 accepts an external switch input to activate internal MOB function
- Position is automatically saved and GPS160 calculates and outputs a "synthetic" AIS MOB NMEA sentence allowing compatible plotters to mark the MOB position automatically – just as if an AIS SART had been activated ($AIVDM with Message 1 and 14)
- Easily installed with a simple push button switch or for connection to outboard kill switch and tether
- Can also function with 3rd party wireless MOB systems with any switched alarm output

GPS160 Physical Specifications

Feature	
Power	10-30V DC Consumption <20mA at 12V DC
Physical	Weight: 310g Cable length: 10m Waterproof: IPX6
GNSS	Support for GPS, Glonass and Galileo GNSS systems either uniquely or in TriNav mode Accuracy typically <1m
Output	NMEA 0183 VR 2.3 and 4.1 User selectable 4800, 38400 and 115200 baud User selectable 1, 10 and 18Hz Support for: DTM/GBS/GNS/GRS/GSA/GST/GSV/RMC/VLW/GLL/GGA/VTG/ZDA sentences (mode dependent)
Mounting	Suitable for puck mounting using M3 threaded bolts Supplied with 1" x 14TPI female threaded base for use with wide selection of 3rd party 1" pole, rail and deck fittings

75mm

M3 Hex Bolts x3

82.5mm

1¨ x 14TPI threaded mount