

**DIGITAL**  
FOR THE YACHTING INDUSTRY  
**YACHT**

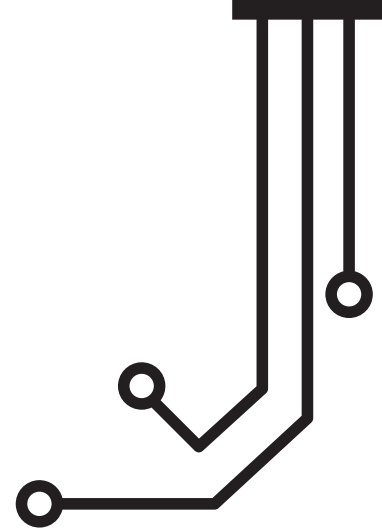
**DIGITAL**  
FOR THE DEEP SEA INDUSTRY  
**DEEP SEA**



SAIL BOAT    SPORT FISHING    MOTOR BOAT



NAVAL    COMMERCIAL FISHING    COMMERCIAL SHIPPING    SUPERYACHT    WORK BOAT



# GPS150 DualNav™ SENSOR

Every day we take the US funded GPS system for granted. We utilise it for navigation ashore, afloat and in the air and it impacts on all aspects of our lives. However, the last decade has seen the Russian government invest nearly \$5 billion into the GLONASS satellite positioning system and it's now ready to be used – and free too! The GPS150 is Digital Yacht's latest generation positioning sensor which is GPS and GLONASS

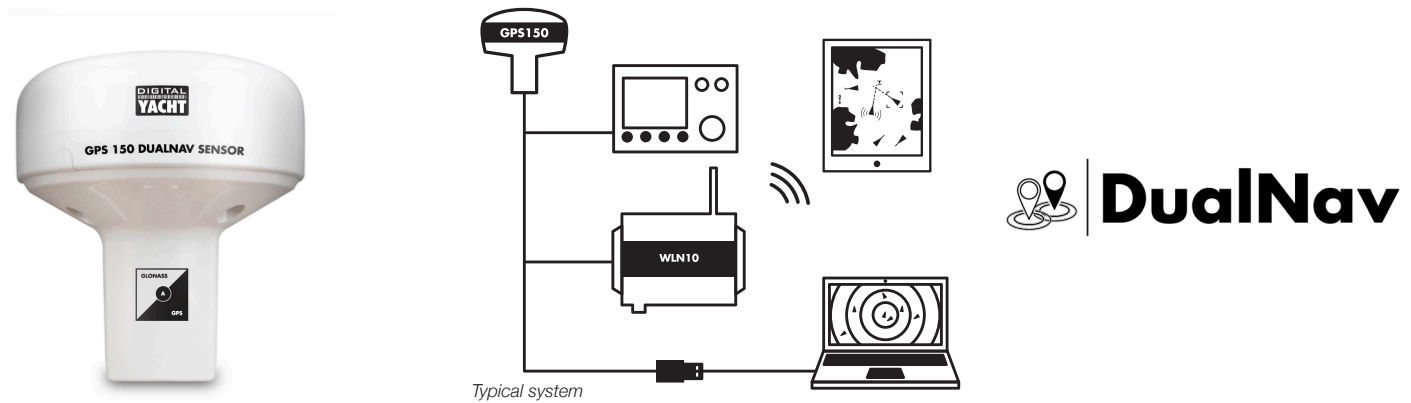
enabled – take advantage of DualNav™ technology for faster position updates, sub 1m accuracy (with WASS and EGNOS enabled transmissions) and dual system redundancy. Welcome to next generation navigation from Digital Yacht

**UK Market – GBP/£**  
Tel: 01179 554 474  
[www.digitalyacht.co.uk](http://www.digitalyacht.co.uk)

*Please note all prices exclude VAT. Prices are subject to change without notice. E&OE*

## NAVIGATION EQUIPMENT

### DUALNAV™ GPS/GLONASS SENSOR



*“DualNav technology offers unprecedented positioning accuracy with GPS and GLONASS compatibility and 10Hz super-fast NMEA position updates”*

#### KEY FEATURES

The GPS150 DualNav™ positioning sensor combines a super accurate 50 channel GPS with GLONASS, the Russian funded satellite positioning system that is now on line and providing an excellent back up or alternative to GPS. This “smart” sensor will automatically switch between the systems or the user can manually select the most appropriate for their activity. The GPS150 will also be able to utilise the European funded Galileo positioning system when it comes on line (IOC – Initial Operation Capability in 2018).

The implementation of GLONASS as an additional satellite positioning system is probably the biggest step change in maritime navigation since GPS was fully augmented back in the mid 90’s. Digital Yacht’s GPS150 utilises the industry standard NMEA data format allowing older chart plotters as well as current generation products to take advantage of this new technology.

The GPS150 also allows the user to select a variety of different NMEA baud rates (4800, 38400 and 115200) to allow interfacing with legacy and current systems. It also supports a new TurboNav™ mode which will appeal to racing yachtsmen and performance users where GPS/GLONASS data is output at 10Hz (10 x faster update than normal) and with an interface speed of 115200 baud which is 24 x the speed of normal NMEA data. This massively improves slow speed navigation data as well as providing the best course and speed data in a dynamic situation.

The GPS150 houses all the electronics in its compact 75mm antenna and has a single multi core cable for power and data. Power consumption is just 30mA at 12V. It can be used as a simple positioning sensor for plotter or VHF DSC systems as well as a precision, high speed sensor for performance sailing/super yachts. Setup is easy with a block of simple internal switches setting the characteristics of the unit. This allows the device to be programmed in the field without specialist software or programming tools. The GPS150 can also connect to the WLN10 wireless interface to allow data

to be sent to mobile devices such as iPhones, iPads and Tablets. There is also a USB interface for PC and MAC users (ZDIGUSBNMEA).

#### SPECIFICATIONS

- 50 channel precision GPS/GLONASS positioning sensor
- Just 75mm in diameter and designed to fit industry standard 1” mounts
- Ultra tough, waterproof construction
- NMEA output configurable for 4800, 38400 and 115200 baud
- Selectable update rates from 1 to 10Hz
- Configurable in the field using simple DIP switches inside the antenna
- TurboNav mode offers super fast updates to optimise positioning information in slow and high speed applications
- WAAS/EGNOS/SBAS enabled for sub 1m accuracy
- User selectable GPS/GLONASS mode or auto selection
- Ultra low 30mA power consumption (at 12V DC)
- 5-30V DC power input

#### FLEXIBLE SETUP

The GPS150 is field programmable for multi-mode operation. There’s no complicated PC hookup or software to install - simply unscrew the top of the waterproof antenna to access the programming switches. The installer can set the NMEA 0183 baud rate (4800, 38400 or 115200), auto or manual GPS/GLONASS operation and the update rate – 1/6/10Hz (also dependent upon NMEA baud rate). This arrangement also allows users to fit two GPS150 sensors with one dedicated to GPS operation and one for GLONASS operation. These can then feed different NMEA input ports on a chart plotter to allow flexible switching between the two systems.



# NAVIGATION EQUIPMENT



## DualNav

### GPS AND NOW GLONASS

Knowing your position whilst at sea is key to safe navigation. What we now take for granted, was extremely difficult, time consuming and inaccurate. Then, in the latter half of the 20th century, came the electronic positioning systems – Decca, Loran, Transit and in the 1990s, the global positioning system, GPS. Over 20 years have passed since the first GPS receivers were commercially available and in this time the whole world has come to rely on this US funded technology. Now every boat, plane, car and train that we travel on has GPS navigation and even your smart phone can give a GPS position accurate to within 10m, anywhere in the world, at the touch of a button.

Much political discussion has taken place over our reliance on GPS technology, to the point where both Europe (Galileo) and China (Compass) are developing their own satellite based navigation systems, which are scheduled to be fully operational by 2020. However, whilst GPS was being developed in the 1980s, there was another competitive system developed in Russia called GLONASS. This system was very much over shadowed by the American GPS system and due to the secrecy surrounding the technology and the difficulties for non-Russian companies to license this technology, it never achieved wide spread commercial use outside of Russia and surrounding countries.

During Russia's difficult financial period between 1989-1999, government spending on their space program was cut by 80% and launching of new GLONASS satellites stopped. With relatively short life spans the GLONASS satellites soon started to fail and by 2001 there were only 6 satellites still operational and the GLONASS service effectively ceased.

Most observers at the time thought this would be the death of GLONASS but in 2000, with the Russian economy recovering, President Vladimir Putin took a special interest in GLONASS and made the restoration of this service a high priority. Between 2002-2011, a large investment was made and at the end of 2011 GLONASS was fully restored and now offers worldwide coverage (with 24 operational satellites) and accuracy almost as good as GPS. In areas of high Latitudes (North and South) GLONASS is more accurate than GPS due to the orbital position of the satellites.

### DUALNAV™ – NEW TECHNOLOGY

Now with the GPS150 DualNav™ technology, boat owners can have a single sensor that will automatically read satellite data from both GPS and GLONASS constellations, choosing the best signals from over 50 satellites. Wherever you are in the world you now have twice the satellites to choose from resulting in the GPS150 receiver having much better coverage, time to first fix and positional accuracy. Add to this the new high sensitivity receiver design, selectable baud rate and 10Hz position update rate and you have a GPS receiver that is significantly better than every previous marine GPS receiver on the market.

The new performance is particularly noticeable if the receiver is mounted below deck/inside the wheelhouse where the high sensitivity receiver still gives a good position fix or when there are obstructions blocking the view of the sky, such as a wet sail shadowing the antenna or when sailing in rivers or close to cliffs, plus DualNav™ technology with more satellites to choose from, gives a much more accurate fix.

On larger boats, it is now possible to have two completely separate position sources, not just two GPS units but two different positioning systems so that you can compare and validate your actual position. Set one GPS150 to GPS mode and another GPS150 to GLONASS mode and you have dual redundancy and two independent positioning systems.

The GPS150 also supports SBAS (Satellite-Based Augmentation System) which is the generic name given to the differential signal transmitted by various local geo-stationary satellites. SBAS allows the GPS150 receiver to remove errors in the position due to environmental conditions and improves accuracy down to <1m. Using WAAS in the US and EGNOS in Europe the GPS150 will automatically switch to differential SBAS mode when available.

### DIMENSIONS

75mm  
(D)

### PART NUMBER

ZDIGGPS150  
**UPC**  
081159830014

### SUPPLIED WITH

Supplied with User manual, 10m cable and CD

### PRICE

£125.00  
EX VAT



INTERFACE



GPS



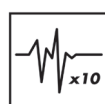
GLONASS



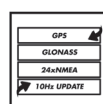
AUTO GNSS



MANUAL GNSS



10Hz UPDATE



TURBONAV



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