OneFix

New Product Introduction

UK Dealer Information
August 2025

Hi-Precision GNSS Positioning Sensor with anti-spoofing and interference resilience

Digital Yacht OneFix
Part Number: ZDIGONEFIX
UPC: 703791696772
SRP ex vat: £325 ex vat
Availability: August 2025

TEL - 01179 554474
www.digitalyacht.co.uk

GNSS - Introduction

Onefix is Digital Yacht's newly introduced hi-performance GNSS (global navigation satellite system) sensor. Using multiple satellite networks and new dual band technology, it's been designed to offer super-accurate positioning (typically better than 1m) and importantly has robust anti-spoofing algorithms built in for more reliable navigation. It can also fit to just about any navigation system (including legacy units) plus connect to iPads and tablets and the latest multi-function NMEA 2000 compatible displays. OneFix promises to bring highly accurate, more reliable navigation to any boater.

You may be familiar with the term GPS but GNSS is the more formal name for all the different satellite networks including Glonass, Galileo, Beidou and NAVIC that can now also be used for positioning. Most modern marine electronic products can process signals from some of these networks and automatically compute which to utilise to give you the best accuracy.

Another major development in GNSS over the last year has been the ongoing deployment of multi band GNSS. Signals from some satellite networks are now transmitted on L1 and L5 bands and by utilising a sophisticated dual band GNSS, you'll benefit from better accuracies and a more reliable fix in harsh conditions. Most traditional GPS's, MFD's and plotters just use L1 frequencies so can't benefit from this latest technology.

OneFix incorporates a dual band (L1 and L5) processor and works with GPS, Galileo, NavIC and Beidou to calculate a fix. Glonass (the Russian based system) is available as an option with a 2nd active antenna making for a very advanced system.

It goes a step further too by using an advanced algorithm to compare position fixes across all networks and frequencies to minimise spoofing and positional inaccuracies. The result is a highly reliable position fix which offers typically sub 1m accuracy

It's also been designed to connect to older systems via legacy NMEA 0183 as well as more modern systems with NMEA 2000. The wireless interface allows connectivity to iPads and tablets including popular apps such as Navionics and TimeZero. Most importantly, the wireless interface allows the user to view satellite status and potential errors or issues of position spoofing. Alerts for the nav display are generated via NMEA 2000 if OneFix detects issues. It also incorporates data logging and an external event marker switch input so key points of a voyage (or even fishing hotspots) can be logged to memory. Tracks and data can be exported via your mobile device to Google map overlays

Welcome to OneFix – Next Gen Nav!

"OneFix dual band L1 & L5 compatibility brings superior positioning and more reliable operation"

"OneFix ships with a hi-gain dual band antenna as standard"

OneFix – Key Features

- Hi precision GNSS system with accuracies typically better than 1m
- Utilises GPS, Galileo, Beidou and NAVIC constellations – with optional Glonass sensor
- L1/L5 dual band receiver and antenna
- Advanced anti spoofing algorithm continuously monitors each constellation and generates alerts if issues detected
- NMEA 0183 and NMEA 2000 outputs
- WiFi interface for iPad and tablet navigation
- Web interface for setup and satellite analytics
- Integrated data logger with export of points by GPX/KML
- NMEA 2000 wind, depth, speed, AIS and compass data multiplexed to wireless output for use with apps
- Optional MOB switch input to generate synthetic AIS MOB SART messages on NMEA 2000
- Alarms for errors via NMEA 2000 alerts
- Buzzer/relay output for external alarms
- 1PPS timing output

"Simple browser interface for comparison of satellite networks and setup"

OneFix – Reliable Positioning

- OneFix constantly monitors positioning from 5 independent satellite networks and across L1 and L5 frequencies to compute best fix
- Allows the user to set an alert for positioning error discrepancies to help with spoofing or jamming issues
- Advanced dual band antenna with dual antenna elements for optimum interference rejection
- Add additional Glonass sensor for further positioning analysis

Jamming and spoofing is real and happening today

"Russia targets NATO maritime operations with GPS jamming…"

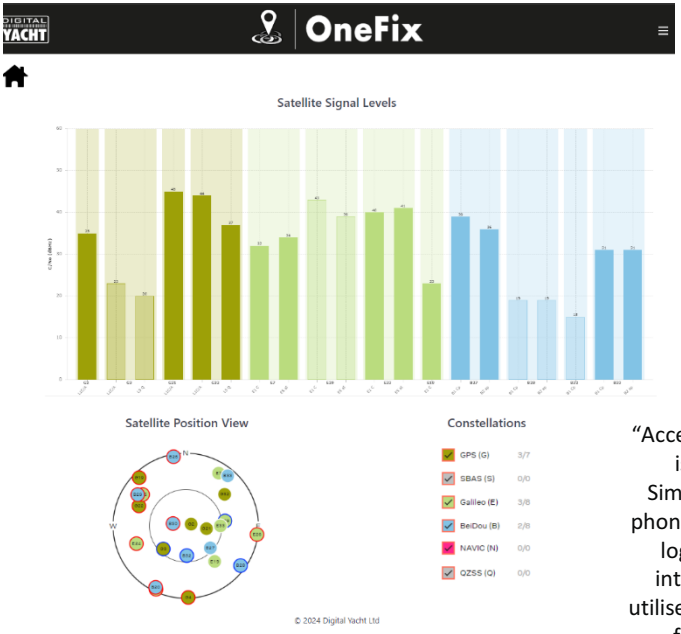
"Lithuania blames Russia for large rise in GPS jamming …"

"Russia targets NATO maritime operations with GPS jamming…"

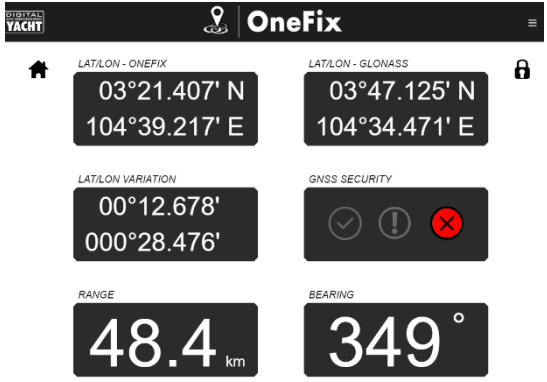
"GPS Jamming Extends to Low-Earth Orbit constellations as well as GPS satellites as Russia use Pole 21E equipment to disrupt maritime navigation…"

"MSC Antonio runs aground in apparent GPS jamming attack…"

OneFix – Wireless Interface



- View satellite constellation status
- Configure outputs for specific GNSS data
- Download event marker and track log files in GPX and KML format for overlay onto maps and charts
- Set alerts for satellite inconsistencies or estimated position errors
- Use data from with wireless interface for popular nav apps



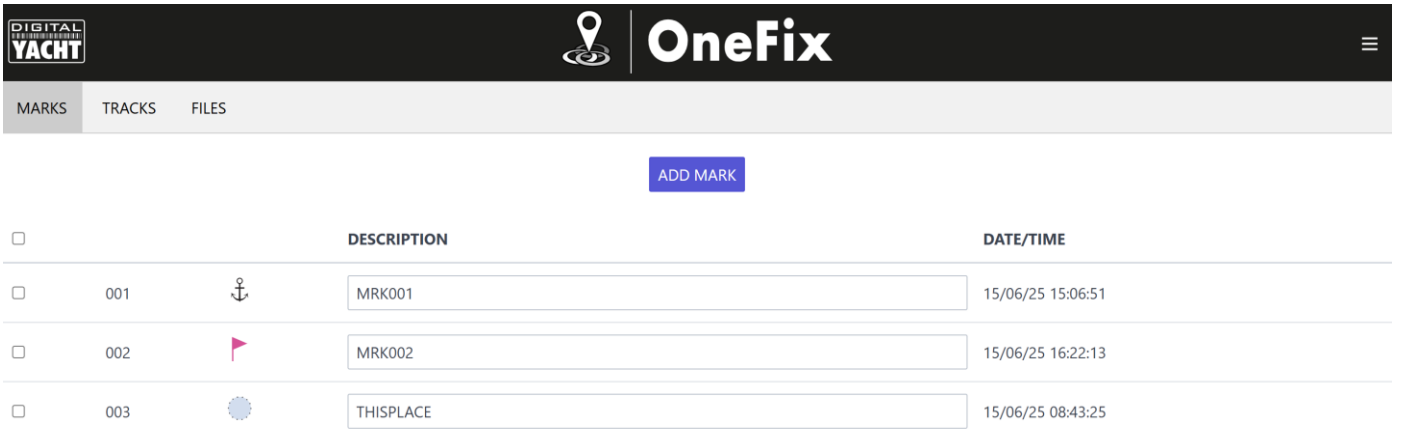
"Accessing OneFix is simple. Simply use any phone or tablet to logon to the interface and utilise the browser for setup, diagnostics and data displays"

OneFix – Wireless NMEA 2000 Navigation

- Wireless NMEA 2000 data output for charting apps such as Navionics, TimeZero, AquaMaps and 100s more
- Multiplexes NMEA 2000 AIS, wind, depth, compass and speed data to the GNSS navigation output and transforms a tablet or iPad into full function, hi-precision navigation device with L1+L5 capability
- Raw mode for developers and programmers takes all native NMEA 2000 bus data to the wireless output
- Configure the source of navigation data for more complex systems
- Builds an independent navigation network for the boat

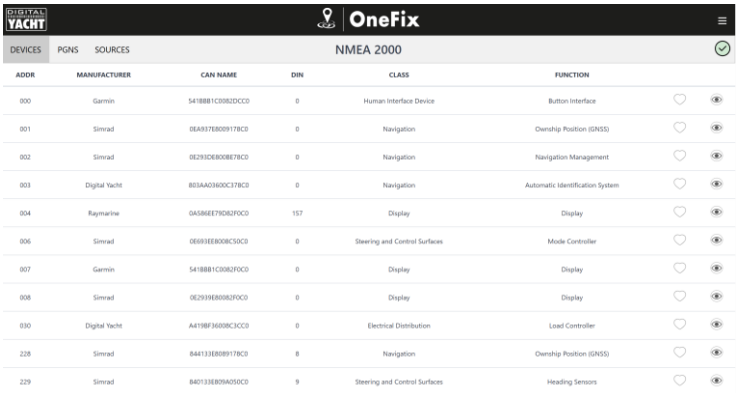
"OneFix can transform your iPad or tablet into a hi precision navigations system benefiting from L1 & L5 GNSS. NMEA 2000 AIS and instrument data can also be combined onto the wireless connection"

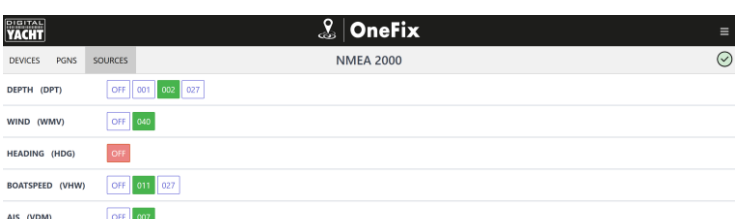
OneFix – Data Logging, Marks & Tracks



- Extract log with time and position data in KML format via web interface for overlays onto 3rd party mapping such as Google
- Dual external switch inputs plus app ADD MARK for event marking with positions stored in internal memory and available for extract as GPX file
- Full NMEA 2000 raw data logging also available

OneFix – NMEA 2000 Diagnostics





- Connected wireless device can display sophisticated NMEA 2000 network diagnostics with device list and PGN displays to deal with complex interfacing issues
- Ability to select sources for NMEA 2000 multiplexed data

OneFix – MOB Functionality

"OneFix supports a simple switch input for an MOB alert and will generate a synthetic AIS MOB SART message on the NMEA 2000 network and also generate a standard NMEA 2000

- Generates synthetic NMEA 2000 AIS MOB alert PGN for the onboard NMEA 2000 network
- Use with just a simple switch input such as Digital Yacht's MOB input panel
- Also generates NMEA 2000 alarm/alert

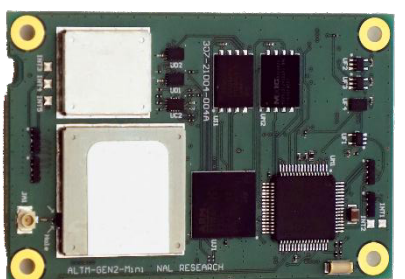
OneFix – NMEA 2000 Alerts

- OneFix can generate industry standard alerts on the NMEA 2000 bus for "pop-up" notifications on compatible MFDs
- Use with our NavAlarm sounder for an ultra loud audible alarm
- Alerts for position inaccuracy, positioning spoofing/errors and MOB alarms

"Optional NavAlarm sounder for NMEA 2000 networks

OneFix – STL Capability

OneFix also has an input for alternative positioning systems such as STL from Iridium. These use triangulation from substitute satellite networks to provide an alternative albeit less accurate position fix (approx. 50m) but have the advantage of a more powerful signal and alternative frequency outside of traditional GNSS constellations. OneFix can accept data from these systems via NMEA 0183 and switch between networks allowing for a flexible multi-input, hub-based solution

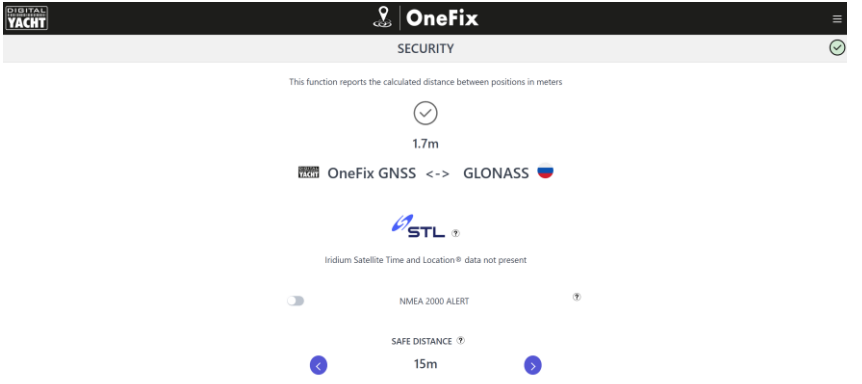


STL

Contact Digital Yacht for further STL product information, partners and monthly access costs

OneFix – Optional Glonass Positioning

- Connect our GPS160 sensor configured in Glonass only mode to the OneFix gateway for comparisons between 6 satellite networks
- Connects via NMEA interface for simple installation
- Graphic display pages for satellite constellation and accuracy comparisons
- Adds 2nd input GNSS capability for ultra resilient GNSS system
- Adds additional spoofing security to system at cheaper cost than STL



OneFix – WiFi Connectivity

While OneFix offers regular NMEA connectivity, the wireless interface offers a next generation solution with app compatibility and:

- Ability to act as a dedicated access point or join an existing on-board network
- Multiple connections to multiple devices over TCP/IP or UDP
- Secure password protected interface
- Download of log data
- Easy firmware updates