WRISTFIX User Manual

Nov 18, 2026 · @Rafael

1. Welcome to WRISTFIX

WRISTFIX puts your boat's instruments on your wrist. Your Android phone reads the boat's data network over WiFi and sends depth, speed, wind, position, AIS traffic, engine, tank and battery data to your Wear OS watch, once per second.

With WRISTFIX you can:

- See your instruments, a chart plotter with AIS targets, wind and weather on the watch.
- Mark a man overboard (MOB) with one long press, and send the MOB position to your chartplotters.
- Keep an anchor watch that wakes you if the anchor drags.
- Control your autopilot from the watch (optional, Raymarine, Simrad/B&G or SignalK).
- Get alarms for shallow water, collision risk, low battery and engine overheating.

How it works

1. Your boat's instruments share data on an **NMEA 2000** or **NMEA 0183** network.
2. A **WiFi bridge** (or a **SignalK server**) puts that data on a WiFi network.
3. The **WRISTFIX phone app** connects to the bridge, decodes the data and runs the alarms.
4. The **WRISTFIX watch app** shows the data and lets you act from your wrist.

The phone does all the work, so the watch battery lasts. The phone must stay on board, within Bluetooth range of the watch.

Important safety notice

> **WRISTFIX is a navigation aid. It does not replace the vessel's own instruments, safety equipment, a proper lookout or good seamanship.** The skipper is always responsible for the safety of the vessel and crew.

- Data can be delayed or lost if the phone, the watch, the WiFi or the bridge fails. Every page shows when its data is stale.
- **The MOB function never sends any command to the autopilot.** Steering back to the person in the water is always done by the skipper.

- Test every function in port, in calm conditions, before relying on it at sea.
- Do not use WRISTFIX as your only means of navigation, collision avoidance or anchor watch.

2. What you need

You need an Android phone, a Wear OS watch and a way to put your boat's data on WiFi.

Item	Requirement
Phone	Android 8.0 or later, with WiFi and Bluetooth
Watch	Wear OS 3 or later (Android 11 or later on the watch), paired with the phone. Examples: Samsung Galaxy Watch 4 and newer, Galaxy Watch Ultra, Google Pixel Watch
Boat data	An NMEA 2000 or NMEA 0183 WiFi bridge, or a SignalK server
Internet	Optional. Only needed to download charts; everything else works offline

Compatible data sources

WRISTFIX reads five data formats. Most bridges let you choose one in their own settings page.

Format in WRISTFIX	What it is	Typical devices
Yacht Devices RAW	NMEA 2000 frames as text lines	Yacht Devices YDWG-02, YDEN-02 and similar
Actisense N2K ASCII	NMEA 2000 messages as text lines	Actisense W2K-1 and compatible gateways
SeaSmart $PCDIN	NMEA 2000 messages wrapped in NMEA 0183 sentences	SeaSmart / Chetco and some Digital Yacht gateways
SignalK (WebSocket)	Open marine data standard, JSON over the network	SignalK server on a Raspberry Pi or OpenPlotter, Victron Cerbo GX with SignalK, others

Format in WRISTFIX	What it is	Typical devices
NMEA 0183	Classic text sentences ($GPRMC, !AIVDM…)	Any NMEA 0183 WiFi multiplexer, AIS transponders with WiFi

Which one should I choose? If your bridge offers an NMEA 2000 format (the first three, or SignalK), use it: it carries more data (engine, tanks, batteries, autopilot). NMEA 0183 works for navigation, wind, depth and AIS, but usually not for engine and tank data. Check your bridge's manual for the formats and ports it supports.

> Autopilot control needs an NMEA 2000 format (Yacht Devices RAW, Actisense or SeaSmart) for Raymarine and Simrad pilots, or a SignalK server with an autopilot plugin. See section 9.

3. Installing WRISTFIX

WRISTFIX has two parts, one for the phone and one for the watch. Install both.

1. On your phone, open **Google Play**, search for **WRISTFIX** and install it.
2. On your watch, open the **Play Store**. Find WRISTFIX under **Apps on your phone**, or search for it, and install it.
3. Open WRISTFIX on the phone. When Android asks, **allow notifications**. WRISTFIX uses them to keep the connection running in the background and to sound the anchor alarm.
4. Open WRISTFIX on the watch. When asked, **allow notifications** there too.

The watch app needs the phone app: the phone is the one that talks to the boat. If you install the watch app first, the watch shows **Phone app needed**. Tap **Open on phone** and Google Play opens on your phone, ready to install WRISTFIX.

Add WRISTFIX to your watch face (optional)

- **Tile:** swipe left from the watch face, scroll to the end and tap **+**. Add the **WRISTFIX depth**, **WRISTFIX speed** and **WRISTFIX wind** tiles, each showing one value in large figures. On Galaxy Watches with One UI 8 Watch the tiles stack and you scroll them up; on other watches you swipe sideways.
- **Complication:** long-press the watch face, tap **Customise**, choose a complication slot and select **WRISTFIX depth**, **WRISTFIX wind** or **WRISTFIX SOG**.

Keep the phone app running

While connected, WRISTFIX shows a permanent notification on the phone. This keeps Android from closing the connection when the screen is off. Some phones close background apps to save battery. If the connection stops when the phone is locked:

- Open Android **Settings › Apps › WRISTFIX › Battery** and choose **Unrestricted**.
- On Samsung phones, also remove WRISTFIX from **Sleeping apps** in **Settings › Battery › Background usage limits**.

4. Connecting to your boat

Connect the phone to the same WiFi network as your bridge, tap **Search for bridge on this WiFi**, pick the result and tap **Connect**. The rest of this section explains each step and what to do if the search finds nothing.

Step 1: choose your WiFi setup

Your phone can only join one WiFi network at a time. Pick the setup that matches your boat.

Setup	How it works	Internet on the phone
A. Bridge as access point	The bridge creates its own WiFi network. The phone joins it.	Through mobile data. When Android warns that the network has no internet, tap **Keep connection** (or **Connect anyway**).
B. Bridge on the boat's router (4G router, Starlink, marina WiFi)	The bridge joins the boat's WiFi as a client, like any other device. The phone joins the same network.	Through the router, over WiFi.
C. Bridge on the phone's hotspot	The bridge joins the WiFi hotspot of the phone.	Through mobile data. Uses more phone battery.

Setup B is recommended when the boat has a router, for example Starlink. Phone and bridge share one network and the phone keeps its internet. See your bridge's manual to switch it to client (station) mode.

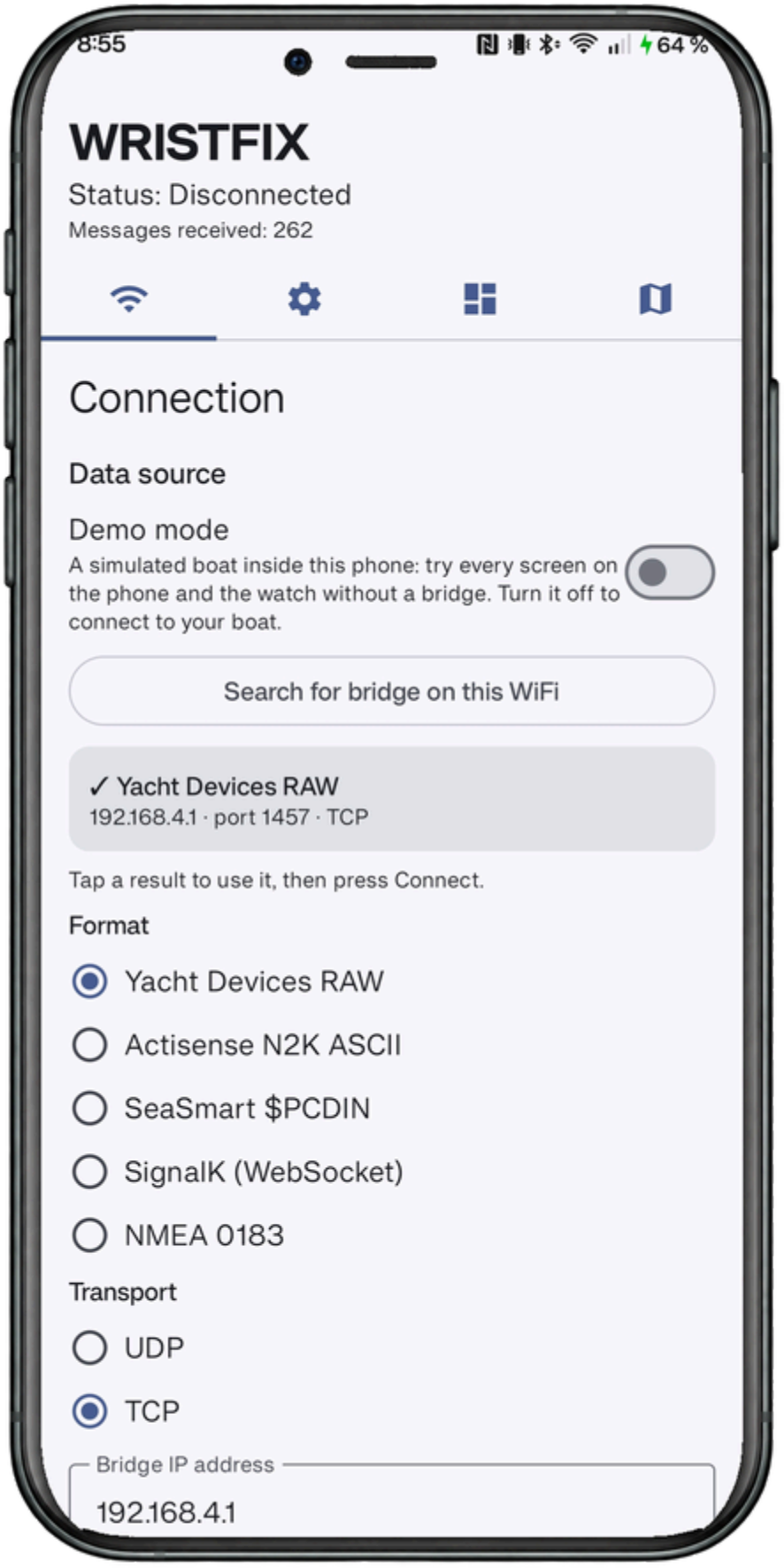
In setup A, WRISTFIX sends its own traffic over the bridge's WiFi while other apps keep using mobile data. You do not need to turn mobile data off.

Step 2: search for the bridge (recommended)

1. Open WRISTFIX on the phone and go to the **Connection** tab.
2. Make sure the phone is connected to the boat's WiFi.
3. Tap **Search for bridge on this WiFi**. The search takes about 10 seconds.
4. Tap the result you want to use. Format, transport, IP address and port are filled in for you.
5. Tap **Connect**.

The search finds NMEA bridges that send data over TCP or UDP, and SignalK servers. It works out the data format by itself. **It only listens: it never sends anything to the boat's network.**

If it finds several results (for example a bridge and a SignalK server), prefer the one that carries NMEA 2000 data or SignalK.


8:55
64 %
WRISTFIX
Status: Disconnected
Messages received: 262
Connection
Data source
Demo mode
A simulated boat inside this phone: try every screen on the phone and the watch without a bridge. Turn it off to connect to your boat.
Search for bridge on this WiFi
✓ Yacht Devices RAW
192.168.4.1 · port 1457 · TCP
Tap a result to use it, then press Connect.
Format
Yacht Devices RAW
Actisense N2K ASCII
SeaSmart $PCDIN
SignalK (WebSocket)
NMEA 0183
Transport
UDP
TCP
Bridge IP address
192.168.4.1

The Connection tab after a search: the bridge was found and its settings filled in. The ticked result is the one in use.

Step 3: or enter the settings by hand

If the search finds nothing, enter the values from your bridge's settings page or manual.

Setting	What to enter
Format	The output format set in your bridge (see section 2).
Transport	**TCP** if the bridge works as a TCP server (WRISTFIX connects to it). **UDP** if the bridge broadcasts data to the whole network. SignalK always uses TCP.
Bridge IP address	Needed for TCP and SignalK. With UDP it is only needed to send MOB alarms to the bridge.
Port	The port set in your bridge. WRISTFIX suggests 1457 for NMEA 2000 formats, 10110 for NMEA 0183 and 3000 for SignalK.

For **SignalK**, also enter a **SignalK user** and **SignalK password** if your server asks for a login. Leave them empty if the server allows reading without login.

Step 4: check the connection

Under the WRISTFIX title, **Status** shows the connection state, and **Messages received** should keep rising.

Status	Meaning
Connecting…	WRISTFIX is trying to reach the bridge.
Connected	Data is arriving.
No data from bridge	Connected, but nothing arrives. Check the format and port.
Error	The bridge could not be reached. The message gives the reason. See section 13.
Disconnected	WRISTFIX is stopped. Tap **Connect**.

To change any setting, tap **Stop**, make the change and tap **Connect** again.

On the watch, a coloured dot and a short label at the top of the Instruments page (for example “Bridge OK”) show the link: **green** when data is arriving, **amber** when the phone is reachable but has no data from the bridge, **red** when the watch cannot reach the phone.

Try WRISTFIX without a boat: demo mode

Demo mode runs a simulated boat inside the phone, so you can try every page on the phone and the watch at home, without a bridge.

1. In the **Connection** tab, turn on **Demo mode**. The bridge settings are hidden while it is on.
2. Tap **Connect**. Status shows **Connected (demo mode)**.

The demo boat sails in the Bay of Palma with wind, depth, engine, tanks, batteries, a route to waypoint 7 and three AIS ships, one of them on a collision course. In demo mode the autopilot can always be controlled from the watch, whatever you chose under Autopilot control. To connect to your boat, tap **Stop**, turn **Demo mode** off and tap **Connect**.

5. The phone app

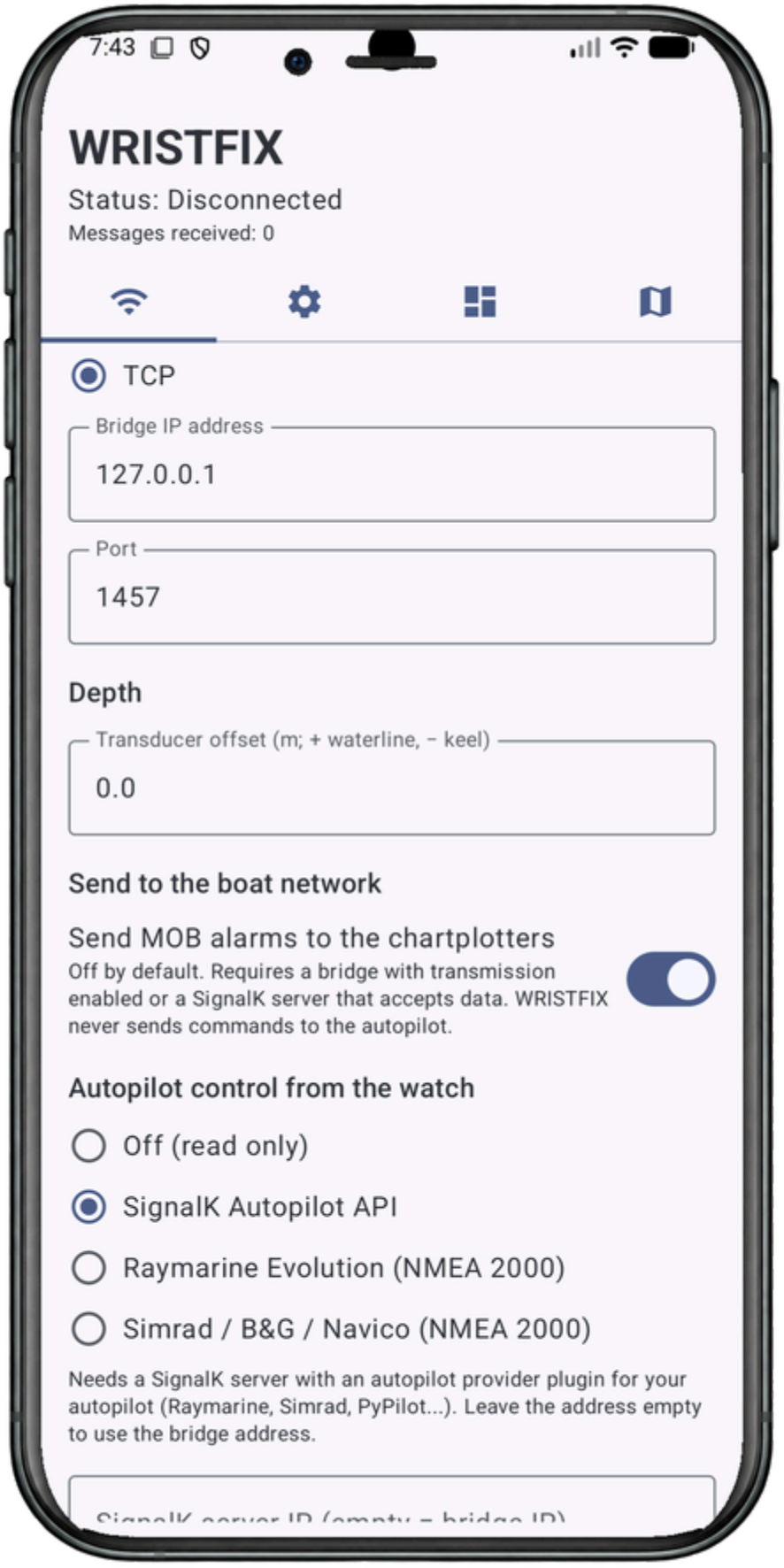
The phone app has four tabs, shown as icons along the top: WiFi waves for **Connection**, a gear for **Settings**, four squares for **Live data** and a folded map for **Offline map**. You set things up here; day to day you use the watch.

When a man overboard or an anchor alarm is active, a red banner appears at the top of every tab.

Connection tab

Section	What it does
Data source	Bridge search, format, transport, IP address and port (section 4).
Depth	**Transducer offset**, in metres. Enter a positive value to show depth from the waterline (distance from the waterline down to the transducer). Enter a negative value to show depth under the keel (distance from the transducer down to the bottom of the keel).
Send to the boat network	**Send MOB alarms to the chartplotters.** Off by default. When on, a MOB marked on the watch is also sent to the boat’s network (section 7).

Section	What it does
Autopilot control from the watch	Choose your autopilot: **Off (read only)**, **SignalK Autopilot API**, **Raymarine Evolution (NMEA 2000)** or **Simrad / B&G / Navico (NMEA 2000)** (section 9).
SignalK login	Server IP, port, user and password for the SignalK autopilot API, when it is not the same as the data source.
Connect / Stop	Starts or stops the connection. Settings can only be changed while stopped.


7:43
WRISTFIX
Status: Disconnected
Messages received: 0
TCP
Bridge IP address
127.0.0.1
Port
1457
Depth
Transducer offset (m; + waterline, − keel)
0.0
Send to the boat network
Send MOB alarms to the chartplotters
Off by default. Requires a bridge with transmission enabled or a SignalK server that accepts data. WRISTFIX never sends commands to the autopilot.
Autopilot control from the watch
Off (read only)
SignalK Autopilot API
Raymarine Evolution (NMEA 2000)
Simrad / B&G / Navico (NMEA 2000)
Needs a SignalK server with an autopilot provider plugin for your autopilot (Raymarine, Simrad, PyPilot...). Leave the address empty to use the bridge address.


7:44
WRISTFIX
Status: Disconnected
Messages received: 0
Autopilot control from the watch
Off (read only)
SignalK Autopilot API
Raymarine Evolution (NMEA 2000)
Simrad / B&G / Navico (NMEA 2000)
Needs a SignalK server with an autopilot provider plugin for your autopilot (Raymarine, Simrad, PyPilot...). Leave the address empty to use the bridge address.
SignalK server IP (empty = bridge IP)
SignalK port
3000
SignalK login
Only if the server has security enabled and does not allow read-only access. Controlling the autopilot needs a user with write permission.
SignalK user (empty = no login)
rafa
SignalK password
••••
Connect

Further down the Connection tab: depth offset, MOB sending and autopilot control (left), SignalK login and Connect (right).

Turning on **Send MOB alarms** or **autopilot control** shows a warning. Read it and tap **I understand, enable** to confirm.

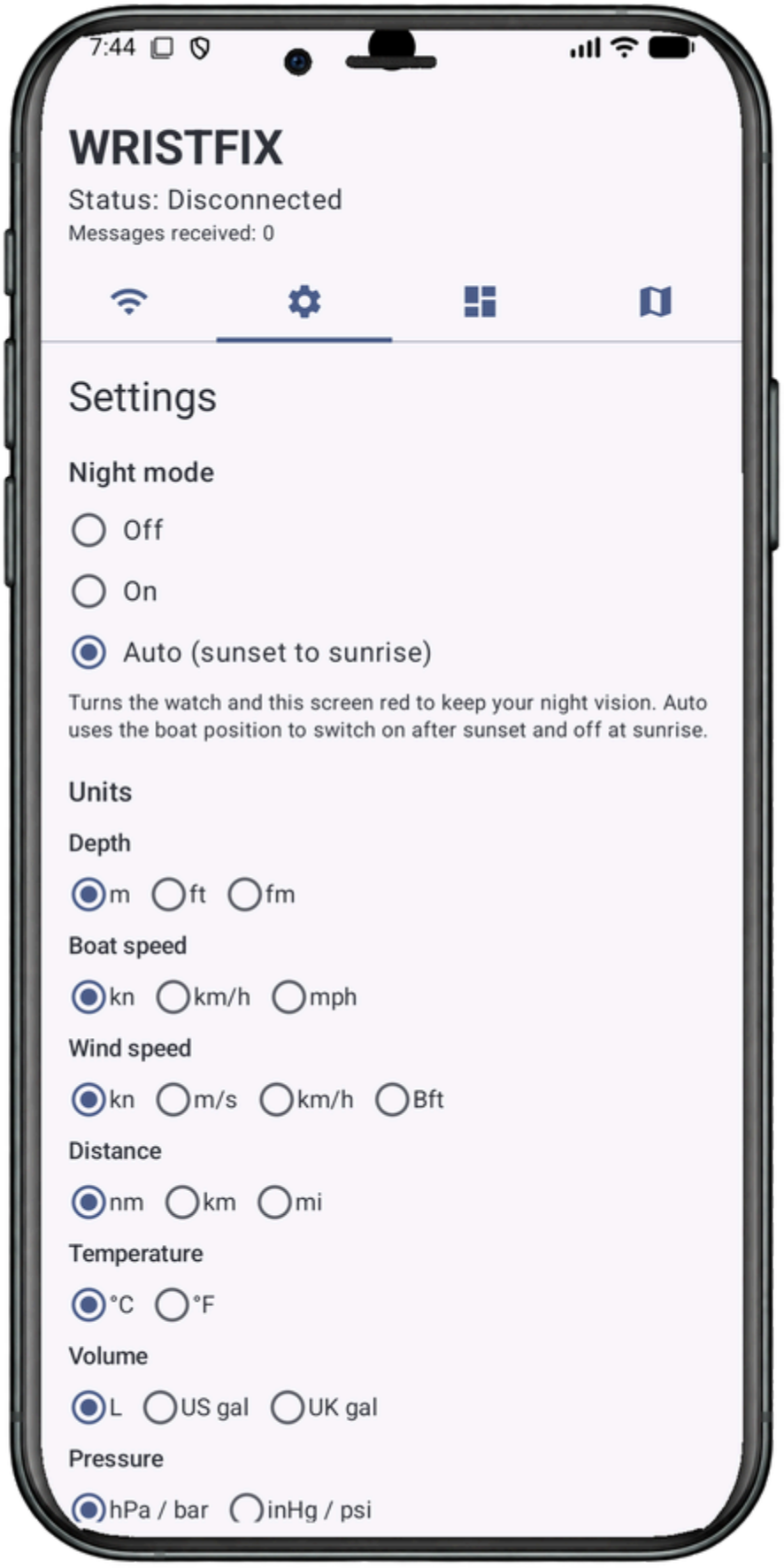
Settings tab

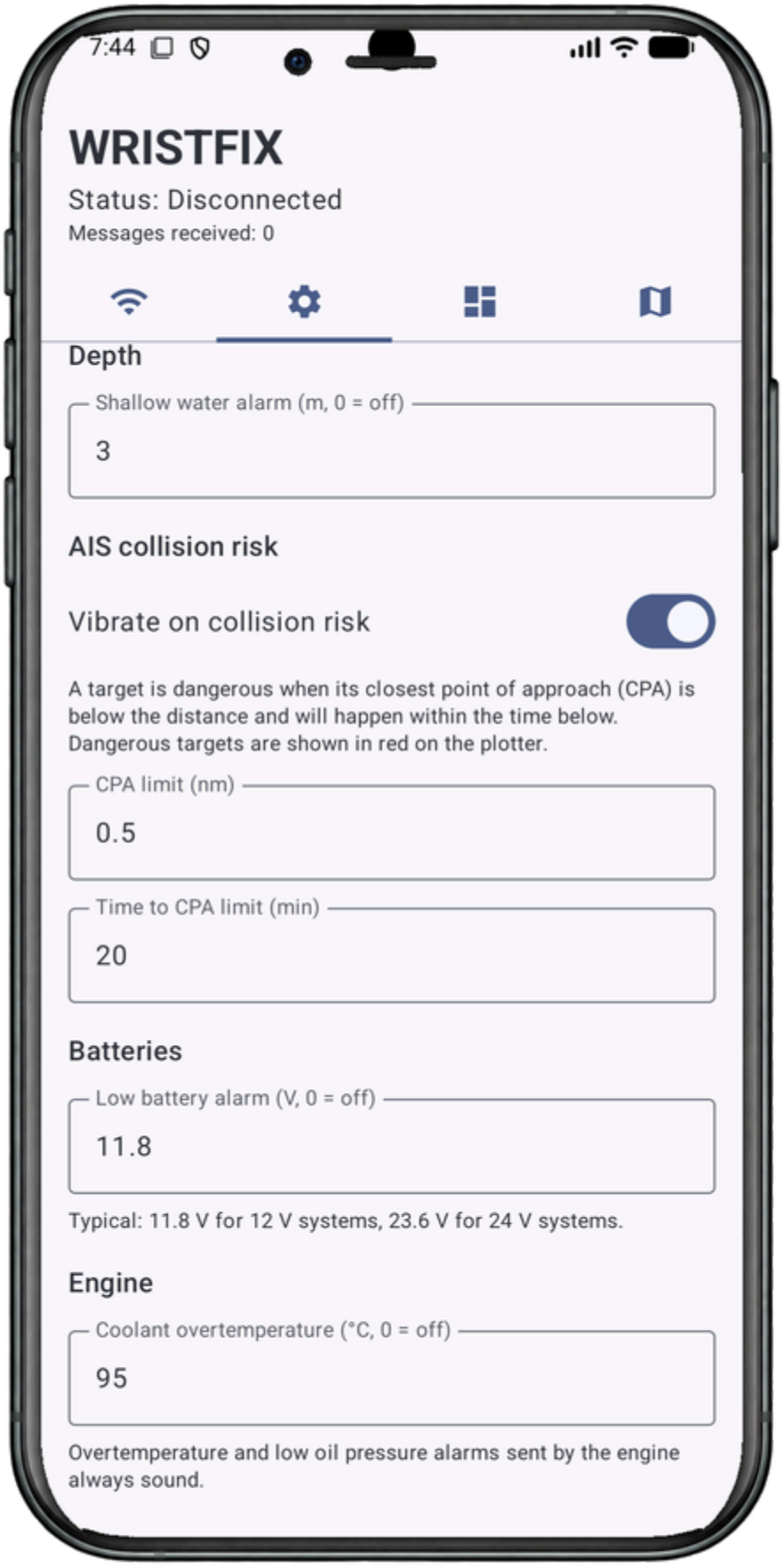
Units. Each type of value has its own unit, so you can mix them.

Value	Options
Depth	m, ft, fathoms
Boat speed	kn, km/h, mph
Wind	kn, m/s, km/h, Beaufort
Distance	nm, km, mi
Temperature	°C, °F
Pressure	hPa (engine oil in bar), inHg (engine oil in psi)
Volume	litres, US gallons, UK gallons

Night mode. Off, **On**, or **Auto (sunset to sunrise)**. Night mode turns both screens red to protect your night vision. Auto uses the boat's GPS position to know when the sun is down.

Alarms. Set any threshold to 0 to turn that alarm off. See section 11 for details.


7:44
WRISTFIX
Status: Disconnected
Messages received: 0
Settings
Night mode
Off
On
Auto (sunset to sunrise)
Turns the watch and this screen red to keep your night vision. Auto uses the boat position to switch on after sunset and off at sunrise.
Units
Depth
m ft fm
Boat speed
kn km/h mph
Wind speed
kn m/s km/h Bft
Distance
nm km mi
Temperature
°C °F
Volume
L US gal UK gal
Pressure
hPa / bar inHg / psi

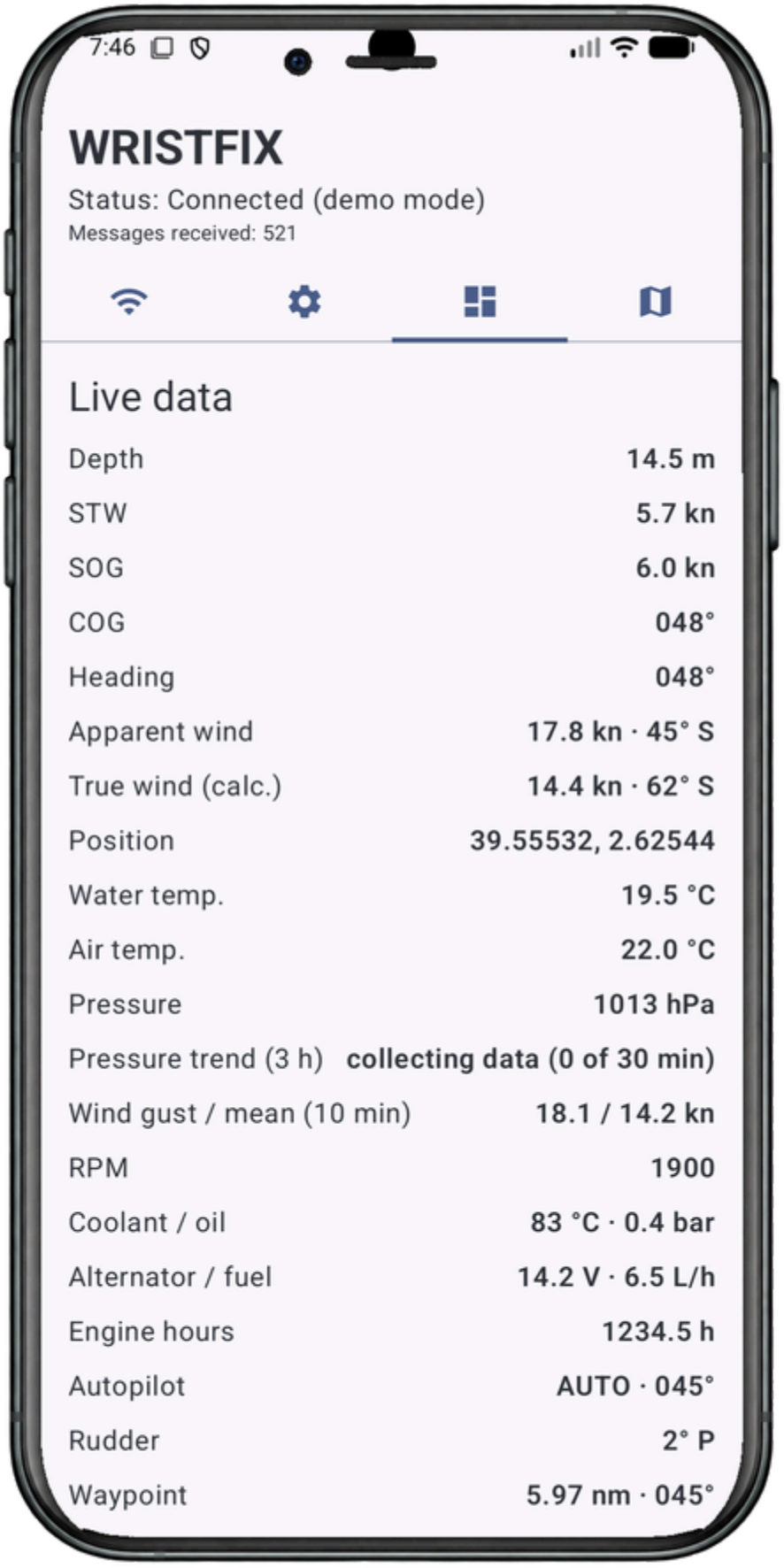

7:44
WRISTFIX
Status: Disconnected
Messages received: 0
Depth
Shallow water alarm (m, 0 = off)
3
AIS collision risk
Vibrate on collision risk
A target is dangerous when its closest point of approach (CPA) is below the distance and will happen within the time below.
Dangerous targets are shown in red on the plotter.
CPA limit (nm)
0.5
Time to CPA limit (min)
20
Batteries
Low battery alarm (V, 0 = off)
11.8
Typical: 11.8 V for 12 V systems, 23.6 V for 24 V systems.
Engine
Coolant overtemperature (°C, 0 = off)
95
Overtemperature and low oil pressure alarms sent by the engine always sound.

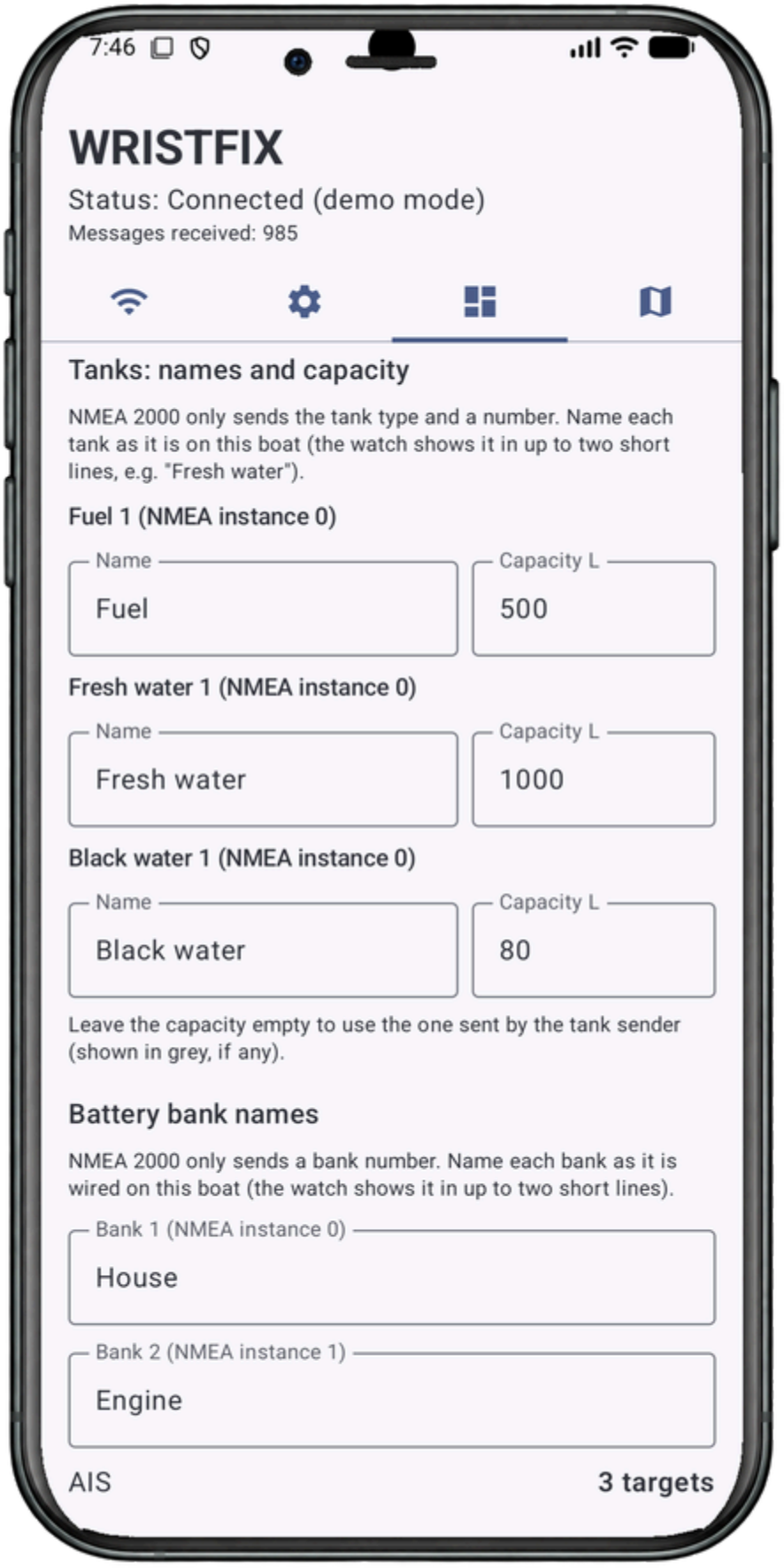
Settings tab: night mode and units (left), alarm thresholds (right).

Live data tab

Shows every value WRISTFIX is receiving, grouped by type. Use it to check that your instruments are reaching the app.

Here you also name your **battery banks** and **tanks**, and enter each tank's **capacity**. Your boat's instruments send each battery and tank with an **NMEA instance number** (0, 1, 2…). WRISTFIX lists every instance it receives, so you can give it a name such as “Service”, “Engine” or “Fresh water”. With the capacity entered, the watch shows the litres or gallons left, not only the percentage. Leave a capacity empty to use the one sent by the tank sender, if it sends one.


7:46
WRISTFIX
Status: Connected (demo mode)
Messages received: 521
Live data
Depth 14.5 m
STW 5.7 kn
SOG 6.0 kn
COG 048°
Heading 048°
Apparent wind 17.8 kn · 45° S
True wind (calc.) 14.4 kn · 62° S
Position 39.55532, 2.62544
Water temp. 19.5 °C
Air temp. 22.0 °C
Pressure 1013 hPa
Pressure trend (3 h) collecting data (0 of 30 min)
Wind gust / mean (10 min) 18.1 / 14.2 kn
RPM 1900
Coolant / oil 83 °C · 0.4 bar
Alternator / fuel 14.2 V · 6.5 L/h
Engine hours 1234.5 h
Autopilot AUTO · 045°
Rudder 2° P
Waypoint 5.97 nm · 045°


7:46
WRISTFIX
Status: Connected (demo mode)
Messages received: 985
Tanks: names and capacity
NMEA 2000 only sends the tank type and a number. Name each tank as it is on this boat (the watch shows it in up to two short lines, e.g. "Fresh water").
Fuel 1 (NMEA instance 0)
Name
Fuel
Capacity L
500
Fresh water 1 (NMEA instance 0)
Name
Fresh water
Capacity L
1000
Black water 1 (NMEA instance 0)
Name
Black water
Capacity L
80
Leave the capacity empty to use the one sent by the tank sender (shown in grey, if any).
Battery bank names
NMEA 2000 only sends a bank number. Name each bank as it is wired on this boat (the watch shows it in up to two short lines).
Bank 1 (NMEA instance 0)
House
Bank 2 (NMEA instance 1)
Engine
AIS
3 targets

Live data tab: values received (left), tank and battery names (right).

Offline map tab

Download chart areas for use without internet (section 12).

6. The watch app

The watch app has 11 pages. It opens on **Instruments**. Move between pages by swiping left or right, turning the crown or bezel, or **tapping the screen** once (a tap moves to the next page on every page except the Plotter).

The watch keeps working while the screen is dimmed (ambient mode). If an anchor watch is running, the dimmed screen shows the anchor page.

The pages

#	Page	What it shows	Actions
1	**MOB**	Large red MOB button	**Hold** the button to mark a man overboard (section 7)
2	**Instruments**	Depth (large), SOG, STW, COG, heading, link dot	Depth turns red below the shallow-water alarm
3	**Plotter**	Chart centred on the boat, north up, track, course vector, AIS targets, anchor circle	Tap empty space: change range. Tap a ship: AIS details. Long press: next page (section 10)
4	**Anchor**	Anchor watch setup or status, swing circle and track	**Hold** to drop or lift the anchor, tap the radius to change it (section 8)
5	**Wind**	Wind dial: apparent wind (yellow needle) and true wind (blue needle), AWS, TWS with gust, AWA and TWA	—
6	**Weather**	Barometric pressure with trend arrow, 3-hour barograph, air and sea temperature, true wind and gust	—
7	**Waypoint**	Distance (DTW), bearing (BTW), VMG and ETA to the active waypoint, cross-track error bar	Needs an active route on the chartplotter

#	Page	What it shows	Actions
8	**Autopilot**	Mode, set heading, heading, rudder; or the pilot controls	−1/+1/−10/+10, STANDBY, AUTO, TACK when control is on (section 9)
9	**Engine**	RPM, coolant temperature, oil pressure, alternator voltage, fuel rate, engine hours	Values turn red on alarm
10	**Tanks**	Level bars for fuel, water, black and grey water tanks, with names and contents	—
11	**Batteries**	Voltage and charge of each battery bank	Bars turn red below the low-battery alarm

A page shows **“--”** for any value that is missing or older than a few seconds, and a message such as “No engine data” when the boat sends nothing for that page. A missing page usually means your instruments do not send that data, or your bridge format does not carry it (section 2).

What the pages look like





Instruments (left) and Wind (right).


2:07
WEATHER
1013
+0.1 hPa / 3h
AIR 22.0° · SEA 19.5°
TWS 8 · gust 20 kn



Weather (left) and Waypoint (right).


2:09
ENGINE
1858
RPM
82
COOLANT °C
3.5
OIL bar
14.2
ALT V
6.5
FUEL L/h
1235
HOURS



Engine (left) and Tanks (right).



Batteries.

Colours

Each type of value keeps the same colour on every page, so you can find it at a glance: depth cyan, speed lime green, courses and bearings gold, distance blue, temperatures pink, pressures violet. **Red always means an alarm.** In the wind dial and rudder bar, red is

port and green is starboard.

Tile and complications

The **depth**, **speed** and **wind** tiles and the **depth**, **wind** and **SOG** complications show live values without opening the app (section 3). Tap any of them to open WRISTFIX.

7. Man Overboard (MOB)

Hold the red MOB button on the watch to save the boat's position at that moment. The watch then guides you back to it with distance and bearing.

Marking a MOB

1. Swipe to the **MOB** page (swipe right once from Instruments).
2. **Press and hold** the red **MOB** button until the watch reacts. A short tap does nothing, to avoid false alarms.
3. The MOB screen appears on the watch, and a red **MAN OVERBOARD** banner appears on the phone.



The MOB page. Press and hold the button.

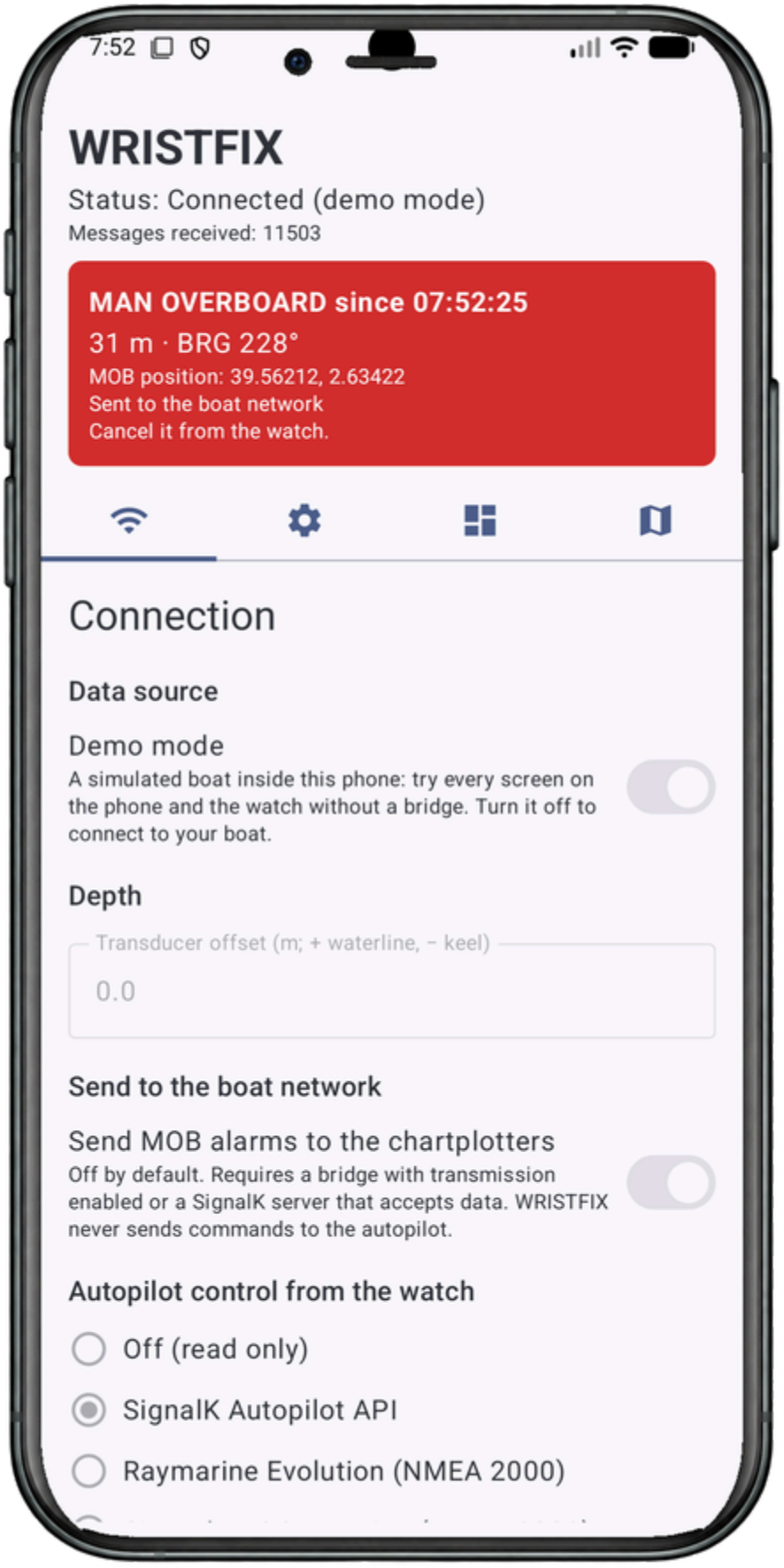
If the boat has no GPS position at that moment, the watch shows **Waiting for GPS** and saves the position as soon as it arrives.

The MOB screen

- **Distance** to the MOB position, in metres when close and in your distance unit further away.
- **Bearing (BRG)** from the boat to the MOB position, and an arrow pointing towards it.
- **Time elapsed** since the MOB was marked.

The MOB screen stays on top of every other page until you cancel it. To cancel, **hold** the **Cancel** button (**Hold to cancel**).


MAN OVERBOARD
10 m
BRG 222° · 180° P
0:02
Hold to cancel


7:52
WRISTFIX
Status: Connected (demo mode)
Messages received: 11503
MAN OVERBOARD since 07:52:25
31 m · BRG 228°
MOB position: 39.56212, 2.63422
Sent to the boat network
Cancel it from the watch.
Connection
Data source
Demo mode
A simulated boat inside this phone: try every screen on the phone and the watch without a bridge. Turn it off to connect to your boat.
Depth
Transducer offset (m; + waterline, − keel)
0.0
Send to the boat network
Send MOB alarms to the chartplotters
Off by default. Requires a bridge with transmission enabled or a SignalK server that accepts data. WRISTFIX never sends commands to the autopilot.
Autopilot control from the watch
Off (read only)
SignalK Autopilot API
Raymarine Evolution (NMEA 2000)

Active MOB on the watch (left) and the banner on the phone (right).

Sending the MOB to your chartplotters

If **Send MOB alarms to the chartplotters** is on (Connection tab), WRISTFIX also sends the MOB to the boat's network every 2 seconds while it is active, so plotters and other displays can show it:

Format	What is sent
NMEA 2000 formats	A MOB notification (PGN 127233) with the MOB position and time
SignalK	A `notifications.mob` emergency alert with the position
NMEA 0183	A waypoint named **MOB** ($GPWPL)

This needs a bridge that accepts data from the WiFi side. Many bridges block it by default: enable "transmit" or "write" access in the bridge's settings. **Test it in port**: mark a MOB and check that it appears on your plotter, then cancel it.

> **The MOB function never sends any command to the autopilot.** Turning the boat and steering back to the person is always done by the skipper.

8. Anchor alarm

The anchor alarm watches the boat's GPS position and alerts you on the watch, and on the phone, if the boat moves outside the circle you set.

Setting the anchor watch

1. Go to the **Anchor** page on the watch.
2. Tap the **Radius** button to choose the alarm radius: 15, 20, 25, 30, 40, 50, 75, 100 or 150 m (30 m by default; shown in feet if you use feet).
3. When the anchor is on the bottom, **press and hold** the **Hold to drop anchor** button. The current boat position becomes the centre of the circle.

Choosing the radius. The centre is where the boat's GPS antenna was when you dropped the anchor. Choose a radius larger than the length of chain or rode you let out plus the boat's length, so the boat can swing freely without false alarms.

While at anchor

The Anchor page shows the circle, the boat, its swing track, the distance to the anchor and the largest distance so far. The status is one of:

Status	Meaning
ANCHOR HOLDING	The boat is inside the circle.
ANCHOR DRAGGING	The boat is outside the circle. The watch vibrates and the phone sounds an alarm.
NO GPS	No position for more than 30 seconds. Also an alarm: the watch can no longer guard the anchor.


2:05
ANCHOR HOLDING
19 m
max 9 m · 0:00 h
R 20 m
Hold to lift



Anchor holding (left) and anchor dragging (right).

While the anchor watch runs, the dimmed watch screen shows the anchor page, so a glance tells you all is well. The circle also appears on the Plotter page.

Tap the radius button at any time to change it. When you weigh anchor, **press and hold Hold to lift**.

Alarm on the phone

With **Anchor alarm also on the phone** on (Settings tab, Anchor), the phone shows a high-priority alarm notification when the anchor drags or the GPS is lost, and repeats it every minute until the boat is back inside the circle. This is a backup in case the watch is off your wrist, out of battery or out of range.

> Keep the phone charging and on board during the night. The anchor watch needs the phone, the WiFi and the bridge to stay on.

9. Autopilot control from the watch

With autopilot control on, you can engage the pilot, change its heading, put it in standby and tack from the watch. With it off (the default), the Autopilot page only shows the pilot's data.

> **Safety first.** Commands can be delayed or lost if the phone, the WiFi or the bridge fails. Always keep a proper lookout and be ready to steer by hand. Test the controls in open water with no traffic before relying on them.

Supported autopilots

Choice in WRISTFIX	Autopilots	Requirements
Raymarine Evolution (NMEA 2000)	Raymarine Evolution EV-1 and EV-2	An NMEA 2000 bridge format (Yacht Devices RAW, Actisense or SeaSmart) and a bridge that can transmit
Simrad / B&G / Navico (NMEA 2000)	Simrad, B&G and Navico NAC autopilots	An NMEA 2000 bridge format and a bridge that can transmit
SignalK Autopilot API	Any pilot your SignalK server controls	A SignalK server with an autopilot plugin, and a SignalK user with write permission

WRISTFIX finds the autopilot's NMEA 2000 address by itself. If it picks the wrong device, enter the address in **Autopilot N2K address** (Connection tab).

Turning it on

1. On the phone, tap **Stop**.

2. In **Autopilot control from the watch**, choose your autopilot.
3. Read the warning and tap **I understand, enable**.
4. For SignalK, enter the server and login in **SignalK login** if needed.
5. Tap **Connect**.

Using the controls

Control	Action
−10 / −1 / +1 / +10	Change the set heading by that many degrees (minus = to port, plus = to starboard). Only when the pilot is engaged.
STANDBY	Tap: the pilot releases the helm.
Hold for AUTO	Press and hold: the pilot engages on the current heading.
TACK	Press and hold: the pilot tacks. The button shows **Tack to port** or **Tack to stbd**, based on the wind side. Needs wind data.



Autopilot controls, pilot engaged in AUTO.

The watch vibrates when the autopilot confirms each command, and shows an error if there is no confirmation within about 6 seconds. AUTO and TACK need a long press so they cannot be triggered by accident.

The page also shows the pilot mode, the set heading, the boat's heading and how far it is off course.

If a command fails

Message	What to check
No confirmation from the autopilot	The bridge must allow transmitting. Check the autopilot address.
Raymarine / Simrad control needs an NMEA 2000 bridge format	Switch the bridge and WRISTFIX to an NMEA 2000 format.
SignalK: not authorised	Check the SignalK user and password, and that the user can write.
SignalK: no autopilot provider found	Install and configure an autopilot plugin on the SignalK server.

10. Plotter, AIS targets and collision alarm

The Plotter page shows your boat in the centre, north up, with the chart, your track, your course vector and every AIS target your AIS receiver or transponder reports.

Using the plotter

- **Tap empty space** to change the range: 0.1, 0.25, 0.5, 1, 2, 4 and 8 nm (shown in your distance unit). The inner ring is half the range, the outer ring the full range.
- **Tap a ship** to open its details.
- **Long press** to go to the next page.
- The bottom label shows the range and your speed, or the most dangerous target when there is a collision risk.



The plotter with AIS targets. A red target and the bottom label warn of a collision risk.

The chart is drawn by the phone and sent to the watch. It needs internet, or an offline chart for the area (section 12). Without either, the plotter still shows your boat, track and AIS targets on a black background.

AIS targets

Each ship is a triangle pointing along its course, with a line showing where it will be in a few minutes. A **red** triangle means a collision risk.

Tap a ship to see its details card:

- Name, ship type (cargo, passenger, sailing, pleasure craft…), Class B if it is a Class B transponder, and navigation status (under way, at anchor, moored…).
- MMSI and call sign.
- Its course (COG) and speed.
- Its distance and bearing from your boat.
- **CPA** (closest point of approach) and the time to CPA, in red if dangerous, or **Moving away**.
- Destination, length and beam.



The details card of an AIS target.

Tap the card to close it. Ships send their name, type, size and destination only every few minutes, so a newly seen ship may show only its MMSI, course and speed at first.

Collision alarm

WRISTFIX calculates the CPA and time to CPA for every target. A target is dangerous when both are below your limits (Settings tab, **AIS collision risk**):

Setting	Default
CPA limit	0.5 nm
Time to CPA limit	20 min
Vibrate on collision risk	On

When a target becomes dangerous, it turns red, the watch vibrates and the plotter's bottom label shows its name, CPA and time to CPA.

> AIS only shows vessels that transmit AIS. Many small boats, and all floating objects, do not. Keep a proper lookout and use radar when available.

11. Alarms, units and night mode

All alarm thresholds, units and night mode are set on the phone (Settings tab) and sent to the watch automatically.

Alarms

Set a threshold to **0** to turn that alarm off.

Alarm	Setting	Default	What happens
Shallow water	**Shallow water alarm** (in your depth unit)	3 m	Depth turns red and the watch vibrates. Uses the depth after the transducer offset.
Collision risk (AIS)	**CPA limit**, **Time to CPA limit**, **Vibrate on collision risk**	0.5 nm, 20 min, on	See section 10.
Low battery	**Low battery alarm** (V)	11.8 V	The battery bar turns red. Use about 11.8 V for 12 V systems and 23.6 V for 24 V systems.

Alarm	Setting	Default	What happens
Engine overheating	**Coolant overtemperature**	95 °C	Coolant temperature and the Engine page title turn red.
Engine alarms from the engine	—	Always on	Overtemperature and low oil pressure alarms sent by the engine itself always show.
Anchor	**Anchor alarm also on the phone**	On	See section 8.
Man overboard	—	—	See section 7.

Units

Choose depth, speed, wind, distance, temperature, pressure and volume units independently (section 5). The watch, tile and complications all use them.

Night mode

Night mode turns the phone and watch screens red, to keep your night vision on deck.

- **Off:** normal colours.
- **On:** always red.
- **Auto (sunset to sunrise):** red while the sun is below the horizon at the boat's position. It needs a GPS position from the boat.

Alarms still stand out in night mode as the brightest red on the screen.

12. Offline charts

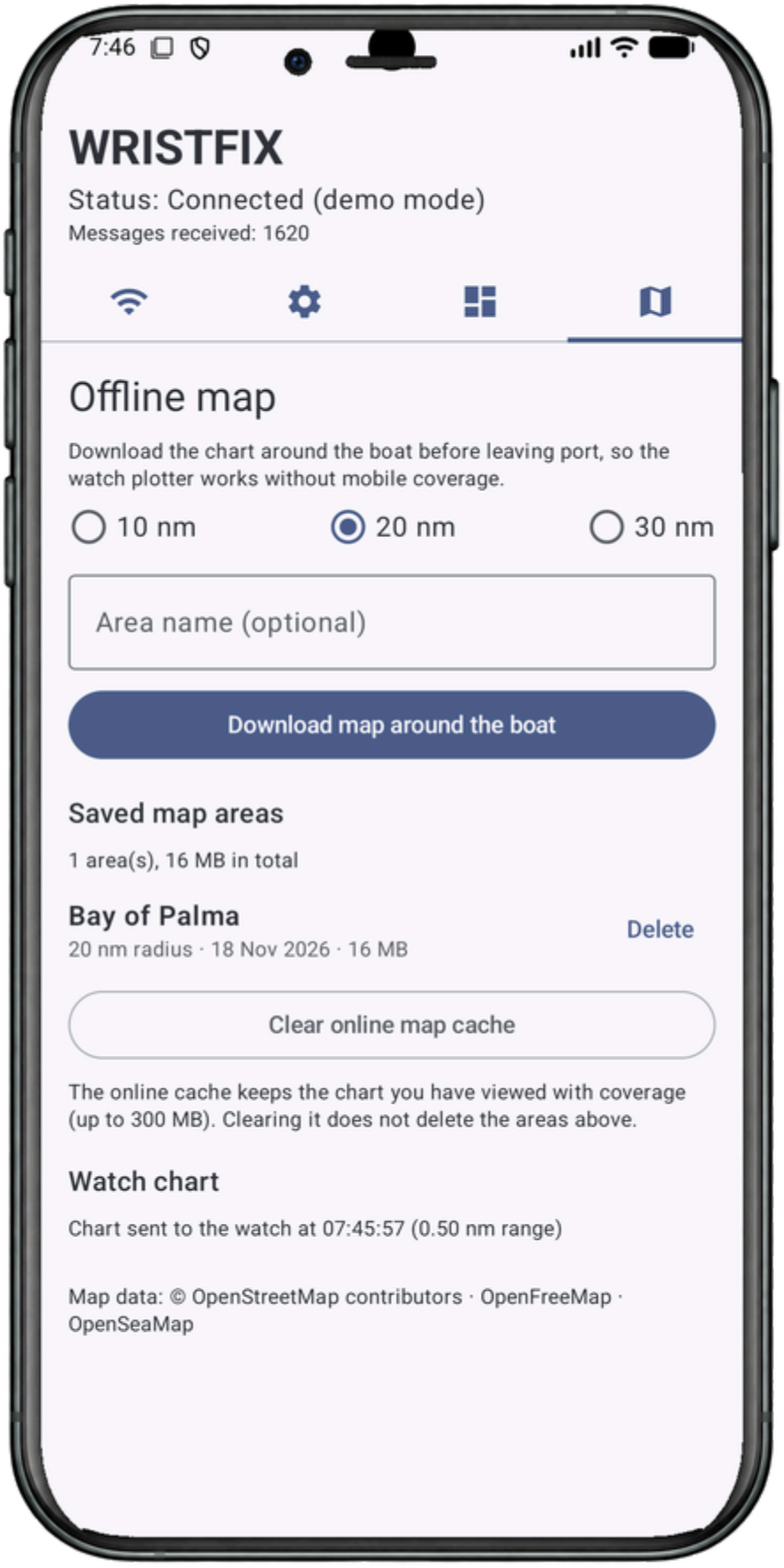
Download the chart around the boat before you leave internet coverage, and the watch plotter keeps showing it at sea.

The watch chart shows land, water, the coastline and nautical marks (buoys, lights and other seamarks). It is drawn from OpenStreetMap, OpenFreeMap and OpenSeaMap data. **It is not an official nautical chart and must not be used for navigation.**

Downloading an area

1. Connect WRISTFIX to the boat, so it knows the boat's position. The button shows **Waiting for boat position…** until it does.

2. Make sure the phone has internet. If the phone is connected to the bridge's own WiFi (which has no internet), **turn on mobile data**: WRISTFIX downloads the chart over mobile data while it keeps receiving the boat's data over the bridge's WiFi.
3. In the **Offline map** tab, choose the size of the area: **10**, **20** or **30 nm** around the boat.
4. Optionally, give it a name, for example "Bay of Palma".
5. Tap **Download map around the boat**. Progress is shown as a percentage. When it finishes, the tab shows **Map saved** with its size.


7:46
WRISTFIX
Status: Connected (demo mode)
Messages received: 1620
Offline map
Download the chart around the boat before leaving port, so the watch plotter works without mobile coverage.
10 nm
20 nm
30 nm
Area name (optional)
Download map around the boat
Saved map areas
1 area(s), 16 MB in total
Bay of Palma
20 nm radius · 18 Nov 2026 · 16 MB
Delete
Clear online map cache
The online cache keeps the chart you have viewed with coverage (up to 300 MB). Clearing it does not delete the areas above.
Watch chart
Chart sent to the watch at 07:45:57 (0.50 nm range)
Map data: © OpenStreetMap contributors · OpenFreeMap · OpenSeaMap

The Offline map tab with one saved area.

If the download stops (for example, the phone lost internet), tap **Resume** in the list of saved areas.

Managing saved areas

Saved map areas lists each area with its name and size, and the total space used. Tap **Delete** to remove an area you no longer need. The watch will need internet again to show that area.

Clear online map cache deletes the chart pieces saved automatically while browsing with internet. It does not delete your downloaded areas.

Tips

- Download every area you plan to sail in while you still have WiFi or good mobile coverage.
- A larger area takes longer and uses more space. Download several smaller areas along your route rather than one very large one.
- Nautical marks (buoys, lights) come from the free OpenSeaMap server. If that server cannot be reached, WRISTFIX shows the message “Seamarks server (OpenSeaMap) not reachable” and saves the area **without buoys and lights**, so you still get the base chart. Download the area again later to add the marks. On the watch, the online chart also falls back to the base chart and tries again later.

13. Troubleshooting

Most problems come from the phone not being on the bridge’s WiFi, or from a format or port that does not match the bridge. Start there.

Connection

Problem	What to do
The search finds nothing	Check that the phone is connected to the boat’s WiFi (not to mobile data only) and that the bridge is on. Some bridges take a minute to start. If the bridge uses UDP, check it broadcasts to the whole network. Then enter the settings by hand (section 4).

Problem	What to do
Status shows **Error … failed to connect … ECONNREFUSED**	The bridge was reached but nothing listens on that port. Check the port, and that the bridge works as a TCP server.
Status shows **Error … failed to connect … after 5000ms**	The bridge did not answer. Check the IP address, and that the phone is on the same WiFi as the bridge.
No data from bridge	Connected, but no data arrives in the selected format. Check that the format in WRISTFIX matches the one set in the bridge.
Android keeps leaving the bridge's WiFi	When Android warns that the network has no internet, choose **Keep connection**. In the phone's WiFi settings, turn off options such as "Switch to mobile data automatically" for that network.
The connection stops when the phone is locked	Set WRISTFIX's battery use to **Unrestricted** (section 3).
SignalK: not authorised	Enter a SignalK user and password, or allow read access without login on the server.

Watch

Problem	What to do
The watch shows no data	Check the link dot on the Instruments page. Red: the watch cannot reach the phone; check Bluetooth and that WRISTFIX is installed on both. Amber: the phone has no data from the bridge; see Connection above.
A page shows only "--"	Your boat does not send that value, or the bridge format does not carry it. Check the **Live data** tab on the phone.
Tank or battery names are missing	Name them in the **Live data** tab. They are listed only once the boat has sent them.

Problem	What to do
The plotter has no chart	The phone needs internet or an offline chart of the area (section 12). On the bridge's WiFi, turn on mobile data. A chart without buoys or lights means the OpenSeaMap server was not reachable.
The pressure trend says "trend in … min"	WRISTFIX needs at least 30 minutes of pressure readings to calculate a trend.

Autopilot and MOB

Problem	What to do
Autopilot buttons show an error	See the table at the end of section 9.
The MOB does not appear on the plotter	Turn on **Send MOB alarms to the chartplotters**, and enable transmit or write access in the bridge's settings.

If a problem persists, email RDRP Studio support at delrosalr@gmail.com. Include your phone, watch and bridge models, the data format and a screenshot of the Connection tab.

14. Appendix

A. NMEA 2000 messages read

PGN	Data
127245	Rudder angle
127237	Heading/track control (autopilot)
127250	Vessel heading
127488, 127489	Engine speed, coolant temperature, oil pressure, alternator voltage, fuel rate, engine hours, engine alarms
127505	Tank levels
127506, 127508	Battery status and state of charge
128259	Speed through water

PGN	Data
128267	Depth
129025, 129026	Position, COG and SOG
129283, 129284	Cross-track error, waypoint distance, bearing, VMG and ETA
129038, 129039	AIS Class A and Class B positions
129794, 129809, 129810	AIS static data: name, call sign, ship type, size, destination
130306	Wind speed and angle
130310, 130312, 130314	Air and sea temperature, barometric pressure
65305, 65340, 65341, 65360, 65379	Raymarine and Simrad autopilot status

Sent (only when you turn the matching option on): 127233 MOB notification; 126208 and 126720 Raymarine autopilot commands; 130850 Simrad autopilot commands.

B. NMEA 0183 sentences read

RMC, GGA, GLL, VTG (position, COG, SOG) · HDT, HDG, HDM (heading) · VHW (speed through water) · DPT, DBT (depth) · MWV, VWR, MWD (wind) · MTW, MDA, XDR (temperatures, pressure) · RSA (rudder) · RPM (engine) · RMB, XTE, BWC, BWR (waypoint) · HTD, HTC (autopilot) · !AIVDM messages 1–3, 5, 18, 19 and 24 (AIS).

Sent: $GPWPL waypoint named MOB, when MOB sending is on.

C. SignalK paths read

`navigation.*` (position, course, speed, heading, route and waypoint), `environment.*` (depth, wind, temperatures, pressure), `steering.*` (rudder, autopilot), `propulsion.*` (engine), `tanks.*`, `electrical.batteries.*`, and other vessels' AIS data. **Sent:** `notifications.mob`; autopilot commands through the SignalK Autopilot API v2.

D. Glossary

Term	Meaning
AIS	Automatic Identification System: ships broadcast their identity, position, course and speed by VHF radio

Term	Meaning
AWA / AWS	Apparent wind angle / speed, as felt on the moving boat
BTW / DTW	Bearing / distance to the waypoint
COG / SOG	Course / speed over ground, from GPS
CPA / TCPA	Closest point of approach between two vessels / time until it happens
HDG	Heading: where the bow points
MMSI	Maritime Mobile Service Identity, the 9-digit number of a vessel's radio
MOB	Man overboard
NMEA 2000 / 0183	Standard networks and data formats for marine electronics
STW	Speed through water, from the log
TWA / TWS	True wind angle / speed, corrected for the boat's own motion
VMG	Velocity made good towards the waypoint
XTE	Cross-track error: distance off the planned route

E. Legal

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