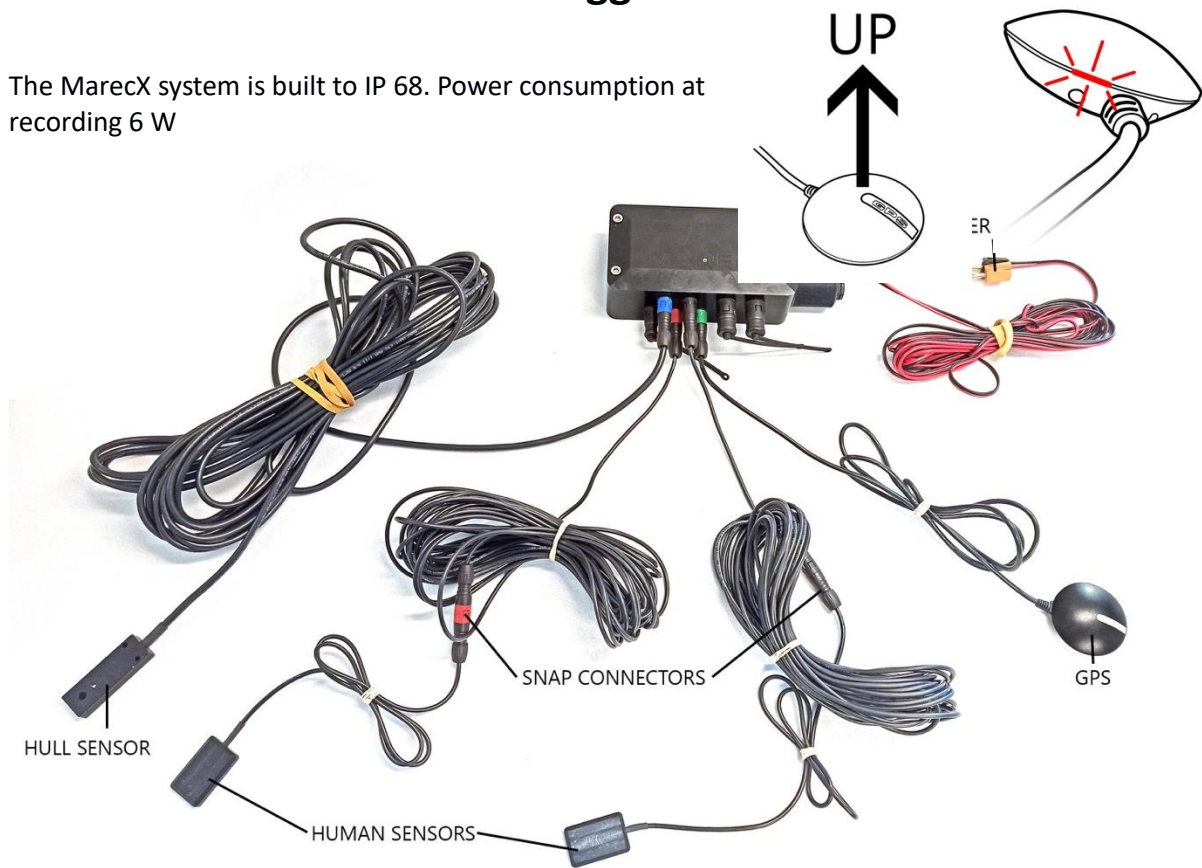


Installation of MarecX datalogger

The MarecX system is built to IP 68. Power consumption at recording 6 W

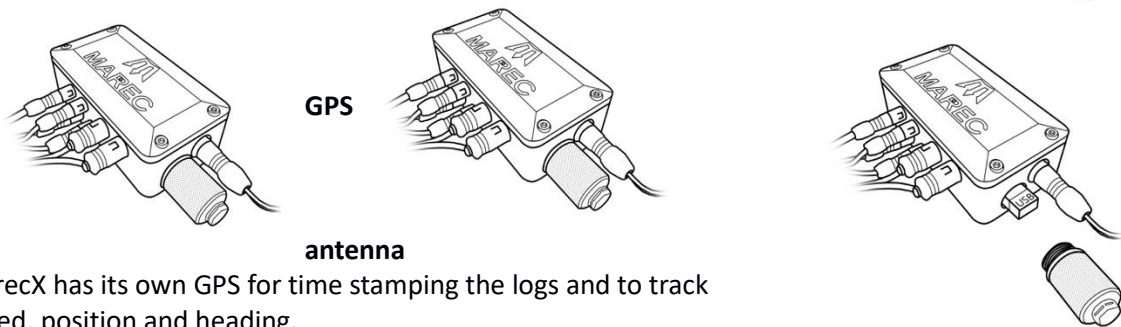
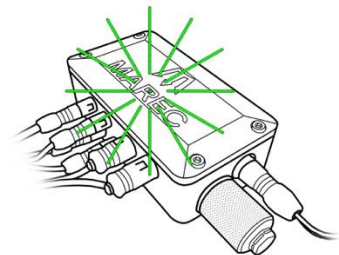


Datalogger unit

Install the datalogger, if possible, inside the steering console, positioned so that the front surface of the cabinet where a green LED light integrated in its centre, is visible and can be inspected.

The external cylinder on the cabinet shall be accessible to unscrew by hand for extracting the removable USB stick it protects.

The orientation of the datalogger is not critical. It can be bolted in place - or attached to a flat clean surface with 3M Dual Lock SJ3550 tape.



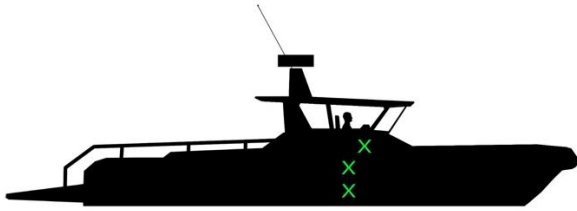
MarecX has its own GPS for time stamping the logs and to track speed, position and heading.

The GPS antenna shall be mounted where it can see the satellites, positioned with its convex top surface facing up.

It can be placed inside an FRP structure but not inside an aluminium steel or carbon fibre structure. A small red LED lights up when the system is powered and has red blinking light when tracking GPS.

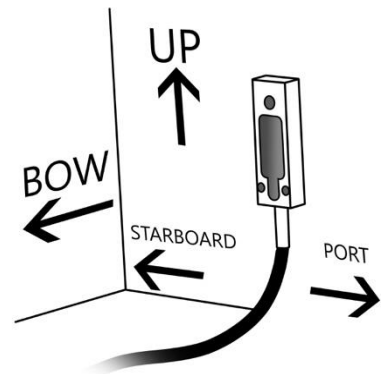
Hull accelerometer

The hull sensor should be bolted to a flat surface and positioned near the pilot and co-pilot seats.



The hull sensor(s) must be mounted orthogonally to the hull, oriented according to the table below.

To minimise noise from structural vibrations it should be positioned as low as possible and close to a corner where a bulkhead attaches to the deck, or to the structural framework.



Human accelerometers

Human sensors shall be velcroed on the right side of your body to the outer side of the inner layer of the kidneybelt, and positioned on the Axillary line, on the side of the pelvis, right above and in firm contact with the edge of the pelvis.

The kidneybelt shall be worn in direct contact with the body, not outside trousers and shirts.

Kidneybelt shall be pulled tightly around the waist and the upper part of the pelvis.

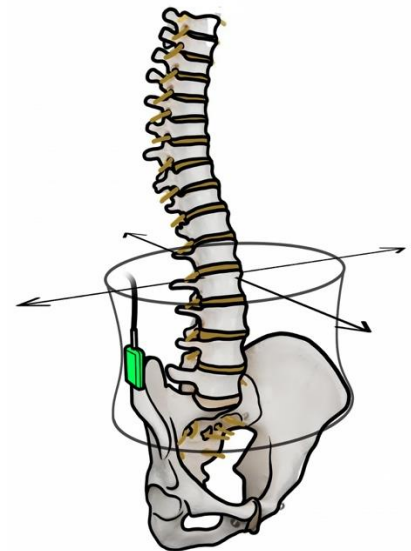
The sensor wire shall point upwards out of the kidneybelt.

The 0.7 m sensor wire has an IP 68 connector.

This snaps together and opens by pulling force.

The human sensors shall be connected to the corresponding colour-coded wires attached to the datalogger.

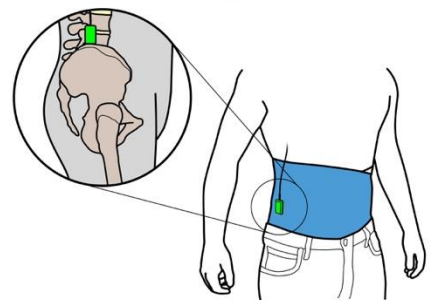
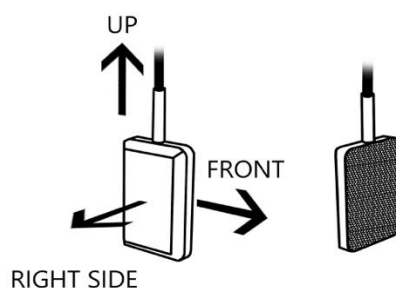
Red to Red and **Black to Black!**



Wiring

When the MarecX is mounted inside the console, which is recommended,

13 mm \approx 1/2"-holes need to be drilled for the human-sensor wires to be pulled through.



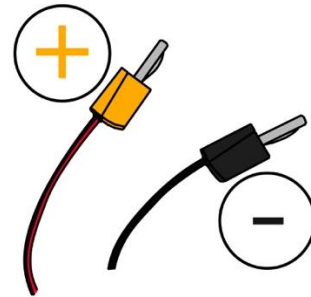
Pull out ≈ 1.5 m of the wire or what is deemed practical for each cockpit.
Tape the wire to protect it from wear at the edges of the hole.

Power supply

The MarecX runs on 12 volts DC. Max 16v DC.

Connect power wires directly to the battery bank, or to the main power, after the main switch. Suggestion: Mount a separate pwr switch to turn MarecX on/off. This also makes the turnoff immediate. This is a way to ensure integrity of USB memory stick.

Please be sure to connect the **RED** power wire to + (Plus) and the **BLACK** power wire to - (minus).



Unfortunately some MarecX have been connected to 24 volt systems. In such a case the internal electronics will be damaged.

Operation

Data recording starts automatically when the GPS notes that the boat is making more than 6 knots (adjustable by the user in 0.1 knots step) for more than a few seconds and continues as long as it is under way.

Data is continuously stored in 1024 sec ≈ 17 min binary files, named with the date and a number indicating the order in which the files were logged.

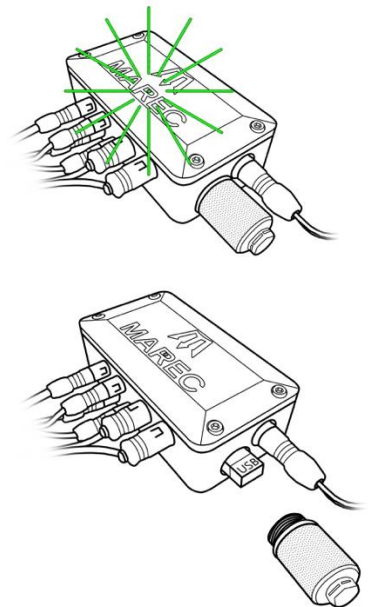
E.g., the file named "21032604.dat" is the 4th file recorded on March 26, 2021, and the file named "21032201.dat" the first file recorded on March 22, 2021.

Recording continues, opening new 17 min. files, as long as the boat is making speed higher than the preset value. When the boat is no longer making speed, MarecX will stop opening new files.

A green LED-light at the centre of the top surface of the MarecX cabinet indicates, with a steady green light that it is powered, and with a blinking green light that is recording acceleration through the connected sensors.

To extract the data and upload the files:

- First remove power to box. Make sure everything is dry, and no water can get in. Never touch USB with pwr on.
- Unscrew the USB cover cylinder.
- Pull out the USB stick and connect it to a computer, PC or Mac.
- Upload and store the USB data files to your hard drive.
- Do not forget to upload the **S2.txt** file as well. This contains the MarecX's ID and its calibration data.
- Store the **S2.txt** file together with the data files on the computer.
- Use the MarecX software to view and analyse the data.
- If you use more than one MarecX datalogger, store the data files separately, together with their **S2.txt** calibration files. Do not move the USB stick to another MarecX box without emptying all files as **S2.txt** on USB contains box serial number.



- The transducers that comes with your MarecX are calibrated together with this system. Never switch any of the transducers to another box. If so the calibration will not be accurate on the new box.

Make sure to keep water from getting into the MarecX, and to tighten the cylinder well after re-inserting the USB stick.

Open the MarecX application on your computer and follow the instructions to analyse the data.

The 16 GB USB stick holds up to 185 hours of recorded data.
That equals 6 hrs/day for more than a month.

If using a MarecX 128 GB USB stick, data for roughly one year of normal use can be stored.
Pre-formatted, compatible 128 GB USB sticks can be ordered via www.Marec.se.

MarecX will continue to store data until the boat stops making speed.
When boat stops making speed, data will still be recorded until the open file is full, and then stop.

Even if only a few hours are recorded, it is good practice to download data once a month.
Good practice is also to store the logged data to your hard drive for later use.

Once the USB stick gets full, it will need to be emptied by trashing the data files.
Don't forget to first save them to a PC or Mac computer.
When mounting an empty USB stick in the MarecX, it will produce a new S2.txt file containing its ID and calibration data.

Hull sensor(s) positioning table

Position number

- 1 Cable down, plastic insert FWD also calibration position
- 2 Cable down, plastic insert right
- 3 Plastic insert down, cable FWD
- 4 Plastic insert down, cable right
- 5 Plastic insert down, cable AFT
- 6 Plastic insert down, cable left
- 7 Cable up, plastic insert FWD
- 8 Cable up, plastic insert right

Up, down, right, left, fwd and aft relates to boats coordinate axles where up is z-direction+, left is y-direction+ and FWD is x-direction+. Setup number as described in SW document.

Crew sensor(s) positioning table

Position number should be set to 0(zero) for normal use

Should be set to 1 for calibration purpose.

Technical support: Contact support@marec.se or +46 247-233 50

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