QUARK-ELEC

SET-UP GUIDE

IS20 NETWORKED

MULTIFUNCTION INSTRUMENT

* NMEA 0183 input/output   The NMEA 0183 input supports two different baud rates: 4.8kbps and 38.4kbps. These baud rates can be selected from the settings page, allowing you to choose the appropriate data source for the IS20. The selected data source provides real-time data to the IS20, which is then displayed on the screen for easy monitoring.

Furthermore, the IS20 has the capability to transmit (repeat) data from the NMEA 0183 input and send it to other devices using NMEA 0183 output wires. If you wish to forward the data to a computer, you will need a TTL to USB adapter (not included). This enables the input data to be displayed on software running on your computer, enhancing data visibility and analysis capabilities.

The IS20 input/output interface is based on NMEA 0183-RS422 (differential) protocol.
For RS422 interface devices , connect '+' to '+' wire of IS20, and '-' to '-' wire of IS20. Swap '+' and '–' wires if the IS20 does not work.
For RS232 interface device(single end), connect TX/RX to NMEA input/output '-' and GND to input/output '+'. Swap TX/RX and GND wires if the IS20 does not work.

Type-C connector
The IS20 is supplied with a type-C USB connector and USB cable for settings and upgrade its firmware. The USB cable can be linked directly to a USB port on the Windows PC.
NMEA 2000 connector
The IS20 provides a standard male NMEA 2000 connector. It can also be connected to a NMEA 2000 network to receive NMEA 2000 data. The NMEA 2000 connector also provides the power supply to IS20.

GETTING STARTED

Turning the unit on and off
The IS20 offers two options for powering the device: through the N2K connector or the power cable connected to the Power and NMEA 0183 input/output connector. Once power is supplied, press and hold the POWER button for 3 seconds to turn on the screen. The Quark-elec logo will be displayed, followed by a legal notice page upon completion of the initialization process. To proceed, simply tap 'Accept', and the default page will be presented.
To power off the IS20, press and hold the POWER button for 5 seconds while the display is active.
Adjust the brightness
When the IS20's screen is active, pressing and holding the central area of the screen will bring up the brightness setting page. From this page, you can conveniently adjust the screen brightness to your desired level, ensuring optimal visibility in different lighting conditions.
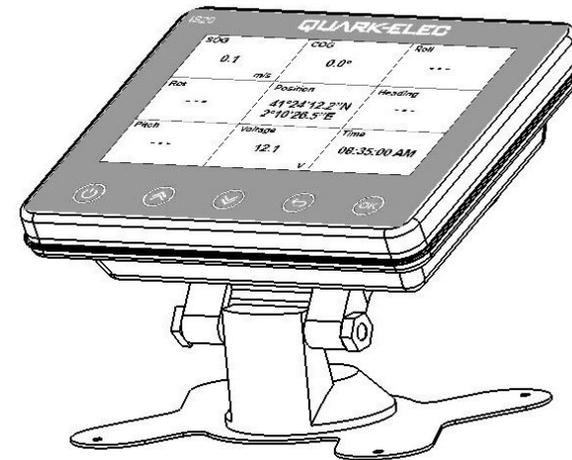**Setup**
For more details on how to setup IS20 and operation, please refer to the manual, which can be found on the Quark-elec website.

Dash mounting
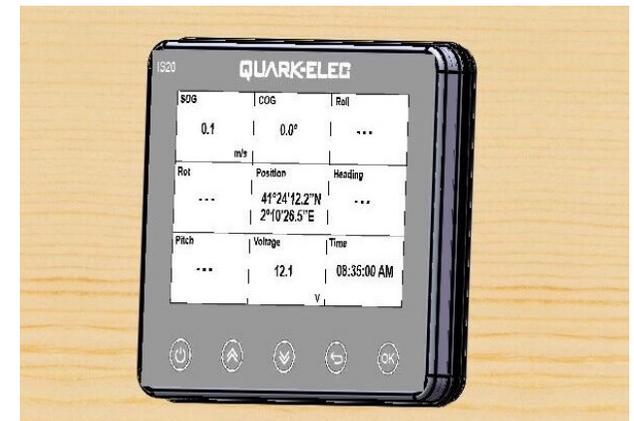
Flush mounting

All products are CE, RoHS certified

Please recycle your packaging

⚠ **This is an overview only. Familiarize yourself with the manual and the manuals of any connecting devices before installation. It is always recommended that electronic equipment be installed by an experienced installer.**

MOUNTING:

When selecting a mounting location, the following considerations must be observed:

• **Sturdy mounting surface -** The mounting surface must be strong enough to support the weight of the device and protect it from excessive vibration or shock. Although the display unit is waterproof from the front when installed correctly, it is good practice to mount it in a protected area, away from prolonged and direct exposure to rain and salty seawater.

• **Convenience** - the mounting location should allow easy access to the buttons on the device.

• **Viewing angle** - To be mounted at a suitable angle to ensure best visibility of the monitor. The mounting location should be at or below eye level to provide optimal viewing as you operate your vessel.

• **Access** - There must be suitable room behind the device to allow for the rear mounted connections, to avoid sharp bends in any cables.

• **Interference** - the selected location should be far enough away from devices that may cause interference, such as motors, generators, and radio transmitters.

• **Magnetic compass** - To avoid interference with a magnetic compass, the IS20 should not be installed within the compass-safe distance value listed in the product specifications. For example, the AS08 needs 0.6 meters minimum distance.

• **Airflow** - to prevent overheating, do not restrict airflow at the rear of the display unit; ensure that there is adequate ventilation, particularly if the display unit is pod-mounted.

Dash mounting

When dash mounting, the unit will be mounted on a flat surface with the provided bracket. If you are mounting the bracket on fiberglass with screws, it is recommended to use a countersink bit to drill a clearance counterbore through only the top gel-coat layer. This will help to avoid cracking in the gel-coat layer when the screws are tightened.

Flush mounting

Be careful when cutting the hole to flush mount the device. There is only a small amount of clearance between the case and the mounting holes, and cutting the hole too large could compromise the stability of the device after it is mounted.

Do not use the device as a template when drilling the mounting holes because this may damage the glass display and void the warranty. You must only use the included template to correctly drill the mounting holes.

Inspecting all the wiring connections to ensure they are properly and securely installed before powering up the IS20.

FRONT PANEL AND BUTTONS

Use the buttons to operate the display. Each button has multiple functions.

Item	Description
1	POWER. Press and hold to power on. Press and hold 5 seconds to switch off. Double click to enter setup page.
2	UP ARROW. Move up in menu, next favourite page, or increase a numeric value.
3	DOWN ARROW. Move down in menu, previous favourite page, or decrease a numeric value.
4	ENTER. Select a menu option and to enter
5	OK. Select menu item or save the setting.
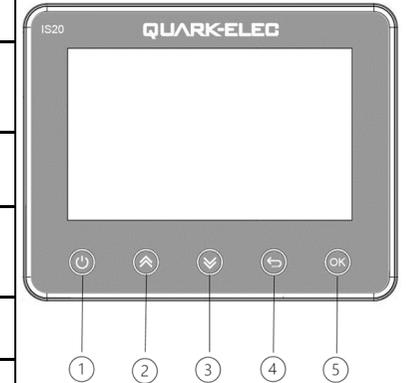
CONNECTING THE DISPLAY

The IS20 has the following options for connection to inputs, outputs and host devices at rear (from left to right):

- Type-C USB connector
- Power/ NMEA 0183 input & output connector
- NMEA 2000 connector
- WiFi antenna
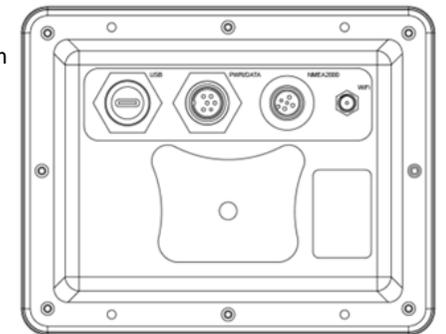
Power and NMEA 0183 input/output connector

The IS20 uses industry standard six-core screened M12 cable for power supply and NMEA 0183 input/output connection.

* Power   The IS20 operates on a 12V DC power supply. Please follow these guidelines: Connect the red wire to the positive supply (12V) using a 2-amp fuse, and securely connect the black wire to the ground (GND). It is crucial to avoid connecting any of the other data wires to the 12V power source, as doing so could potentially damage the device. Rest assured, the IS20 is equipped with reverse polarity protection, ensuring the device remains safeguarded in the event of a faulty installation.

The IS20 can also be powered through the NMEA 2000 port using an N2K cable. When utilizing an NMEA 2000 cable, we advise leaving the red and black wires open (please use tape or a suitable protective measure to safeguard the header wire).