HyQuant Edge | Quick installation guide

KISTERS

Package contents

1x HyQuant Edge Sensor Unit
1x two-part mounting bracket (tilt and swivel)
1x 10 m cable w/ 8-pin female connector and open-ended wires
1x Torx key
1x Magnet
1x Test Certificate
1x Quick installation guide

Specifications summary

Radar frequency: 60 GHz
Radar band: V

Radar modulation:
- FMCW (level)
- Doppler (surface velocity)

Dual antenna:
- Looking 0° downwards for level
- Looking 45° downwards for velocity

Beam angle (azimuth x elevation):
- Level: 8° x 8°
- Surface velocity: 8° x 12°

Measuring range (model dependent):
- L20: 0,10 m ... 20 m/0.32 ... 65.61 ft
- L50: 0,15 m... 50 m/0.49... 164.04 ft
- V: 0.05 ... 15 m/s

Power Supply and Consumption @ 12V:
Operating voltage: 10...30 V DC
- Typical < 15 mA @12V
- Peak < 80 mA @12V

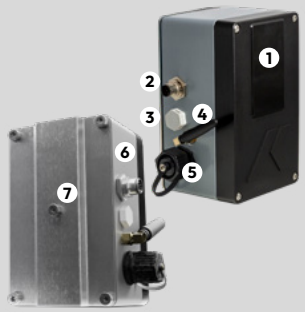
Further Specifications
Operating temperature range: -40 ° ... +80 °C/ -40 °... 176 °F
Signal connector: M12 8-Pin male
Rating: IP68*

Compliance

CE, RoHS, FCC Class B, UL

Main parts

1 Cover with integrated radome
2 M12 8-pin mal connector for signal cable (supplied)
3 Pressure compensation gland
4 LTE-M stubby antenna
5 SIM card holder
6 Die-cast aluminium housing
7 Rear mounting plate
Optional pole mount bracket 1“...2“

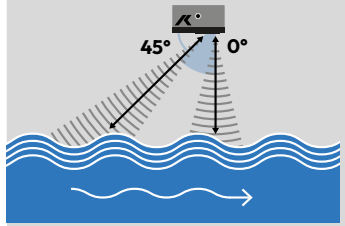


Enable local Wi-Fi communication

1. Manual activation: Swipe the supplied magnet along the red arrow (↑).
2. Enable via SDI-12: Use extended command **aXWIFI!**
3. Modbus: Write ‘**1**’ to holding register (FC06) 81.
4. Power Cycle: Wi-Fi hotspot is activated when the device is switched on.

If there is no Wi-Fi connection to an external device, the system will automatically switch off after a few minutes to save power.

Mounting instructions



Positioning:
1. Install sensor with black lid parallel to water surface
2. The “K” on the cover should always face upstream

Mounting:
1. HyQuant Edge comes with a standard tilt and swivel bracket for proper mounting adjustment to the water surface and flow direction.
2. Attach it to the support using M6 screws.
3. Use the provided bolt and torx key to fix the U-bracket to the HyQuant Edge backplate.

Mounting instructions

Mounting:
Adjust the device’s tilt and swivel until it’s positioned correctly:
The black lid must be aligned parallel to the water surface within a tolerance of ±2 °. HyComm displays the sensor inclination and indicates acceptable positions in green.

SIM card
- Unscrew the cap of the SIM card holder (5).
- Insert the SIM card into the slot holder with the contacts facing inward and downward. Ensure that the SIM card is fully inserted until it clicks into place.
- Reinstall the cap and tighten it securely. Ensure that the cap is properly seated to maintain watertightness.

Power
- HyQuant Edge is powered via pins 1 and 2 of the M12 8-pin connector. Refer to the reverse side for the connector pinout.
- Switch on the power supply only after the M12 connector has been securely inserted and locked.
- Once powered, HyQuant automatically starts operating.The HyQuant Wi-Fi hotspot is activated and ready for connection from a nearby device.
- For detailed instructions on establishing a Wi-Fi connection, refer to the reverse side.

Optional Solar Power Pack
- Ideally suited for remote locations or sites without grid power, the optional KISTERS Solar Power Pack provides a complete, ready-to-use solution for operating HyQuant Edge as an autonomous monitoring station.
- The Solar Power Pack includes a mounting structure for a 20–50 W solar panel, an enclosure with solar charge controller and holders for six 18650 rechargeable batteries (not included), a pole-mount bracket, and a downward-facing bracket for HyQuant Edge (pole not included). It is pre-cabled and can be installed within minutes. Refer to the separate Quick Installation Guide for details.

*IP68: dustproof and protected against continuous submersion in water; max. depth 1,5 m for max. 3 h. No protection from other liquids. Required: M12 connected and secured; SIM cap fully tightened (IP68).

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Safety instructions

1. **Preparation:** Read the manual thoroughly before installation, ensuring understanding of operating procedures. Only qualified personnel familiar with installation and operation should handle the product.
2. **Reference:** Keep the manual accessible for future use and consult it if difficulties arise. Contact the manufacturer or authorized distributor for assistance with any issues regarding the Installation Instructions.
3. **Intended Use:** Use the HyQuant Edge sensor strictly for hydrographic applications as described in the manual, adhering to specified guidelines for use, deployment, maintenance, and repair.
4. **Safety:** Follow detailed safety instructions provided for each step during installation and deployment. Avoid using the sensor in potentially explosive environments.
5. **Electrical Work:** Electrical installation should only be performed by trained specialists due to the complexity of working with electrical systems.
6. **Specifications:** Adhere to electrical, technical, and climatic specifications at all times to ensure proper functioning of the device.
7. **Warranty:** Any modifications or alterations to the HyQuant Edge will void the warranty and necessary safety approvals.
8. **Regulations:** Comply with electrical safety standards and relevant health, safety, and environmental regulations.
9. **Water Safety:** Provide and ensure the use of life jackets or buoyancy aids for workers at risk of falling into water during installation or maintenance near water bodies.

For detailed safety instructions, please refer to the user manual available for download from the product website.

Configuration Software

HyComm is **KISTERS** software utilized for local communication between a computer or portable device and the **HyQuant Edge radar sensor.**

To connect:

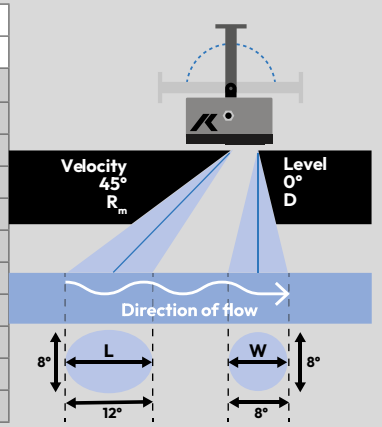
1. Switch on the mobile hotspot in the HyQuant Edge sensor by swiping a magnet across the lower bottom of the KISTERS "K" on the cover.
2. Click on the Wi-Fi icon in in your computer's taskbar.
3. Select the Wi-Fi access point named HERYYNNNN from the provided list, where HERYYNNNN is the serial number of the HyQuant Edge device.
4. Once the Wi-Fi connection is established, start HyComm to communicate with the device. HyComm will prompt you to enter a password. Use the initial password printed on the FAT document supplied with the device. This password is unique to each device. For security reasons, we recommend changing it to a secure password of your choice.
5. The computer connects to the Wi-Fi hotspot.

Download HyComm Installer

Radar Beam Footprint

Metric (m)			
D	W	Rm	L
50,0	6,99	—	—
30,0	4,20	—	—
20,0	2,80	28,28	5,95
15,0	2,10	21,21	4,46
10,0	1,40	14,14	2,97
7,0	0,98	9,90	2,08
5,0	0,70	7,07	1,49
3,0	0,42	4,24	0,89
2,0	0,28	2,83	0,59
1,0	0,14	1,41	0,30
0,5	0,07	0,71	0,15

Imperial (ft)			
D	W	Rm	L
164.04	22.93	—	—
98.43	13,78	—	—
65.62	9,19	92.80	19.51
49.21	6,89	69.60	14.63
32.81	4,59	46.40	9.75
22,97	3,22	32.48	6.83
16,40	2,30	23.20	4.88
9,84	1,38	13.92	2.93
6,56	0,92	9.28	1.95
3,28	0,46	4.64	0.98
1,64	0,23	2.32	0.49

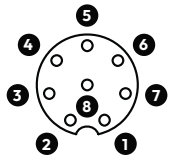


$$W = 2 \times D \times \tan\frac{8°}{2} \qquad R_m = \frac{D}{\sin(45°)} \qquad L \approx 2 \times R_m \times \tan\frac{12°}{2}$$

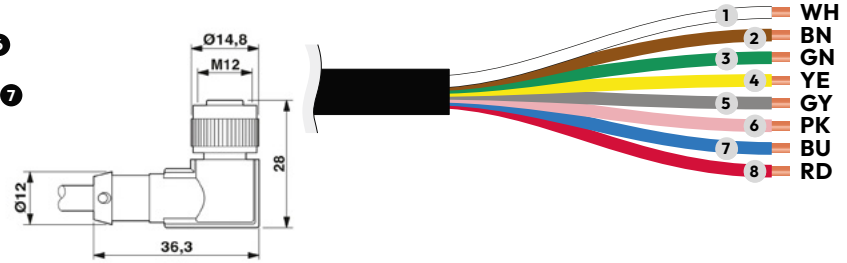
Cable and connector pinout

1	2	3	4	5	6	7	8
Power VCC +	Power GND -	NC	NC	NC	NC	NC	NC

Pin assignment (female view)



Connection diagram



⚠ **Caution:** Incorrect or faulty connection can damage the device. All interface and power cables are protected against reverse polarity, but incorrect connection of power cables to interface cables can damage the device.

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