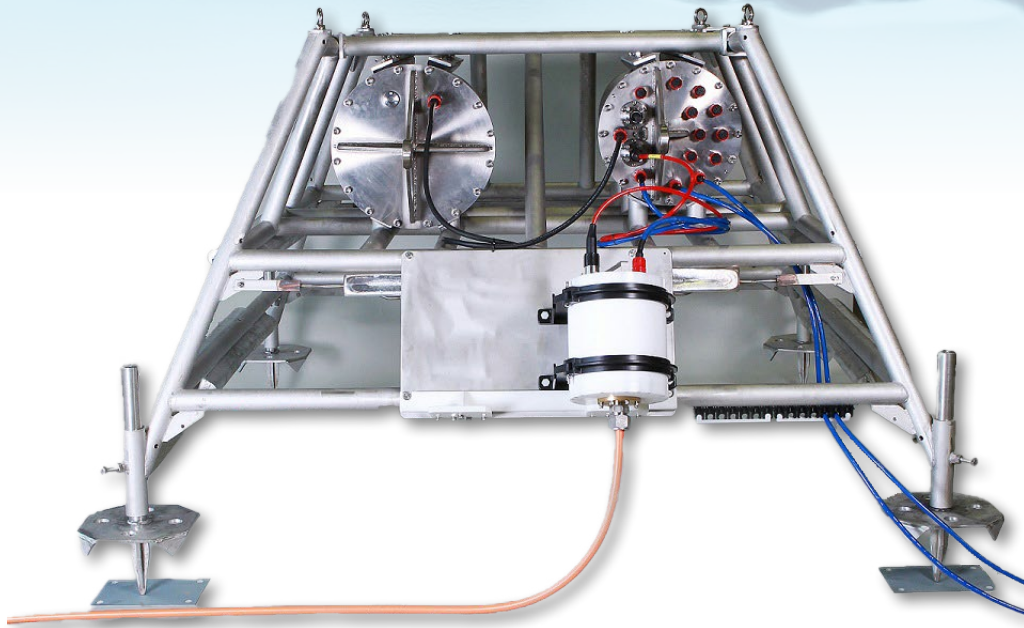


-4H-Underwater Node



SUBSEA DATA AND POWER MANAGEMENT

Dependable operation of complex underwater sensor and environmental monitoring networks

The -4H-Underwater Node routes shore or battery power to the sensors, instruments and equipment in even the largest, most complex underwater monitoring networks, while simultaneously providing secure global access to the system and individually connected elements (dependent on individual capabilities).

As a complete system for long-term underwater operation for a variety of subsea monitoring applications that depend on multi-sensor, multi-parameter data, the -4H-Underwater Node is designed to facilitate fast, resilient automated and remote operation.

OPERATING PRINCIPLE

-4H-Underwater Nodes are seabed residents that act as the interface for networked underwater observatories (RS232/RS422/ 100BaseT/1000BaseT) ensuring reliable, easy access for operators to collect sensor data and configure parameters according to current requirements. The system also deploys a Smart Safety Concept to automatically secure and protect the subsea network should a failure occur.

CUSTOM PROJECTS

We support customers to configure Underwater Nodes to their exact requirements including Customer-specific design of measurement setups. Further options, add-on and variables include:

- Back-up battery or primary batteries for non-cable power to smaller sensor networks
- ConnectorBox for connection of single sensors or complex sensor systems
- Lander – durable frames for optimised sensor mounting either standalone or integrated to a subsea network
- Technology agnostic system with customer-specified sensors and cables

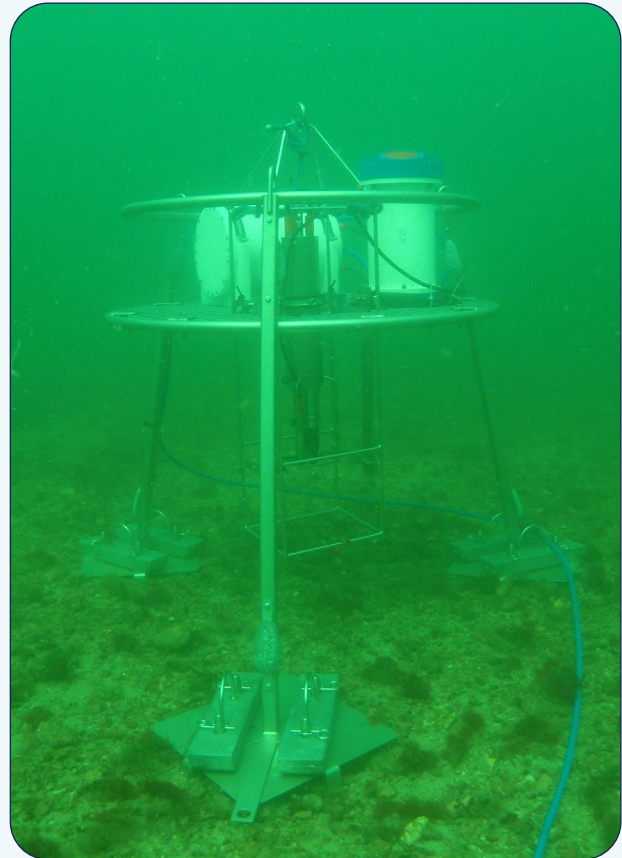
-4H-Underwater Node

APPLICATIONS

The -4H-Underwater node can be used for power delivery, operational control and data management for any subsea monitoring network and is set to be a key enabler for new offshore wind farm developments. Developed under the COSYNA (Coastal Observing System for Northern and Arctic Seas) framework, -4H-Underwater Nodes can be installed with a cable connection to shore up to 30 km for year round operation. Through this, it provides the opportunity for continuous observation of processes in the oceans and coastal areas for commercial and scientific users. Underwater Nodes are in operation near the German island of Helgoland and in the Arctic at 79°N, offshore Spitsbergen (Svalbard).

FEATURES

- Control and monitoring of all housekeeping data (amperage, voltage, operating temperatures, states)
- Integration of different measuring techniques in central data units
- Flexible and modular operation of various benthic systems
- Each individual sensor can be checked and re-adjusted by remote control from outside (sensor dependent)
- Strict separation of access to the individual sensors
- Access from anywhere via internet
- Infrastructure for web based node management
- Broadband communication of individual devices or nodes with higher-level systems
- High data transmission speed up to 100Mbit/s with faster links available on request
- Time server for time synchronization
- Land station hosting virtual PCs for data evaluation on site
- Possibility for automatic data management
- Underwater pluggable connectors
- Depth rating to 300 m (more on request)



CONTACT -4H-JENA

Get in touch to find out how the -4H-Underwater Node can enable more efficiency and quality for any long-term marine research project.

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CONTACT YOUR LOCAL REPRESENTATIVE

The -4H-Underwater Node enables climate researchers to contribute towards meeting the United Nations Sustainable Development Goals.

