



Air repeater

New and innovative TETRA system from Semco Maritime makes offshore wind farms a safer place for personnel.

A rock solid and reliable communication system is an absolute necessity on every offshore facility and this certainly applies to the numerous new offshore wind farms in the North Sea and around the world.

It is first and foremost a question of providing the best safety possible for the offshore staff.

The SemTetra solution ensures inside coverage in the windturbine towers providing you with clear communication which is essential in the daily work, especially if a hazardous situation should occur.

Tests have shown that if the TETRA base station is located more than 500 meters away from the turbine tower, it is not possible to use the radios inside the tower because the tower acts as a faraday cage in combination with strong interference from power lines and reflections inside the tower. In order to solve this problem Semco Maritime has developed an air to air TETRA radio repeater solution based on an active repeater installed in the wind turbine tower and a special antenna system.

This solution provides a seamless coverage inside the turbine

regardless of location. You need no manual interactions when entering the turbine. All calls will be routed directly to the user, whether the user is inside or outside the tower or transition piece.

The active repeater solution is based on a TETRA repeater that will pick up the signal from outside the tower, using a directional or omnidirectional antenna depending on the solution, and repeat this inside the tower via two directional antennas specially designed to minimize the interfering and reflections inside the turbine tower.

The repeater is equipped with two antenna outputs, one for the lift shaft circular antenna securing the coverage in the tower and one for securing the coverage of the transition piece.

The repeater can be equipped with a monitor board, which is connected to a LAN network. Once connected, the repeater will provide SNMP messages (Simple Network Management Protocol), to safely and remotely monitor the condition and performance of the repeater. Alternatively the repeater can be provided with an embedded wireless remote monitoring system, checking its status and providing a potential free contact e.g. external UPS. The centralised monitoring software forwards notifications to an operator of the system, and/or to predefined e-mail accounts.



A small power backup (UPS) ensures continued SemTETRA coverage in the event of turbine power outage.

Facts:

- Field proven solution
- Full radio coverage in both tower and transition piece
- Low cost and easy installation
- Avoiding multipath communication causing communication errors
- Preinstallation onshore in the tower
- Special frequencies and spacing available in accordance with regulations in different countries
- Green technology, low power consumption, and only active when required
- Online remote monitoring of repeaters
- Semco Maritime can offer full radio planning for the solution
- Seamless coverage inside the turbine
- Fully transparent operation



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SEMTETRA

At Semco Maritime, our work often involves working in extreme environments, both on and offshore. We handle heavy machinery, explosive materials and high-voltage equipment on a daily basis. So, from design to execution, we make safety the key factor of every project.

To protect the health and safety of our people, your assets and the communities you operate in, we insist on adhering to globally approved standards in health and safety. Our staff receive regular training in the latest health and safety tools and procedures, and we publish our health and safety performance in annual reports.



Environmental responsibility

We are committed to helping our customers minimise the environmental impact of their projects and operations. Each year, we publish an environmental impact report, which we submit to local authorities for approval.

Quality assurance

We use the latest quality management tools to ensure that all our processes and projects meet the highest international standards.

Semco Maritime A/S

is third-party certified:

- ISO 9001
- ISO 14001
- OHSAS 18001
- ISO 3834-2

Assessments

- Achilles / FPAL
- First Point Assessment
- PQAN Certificate



Semco Maritime

is an international company with branches all over the world.

For further information, addresses, email addresses, fax and phone numbers, please see our website:



www.semcomaritime.com