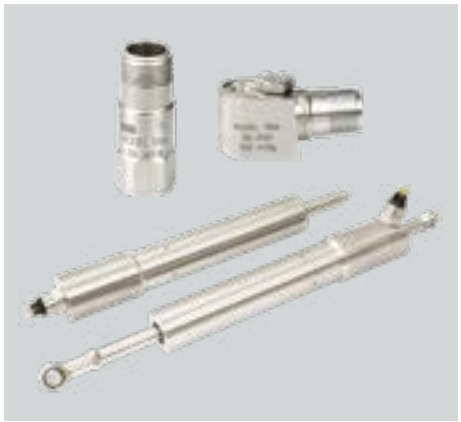
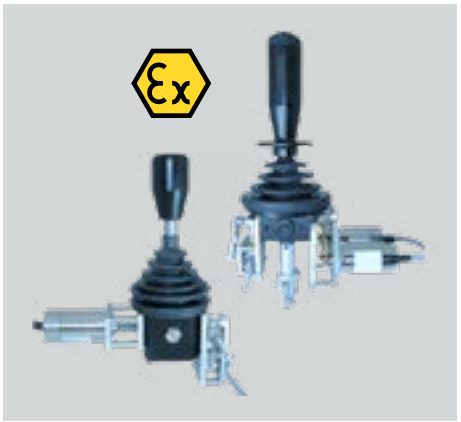
SENSORS & CONTROLS FOR OFFSHORE INDUSTRY

Increase safety, maximize performance, reduce costs and minimalize machine down-time.





Your expert partner in sensors & controls

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ALTHEN
SENSORS & CONTROLS

SENSORS, MEASUREMENT SYSTEMS, AND CONTROLS FOR OFFSHORE INDUSTRY

Sensors are contributing to our society

The offshore energy industry is known for its wind farms and oil & gas rigs that are providing our society in the increasing global energy demand. Oil & gas remains an important source for energy generation. Due to the hazardous environment on rigs there are strict regulations in terms of safety during operation. Electrical components such as sensors and joysticks can be a source of ignition so Ex certification is required for all electrical components. Besides safety this sector depends on high-quality products in order to reduce operating and maintenance costs and minimize downtime.

The last decennia offshore wind power is growing due to sustainability targets, technological developments of the wind turbines and new installation methods. Sensors play an essential role in the installation and operation of wind turbines as they monitor condition and maximize performance.

Digitalization will enhance the communication between wind turbines and onshore control centres in order to reduce downtime.

Althen Sensors & Controls offers a broad range of high-quality solutions from specialized manufacturers for various offshore applications, such as joysticks, pressure sensors, fiber optic strain gauges, position sensors, inclinometers, and accelerometers. These industrial products are superior in terms of robustness, reliability and accuracy to perform in even the harshest environments such as Ex zones. With over 40 years of experience in sensor technology and in-house engineering capabilities, Althen has the flexibility to offer customized solutions and co-create with its customers.

Sensors make oil & gas rigs safer

Sensors inspect subsea pipelines

Sensors make windfarms more efficient

We provide confidence for visionary engineers.

SOLUTIONS FOR MARITIME APPLICATIONS

Hall Effect Sensors

High reliability in harsh environments.

POSITION MEASUREMENT OF OFFSHORE WIND TURBINE BLADES

Wind turbine blades can control pitch in order to maximize power generation. Our multiturn Hall effect sensors are applied in wind turbines to provide position feedback of the turbine blades. Unlike contact type position sensors, this contactless Hall effect sensor is not sensitive for vibrations which enhances the life expectancy up to 20 million rotations.

Load Shackles + Data Loggers

Data gathering and logging in one system.

TOW TEST FORCE MEASUREMENT TOWING VESSEL

The Ocean Cleanup is an ambitious initiative to remove the trillions pieces of plastic that litter our oceans. We supplied a standalone force monitoring sytem existing of a load shackle that measures the forces that occur between the towing vessel and the cleanup system and a Graphtec Data logger that collected and visualized real time data on the data logger screen. Later on, the collected data was transferred to a PC via USB interface for further analysis.

Custom Inclination Sensors

Resistant to heavy vibrations.

INCLINATION MEASUREMENT OF A HYDROHAMMER

A hydrohammer is an hydraulic hammer for offshore piling and foundation work. We developed a custom inclination sensor solution to measure the tilt angle of the hydrohammer during operations. The combination of the servo inclinometer and the integrated amplifier provides high accurate measurements that are not affected by the heavy vibrations that are caused by the impact of the hammer.

SOLUTIONS FOR MARITIME APPLICATIONS

Vibration Sensors

High reliability in a rugged design.

VIBRATION MONITORING OF WIND TURBINE GEAR BOX

Condition monitoring of wind turbine gear boxes is an important aspect for maintenance planning, downtime reduction, and cost savings. Our vibration monitoring sensors are used to detect machinery failures such as bearing wears, gear mesh damage, imbalance, and lubrication issues. The superior performance and reliability enhance wind turbine efficiency and durability.

EX Joystick

Great feelability over full life cycle.

EX JOYSTICK FOR CRANE OPERATIONS ON OFFSHORE PLATFORMS

Offshore platforms like oil rigs are classified as hazardous areas as they may contain potentially explosive atmospheres. Our EX joysticks are installed on offshore platforms for lifting equipment like cranes and winches. Due to the robust design and high-quality components, these joysticks offer great feelability, long life expectancy, and increased safety in offshore operations.

Accelerometers

Accuracy in a sealed housing.

SWAY MONITORING OF WIND TURBINE TOWER

Wind turbine towers must bear great radial forces to avoid damage and disaster. Our accelerometers are used to accurately measure the movement of wind turbine towers.

kg

Load shackles & Load pins

Customized to your needs.

LOAD MONITORING FOR LIFTING EQUIPMENT

Offshore platforms use lifting equipment to carry heavy loads on board. For safety reasons the lifted load may not exceed the Safe Working Load (SWL) of the equipment. Our load pins and load shackles are designed to measure loads up to 1.000 ton and perform in harsh environments and are available with ATEX certification.

mm

Linear Inductive Position Sensors

Great durability in the harshest environments.

UNDERWATER POSITION MEASUREMENT OF HYDRAULIC VALVES

Subsea pipelines are equipped with hydraulic valves to control the flow of liquid or gas that is going through the pipeline. Our submersible inductive position sensors are designed to operate underwater down to 3,5km depth. Due to the sealed 316 stainless steel housing and contactless sensing technology, these sensors offer high reliability and high accuracy even in the harshest environments.

Nm

Reaction Torque Sensors

Outstanding performance in a lightweight design.

FORCE FEEDBACK MEASUREMENT OF AUTONOMOUS UNDERWATER VEHICLE

Autonomous Underwater Vehicles (AUV) are used to perform subsea tasks such as installation and inspection of pipelines. Our static torque sensors are applied in the robot arm of the AUV where they measure the force feedback or the arm during operations.

SOLUTIONS FOR MARITIME APPLICATIONS

Concrete Material Use Straingauges

For efficient condition monitoring.

STRAIN GAUGES FOR MEASURING STRAIN AT CONCRETE FOUNDATIONS OF WIND TURBINES

The concrete of a wind turbine foundation must resist great forces during operations. To monitor the concrete and detect possible damages such as cracks in an early stage, susceptible areas can be monitored with special strain gauges that are precisely matched to the respective material. Together with the appropriate adhesive and wiring, they provide efficient condition monitoring.

Micro Air Data Systems

Suitable for a variety of applications.

PRECISE WIND INFORMATION FOR SAFETY AND EFFICIENCY OF UNMANNED AIRCRAFT

Drones can be used for the inspection of wind turbines and offshore platforms. The Micro Air Data System (µADS) increases safety and efficiency of unmanned aircraft used in offshore, research, commercial, or defense applications by delivering accurate air data to a flight controller or remote pilot in real-time. All models are compatible with Aeroprobe's Air Data and Pitot-static probes.

MPS4264xx Pressure Scanner

Designed for usage in wind tunnel and flight tests.

MONITORING AND CONTROL SYSTEMS FOR WIND TURBINE BLADES

For wind turbines to work as efficiently as possible, the rotor blades must always be positioned at the right angle to the incoming wind. The 64-channel MPS4264xx pressure scanner is a versatile all-in-one data capture system for multi-point pressure measurement. Each measuring channel uses its own pressure sensor of 16pcs 24-Bit A/D converter. This enables fully synchronous data acquisition and extensive configuration options.

THE RIGHT SOLUTION FOR YOUR REQUIREMENTS

In our product portfolio all physical parameters are represented. As we are always looking for the newest innovations, we will not be satisfied until we have found the perfect solution for your measurement task. Our in-house production and design department, customer-specific sensors and measurement systems are created for almost all applications in many different industries.

In order to always get the best and most efficient solution for your measurement requirements, we use different technologies and choose the right products for you from our large portfolio which fits your application best. Our experienced specialists advise you professionally and with all necessary details needed.

Althen is a partner of many recognized universities and leading corporations. We stand for an intensive transfer of knowledge and together develop the technologies of the future.

Althen was one of the first companies in the industry to be certified by the certification body of TÜV Hessen in accordance with DIN EN ISO 9001: 2015.

YOUR BENEFITS

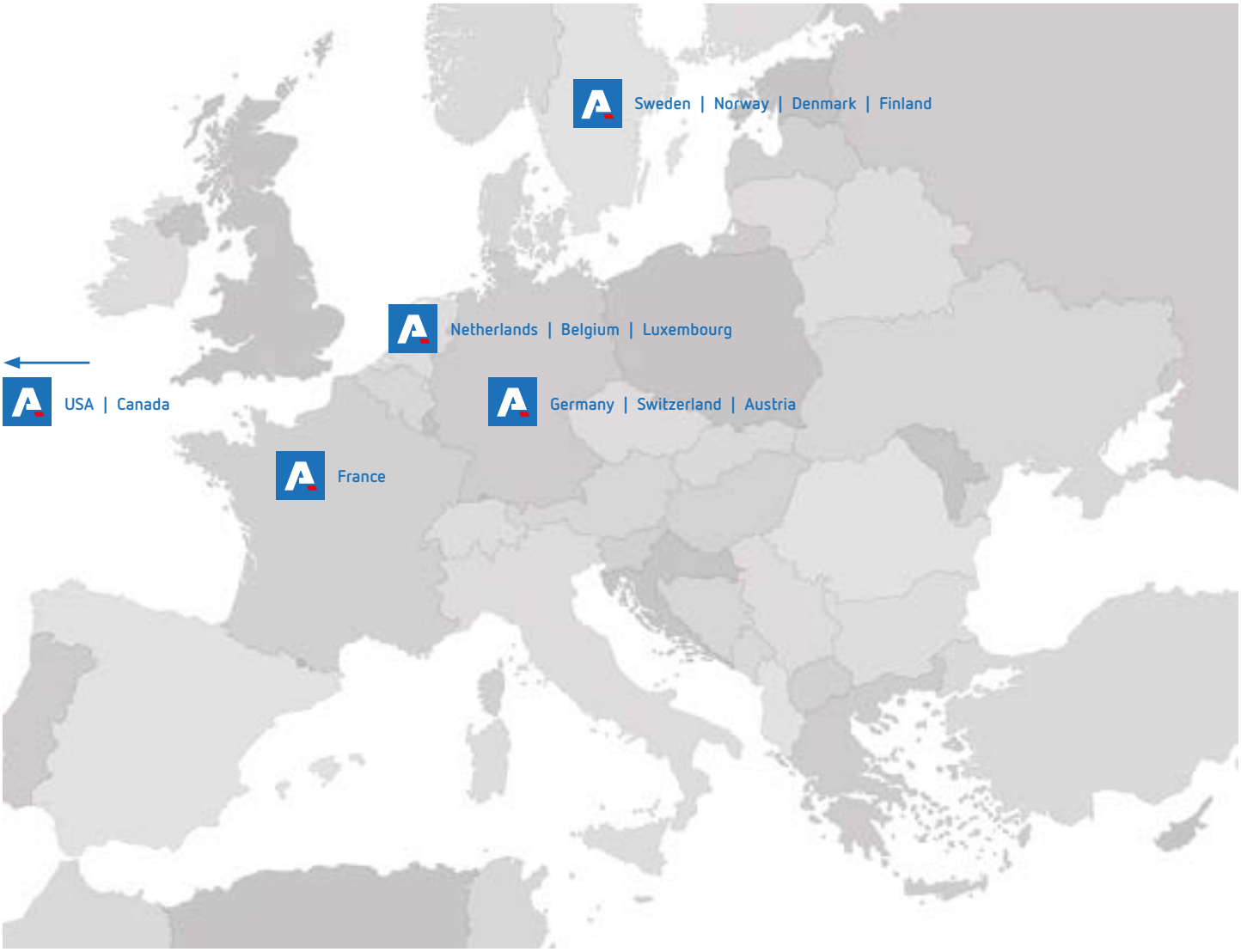
- Competent, vendor-neutral advice
- More than 40 years of experience in various fields of industry
- In-house engineering
- Design of customized special solutions
- Development of complete measuring systems
- Regular training of our specialists by specialized manufacturers
- Support from brainstorming for applications to technology planning to product selection

ADDITIONAL INFORMATION

- althensensors.com/services
- althencontrols.com

OUR PRODUCT SCOPE

bar PRESSURE	mm DISPLACEMENT	g ACCELERATION	AMPLIFIERS
N FORCE	α ROTATION	m/s^2 VIBRATION	1010 DATA LOGGERS
Nm TORQUE	JOYSTICK	°/s ANGULAR RATE	AUTOMATION
ε STRAIN	INCLINATION	°C TEMPERATURE	A TURN-KEY SYSTEMS



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