Amphenol Sensors

Connecting your world through Sensor Innovations

Marine Sensor Solutions

Amphenol Sensors is a leading innovator in sensor technologies and measurement solutions. Offering the most diverse sensor portfolio of standard and customized products for the world's most demanding regulatory and industry-driven applications, Amphenol creates value by providing critical information for real-time decisions.

Amphenol Sensors is your best source for Marine sensors, offering superior technology in applications ranging from commercial and recreational fishing, oceanography, military and defense, and unmanned vehicles.

Consider us your global partner for all of your Marine sensor needs. We deliver innovative solutions and high-performing products with the finest customer support—bringing the best results to you and your customers.





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Sport Fishing & Recreational Marine

- Diverse selection of Chirp ready ultrasonic transducers designed to fit various vessel types and sizes.
- Precision navigating speed sensors.
- Top tier temperature sensors.
- Best in industry depth sensors.
- Award-winning SmartBoat® modules/data loggers.
- WeatherStations
 [®] range of ultrasonic weather instruments.
- Diesel Flow Meter

Oceanography / Survey / Unmanned vessels / Diving.

- Acoustic Communications Transducers.
- Forward looking Transducers.
- Single-Beam Transducers.
- Split-Beam Transducers.
- Synthetic Aperture Sonar (SAS) Transducer.
- Sub Bottom Profile Transducer.
- Hydrophones (Towed array and Test and Measurements).
- Vector sensors (for UUVs and Towed array sonar).
- Underwater accelerometers.
- Sonar Projectors.
- Sonobuoy (Platform).
- Listening stations (Platform).
- Scuba Safety Sounder.
- Seismic sensors.
- SCUBA Depth and Air supply Tank pressure.
- Air Flow and Control.
- Gas level.
- Weather Stations [®] range of ultrasonic weather instruments.

Maritime Testing.

- Pressure.
- Vibration.
- Force.
- Underwater blast.
- Thermistors.

Boat performance.

- Position sensors.
- Current sensor.
- Gear Tooth Speed Sensors.
- Temperature Sensors.
- Thermistors.
- Pressure sensors.
- Tank level.
- Linear Position Sensors.
- Diesel Flow Meter







Commercial fishing.

Hydrophones

•Allow the reception of signals emitted by sensors placed in the network.

•Models vary in bandwidth, directly influencing the amount of data they can receive and certain characteristics such as position.

M3-5-6 receiver

•Responsible for receiving signals from sensors and transforming them for the sds equipment processor to interpret.

•There are several versions (m3-m5-m6) with differences in the amount of data they can receive and the number of hydrophones they can connect to.

SDS processor

•Processes information received by receivers m3-5-6 and sends it to the macmini computer for presentation in the scala software.

Scala System

•Scala is Marport's advanced trawl monitoring system that collects, processes, stores and displays data sent from multiple sensors, sounders and other connected devices. It gives the user full control over its fishing operations.

Spread Sensors

•Provides real-time information on the horizontal opening of doors or wings.

•This information helps skippers understand how doors and the network work, avoiding risks such as entanglements and detecting possible breaks or network filling.



Trawl Explorer

•Provides information on the vertical opening of the network through an echogram.

•It overs data on opening and depth, the amount of fish entering the network, network operation, species, etc. •This can be also an option incuded in other sensors like catch explorer.

TE/TS sensor

•Combines information from the trawl explorer sensor, providing speed and symmetry. •This data allows knowing the actual speed of the network and adjusting the boat's speed for proper operation.

Catch, bottom contact sensor

•Indicates the amount of capture in the net and detects breaks or contact with the bottom. (depending on where you installed it) this sensor can also feature many options

Depth

•Allows knowing the real position of the sensor with respect to the surface, providing information on the variation in the speed of the arts' fall.

Pitch & roll

•Allows knowing the real movement of the sensor, providing information on the work of doors and the network.

Battery

•Informs about the battery level in the sensors, optimizing work and charging times, avoiding the placement of sensors with inadequate levels.

Position

•Provides the position of door and network sensors with respect to the boat, crucial to avoiding dangerous work areas.

Height in door sensor w/trawl explorer

•Allows knowing the distance to the bottom of the doors, avoiding unwanted contacts.

Height in net sensors w/ trawl explorer

•Informs about the distance to the bottom of the network, minimizing risks of breaks and escape of catches.

Height in seiners w/ trawl explorer option

•Provides the distance to the bottom of the net, miminizing the risks of the botom contact of the net, and escape of catches.

Temperature

•Provides the water temperature at the sensor's location, facilitating the interpretation of fishing conditions.

Sport Fishing & Recreational Marine

Diverse selection of Chirp-ready ultrasonic transducers designed to fit various vessel types and sizes.

•Thru-hull, in-hull, transom mount, pocket/cavity mount models •Unparalleled depth and water temperature performance. •Frequency bands boasting over 70 kHz of bandwidth. •Ultimate target and range resolution, ensuring accurate depth tracking and comprehensive coverage under your boat.

Precision speed sensors

•Paddlewheel, ultrasonic, and electromagnetic models Industry-leading paddlewheel start-up speed-through-water data below 0.3 knots and linear speed performance at 0.6 knots. •Accurate performance from start up through speeds of up to 45 knots.

Top tier temperature

 Integrated in almost all ultrasonic sensors for measuring water temperature or air temperature.

Best in industry depth sensors

•High accuracy, providing precise depth readings even in challenging conditions. •Some come equipped with chirp technology, which enhances target and range resolution, providing Conventional (CW) or chirp technology, which enhances target and range resolution, providing detailed information about what's in the water column and bottom detail



Award-winning smartboat[®] modules/data

loggers

•Universal NMEA 2000 device with browser based SMARTFLEX™ software that makes setup and customization easy. •All data accessible on vessel's MFD.

Award-winning smartboat® modules/data loggers

•Only solution with:

- NMEA 2000, nmea 0183, j1939, and j1587 support
- Fully customizable sensor-based alertsappear on MFD or via
- cloud notification



- Available with ethernet bridging today, supporting NMEA and onenet
- Advanced logging features with option to "replay" saved logs

Weatherstations [®] - range of ultrasonic weather instruments

- •Comprehensive weather data for marine mobile or stationary installation
- •Sensors for apparent & dynamic true wind speed & direction, barometric pressure, relative humidity, air, temperature, gps position, speed over ground, course over ground. •IPX7 rating, weather stations compatible with various communication protocols

Oceanography / Survey / **Unmanned vessels / Diving**

Acoustic Communications Transducers

 Standard products that are also fully scalable o meet your desired frequency range, bandwidths, and beamwidths.

- 100% Duty Cycle
- 6000M Versions Available
- Source level up to Cavitation

Forward looking Transducers

- Custom configurations and apertures
- Wide bandwidth
- High Element Count
- Conformable for curved solutions

Single-Beam Transducers

- Wide range of standard products
- Multiple Frequency Options
- Hull, Face or over-side mounting
- Custom options available

Split-Beam Transducers

- Multiple standard products available
- Frequency ranges from 20 kHz to 260 kHz
- Shallow and 6000M versions
- Custom configurations available

Synthetic Aperture Sonar (SAS) Transducer

- Custom configurations and apertures
- Wide bandwidth
- High Element Count
- Conformable for curved solutions

Sub Bottom Profile

Transducer

- Piezoflex Piezoelectric Polmer (PVDF)
- Ideal for receive applications
- Lightweight and flexible
- Customizable

Hydrophones (Towed array and Test and **Measurements**)

•Underwater microphones for acoustic measurements •cContinuous underwater exposure in sea water or fresh water environments, down to 680 meters/2230 feet, 1000 PSI •Small, versatile, self-amplified, shielded •Calibration, surveillance, biological studies, ship noise studies, ordinance monitoring

Vector sensors (for UUVs and Towed array sonar)

•3 accelerometers, 1 omni-directional hydrophone, pitch and roll, heading sensors. •Can provide a bearing to the target. •Harbor and inlet security, military surveillance, towed arrays, stationary arrays, underwater monitoring. •Stations, sonobuoys, marine wildlife monitoring, oil & gas exploration.

Underwater accelerometers

•Designed to be used virtually anywhere under continuous submersion. ·Highly resistant to galvanic corrosions with titanium or stainless steel cases. •Hermetic seal for continuous exposure to 650 PSI of water pressure.



Sonar Projectors

•Tonpilz transducers, •single element, •segmented ring transducers, • bender bar projectors, • cymbal transducers.

Sonobuoy (Platform)

•Piezoceramics, higher-level assemblies, hydrophones.

Listening stations (Platform)

•Vector sensors,• underwater accelerometers.

Scuba Safety Sounder

Currently manufacture safety sounders for firemen for "man-down" alarms. Can be extended to divers.

Seismic sensors

• low-level vibration, •high output sensitivity, •low noise floor, •Perimeter and road surveillance, •mine safety, •earthquake detection, •structural analysis.

SCUBA Depth and Air supply Tank

pressure

•Media Isolated Stainless Steel Pressure Sensors and Barometric depth sensors.

Air Flow and Control

- Precision Pressure measurement
- •Digital and Analog High Resolution sensing
- · Ideal for Pressurized cabins, Airflow, Barometric depth and Weather monitoring.







Gas level

•Off-shore drilling, underwater telecommunications, and recreational activities correct concentration of constituents in the breathing gas mixture.



Maritime Testing

Pressure

-Waterproof tested cables - ipc-voltage output or constant voltage cvld, electrical isolation, corrosion resistant, up to 100psi.

Vibration

-Sensitivity from 10mv/g up to 100mv/g - measurement ranges from 50 g pk to 500 g pk.

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Force

•Propulsion testing, torque, strain, shock, load.

Underwater Blast

-Measurement ranges up 10,000psi, sensitivity down to 0.1mv/psi for specific configurations.

Thermistors

•Glass-sealed radial (ultra stable, fastip probe), •glass-encapsulated chip, •epoxy internchangeable tolerance.



Boat Performance

Position Sensors

•Ready for outboard steering, throttle, fin & stabilisers angle feedback •Through-shaft, end-of-shaft 2-piece and arc/off-axis configurations Non-contact inductive and hall-effect Technologies •Accurate absolute output at high speeds (rotor position) Reliable in harsh environments

Current Sensors

• For e-boat battery management systems •Based on open-loop hall-effect or coreless tmr technology. PIHER sensing systems •Busbar, integrated busbar, flanged or wire mount •Simple or redundant analog ratiometric output •Measured values of up to ±4,000a

Gear Tooth Speed Sensors

- Fast and near zero speed sensing capable
- Compact and rugged for marine applications
- · Resistant to humidity and high vibrations
- Esd protection
- Custom cable or connector interface

Temperature Sensors

•Temperature probes •general fluid temperature• oil temperature •stainless steel sensor for outboard Engine applications •exhaust gas recycle temperature (egr), cylinder head (cht) •fuel temperature Sensor (fts) • noise immune ring terminal •water detection battery packs •battery temp



Thermistors

·leadless chip, glass-sealed radial, •glass-encapsulated chip, epoxy internchangeable

Pressure sensors

•Precision Pressure measurement in Airflow , •Airspeed , •Altitude and Barometric pressure, and pressurized cabin control

Pressure sensors

•Surface mount pressure sensors Level sensors Fuel tanks, grey water, black water, fresh water

Level sensors

Fuel tanks, grey water, black water, fresh water.

Linear Position Sensors

•magnetostrictive non-contact rugged sensors for steering and trim tab control availablie in multiple mounting styles and signal outputs.



SSI Technologies. LLC



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