

VAISALA

Vaisala shipboard weather systems: Confident to operate in all weather

Solutions Brochure



Shipboard weather systems

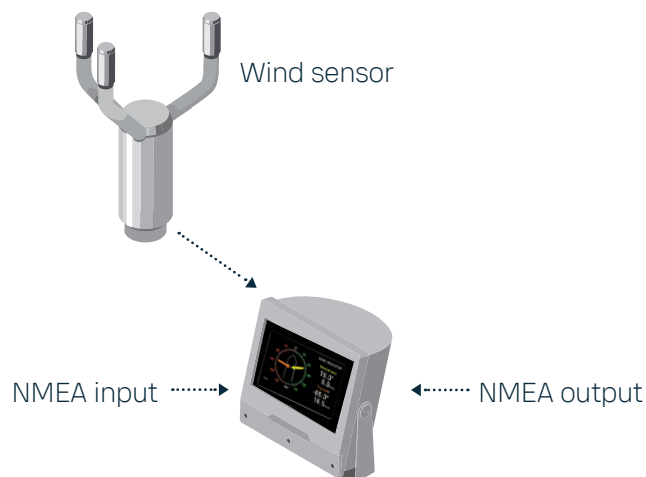
Building on more than 85 years of experience, Vaisala has a unique understanding of weather measurement. Our extensive expertise and global presence – with solutions in over 120 countries – makes us your global maritime weather expert.

A Vaisala Shipboard Weather System provides accurate and timely weather information to support your decision-making. When you choose Vaisala, you can be confident that you have a reliable, flexible, and proven solution that you can rely on in all weather conditions.

Ship wind system

The wind system is designed to aid navigation and support the dynamic positioning system on the bridge. The system is easy to install and the wind display supports both local and remote dimming options. When data is provided from a gyro compass and the speed log, the wind display can calculate true wind.

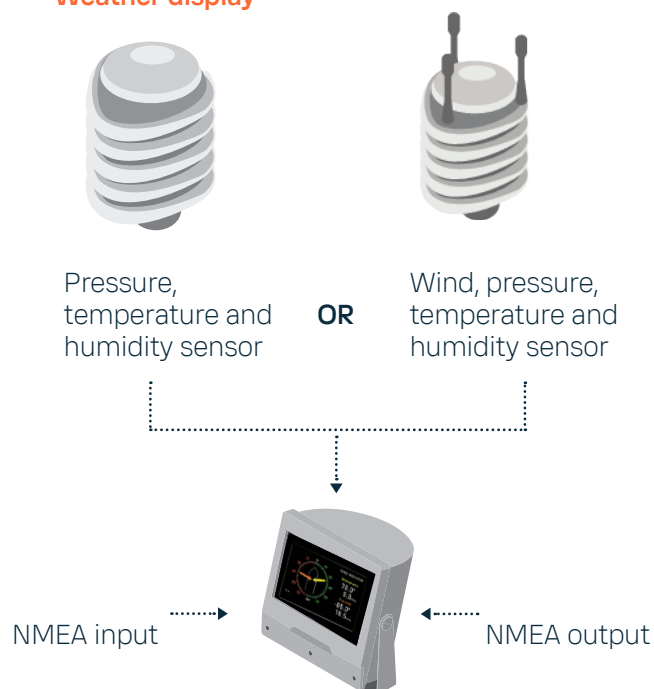
Wind display



Ship weather system

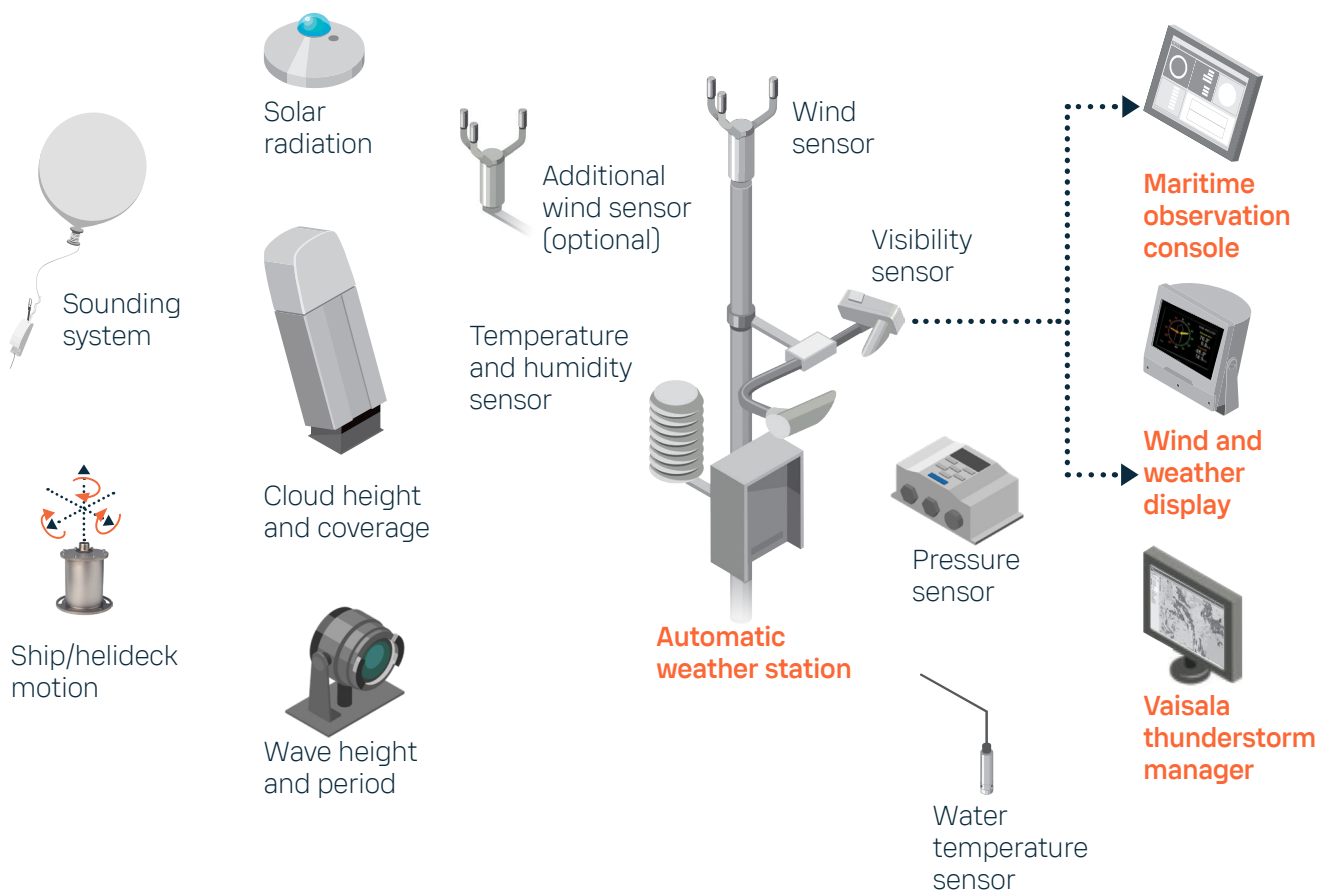
To operate a vessel safely, the crew needs information about wind, air temperature, humidity, and barometric pressure. Changing air pressure indicates impending weather changes, while high relative humidity forewarns of low visibility. The Vaisala sensors are connected directly to the weather display, which makes the system easy to install and simple to use.

Weather display



Advanced ship weather system

When you need more detailed weather information, such as meteorological, oceanographic, or aviation weather support, a Vaisala Advanced Ship Weather System is the right choice. All weather parameters can be monitored in the Maritime Observation Console display software, while user-configurable alarms ensure safe operations. The Automatic Weather Station selects the windward wind sensor, eliminating the effects of air-flow distortion caused by ship superstructures. The data logging provides access to historical data for easy report generation, and data quality control ensures reliable observations.



Confidence starts with proven technology

Take confidence in the knowledge that reliable and accurate sensors form the backbone of your marine weather system, helping your vessel to operate safely in all weather conditions. Vaisala weather sensors – featuring our proprietary WINDCAP®, RAINCAP®, HUMICAP®, and BAROCAP® technologies – are designed to stand up to whatever challenges the weather throws at them, from arctic conditions to high humidity environments and tropical weather.

Proven Sensors



Wind

Vaisala WINDCAP® Ultrasonic Wind Sensor WMT700WMO and ICAO compliant

- DNV Type Examination certificate
- Maintenance free
- Heated model ensures performance in arctic weather conditions

Vaisala Weather Transmitter WXT532

- Compact sensor for wind speed and direction
- DNV Type Examination certificate
- Maintenance free



Multi-weather

Vaisala Weather Transmitter WXT534

- Measures air temperature, humidity, and pressure
- Three weather parameters in one cost-effective package
- DNV Type Examination certificate

Vaisala Weather Transmitter WXT536

- Measures wind, rain, pressure, temperature, and humidity
- Six weather parameters in one cost-effective package
- DNV Type Examination certificate



Pressure

Vaisala BAROCAP® Digital Barometer PTB330

- Redundant sensors ensure reliable and accurate readings
- Height and altitude-corrected pressure (QFE, QNH)
- Low hysteresis and high repeatability
- Long-term stability



Temperature & humidity

Vaisala HUMICAP® Humidity & Temperature Probe HMP155

- Patented warmed humidity probe technology ensures quick recovery in high-humidity marine environments
- Superior long-term stability even in gaseous chemical environments thanks to chemical purge technology



Visibility & present weather

Vaisala Visibility and Present Weather Sensor PWD20/22

- Superior visibility measurement
- Weatherproof design provides accurate measurements and reduces the need for maintenance
- Proven forward-scatter measurement principle measures Meteorological Optical Range (MOR)
- Detects multiple precipitation types



Cloud height & coverage

Vaisala Ceilometer CL31

- Excellent cloud detection performance during precipitation
- Uses pulsed diode laser LIDAR (light detection and ranging) technology
- Single-lens optics allow low clouds to be detected

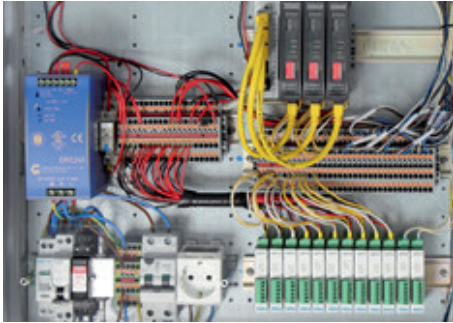


Lightning

Global Lightning Dataset GLD360

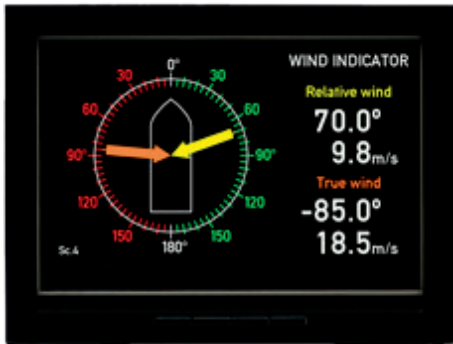
- First truly global and accurate real-time lightning detection sensor network, owned and operated by Vaisala
- Accurate early detection and tracking of severe weather
- No investment in hardware required: available as a data feed or as a web-based application – Vaisala Thunderstorm Manager

Vaisala core components



Automatic weather station

- Can generate reports for various end-users including meteorological agencies and weather reporting networks
- Collects all sensor data and performs data quality and status check for superior reliability
- Complies with Lloyd's Register and IEC 60945 requirements



Wind and weather displays

- Bright, compact displays capable of calculating true wind
- IEC 60945:2002 compliant
- Type approval certificates from major classification societies
- Serial I/Os according to IEC 61162-1



Maritime observation console display software

User interface for weather data management, including storage of observations for archiving.

Why Vaisala?

Weather and environmental insights are the greatest catalysts for successful maritime operations— from sensors to systems and digital services, Vaisala provides actionable insights that empower stakeholders to confidently meet challenges and harness new opportunities.

Our globally trusted maritime weather solutions enable remarkable efficiency gains, digital transformation, the protection of people and investments while supporting sustainable and responsible operations.

We are scientists and explorers driven by passion, relentless curiosity, and the desire to create a better world. Backed by 85+ years of unmatched scientific leadership, our solutions increase maritime weather awareness and drive innovation.

