



BROCHURE

System Solutions for Shipping

Reliable Weather Data for Navigation, Safety and Efficiency



Contents

Meteorological sensors for any type of vessel	...	04
Overview: NMEA 0183 Sensors	...	06
Data logger Ser[LOG]-NAV: The high standard	...	09
Ser[LOG]-NAV-MIL: Maximum safety at sea	...	10
Meteo-LCD[pro]: Multifunctional display	...	12
List of sensors, accessories, and services	...	14

| Meteorological sensors
| for any type of vessel



Meteorological sensors for any type of vessel

LAMBRECHT meteo is a global leader in meteorological sensors and data loggers for marine applications. Our systems are in daily operation on inland vessels, cruise ships, commercial ships, luxury yachts, and military vessels—wherever high-quality, reliable sensors and system solutions are essential.

FOR ALL VESSEL TYPES:



Reliable data on all cruise ships worldwide



Ideal for container ships and industrial and port facilities



For every ship, from inland vessel to luxury yacht

THE NMEA-STANDARD FOR MARITIME USE

With decades of experience, LAMBRECHT meteo delivers high-precision sensor solutions tailored for maritime applications. Designed for use on marine and ship-based weather stations, our systems support both established standards like NMEA 0183 and modern communication protocols – ensuring seamless integration and maximum flexibility across diverse system environments.

TESTED UNDER THE HARSHTEST ENVIRONMENTAL CONDITIONS

All our sensors and systems are made from high-quality, seawater-resistant materials and are engineered for long-term deployment on the world's oceans. Wherever your vessel navigates, our maritime equipment helps ensure a safe return.

YOUR BENEFITS

- Seawater-resistant housings with special finishes
- High-quality and durable construction
- Measure wind speeds up to 85 m/s
- Powerful heating systems for year-round use
- Service-friendly sensor technology saves time and costs



Overview: NMEA 0183 Sensors

Overview: NMEA 0183 Sensors

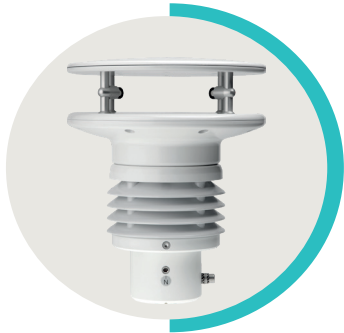
The following pages showcase our sensors for maritime applications. Additionally, you will find display devices and data loggers with customizable software for smooth and efficient data management.



u[sonic] Ultrasonic Combined Sensor

ID 00.16470.100000

Measuring range: Wind direction: 0...359.9°; wind speed: 0...75 m/s
 Operating range: -40...+70 °C (with heating -50...+70 °C); 0...100 % r. h.
 Accuracy:
 Wind direction: < 2° (> 1 m/s) RMSE
 Wind speed: 0.2 m/s RMSE ($v < 10$ m/s); 2 % RMSE ($10 \text{ m/s} < v < 65 \text{ m/s}$)



u[sonic]WS6-NAV Ultrasonic Weather Sensor

ID 00.16480.100200

Measuring range: Wind direction: 0...359.9°; wind speed: 0...65 m/s
 Operating range: -40...+70 °C (with heating -50...+70 °C); 0...100 % r. h.
 Accuracy:
 Wind direction: 2° (> 1 m/s) RMSE
 Wind speed: 0.2 m/s RMSE ($v < 10$ m/s); 2 % RMSE ($10 \text{ m/s} < v < 65 \text{ m/s}$)
 Air temperature: 0.1 K (0...60 °C); 0.2 K (-40...0 °C)
 Relative humidity: Typically 1.5 % (0...80 %) r. h.; 2 % (> 80 %) r. h.
 Air pressure: 0.5 mbar



225413 Combined Ship Wind Sensor

ID 00.24513.205010

Measuring range: Wind direction: 0...360°; wind speed: 0.4...60 m/s
 Operating range: -35...+70 °C (heated); 0...100 % r. h.
 Accuracy:
 Wind direction: $\pm 2.5^\circ$
 Wind speed: ± 2 % FS



ARCO-NAV Combined Wind Sensor

ID 00.14581.110010

Measuring range: Wind direction: 0...360°; wind speed: 0.3...75 m/s
 Operating range: -30...+70 °C (heated); 0...100 % r. h.
 Accuracy:
 Wind direction: $\pm 1^\circ$
 Wind speed: ± 2 % FS 0.3...50 m/s



Overview: NMEA 0183 Sensors



EOLOS-NAV2 Static Weather Sensor

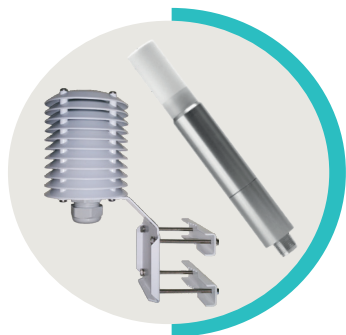
ID 00.16432.210002

Measuring range: Wind direction: 0...360°; wind speed: 0.1...85 m/s;
Air temperature: -40...+70 °C; relative humidity: 0...100 % r. h.;
Air pressure: 600...1100 hPa

Operating range: -40...+70 °C; 0...100 m/s gusts;
Relative humidity 0...100 % r. h.

Accuracy:

Wind direction: 3°; wind speed: 0.5 m/s \pm 5 % of measured value
Air temperature: 0.8 °C ($v > 2$ m/s)
Relative humidity: 3 % (10...90 %); 4 % (0...100 %)
Air pressure: 2 hPa (-40...+85 °C); 0.5 hPa at 25 °C



THP[pro] Temperature-Humidity-Pressure Sensor Weather and Radiation Sensor Shelter NAV

ID 00.08095.300000

ID 00.08141.620000

Measuring range: Temperature: -40...+80 °C;
Relative humidity: 0...100 % r. h.; Barometric pressure: 300...1200 hPa

Accuracy:

Temperature: Typically ± 0.1 °C
Relative humidity: Typically ± 1 % r. h.
Barometric pressure: Typical ± 0.15 hPa; relative ± 0.06 hPa



8126 X81 Precision Air Pressure Sensor

ID 00.08126.481002

Measuring range: 750...1150 hPa

Accuracy: ± 0.1 hPa in calibrated range of 750...1150 hPa



8282 Water Temperature Sensor Weld-in Plunger

ID 00.08282.100000

ID 00.08282.200000

Measuring element: Pt 100 according to DIN 60751 B, 1/3 tolerance
Operating range: -30...+40 °C



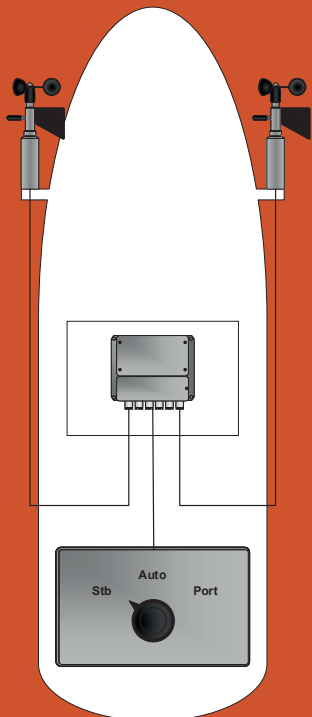
Data logger Ser[LOG]-NAV: The high standard

Ser[LOG]-NAV: The high standard

Ser[LOG]-NAV is a highly adaptable data acquisition and processing system. The robust and reliable data logger features a die-cast aluminum housing and EMC-safe cable glands. With freely configurable sensor inputs, the Ser[LOG]-NAV meets the highest standards.



Ser[LOG]-NAV ID 00.95770.500000



Example with sensor switch (port-starboard), automatic or manual

TRUSTED DATA SOLUTIONS FOR THE MARITIME INDUSTRY

Ser[LOG]-NAV is a configurable and adaptable data acquisition and monitoring system. The data logger professionally records weather data and integrates with on-board computers and navigation systems to inform control of the ship. Calculations like True Wind are automatically calculated. Hardware and software merge seamlessly and provide to protect passengers, crew, and cargo.

SER[LOG]-NAV FEATURES

- Six serial multifunctional interfaces for data input and data output
- True Wind calculations and multi-wind sensor support
- Manual/automatic selection between two wind sensors with port and starboard detection
- Calculates additional parameters, including dewpoint, absolute humidity, and wet bulb temperature
- Alert system for up to 10 alert channels using multiple relays

ALGORITHM FOR ENHANCED SAFETY

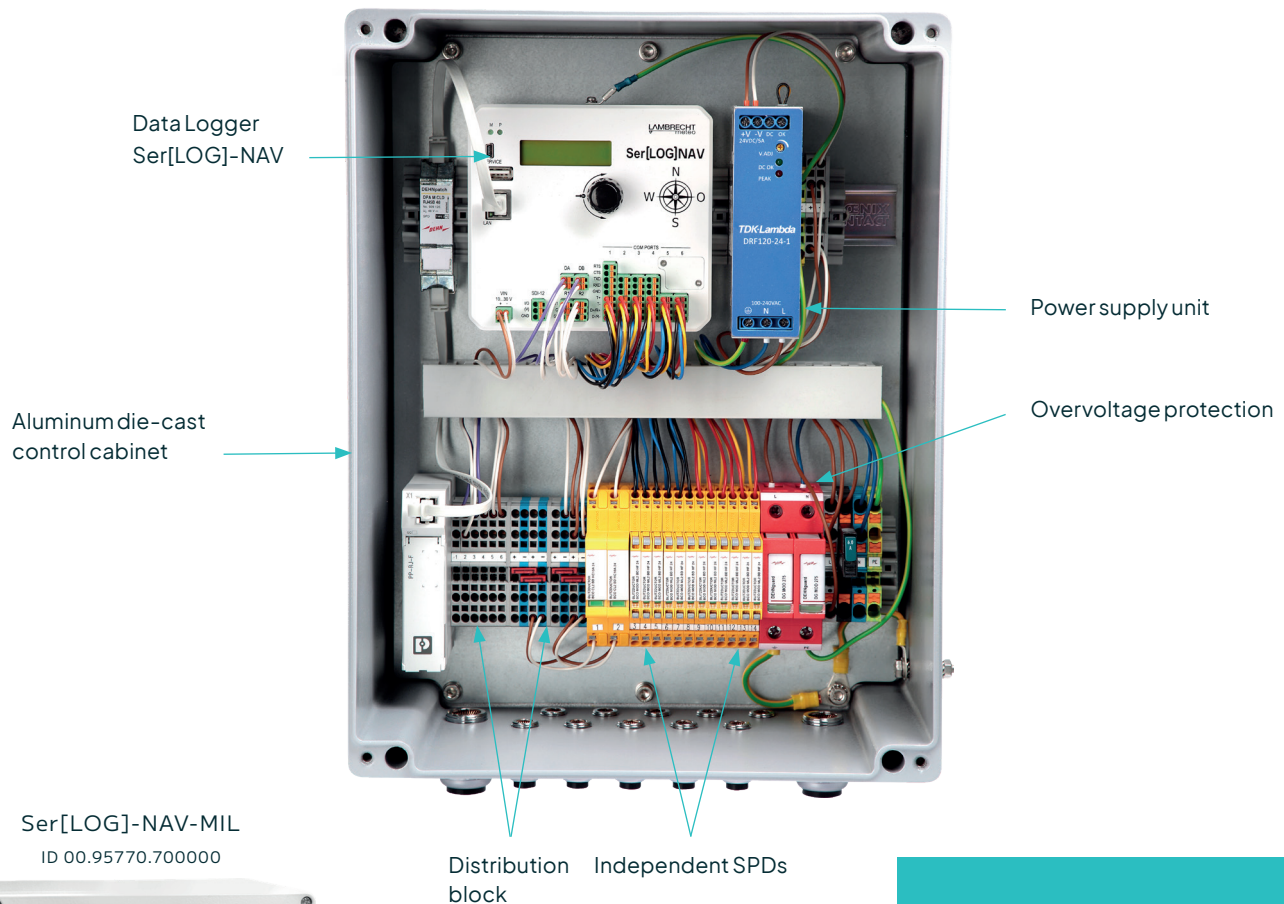
Ship weather stations must record meteorological data, including wind speed, and continuously display this information on the ship's bridge. This ensures the captain has the necessary data for navigation and vessel control—especially for safe docking maneuvers in port.

The multi-wind sensor system and sensor switcher enhance safety at sea and during port entry: both sensors undergo error checking, and if both are functioning correctly, the Ser[LOG]-NAV's port-starboard algorithm automatically selects the sensor reporting the higher wind speed.



Ser[LOG]-NAV-MIL: Maximum safety at sea – rugged, pre-installed, ready to deploy

The Ser[LOG]-NAV-MIL data logger comes pre-installed in a rugged control cabinet for wall mounting. With all components fully integrated and ready to use, it enables rapid deployment with minimal installation effort.



DNV-certified stainless steel cable glands – for maximum safety in maritime applications



FEATURES

- Wind-dependent port-starboard switching
- True Wind calculation
- 4 Hz rotation detection for mechanical wind sensors
- Support for vessel-specific NMEA protocols
- NMEA data management and output
- Independent SPDs ensure reliable overvoltage protection
- Time synchronization via NMEA

METEO-LCD[pro] Multifunctional display

Meteo-LCD[pro]: Multifunctional display – engineered to perform in extreme conditions

Our display unit complies with EMC and RoHS directives and delivers outstanding resistance to interference, vibration, shock, and extreme environmental conditions such as temperature and humidity. CE-compliant and tested to international standards – for trusted performance when it matters most.



Meteo-LCD[pro] ID 00.14742.707002

WHAT IS METEO-LCD[PRO]?

The Meteo-LCD[pro] is the versatile all-rounder for use at sea. It meets the highest testing standards, is flexible, compact, and seamlessly integrated into proven LAMBRECHT system solutions – including the Ser[LOG] data logger and various sensors. The high-resolution 5.7-inch color display with a wide viewing angle provides clear visualization of up to seven parameters simultaneously, including wind direction, wind speed, and humidity according to WMO standards.

Its elegant design combines modern technology with intuitive operation – delivering a first-class user experience with high safety and maximum efficiency in maritime operations.

KEY FEATURES

- Brilliant 5.7-inch color display with high contrast – ensuring optimal visibility in all lighting conditions
- Simultaneous display of up to seven parameters – for quick and comprehensive situational awareness
- Graphical visualization of apparent or true wind – enabling precise weather assessment
- Trend indication of humidity according to WMO standards – allowing rapid detection of changes
- Extensive customization options – adaptable to individual operational requirements
- Simple configuration via controls directly on the device



The vibrant color display shows up to seven parameters at once and auto-adjusts brightness—delivering clear data for fast, confident decisions.



Intuitive control and instant data access—boosting operational efficiency.



List of sensors, accessories, and services

List of sensors, accessories, and services

Parameter	Description	ID
	Data Logger, Software and Indicators	
	Ser[LOG]-NAV Data Logger System	00.95770.500000
	Ser[LOG]-NAV-MIL Data Logger System in Aluminum Die-Cast Control Cabinet	00.95770.700000
	Sensor Switch (if two wind sensors are installed)	00.90227.300002
	Configuration Ser[LOG]-NAV	97.95665.000000
	Meteo-LCD[pro] Multifunctional Display	00.14742.707002
	Single and Combined Sensors	
W	u[sonic] Ultrasonic Combined Wind Sensor	00.16470.100000
W + THP	u[sonic]WS6-NAV Ultrasonic Weather Sensor	00.16480.100200
W	24513 Combined Ship Wind Sensor	00.24513.205010
W	ARCO-NAV Combined Wind Sensor	00.14581.110010
W + THP	EOLOS-NAV2 Static Weather Sensor	00.16432.210002
THP	THP[pro] Temperature-Humidity-Pressure Sensor	00.08095.300000
P	8126 X81 Precision Air Pressure Sensor	00.08126.481002
T	8282 Water Temperature Sensor	00.08282.100000
	Accessories	
	Weather and Radiation Sensor Shelter NAV	00.08141.620000
	Sensor Cable 24513 / EOLOS / WENTO, 10 m, 6-wire, Bayonet Plug	32.16420.066100
	Sensor Cable u[sonic], 15 m, 8-wire, M16 plug	32.16470.060000
	Sensor Cable ARCO-NAV, 10 m, 5-wire, M12 plug	32.14581.060000
	Sensor Cable THP[pro], 15 m, 4-pole	32.14567.060010
	Sensor Cable DPS8100 / Water Temperature Sensor, 4-pole (meter goods)	79.11200.000004
	Weld-in Plunger for Water Temperature Sensor 8282	00.08282.200000
	Mast Junction Box with 4 VG Cable Inlets	00.90185.000005
	Services	
	Document Preparation (FAT, HAT, SAT)	96.00004.000000
	Service FAT: Factory Acceptance Test	99.00004.000000
	Service HAT: Harbor Acceptance Test	97.00003.000000
	Service SAT: Sea Acceptance Test	97.00004.000000
	Service IDS: Interface Design Specification	96.00008.000000
	Preparation of Wiring Diagram	96.00000.100000

W = Wind

T = Air Temperature

H = Relative Humidity

P = Air Pressure



Let's start a conversation

At AEM and LAMBRECHT meteo, we design tailor-made systems precisely aligned with your requirements—regardless of vessel type or area of operation. Based on your specific requirements, we develop solutions that address your maritime challenges and integrate seamlessly into your onboard workflows.

Contact AEM today and benefit from advanced technologies that enhance the safety of your vessels and optimize your operations. Our experts will guide you from the initial planning stage through to successful implementation.

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