VAISALA

Vaisala Shipboard Wind and Weather Display System

Accurate data in all weather conditions

Vaisala Shipboard Wind and Weather Display System
Displays, ultrasonic wind sensors and weather transmitter

The Vaisala Shipboard Wind and Weather System provides accurate and timely 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 trust to provide accurate data in all weather conditions.

Wind and Weather Measuring Solutions for Marine Applications

The displays come pre-installed with a standard wind and weather indicator library that has a selection of virtual indicators to choose from. Available in two different sizes, the displays are fully compatible with Vaisala WINDCAP® Ultrasonic Wind Sensor WMT700 and Vaisala Weather Transmitter WXT530 Series, giving

you the possibility to create wind and weather measuring system that meets your needs precisely.

The XDi 144 N display can be used in control panels or overhead consoles, while the the larger display XDi 192 N is ideal for overhead panels as it is visible from long distances.

Integrate with your navigation system or use as a standalone solution

Developed with system integration in mind, the XDi-N series is fitted with a flexible NMEA interface and two CAN ports, supporting CANopen with the unique XDi-net plug-and-play layer. Extension modules can be added to the indicators using a modular interface extension concept.
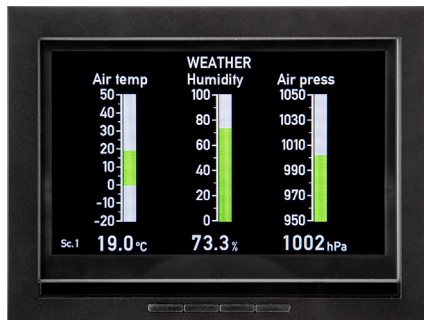
Flexible Display Indicator – Wind and Multi-Parameter

The ultimate all-in-one solution, the XDi-N saves you panel space and installation time while giving you greater choice, more flexibility, and the ability to configure the system and perform repairs on site.

XDi-N Main Wind Indicator

The XDi-N main indicator is delivered with one NX2 NMEA input/output (I/O) module that covers most common requirements. Adding an extra NX2 extension module to the XDi 144 N or XDi 192 N adds another set of I/O ports.

XDi-N Wind Repeater

The XDi-N wind repeater indicator has the same functions as the main unit and uses exactly the same indicator library, but receives data via CAN bus (XDi-net), meaning no NMEA extension module is required.

NMEA Data Interface

The standard input for XDi navigation indicators is NMEA data in compliance with IEC 61162-1. Supported NMEA data for wind and weather display indicators is as follows:

- Relative wind speed and direction (NMEA 0183 MWV)
- True and geographic true wind speed and direction (MWV, MWD)
- Heading, water speed, speed over ground, longitudinal speed for true/geographic wind calculations (NMEA0183 HDT, RMC, WBW, VHW, VTG)
- Barometric pressure, temperature, relative humidity (NMEA 0183 XDR)

Features

TFT graphical 5 or 7″ LED display

144 or 192 DIN cutouts

Two CAN ports for easy interfacing

XDI-Net for adding multiple XDi indicators

Redundant power inputs

Compatible with wind sensors providing NMEA data, such as Vaisala ultrasonic wind sensors and multi-parameter transmitters

Up to six NMEA-compatible inputs and up to four NMEA-compatible outputs

Relative, true, and geographic wind indication

Toggle between up to four predefined indicator screens

Switch quickly between wind-speed measurement units (knots, m/s or m/h, km/h, Beaufort)

Dimmer controllable using front/external push-buttons, analog, NMEA, or CAN/XDi-net

Standard day and night display modes

Optional analog or digital input

Optional wind warning and alarms/relay output

IEC 60945:2002 compliant

All relevant major Class approvals

Optional IP66 protection (factory-mounted option, provides front IP66 protection)

Accessories

NX2 NMEA I/O extension module

Front frames

Approvals

Variants and NX2 Extension Module

Variants

**XDi-N Main
Wind/Weather Indicator**
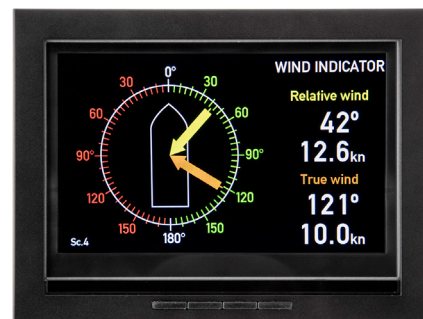With NX2 NMEA I/O module
(enables sharing of data
via XDi-net).

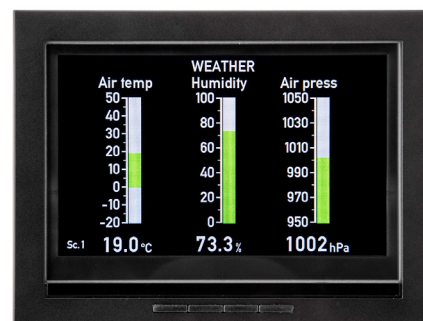**XDi-N Wind/Weather Repeater**
Input: XDi-net
No NX2 I/O module required.
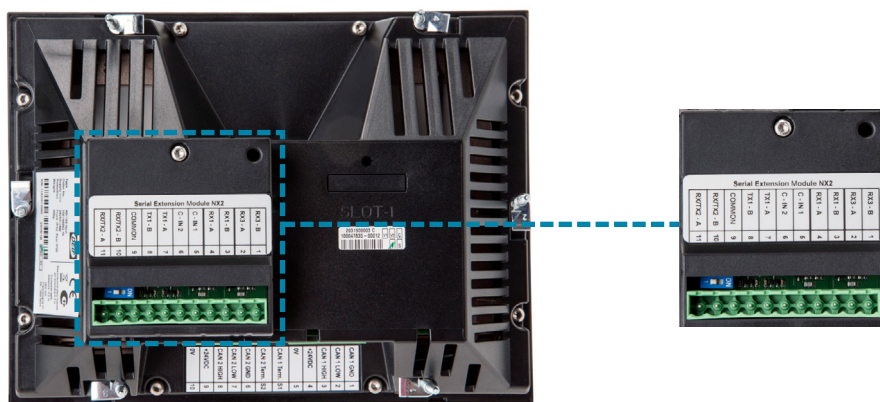
XDi 144 N

XDi 192 N

XDi 144 N

XDi 192 N

NX2 NMEA
Extension Module

A maximum of two extension
modules can be added to the XDi
144/192. The "snap-on" extension
modules are quick to install and
can be delivered together with
your XDi unit or ordered separately.

NMEA 0183 serial I/O module for
integration with ship navigation
systems or as a standalone display
system. Two contact inputs for
remote push-button controls. Up to
three NMEA 0183 inputs and up to
two NMEA outputs according to
IEC 61162-1.

Vaisala WINDCAP® Ultrasonic Wind Sensor WMT700
Superior reliability for critical applications

The Vaisala WINDCAP® Ultrasonic Wind Sensor WMT700 is a robust and reliable ultrasonic anemometer. It measures surface wind, which is one of the key parameters for weather-critical decision making in marine environments.

WMT700 series sensors have a durable steel structure with welded arms, true north indication, and distinct single-point bayonet-style mounting. It has no moving parts and is resistant to contamination and corrosion.

A model with a heated transducer, arms, and body is also available for operation in the harshest and coldest environments. This model requires an additional 24 ... 36 VDC power supply for the heating function.

The WMT700 is recommended for use in dynamic positioning systems and other critical applications.

Features

Ideal for dynamic positioning systems

Stainless-steel construction

High-power ultrasonic transducers in a triangular layout

No moving parts; no wear

Wind speed up to 90 m/s (175 knots)

Speed accuracy 0 ... 75 m/s: ±0.1m/s or 2 % of reading, whichever is greater. 75 ... 90 m/s: 5 % of reading

Direction accuracy ±2°

NMEA protocol

Fully waterproof – IP66 and IP67 protection
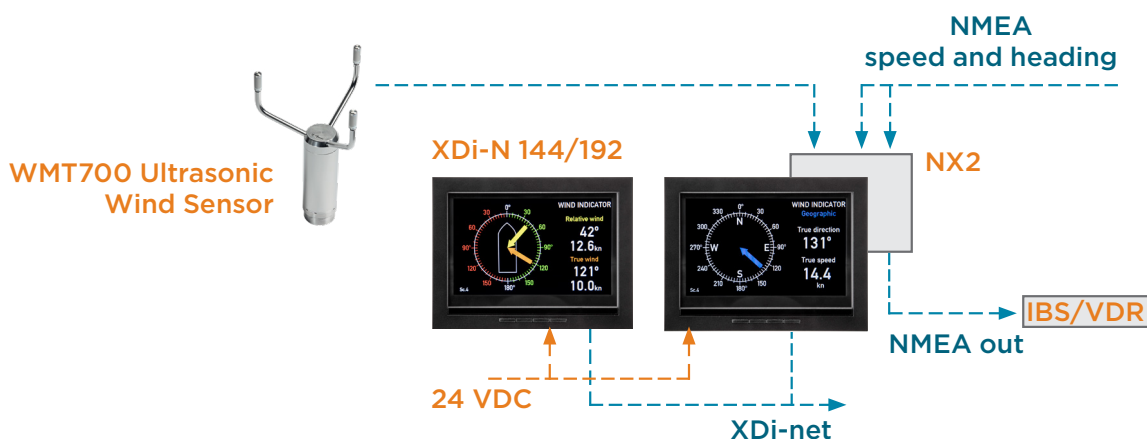
Automatic power and gain control – automatic signal strength increase in case of rain or snow

Built-in heating

Operating temperature optionally down to -55 °C

Advanced system integration with XDi-N

IEC 60945:2002 compliant

DNV GL type examination certification

Approvals

Application Example

Dual display with relative, true, and geographic wind including NMEA output

Vaisala Weather Transmitter WXT530 Series
Measure up to five weather parameters according to your specific needs

The WXT530 series uses an ultrasonic wind measurement principle with no moving parts to ensure reliable performance with no wear and minimal maintenance requirements.

Barometric pressure, temperature, and humidity measurements are combined in the PTU module using capacitive measurement for each parameter. This module is easy to change without any contact with the sensors.

The WXT530 has a built-in heating element to prevent icing. The transmitter can be connected directly to a control system while simultaneously sending data to an XDi-N wind/weather display located on the bridge.

Features

Wind speed and direction; pressure, temperature, and relative humidity

Different combinations of parameters available

Intelligent heating system to prevent icing

Operating temperature -52 ... +60 °C

Proven, robust technology

NMEA protocol

Advanced system integration with XDi-N

Plug-and-play upgrade for WXT520/WMT52

IEC 60945:2002 compliant

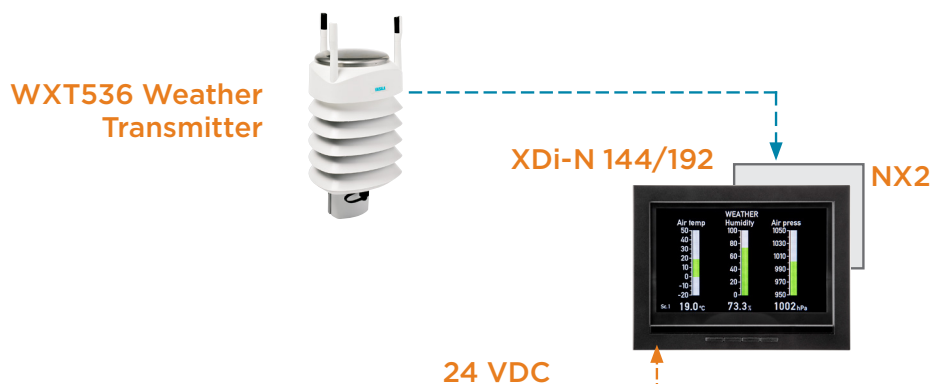DNV GL and Russian Maritime Register of Shipping (RS) type certifications

Accessories

WXT mounting kit IP66 (212792)

Mounting accessory between mounting kit and 60 mm tube (WMSFIX60)

Bird kit (212793)

WXT PTU module SP (WXTPTUSP)

Cable 10m Shielded 8-pin M12 (222288)

Shielded cable, 40 m, 12-pin with open end wires (217020)

Approvals

Application Example

Relative wind speed and direction as well as pressure, temperature, and relative humidity

WXT536 Weather Transmitter

XDi-N 144/192

NX2

24 VDC

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