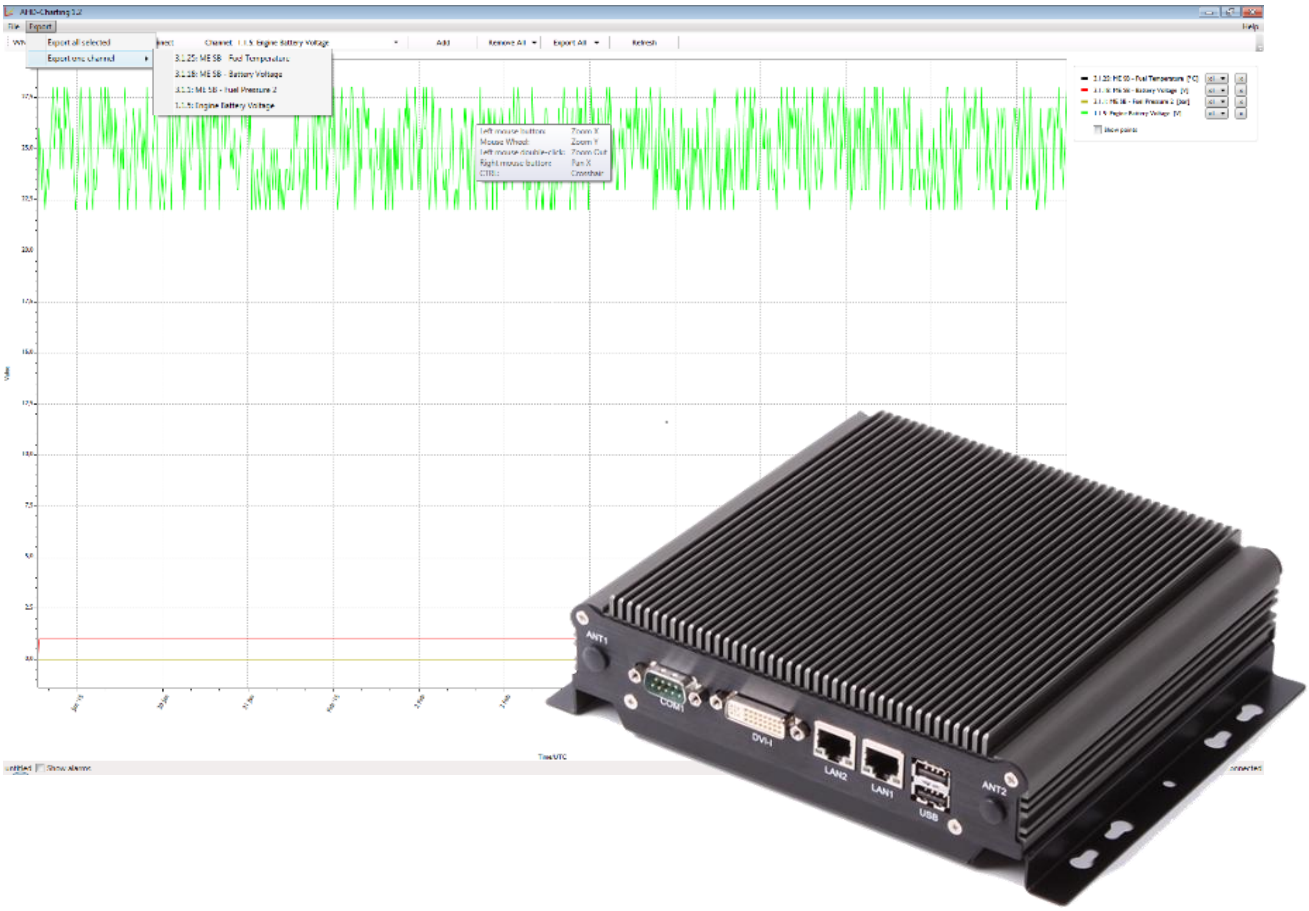
AHD-WNL
Logging System / Charting Software



- ***Compact PC with a closed operating system and built-in software for recording selected logging data***
- ***SSD hard drive and passive cooling system (no moving parts)***
- ***DVI-I output (1920x1080 pixels)***
- ***2 x LAN (ship network and optional customer network)***
- ***4 x USB 2.0, 1 x RS232 (serial COM1)***
- ***2 x digital inputs (option external shutdown)***
- ***2 x digital output (option)***
- ***Internal battery pack ensures backup operation for approx. 10 min***
- ***User-friendly software for calling up, viewing, and export of logging data***

BÖNING
SHIP AUTOMATION

Overview

AHD-WNL is a black-box PC with a closed operating system, specifically designed as a protocol computer with logging functionality. The system enables the storage of system-relevant logging data and records measurement values and events captured via the ship's network of the connected alarm and monitoring system.

AHD-WNL was developed specifically for the ship-building industry. The passive cooling system and the use of a solid-state drive allow for a design without moving parts with very high shock resistance. The integrated battery pack ensures short-term backup operation and the controlled shutdown of the PC, even in the event of a sudden power failure. Alternatively, the shutdown can also be controlled via an external digital input (e.g., ignition detection in engine systems).

Connection to the Böning ship network

AHD-WNL is connected directly via LAN-1 to an AHD-DPU 9 data station within the Böning ship network. The existing system configuration will be adjusted so that all relevant measurement channels are transmitted to AHD-WNL. The assigned measurement points and events are processed and permanently stored on a solid-state drive (SSD). AHD-WNL has a storage capacity for approximately 50 million measurement values and 100,000 events.

Data Recording

Based on their configuration, the measurement channels received by AHD-WNL are recorded either event-driven or cyclically. Depending on the data type, the following storage cycles can be selected:

- Binary data – when the status changes or at max. 2-second intervals
- Fast-changing analog data – when the status changes or at max. 2-second intervals
- Slow-changing analog data – when the status changes or at intervals of 10 seconds to 1 hour (used, for example, for tank level, temperature, and operating hours)

The maximum possible recording duration depends on the selected storage cycles and is determined on a customer-specific basis. All stored data can be displayed on the ship system's panel PCs or displays or exported in various formats.

Data Output

Data output typically occurs within the graphical system configuration through the embedding of so-called "logging pages." These are created within the project-specific visualization and allow for the implementation of predefined query functions according to customer requirements. Frequently recurring queries of important data points or sensors can thus be executed easily and conveniently.

Data Analysis Software

Böning has developed two different software tools for data display, evaluation, and data backup via the export function. These are installed on any PC or laptop and connected to the AHD-WNL's customer network (LAN-2).

- AHD-Charting Tool
  With "AHD-Charting," the values logged in the AHD-WNL can be read out using a PC or laptop, displayed graphically, and exported as a Microsoft Excel file (xls). Frequently used settings can be saved as profiles within AHD-Charting.

- WNL Exporter Tool
  With "WNL Exporter," the logged values are exported directly to an Excel file. Fixed timestamps can be defined, which enables better value comparison based on a common time reference. Furthermore, data export can be automated on a cyclical basis using a batch file or a task scheduler.

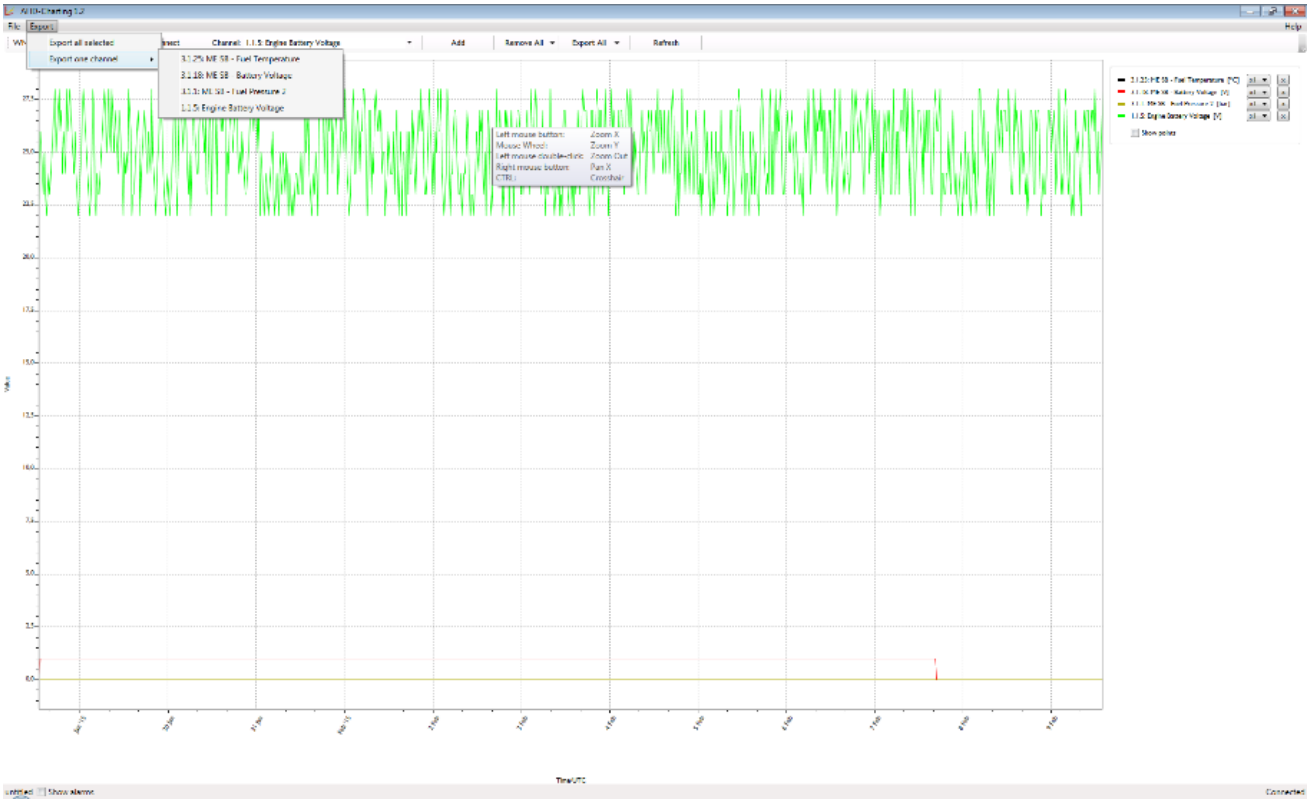
View Examples of Logging Data



Example 1: Data Logging / Trending page embedded within the graphical system configuration, including preset buttons for quick access to predefined measurement channels

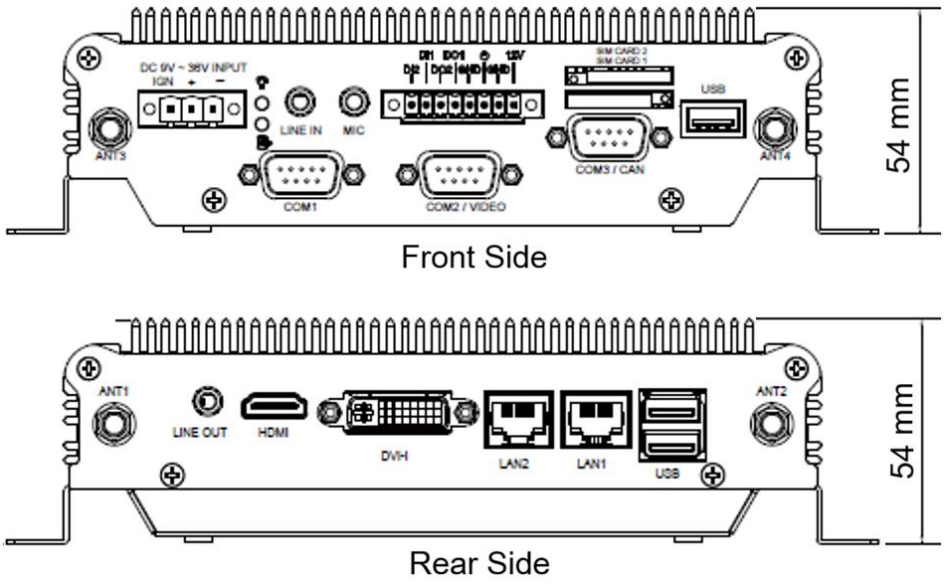


Example 2: Data Logging / Trending page embedded within the graphical system configuration (simultaneous display of up to 8 graphs possible)

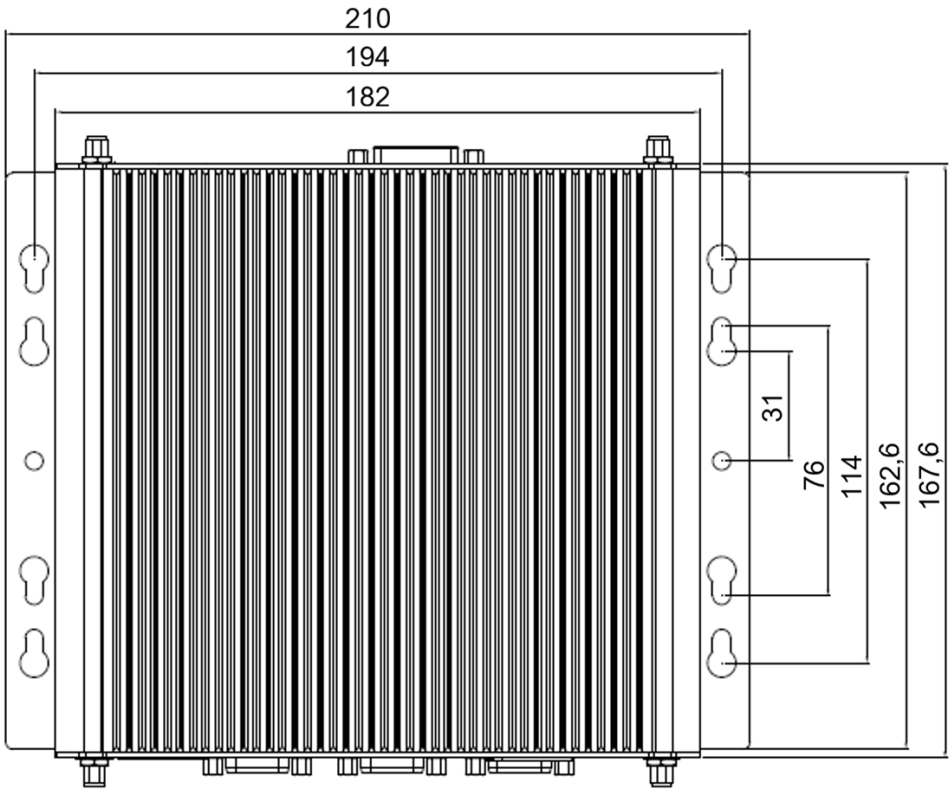


Example 3: Data logging view with charting tool

AHD-WNL (Front and Rear Views)



AHD-WNL (Top View and Dimensions)



Dimensions in mm

AHD-WNL Technical Data

Power supply:	9...36 V DC
Current consumption:	Max. 60 W at 24 V DC
Operating temperature:	-20°C to 70°C
Storage temperature:	-30°C...85°C
Weight:	approx. 1.4 kg
Protection class:	IP 20
External dimensions:	182 x 168 x 52 mm
Interfaces:	DVI-I output (1920x1080 pixels) 2 x Ethernet 4 x USB 2.0, 1 x RS232 (serial COM1 adapter)
Inputs / Outputs:	2 x digital inputs (shutdown option) 2 x digital out (option)
Mounting type:	Wall mounting
	Internal battery pack (UPS runtime = approx. 10 min)
Item No.	14844V02 (AHD-WNL preconfigured, with UPS)