TYPE APPROVAL CERTIFICATE

This is to certify:

that the Control and Monitoring System

with type designation(s)
AutroMaster 4 ISEMS

issued to

Autronica Fire and Security AS
Trondheim, **Norway**

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

System software Certificate only

Issued at **Høvik** on **2025-12-03**

This Certificate is valid until **2027-12-02**.
DNV local unit: **Trondheim**

Approval Engineer: **Ole Martin Brokstad**

for **DNV**

This document has been digitally signed and will therefore not have handwritten signature

---

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description

AutroMaster 4 ISEMS, Integrated Safety and Emergency Management System Software.

To be used in addition to Fire Alarm System types:
- BS 100 DYFI
- AutroSafe
- Autroprime

System parts:
- PC, DNV Type Approval Certificate TAA……………   (To be documented for each delivery)
- PLC, DNV Type Approval Certificate TAA……………   (To be documented for each delivery)
- Other hardware, Type Approval Cert. TAA……………   (To be documented for each delivery)

With basic software:
- Ubuntu LTS 22.04 or newer
- AutroMaster 4 ISEMS versions 4.4.x

Minimum hardware requirements:

Compatible Platform*	PC based on x86
Resolution of Display*	1920 x 1080 pixels
Required physical Memory*	4096 Mb minimum
Required Drives*	Minimum 100 GB
Required Ports / Interfaces*	Serial / RS-232, RS-486 Ethernet, Dual Ethernet / Network Installation
Supported Protocols	ESPA 4.4.4 ModBus RTU, ModBus TCP/IP ASAP, AutroCom, VDR, NMEA, Gessler
Compatible Fire Detection Systems*	AutroSafe Interactive Autroprime BS-100
Supported Emergency Lighting Systems*	DardoPlus, Dardo2
Operating System	Ubuntu 22.04 LTS or newer
Software Version	4.4.x
*Note: Type approved equipment is to be used.	

Approval conditions

The type approval covers software functions for AutroMaster 4 ISEMS as listed above.

The following project-specific documentation of the actual application is to be submitted for approval in each case:
- Equipment list – A list of hardware components included in the AutroMaster system
- Reference to this Type Approval Certificate and to Type Approval certificates covering hardware including Mutual Recognition Type Approvals
- System block diagram/topology drawing including arrangement of external power supplies
- Functional description of implemented system functions
- List of control and monitored points
- Test procedure for certification including failure mode description and test of network

The Type Approval covers software listed under Product description.

For each delivery where AutroMaster is connected to external systems via TCP/IP, compliance with Pt.4 Ch.9 Sec.4 [3.1.4] (July 2025) should be verified, if applicable.

For each delivery where AutroMaster are including functions or connected to external systems not specified in the Product description, compliance with Pt.4 Ch.9 Sec.2 [1.4.1] (July 2025) should be verified, if applicable.

When the type approved software is revised (affecting all future deliveries) DNV is to be informed by forwarding updated software version documentation. If the changes are judged to affect functionality for which rule requirements apply a new functional type test may be required and the certificate may have to be renewed to identify the new software version.

Product certificate

Each delivery of the application system is to be certified according to Pt.4 Ch.9 Sec.1. The certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. After the certification the clause for application software control will be put into force.

Software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV for evaluation and approval before implemented on board. Certification of Application Functions modified functionality may be required for the particular vessel.

Type Approval documentation

Product Datasheet – 116-P-AM4UB/CGB, 2024-10-23
System Description – 116-P-AM4UB-SYSTEM/XGB, 2024-10-23
Installation and Commissioning Handbook – 116-P-AM4UB-INSTCOMM/IGB, 2024-10-23
Basic Configuration Handbook – 116-P-AM4UB-BASICCONF/EGB, 2024-10-22
Advanced Configuration Handbook – 116-P-AMASTER-ADVCONF/EGB, 2025-05-15
Operator's Handbook – 116-P-AMUB-OPERATE/FGB, 2024-10-23
Release Notes – AutroMaster 4 ISEMS for Ubuntu – Version 4.4.3, issued 2024-10-01
DNV Trondheim periodical assessment report for TAA00000TW, dated 2025-08-22.

Marking of product
AutroMaster 4 ISEMS

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:
- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE