



CERTIFICATE NUMBER
EFFECTIVE DATE
EXPIRY DATE
ABS TECHNICAL OFFICE

25-0213239-PDA
10-Sep-2025
09-Sep-2030
London Engineering Department

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

KONGSBERG MARITIME AS

located at

POSTBOKS 483, , KONGSBERG, Norway, NO-3601

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: Remote Control System for Cyber Security function
Model: Advance Manoeuvring (Autopilot M100, Joystick M50) & MCON Control System compliance of Cyber Resilience, IACS UR E27 (Rev.1)
Endorsements: CyberSecurity
Tier: 3 - Type Approved, unit certification not required

This Product Design Assessment (PDA) Certificate remains valid until 09/Sep/2030 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

Vasileios Vitanopoulos, Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

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Endorsements: CyberSecurity

Intended Service:

ABS Classed Vessels and Offshore Facilities in accordance with the listed ABS Rules and International Standards.

Description:

The Advanced Manoeuvring and the MCON control system, which is designed for propulsion, thruster, and steering gear controls in various marine applications, with multiple options to meet a variety of operational needs.

This PDA addresses the ABS MVR 2025, 4-9-14 /14 (IACS E27 (rev 1)) requirements for the equipment.

Rating:

Cybersecurity/resilience PDA so no ratings are applicable

Service Restriction:

1. Unit Certification is required for this product. According to ABS MVR 4-9-14/19.1.6 and ABS MVR 4-9-3/8.3.7, a Factory Acceptance Test (FAT) must be conducted for the system and should be witnessed by an ABS Surveyor. Additionally, as outlined in ABS MVR 4-9-3/8.5.6, a System Acceptance Test (SAT) is to be conducted on board the vessel, also witnessed by an ABS Surveyor.
2. If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards must be clearly defined.
3. This PDA is issued to demonstrate that the subject control monitoring systems meet the IACS UR E27 "Cyber resilience of on-board systems and equipment" requirements and ABS MVR 4-9-14/15.1 Table 1.
4. The equipment addressed within this PDA has successfully fulfilled the supplementary criteria for untrusted networks, in accordance with the requirements outlined in ABS MVR 4-9-14/15.3 Table 2.
5. During installation, defence-in-depth measures are expected to be provided by the external environment, such as physical arrangement, policies and procedures, to prevent unauthorised access and manipulation of hardware, software, cables, and data, as well as changing the network topology.
6. Recommended configuration settings of the security capabilities and specific default values need to be provided during the installation.
7. This PDA is issued on the contingent that the end user follows the Kongsberg Cybersecurity Guidelines.
8. When using the WebUI, the web browser in use must be up to date and be the latest version.
9. At the first installation, the default password for the administrator must be changed to conform with IEC 62443-3-3/SR 1.7 and ABS MVR 4-9-14/15.1 Table 1 item 6.
10. When delivering the control system using this PDA, the following documents must be submitted to ABS engineering for review as per ABS MVR 4-9-14/19.1.6.
 - Asset inventory, demonstrating consistency with type-approved asset inventory.
 - System topology, demonstrating system architecture and interfaces with other systems and equipment as per type-approved topology.
 - Test report or declaration demonstrating configuration of security capabilities as per the type-approved configuration document
 - Relevant description of any differences in the delivered system compared with the type-approved system
 - Evidence that the equipment has either a valid PDA or test report pertaining to the equipment
11. Any modification to the approved asset inventory, network topology, software or firmware that might have a significant impact on the performance of the cyber resilience capabilities must be reviewed by ABS Engineering.

Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of, Asbestos in this product.

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2. Any modification to the hardware, software or firmware that might have a significant impact on the performance of the cyber resilience capabilities must be reviewed by ABS Engineering.
3. When a type-approved computer-based system or component is proposed for use on board a vessel, a vessel-specific system certification verifying compliance with applicable requirements from Sections 4-9-3, 4-9-13 and 4-9-14 is still required since vessel-specific functions, parameter configurations, and installation elements demand vessel-specific verification are to be reviewed and tested.
4. The system lacks any wireless and Bluetooth capability, so wireless features are not addressed in this PDA.
5. This PDA does not cover the embedded software's functionality, as required by IACS UR E22 or the environmental/EMC performance of the system hardware, as required by IACS UR E10.
6. ABS has witnessed the complete cybersecurity capabilities as part of this PDA process.

Notes/Drawing/Documentation:

Shared Architecture Drawing

Drawing No. 110-0068347, Mcon and Advanced Maneuvering Restore procedure, Revision: NA, Pages: 10

Drawing No. Cyber security User Manual, Revision: NA, Pages: 3

Drawing No. 110-0098175(B), Mcon & AdvMan Cyber Security Configuration Check list, Revision: B, Pages: 34

Drawing No. 110-0053460(D, Mcon & Advanced Maneuvering - Security Capabilities, Revision: D, Pages: 63

Drawing No. KM-PRO-0120, Configuration Management Procedure_en, Revision: NA, Pages: 16

Drawing No. KM-GUI-0118, Guideline for Secure Development Lifecycle _SDLC_en, Revision: NA, Pages: 63

Drawing No. KM-PROC-0080, Change management_en, Revision: NA, Pages: 17

Drawing No. 110-0053461(F), Cyber Security Test Procedure AdvMan Mcon, Revision: F, Pages: 57

Drawing No. KONGSBERG MCon & Adv.Man, TCE12_214&215_test_report signed, Witness By IACS Member, Pages: 29

Drawing No. 110-0053461 - DNV, AdvMan & Mcon Cyber Security tests SIGNED, Revision: F, Witness By IACS Member, Pages: 58

Drawing No. 110-0053461(F), Cyber Security Test Procedure AdvMan Mcon, Revision: F, Pages: 57

Drawing No. 110-0533461, Cyber Security Test Procedure Witness by ABS, Revision F, Pages:57

MCON Specific Drawing:

Drawing No. 110-0053458D, Mcon Asset Inventory, Revision: D, Pages:14

Drawing No. 110-0053459D, Mcon System Topology, Revision: D, Pages:10

Advanced Manoeuvring Drawings:

Drawing No. 1100081476, Advanced Manovering System Topology, Revision: C, Pages:9

Drawing No. 1100081474, Advanced Manovering Asset Inventory, Revision: D, Pages:13

Terms of Validity:

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STANDARDS

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ABS Rules:

ABS Rules for Conditions of Classification (2025)1-1-4/7.7, 1-1-A3, 1-1-A4 which covers the following:
Marine Vessel Rules (2025): 4-9-14

National:

NA

International:

IEC Std. 62443-3-3 (2013 edition)
IACS E27 (rev 1, 2023 edition)

Government:

NA

EUMED:

NA

OTHERS:

NA