



**Work Order - WO00T2536136
Product Design Assessment (PDA)
K-Pos DP/PM/DPM and cJoy
PDA No. 25-00T2536136-1-PDA**

Attention: KONGSBERG MARITIME AS (WCN: 135138)

The documents shown in the attached list are reviewed in accordance with the applicable requirements indicated in the PDA along with the service restrictions and comments.

We recommend that you monitor the ABS Rules, Guides and other standards used in the Assessment. These Rules, Guides and standards often change on an annual basis, and you must comply with the new Rules, Guides and standards in order for the product to be used on an ABS classed vessel or facility contracted under the new Rules, Guides or specifications.

Additionally, we acknowledge the PDA request form warranting that the materials used in the product(s) are free from asbestos.

Please refer to the attached list of findings associated with this review.

For any clarifications, contact Peter Lewis Deegan at PDeegan@eagle.org or Ankit Dobhal ADobhal@eagle.org

Very truly yours,

Electronically Signed by: Vasileios Vitanopoulos

Documents List

Drawing No.	Rev. No.	Title	Status
178001	F	178001 -EDS-308 Series-REV.F	Filed by ABS for Reference Only
178007	F	178007 - Hardware Module Description - F	Filed by ABS for Reference Only
300966	F	300966 REV.F	Filed by ABS for Reference Only
300967	H	300967 REV.H	Filed by ABS for Reference Only
300977	B	300977 - Hardware Module Description - REV.B	Approved
300983	B	300983 -Hardware Module Description - REV.B	Approved
300984	E	300984 -Hardware Module Description- REV.E	Reviewed
300985	B	300985 -Hardware Module Description-REV.B	Approved
307003	B	307003 -Hardware Module Description-REV.B	Approved
312740	C	312740 - RHUB200-5 Communication HUB and repeater - REV.C	Filed by ABS for Reference Only
312741	C	312741 - RSER200-4 - REV.C	Filed by ABS for Reference Only
314243	A	314243 -Test Report-REV.A	Reviewed
318636	E	318636 - Moxa NPort 5200 Serial Device Servers - REV.E	Filed by ABS for Reference Only
338108	B	338108 -Test Report-REV.B	Reviewed
338386	A	338386 REV.A - COP-05 Standalone Trackball - A	Filed by ABS for Reference Only
351489	A	351489 - RMP201-8 - REV.A	Filed by ABS for Reference Only
352676	E	352676 - EDS-316 Series -REV.E	Filed by ABS for Reference Only
355954	1	355954 -Test Report-REV.1	Reviewed
383971	B	383971 -Test Report-REV.B	Reviewed
400360	C	400360 - Hardware Module Description - C	Filed by ABS for Reference Only
409453	D	409453 - LAN to CAN Gateway - REV.D	Filed by ABS for Reference Only
412374	A	412374 -Test Report-REV.A	Reviewed
415630	C	415630 -Test Report-REV.C	Filed by ABS for Reference Only
416665	A	416665 -Test Report-REV.A	Reviewed
418371	C	418371 - RCU602 - Remote Controller Unit - REV.C	Filed by ABS for Reference Only
427138	G	427138 - TYPE APPROVAL CERTIFICATE - G	Filed by ABS for Reference Only
435492	F	435492 - Certifiante - REV.F	Filed by ABS for Reference Only
448540	K	-K-Pos Hardware List - REV. K	Filed by ABS for Reference Only
449192	A	449192 - Adapter USB to 4x RS232 DB9M - REV.A	Filed by ABS for Reference Only

452545	B1	452545- Type Approval Certificate - REV.B1	Filed by ABS for Reference Only
458313	A	458313 REV.A	Filed by ABS for Reference Only
463286	A	463286 - Adapter USB to 4x RS232 DB9M - REV.A	Filed by ABS for Reference Only
463482	A	463482 - Adapter USB to 1 serial RS422 - REV.A	Filed by ABS for Reference Only
463483	A	463483 - Adapter USB to 1 serial RS422 - REV.A	Filed by ABS for Reference Only
464983	C	464983-Test Report-C	Reviewed
469729	01	469729 01-Test Report-	Reviewed
470054	A1	470054 - Type Approval Certificate - REV.A1	Filed by ABS for Reference Only
470471	A1	470471 - Certificate of Product Assessment - REV.A1	Filed by ABS for Reference Only
472200	B	472200 - Hardware Module Description - B	Filed by ABS for Reference Only
472294	A	472294 REV.A	Filed by ABS for Reference Only
479219	B	479219 -Test Report-REV.B	Filed by ABS for Reference Only
481031	A	481031 REV.A	Filed by ABS for Reference Only
482249	A	482249-Test Report-A	Filed by ABS for Reference Only
482250	A	482250 -Test Report-REV.A	Filed by ABS for Reference Only
482733	03	482733 -Test Report-REV.03	Reviewed
483083	A1	483083 - Certificate of Product Assessment - REV.A1	Filed by ABS for Reference Only
486670	A	486670 -cWing Mk3- REV.A	Filed by ABS for Reference Only
487708	03	487708 03-Test Report-	Reviewed
488466	B	488466 - Certificate of Product Assessment - REV.B	Filed by ABS for Reference Only
489196	D	489196-Test Report- REV.D	Filed by ABS for Reference Only
489199	B1	489199B1 TAA000035N-revision1	Filed by ABS for Reference Only
489200	A	489200-Test Report-A	Reviewed
491274	B	491274-Test Report-B	Reviewed
492309	A	492309 -Test Report-REV.A	Filed by ABS for Reference Only
492312	B	492312-Test Report-B	Reviewed
493277	A	493277 A SystTestRep CISCO WS-C1000-24T-4G-L	Filed by ABS for Reference Only
494498	A	494498 - Certificate of Product Assessment - REV.A	Filed by ABS for Reference Only
494547	A1	494547 - Certificate of Product Assessment - REV.A1	Filed by ABS for Reference Only

494556	A	494556 - Test Result - REV.A	Reviewed
494564	A	494564 - Test Result - REV.A	Reviewed
494598	A	494598 - Certificate of Product Design Assessment - REV.A	Filed by ABS for Reference Only
494600	A	494600 - Certificate of Product Design Assessment- REV.A	Filed by ABS for Reference Only
1012070	B	1012070B-K-Pos Type Approval- B	Reviewed
5351076	A	5351076 REV.A	Filed by ABS for Reference Only
5351077	A	5351077 REV.A	Filed by ABS for Reference Only
5351078	A	5351078 REV.A	Filed by ABS for Reference Only
5351079	A	5351079 REV.A	Approved
5351080	A	5351080 REV.A	Approved
5351082	A	5351082 REV.A	Filed by ABS for Reference Only
5351083	A	5351083 REV.A	Filed by ABS for Reference Only
5358788	D	5358788 -Kongsberg Class Approval-REV.D	Filed by ABS for Reference Only
5367621	B	5367621 REV.B	Filed by ABS for Reference Only
110-0000794	D	110-0000794 - Digital Printer - REV.D	Filed by ABS for Reference Only
110-0001425	B	110-0001425 REV.B	Filed by ABS for Reference Only
110-0010936	A	110-0010936 REV.A	Filed by ABS for Reference Only
110-0018781	C	110-0018781 - cJoy Operator Terminal - REV.C	Filed by ABS for Reference Only
110-0022770	B	110-0022770 - RCU601 - REV.B	Filed by ABS for Reference Only
110-0028959	A1	110-0028959 - Lexmark CS431dw - REV.A1	Filed by ABS for Reference Only
110-0039194	B	110-0039194-Test Report-B	Reviewed
110-0040379	A	110-0040379-Test Report-A	Reviewed
110-0041406	A	110-0041406 -Certificate-REV.A	Filed by ABS for Reference Only
110-0043600	A	110-0043600A-Certificate	Reviewed
110-0043603	A	110-0043603-Test Report-A	Reviewed
110-0043970	A	110-0043970 - Hardware Module Description - REV.A	Filed by ABS for Reference Only
110-0047736	A	110-0047736 -Test Report-REV.A	Filed by ABS for Reference Only
110-0048488	C	110-0048488 REV.C	Filed by ABS for Reference Only
110-0053579	A	110-0053579-Test Report-A	Reviewed
110-0059786	B	110-0059786 REV.B	Filed by ABS for Reference Only

110-0061510	A	110-0061510 -Certificate-REV.A	Filed by ABS for Reference Only
110-0061805	A	110-0061805 - Hardware Module Description - REV.A	Filed by ABS for Reference Only
110-0061807	A	110-0061807 - TYPE APPROVAL CERTIFICATE - A	Filed by ABS for Reference Only
110-0062481	A	110-0062481-Test Report-A	Reviewed
110-0062855	D	Asset Inventory	Approved
110-0062856	D	System Topology	Approved
110-0062857	D	Description of Security Capabilities	Approved
110-0062858	F	Test Procedure	Approved
110-0063486	A	110-0063486-Certificate--REV.A	Filed by ABS for Reference Only
110-0063489	A	110-0063489-Certificate-REV.A	Filed by ABS for Reference Only
110-0063651	A	110-0063651-Test Report-A	Reviewed
110-0066721	D	110-0066721 REV.D	Filed by ABS for Reference Only
110-0066722	E	110-0066722 REV.E	Filed by ABS for Reference Only
110-0066726	A	110-0066726 REV.A	Filed by ABS for Reference Only
110-0066727	B	110-0066727 REV.B	Filed by ABS for Reference Only
110-0066728	A	110-0066728 REV.A	Filed by ABS for Reference Only
110-0066729	A	110-0066729 REV.A	Filed by ABS for Reference Only
110-0066730	B	110-0066730 REV.B	Filed by ABS for Reference Only
110-0066731	B	110-0066731 REV.B	Filed by ABS for Reference Only
110-0066732	C	110-0066732 REV.C	Filed by ABS for Reference Only
110-0066737	B	110-0066737 REV.B	Filed by ABS for Reference Only
110-0066738	A	110-0066738 REV.A	Filed by ABS for Reference Only
110-0066739	A	110-0066739 REV.A	Filed by ABS for Reference Only
110-0066740	A	110-0066740 REV.A	Filed by ABS for Reference Only
110-0066742	A	110-0066742 REV.A	Filed by ABS for Reference Only
110-0066743	D	110-0066743 REV.D	Filed by ABS for Reference Only
110-0066744	D	110-0066744 REV.D	Filed by ABS for Reference Only
110-0066788	A	110-0066788 REV.A	Filed by ABS for Reference Only

110-0066794	A	110-0066794 REV.A	Filed by ABS for Reference Only
110-0066841	A	110-0066841 REV.A	Filed by ABS for Reference Only
110-0066843	A	110-0066843 REV.A	Filed by ABS for Reference Only
110-0066844	A	K-Pos DP Recorder Operator Manual Release 8.5	Filed by ABS for Reference Only
110-0066862	A	110-0066862 REV.A	Filed by ABS for Reference Only
110-0066863	B	110-0066863 REV.B	Filed by ABS for Reference Only
110-0066864	B	110-0066864 REV.B	Filed by ABS for Reference Only
110-0068347	C	110-0068347 REV.C	Filed by ABS for Reference Only
110-0068872 1	B	110-0068872 1-Test Report-B	Reviewed
110-0068872 2	B	110-0068872B 2-Test Report-	Reviewed
110-0068872 3	B	110-0068872B 3-Test Report-	Reviewed
110-0068874	A	110-0068874-Test Report-A	Reviewed
110-0068875	A	110-0068875 - Test Result - A	Reviewed
110-0068877	A	110-0068877 - Test Report - A	Reviewed
110-0071432	A	110-0071432 REV.A	Filed by ABS for Reference Only
110-0072298	B	110-0072298 REV.B	Filed by ABS for Reference Only
110-0072851	A	110-0072851 -Type Approval Certificate - REV.A	Filed by ABS for Reference Only
110-0092898	A	110-0092898 - Hardware Module Description - A	Filed by ABS for Reference Only
110-0107044	A	110-0107044 REV.A	Filed by ABS for Reference Only
110-0114013	A	110-0114013 -EDR-G9010 Series-REV.A	Filed by ABS for Reference Only
110-0114015	A	110-0114015 - TYPE APPROVAL CERTIFICATE - A	Filed by ABS for Reference Only
110-0114016	A	110-0114016 - TYPE APPROVAL CERTIFICATE - A	Filed by ABS for Reference Only
110-0117159	A	110-0117159 -Test Report-REV.A	Filed by ABS for Reference Only
110-0122859	A	110-0122859-Test Report-A	Reviewed
110-0129391	A	110-0129391 - DATA SHEET - REV.A	Filed by ABS for Reference Only
KM-GUI-0118	A	KM-GUI-0118 REV.A	Approved
KM-GUI-6015	A	KM-GUI-6015 REV.A	Filed by ABS for Reference Only
KM-PRO-0120	A	KM-PRO-0120 REV.A	Filed by ABS for Reference Only
KM-PRO-2025	A	KM-PRO-2025 KM Alerts and Notifications - Preparationand Distribution Safety Bulletin Service Notice and Information Letter en	Filed by ABS for Reference Only

KM-PROC-0080	A	KM-PROC-0080 REV.A	Filed by ABS for Reference Only
KM-TMPL-0218	A	KM-TMPL-0218 REV.A	Filed by ABS for Reference Only
MRA000000H	5	DNV EUROPEAN UNION RECOGNISED ORGANISATION (EU RO) MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE	Filed by ABS for Reference Only
MRA0000016	7	DNV EUROPEAN UNION RECOGNISED ORGANISATION (EU RO) MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE	Filed by ABS for Reference Only
TAA000006T	4	DNV Type Approval Certificate	Filed by ABS for Reference Only
TAA00000BM	5	DNV Type Approval Certificate	Filed by ABS for Reference Only
TAA00000M0	4	DNV TYPE APPROVAL CERTIFICATE	Filed by ABS for Reference Only
TAA00003BA	2022-12	DNV-TYPE APPROVAL CERTIFICATE	Filed by ABS for Reference Only

Electronic copies of the documents, appropriately stamped, are available in the ABS MyFreedom™ Client Portal.

Include: PDA Certificate



CERTIFICATE NUMBER	25-00T2536136-1-PDA
EFFECTIVE DATE	16-Dec-2025
EXPIRY DATE	15-Dec-2030
ABS TECHNICAL OFFICE	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: Dynamic Positioning Control System, Position Mooring System ...
Model: K-Pos DP/PM/DPM and cJoy with compliance with "Cyber Resilience" MVR 4-9-14 (2025) (IACS UR E27 Rev.1)
Endorsements: CyberSecurity
Tier: 5 - Unit Certification Required

This Product Design Assessment (PDA) Certificate remains valid until 15/Dec/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

SBarua

Siddharth Barua,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)

KONGSBERG MARITIME AS

POSTBOKS 483

KONGSBERG

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Tier: 5 - Unit Certification Required

Product: Dynamic Positioning Control System, Position Mooring System and Independent Joystick Control System
Model: K-Pos DP/PM/DPM and cJoy with compliance with “Cyber Resilience” MVR 4-9-14 (2025) (IACS UR E27 Rev.1)
Endorsements: CyberSecurity

Intended Service:

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

Description:

Dynamic positioning control system, Position mooring control systems, independent joystick control system, Remote Control Systems for Thrusters, Propulsion and Steering, Navigation System (e.g. Heading Control System (HCS)), Control and monitoring Systems and Automation Systems for vessels and offshore units.

DP operational modes: Joystick, Joystick High-Speed, Auto Heading, Auto Position, Mixed Joystick/Auto, Follow Target, Auto Track, Track Line, Seismic Track, Dredge and Modes related to Offshore Loading.

PM operational modes: Joystick, Mixed Joystick/Auto, Anchor Handling, Position Mooring.

DP system is composed:

K-Pos OS: Operator Station.

K-Pos DP controller: control cabinet composed of Main processor – RCU601, RCU602, I/O bus - RHUB200-5, I/O units – RMP-208, RMP201-8, Serial lines - RSER200-4.

cJoy DP Operator Terminal MK3 & MK4: remote joystick with automatic heading and position capability for DP operation.

cWing Terminal: remote joystick with automatic heading capability

-K-Master as alternative OS/Workstation.

Available configurations:

DP-11: Single stand-alone DP control system composed of one DP controller unit (DPC-1) and one K-Pos OS, single network communication. Direct interface to the thrusters and includes the necessary interfaces to power plant, position-reference systems and sensors.

DP-12: Integrated single DP control system composed of one DP controller unit (DPC-1) and one K-Pos OS, double network communication. DP system can be integrated with the KONGSBERG K-Thrust and K-Chief systems.

DP-21: Stand-alone dual-redundant DP control system composed dual-redundant DP controller unit (DCP-2) and two identical K-Pos OS, dual high speed data network communication. Direct interface to the thrusters and includes the necessary interfaces to power plant, position-reference systems and sensors.

DP-22: Integrated dual-redundant DP control system composed of dual-redundant DP controller unit (DCP-2) and two identical K-Pos OS, dual high speed data network communication. DP system can be integrated with the KONGSBERG K-Thrust and K-Chief systems.

DP-31: Stand-alone triple-redundant DP control system composed of triple-redundant DP controller unit (DPC-3) and three identical K-Pos OS, dual high speed data network communication. Direct interface to the thrusters and includes the necessary interfaces to power plant, position-reference systems and sensors.

DP-32: Integrated triple-redundant DP control system composed of triple-redundant DP controller unit (DPC-3) and three identical K-Pos OS, dual high speed data network communication. DP system can be integrated with the KONGSBERG K-Thrust and K-Chief systems.

Rating:

Power supply: 115 / 230 VAC (+10%, -15%), (DP controller (cC-1, DPC-1, DPC-2, DPC-3) - 24 VDC version available for cC-1)

Enclosure protection: Cabinet - IP 22, cWing - IP56, DP Controller - IP44

Operating temperature: -15 Deg. C to 55 Deg. C, cWing -25 to 70 Deg. C

Digital Printer:

Display 15” FHD XT Mk1

Input Voltage: 18-36 VDC

KONGSBERG MARITIME AS

POSTBOKS 483

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Tier: 5 - Unit Certification Required

Power Consumption: Typical: 17.5 W/Max.: 21.5 W

Ingress protection: IP65 front side - IP22 for rear side

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 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 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. 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.
5. Recommended configuration settings of the security capabilities and specific default values need to be provided during the installation.
6. This PDA is issued on the contingent that the end user follows the Kongsberg Cybersecurity Guidelines.
7. When using the WebUI, the web browser in use must be up to date and be the latest version.
8. At the first installation, the default password for the administrator must be changed to conform with ABS MVR 4-9-14/15.1 Table 1 item 6.
9. 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.
 - a. Asset inventory, demonstrating consistency with type-approved asset inventory.
 - b. System topology, demonstrating system architecture and interfaces with other systems and equipment as per type-approved topology.
 - c. Test report or declaration demonstrating configuration of security capabilities as per the type-approved configuration document
 - d. Relevant description of any differences in the delivered system compared with the type-approved system.
10. 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.
11. The K-POS system utilises components that are not approved as part of this ABS PDA regarding compliance with environmental and EMC performance. Therefore, this PDA does not cover those components of the K-POS system. Instead, compliance for those components must be demonstrated through either an engineering review or an ABS PDA. If an ABS PDA is used to demonstrate compliance, all conditions and service restrictions outlined in that PDA must be followed to use this PDA. Please see the attachment for the components in question.
12. The Dynamic Positioning control system is categorised as a computer-based system of Category II or III, depending on the project. Documentation stated in 4-9-1/7.3.9 of 2025 ABS MVR must be submitted accordingly to ABS for every project.
13. Documentation as stated in 4-9-3/15 Table 3 of 2025 MVR must be presented accordingly of the assigned system category.
14. Test and evidence as indicated in 4-9-3/17 Table 5 of 2025 MVR must be followed accordingly of the assigned system category.
15. Documentation stated on subsection 1/7.7 of 2025 ABS Guide for Dynamic Positioning Systems must be submitted according to the requested DPS notation.

Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. An ABS Surveyor has witnessed the testing of the required secured capabilities dated 08 July 2024. Relevant report WO Number 6493937

Notes/Drawing/Documentation:

Dwg No. 482249,ENV KM-module test status table IACS E10 rev 8,Rev. A1,Pg: 14

Dwg No. 210112R-E301230001,MOXA EDS - Type Testing,Dekra Lab,18 January 2021,Rev. 1,Pg: 36

Dwg No. 210226R-E301230001,MOXA EDS - Type Testing,Dekra Lab,18 January 2021,Rev. 1,Pg: 36

KONGSBERG MARITIME AS

POSTBOKS 483

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Tier: 5 - Unit Certification Required

Dwg No. 1750450R-ITCEP16V00,MOXA EDS - Type Testing,Dekra Lab,14 July 2017,Rev. 1,Pg: 88
Dwg No. 110-0114013,EDR-G9010 Series-Datasheet, Pg: 9
Dwg No. REP0014681,110-0040379-Test Report,Nemko,16 March 2023,Rev. A,Pg: 95
Dwg No. 416665,Test Report-Moxa Nport ,in house testing witness by an IACS member ,18 June 2016,Rev. A,Pg: 4
Dwg No. 469729,Test Report-Flame Retardant,Nemko,27 October 2021,Rev. 01,Pg: 27
Dwg No. 448540,K-Pos Hardware List,Rev. K,Pg: 2
Dwg No. 178001,178001 -EDS-308 Series-Datasheet,Rev. F,Pg: 5
Dwg No. 21C0426R-E3012300003-1,Moxa Nport -Type Testing,Dekra Lab,11 January 2022,Rev. A,Pg: 21
Dwg No. 383971,Test Report- RCU602 & RMC-ST,Nemko,28 April 2017,Rev. B,Pg: 54
Dwg No. 110-0039194,Test Report-Cjoy,Nemko,12 March 2024,Rev. B,Pg: 97
Dwg No. 2110234R-E3012300001,Test Report-Moxa EDS,Dekra Lab,18 January 2021,Rev. 1,Pg: 19
Dwg No. 312741,RSER200-4-Serial Line Converter-Datasheet,Rev. C,Pg: 2
Dwg No. 464983,464983-Test Report-C,,,Rev. C,Pg:
Dwg No. 300977,Hardware Module Description - COP-05 ALC Panel,Rev. B,Pg: 18
Dwg No. 300984,Hardware Module Description-COP-05 Input Panel,Rev. E,Pg: 22
Dwg No. D/22/4888/01,EMC - test report,AMETEK CTS Europe,04 May 2022,Rev. A,Pg: 56
Dwg No. 352676,EDS-316 Series - Datasheet,Rev. E,Pg: 5
Dwg No. 494498,494498 - Certificate of Product Assessment - REV.A,PDA
Dwg No. 492309,Cisco 1000 - Datasheet,Rev. A,Pg: 34
Dwg No. 5358788,Class Approval Manual:K-Pos HW List,Rev. D,Pg: 14
Dwg No. 17A0322R-ITCEP16V00,Test Report - EMC - EDS-408A,Dekra Lab,16 July 2018,Rev. A,Pg: 119
Dwg No. 22-17667,Type Test Report - USB Extender,Aucoteam,20 October 2022,Rev. A,Pg: 20
Dwg No. E21240.01,Type Test Report - cWing Mk3,Nemko,18 November 2022,Rev. B,Pg: 102
Dwg No. 110-0066844,K-Pos DP Recorder Operator Manual Release 8.5,Rev. A,Pg: 62
Dwg No. 494547,494547 - Certificate of Product Assessment - REV.A1,PDA
Dwg No. E21088.03,Type Test Report-VariouS KM Moudles,Nemko,28 October 2021,Rev. 03,Pg: 122
Dwg No. 318636,Moxa NPort 5200 Serial Device Servers - Datasheet,Rev. E,Pg: 12
Dwg No. 110-0061805,EDR-8010 Series - Datasheet,Rev. A,Pg: 8
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Dwg No. 400360,"Hardware Module Description - cJoy Operator Terminal Junction Box MK3",Rev. C,Pg: 18
Dwg No. 472200,EDS-408A Series - Datasheet,Rev. B,Pg: 6
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Dwg No. 494600,494600 - Certificate of Product Design Assessment- REV.A,PDA
Dwg No. 110-0000794,Digital Printer - Datasheet,Rev. D,Pg: 2
Dwg No. E21229.00,Type Test Report- HN C1000-24T-4G-L and HN C1000-24T-4X-L,Nemko,04 March 2022,Rev. A,Pg: 84
Dwg No. 110-0028959,Lexmark CS431dw - Datasheet,Rev. A1,Pg: 4
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Dwg No. 418371,RCU602 - Remote Controller Unit - Datasheet,Rev. C,Pg: 2
Dwg No. 488466,488466 - Certificate of Product Assessment - REV.B,PDA
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Tier: 5 - Unit Certification Required

- Dwg No. 412374,Type Test Report - L2C,Delta,15 February 2016,Rev. A,Pg: 71
- Dwg No. 449192,Adapter USB to 4x RS232 DB9M - Datasheet,Rev. A,Pg: 9
- Dwg No. 493277,System Test Report - CISCO_WS-C1000-24T-4G-L,Rev. A,Pg: 12
- Dwg No. 463482,Adapter USB to 1 serial RS422 - Datasheet,Rev. A,Pg: 5
- Dwg No. 409453,LAN to CAN Gateway - Datasheet,Rev. D,Pg: 2
- Dwg No. 351489,RMP201-8 - Datasheet,Rev. A,Pg: 2
- Dwg No. 463483,Adapter USB to 1 serial RS422 - Datasheet,Rev. A,Pg: 5
- Dwg No. 1012070,K-Pos - Functional Test Report,Rev. B,Pg: 47
- Dwg No. 110-0092898,Hardware Module Description - FortiGate,Rev. A,Pg: 8
- Dwg No. DANAK-198195,Type Test Report - KM Common Operator Panels,Delta,15 June 2007,Rev. 1,Pg: 135
- Dwg No. REP019643,Type Test Report - Panel Input MK3 COP 05,Nemko,17 January 2024,Rev. A,Pg: 72
- Dwg No. 110-0041406,110-0041406 -Certificate-REV.A,PDA
- Dwg No. 110-0117159,Lenovo Display Port Datasheet,Rev. A,Pg: 1
- Dwg No. 486670,cWing Mk3 - Datasheet,Rev. A,Pg: 2
- Dwg No. 22A0686R-0E3012300018-1,Type Test Report - EDS ,Dekra Lab,09 November 2022,Rev. B,Pg: 59
- Dwg No. 415630,Statement by Manufacturer - KM RCUxxx/RIO4/RIO2xx,Rev. C,Pg: 4
- Dwg No. 489196,CISCO Catalyst 100 Series Switches - Datasheet,Rev. D,Pg: 23
- Dwg No. 2110223R-E3012300001,Test Result - EDS 316,Dekra Lab,18 January 2021,Rev. A,Pg: 36
- Dwg No. REP014885,Test Report - EMC - Lexmark,Nemko,24 August 2023,Rev. A,Pg: 27
- Dwg No. 110-0043970,Veinland -USB Extender - Datasheet,Rev. A,Pg: 4
- Dwg No. 300985,Hardware Module Description-COP-05 Heading Wheel Panel,Rev. B,Pg: 16
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- Dwg No. 110-0047736,Statement by Manufacturer -MC360 i3,Rev. A,Pg: 1
- Dwg No. 110-0062855,Asset Inventory,Rev. D,Pg: 19
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- Dwg No. 110-0066730,K-Pos Offshore Loading Application Operator Manual,Rev. B,Pg: 130
- Dwg No. 458313,K-Pos DP - IMO DP Equipment Class 1,Rev. A,Pg: 2
- Dwg No. 110-0066726,K-Pos Autopilot Mode Operator Manual,Rev. A,Pg: 50
- Dwg No. 300966,K-Pos Serial lines Interface specification,Rev. F,Pg: 16
- Dwg No. 110-0107044,Update Notes DP Basis 8.5.3,Rev. A,Pg: 46
- Dwg No. 110-0071432,cWing Remote Wing Terminal-Operator Manual,Rev. A,Pg: 34
- Dwg No. 110-0066738,K-Pos DP Analyses-Operator Manual,Rev. A,Pg: 74
- Dwg No. KM-PRO-0120,Configuration Management Procedure,Rev. A,Pg: 14
- Dwg No. 110-0066843,K-Pos Chart Server Application-Operator Manual,Rev. A,Pg: 22
- Dwg No. 110-0066862,K-Pos Heavy Lift Application-Operator Manual,Rev. A,Pg: 30
- Dwg No. 110-0066864,cJoy DP-OT DP Operator Terminal-Operator Manual,Rev. B,Pg: 162
- Dwg No. 110-0066737,K-Pos Dredging Application-Operator Manual,Rev. B,Pg: 18
- Dwg No. 110-0066722,K-Pos Follow Target Mode-Operator Manual,Rev. E,Pg: 56
- Dwg No. 110-0066721,K-Pos DP Dynamic Positioning System-Operator Manual,Rev. D,Pg: 476
- Dwg No. 5351079,K-POS DP2 Typical Layout,Rev. A,Pg: 1
- Dwg No. 110-0066731,K-Pos Drilling Application-Operator Manual,Rev. B,Pg: 72
- Dwg No. KM-PROC-0080,Change management,Rev. A,Pg: 16
- Dwg No. 110-0066841,K-Pos Advanced Trainer-Operator Manual,Rev. A,Pg: 82
- Dwg No. 472294,K-Pos DP - IMO DP Equipment Class 2,Rev. A,Pg: 6
- Dwg No. KM-GUI-6015,Kongsberg Maritime-Patch Management,,Rev. A,Pg: 9
- Dwg No. 110-0066727,K-Pos Auto Track Mode-Operator Manual,Rev. B,Pg: 122
- Dwg No. 110-0066743,K-Pos PM Position Mooring System -Operator Manual,Rev. D,Pg: 516
- Dwg No. 110-0010936,K-Pos DP - IMO DP Equipment Class 3,Rev. A,Pg: 2
- Dwg No. 481031,System Config Manual-MC340,Rev. A,Pg: 13
- Dwg No. 110-0066732,K-Pos Pipelaying Application-Operator Manual,Rev. C,Pg: 42
- Dwg No. 110-0066788,K-Pos Built-in Simulator-Operator Manual,Rev. A,Pg: 68
- Dwg No. 300967,K-Pos Interface Manual,Rev. H,Pg: 6

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Tier: 5 - Unit Certification Required

Dwg No. 110-0066739,K-Pos Backup DP System- Operator Manual,Rev. A,Pg: 28
Dwg No. 110-0062857,Description of Security Capabilities,Rev. D,Pg: 68
Dwg No. 110-0066729,K-Pos Seismic Track Mode-Operator Manual,Rev. A,Pg: 50
Dwg No. 110-0066794,K-Pos Stand-alone Simulator-Operator Manual,Rev. A,Pg: 74
Dwg No. 110-0066728,K-Pos Track Line Mode-Operator Manual,Rev. A,Pg: 50
Dwg No. 110-0062858,Test Procedure,Rev. F,Pg: 70
Dwg No. 110-0066744,K-Pos DPM Dynamic Positioning and Position Mooring System-Operator Manual,Rev. D,Pg: 578
Dwg No. 5351076,IO Specification DPC-2,Rev. A,Pg: 10
Dwg No. KM-TMPL-0218,Change Management Plan - template,Rev. A,Pg: 6
Dwg No. KM-GUI-0118,Guideline for Secure Development Lifecycle (SDLC),Rev. A,Pg: 21
Dwg No. 110-0001425,Digital Printer-Operator manual,Rev. B,Pg: 14
Dwg No. 110-0062856,System Topology,Rev. D,Pg: 8
Dwg No. 5351077,IO Specification cJoy cC-1,Rev. A,Pg: 3
Dwg No. KM-PRO-2025,KM Alerts and Notifications,Rev. A,Pg: 17
Dwg No. 110-0072298,K-Pos DP Status Application-Operator Manual,Rev. B,Pg: 12
Dwg No. 110-0066740,K-Pos Alternative DP System-Operator Manual,Rev. A,Pg: 18
Dwg No. 110-0048488,MC360 System Configuration Manual,Rev. C,Pg: 16
Dwg No. 110-0066742,K-Pos Power Applications-Operator Manual,Rev. A,Pg: 32
Dwg No. 110-0059786,DP Release Notes - APPENDIX,Rev. B,Pg: 65
Dwg No. 5351080,IJS Typical System Layout,Rev. A,Pg: 1
Dwg No. 110-0066863,IJS Independent Joystick System- Operator Manual,Rev. B,Pg: 140
Dwg No. 110-0068347,Paragon - Hard Disk Manager,Rev. C,Pg: 101

Terms of Validity:

This Product Design Assessment (PDA) Certificate remains valid until 15/Dec/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.

STANDARDS

ABS Rules:

2025 Rules for Condition of Classification 1A-1-4/7.7, 1A-1-A3 and 1A-1-A4, which cover the following:

2025 Rules for Building and Classing Marine Vessel Rules: 4-8-3/1.3, 4-8-3/1.7, 4-8-3/1.17, 4-8-3/Table 2, 4-9-3/5, 4-9-3 ,15/Table 3 ,4-9-9/Table 1 ,4-9-14

2025 Rules for Conditions of Classification - Offshore Units and Structures 1B-1-4/9.7, 1B-1-A2 and 1B-1-A3, which cover the following:

2025 Rules for Building and Classing Mobile Offshore Unit Rules: 4-1-2/3, 4-3-1/11, 4-3-1/17, 4-3-3/Table 1, 4-3-4/5, 4-3-4/5, 4-3-4/6

2025 ABS Guide for Dynamic Positioning Systems: 2/Table 1(Control System), 5/5.5, 5/5.7 and 5/9

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Tier: 5 - Unit Certification Required

National:

NA

International:

IACS E27 2023 (Rev 1)

IACS E22 2023 (Rev 3)

IACS E10 2023 (Rev 9)

Government:

NA

EUMED:

NA

OTHERS:

NA

Manufacturer: Kongsberg Maritime AS (135138)
Model: K-Pos DP/PM/DPM and cJoy with
compliance with “Cyber Resilience” MVR 4-9-14
(2025) (IACS UR E27 Rev.1)
PDA certificate: 25-00T2536136-PDA
Issue date: 19/Dec/2025
Expiration date: 19/Dec/2030



Approved Hardware

- AXC 1050 / 418636 – Phoenix
- C1000-24T-4G-L / 469125 – Cisco
- C1000-24T-4X-L / 110-0001617 – Cisco
- EDS-518E-4GTXSFP / 467617 - Moxa
- EDR-8010-2GSFP / 110-0061800 - Moxa
- C1121X-8P / 486643 - Cisco
- C891-24X/K9 / 417936 - Cisco
- EDS-205A / 343608- Moxa
- EDS-208A / 463211- Moxa
- EDS-308 / 702485- Moxa
- EDS-316 / 351658- Moxa
- cWing Mk3 Built-in / 491274 - Kongsberg Maritime
- cWing Mk3 Portable / 491274- Kongsberg Maritime
- AXL F RS UNI / 418636- Phonix
- USB Extender VL66298 Receiver / 110-0016256-- Kongsberg Maritime
- USB Extender VL66298 Receiver / 110-0016256- Kongsberg Maritime
- USB Extender VL66298 Transmitter / 110-0021927- Kongsberg Maritime
- USB to 4 x RS232 DB9M / 452181- Kongsberg Maritime
- Adapter USB to 1 serial RS232 / 457971- Kongsberg Maritime
- Adapter USB to 1 serial RS422 / 459962- Kongsberg Maritime
- Serial Splitter NPort 5232-T / 415713- Kongsberg Maritime
- Panel Input Mk2 COP 05 / 330951- Kongsberg Maritime
- Panel Input Mk3 COP 05 / 110-0049940- Kongsberg Maritime
- Heading Wheel COP05 / 603550- Kongsberg Maritime
- Joystick KC 06-k / 304849- Kongsberg Maritime
- Tracker Ball Standalone Panel / 334092- Kongsberg Maritime
- cWing Junction Box for WT / 603206- Kongsberg Maritime
- RHUB200-5 Module / 603442- Kongsberg Maritime
- RMP200-8 Module / 603443- Kongsberg Maritime
- RMP201-8 Module / 324400- Kongsberg Maritime
- RSER200-4 Module / 603444- Kongsberg Maritime
- A4 Lexmark CS521dn for bridge / 110-0013801- Kongsberg Maritime
- Printer A4 CS431dw for Bridge - Kongsberg Maritime

Hardware Used Within the System With Separate Approval for Environmental and EMC Performance

- MC340 i3 LAN / 477549 /Lenovo
- MC360 i3 LAN / 110-0016256 /Lenovo
- RCU601 / 477601 /Kongsberg
- RCU602 / 383962 /Kongsberg
- IKS-6728A / 382427 /Moxa
- IKS-6726A / 110-0037724 /Moxa
- EDS-408A / 467615 /Moxa
- L2C Module / 404654/Kongsberg
- Panel ALC / 603526 /Kongsberg
- Panel BU DP / 603530/ Kongsberg