



# Type Approval Certificate

[ Alarm, Monitoring and Control System ]

**Initial Approval** 15 July 2011

**Manufacturer** Kongsberg Maritime AS, Horten  
Bekkajordet 8, NO-3189 Horten, Norway

**Product Description** Electronic Ship Automation Equipment  
Type : K-Chief 500 / 600

" See Appendix 1 "



**Approval Condition** " See Appendix 1 "

**THIS IS TO CERTIFY** that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt. 6, Ch. 2, Art. 301 of the Rules for Classification, Steel Ships.

This Certificate is valid until 19 December 2024

Reissued at Busan, Korea on 14 December 2022



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "<http://e-cert.krs.co.kr>" by using the tracking No(ME22037968061) and certificate No.(CPH27937-AC002).



**KOREAN REGISTER**

*General Manager of  
Marine & Ocean Equipment Team*

- Note :**
1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.
  2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
  3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
  4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

## Product Description and/or Approval Condition

Date of Issue : 14 December 2022

### A. Product Description

#### 1. This system consists of the following units.

- Remote Operator Station (ROS)
- Watch Bridge Unit (WBU)
- Watch Cabin Unit (WCU)
- Watch Calling Panel (WCC 600)
- Voltage Converter Controller (VCC)
- Local Operator Station (LOS)
- Midi Operator Station (MOS)
- Multiple Serial Interface (MSI-12, MSI-CL)
- Analog Input Module (RAi-16), (RAi-16xe)
- Digital Output Module (RDo-16), (RDo-16xe)
- Analog Input Module (RAi-10tc)
- Digital Input Module (RDi-32), (RDi-32xe), (RDi-32Axe)
- Analog Output Module (RAo-8), (RAo-8xe)
- Combination Unit (Rio-C1), (Rio-C2), (C2xe)
- CAN Star Coupler (PSS)
- dual Process Segment Controller (dPSC)
- Segment Control Unit (SCU)
- Generator Protection Module (RIO-C3)
- Generator Control Module (RIO-C4)
- Control Room Panel (CRP), replaces current Operation and Control Panel (OCP)
- Integrated Navigation Panel (INP), bridge version of CRP with backlight
- Automation Operating Panel (ALC), used with INP panel on bridge
- Power Switch Over unit, standard version with galvanic separation between power sources and earth fault detection (PSO)
- Power Switch Over unit, without galvanic separation between power sources and with fuses (PSO-P)
- Network Module (Ixxat Can Adapter), replaces currently used CAN PCI interface card used in the Remote Operation Station Computer with an external module
- 7" Marine Touch Panel PC with integrated Malware Protection
- Tracker Ball Panel (TBP)
- Touch Pad Panel (TPP)

#### 2. Control Function

- Alarm and Monitoring
- Aux. Control System
- Power Management System
- Engine Safety
- Generator Protection

#### 3. Documentation

- Test Report nos. DANAK-194157, 194874, 196332, 196604, 197309, 197329, 197536, 197537, 197538, 197561, 197941, 198195, 198234, 198468, 1910740, 1910922, 1911256  
AO-18309-A & 19/12904, Applica no. 20018
- E21088.03 issued by NEMKO, dated 2021-10-28

#### 4. Software version

- K-Chief 500 : V10 Series by Software No. 311245
- k-Chief 600 : 359018.12 by Document No. 386083F

### B. Approval Condition

1. This approval is granted on the basis of the approved documentation and the test reports (IACS UR E10 Rev. 8).
2. The manufacturer should inform this Society of all kinds of revisions of the equipment including software. If the changes are recognized to affect the functionality of the approved equipment, a type test to confirm the reliability of the revised equipment may be performed in the presence of our surveyor.
3. Hardware components which are common for Cert. No. CPH27937-AC003 (K-Chief, K-Chief 700 and K-Safe systems) are listed in this certificate.

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4. In the case where this system is installed on board, the system drawings for individual vessel are to be approved by this Society.
5. Individual Product Certification is required.
6. The product or packing is to be marked with the manufacturer's name and type designation on a suitable position.

< End of Certificate >

