



TYPE APPROVAL CERTIFICATE

Polish Register of Shipping certifies that the undernoted product type

CONTROL AND ALARM/MONITORING SYSTEMS

**K-Chief
K-Safe**

issued to

**Kongsberg Maritime AS
Bekkajordet 8A
NO-3189 Horten
Norway**

is approved as complying with the requirements of the

PRS Rules and is suitable for use on board of ships classified by PRS
or in appliances with PRS certificates.

Certificate No. **TE/1139/883027/25**

Expiry date **2027-08-05**

Issued at

Gdańsk, 2025-02-25



C/020/57

[Signature]
Signature

Polski Rejestr Statków S.A.
al. Gen. Józefa Hallera 126
80-416 Gdańsk, Poland

Tel. +(48) 58 346 17 00
Fax +(48) 58 346 03 92

mailbox@prs.pl
www.prs.pl

Continued overleaf

Product description:

Various components and modules used to build the following systems:

- Power Management
- Alarm and monitoring
- Machinery Control
- Cargo Control
- Ballast Control
- Vessel Performance Monitoring
- Vessel Mode Control
- Heating, Venting and Air Conditioning Controls

K-Safe specific: Emergency Shutdown System (ESD), Process Shutdown System (PSD), Fire and Gas Detection and Protection System (F&G).

Systems components: as specified in AppendixTechnical data:

Power supply voltage: 18 .. 32 VDC.

Ambient temperature: -15°C .. +55°C / +70°C *

Maximum relative humidity: 96% non-condensing.

Enclosure protection degree: IP20/IP22/IP55/IP56/IP66 *

* see technical specification for each module/component

AIM Basis Software Release 8.3, 8.5, 8.6, 8.7, 8.8, 8.10 and 8.12 for the above functions used in K-Chief and K-Safe.

Basis of approval

1. The technical documentation approved by PRS on 2022-08-11, 2024-04-18 and 2025-02-21.
2. The inspection of the production process and quality control system carried out on 2022-06-07.
3. The Quality Management System Certificate No. C561587 issued by DNV.
4. Reports from environmental and EMC tests carried out acc. to PRS Publication 11/P Ed. 07.2023.
5. Tests carried out in presence of PRS Surveyor on 2024-04-19.
6. PRS Survey Report No. TM/PU/02/24 issued on 2024-04-22.
7. The previous PRS Type Approval Certificate No. TE/1050/883027/22.

Additional conditions and remarks:

1. This type approval is for hardware and basic software. This approval is granted on the basis of the approved documentation and test reports (IACS UR E27 Rev. 1).
2. Each system is to undergo tests (FAT) in presence of PRS Surveyor.
3. The following technical documentation of each system is to be submitted to PRS for approval before FAT: general diagram of the system (block diagram) showing power supply, connections, redundancy and segregation; test programme (FAT procedure); list of I/O (for AMS systems).
4. The following documentation is to be submitted to PRS after FAT for each system delivery: inventory/equipment list demonstrating consistency with asset inventory, test report demonstrating configuration of security capabilities as per KM document 110-0078720.
5. System is not to be connected to untrusted networks.
6. The condition for maintain validity of this Certificate is to maintain validity of ISO9001 Certificates of all manufacturing places (see item below).
7. Places of production:
 - Kongsberg Maritime AS, Kirkegårdsveien 45, 3616 Kongsberg, Norway;
 - Kongsberg Maritime AS, Bakkajordet 8a, 3189 Horten, Norway;
 - Kongsberg Maritime Korea Ltd, - 9-7, Sandon 3-Ro, Jeonggwan-eup, Gijang-Gun, Busan, 46027, Republic of Korea;
 - Kongsberg Maritime China Shanghai Ltd., 136 North Fute Road, Pilot Free Trade Zone, Shanghai, China 200131.

Notes

- 1 The approval is valid only when the product is used in accordance with the manufacturer's conditions.
- 2 Changes of product design and materials which influence product quality are to be agreed with PRS.
- 3 Type Approval Certificate will be cancelled in the case of dissatisfactory service results, modifications made in the product structure or materials without PRS' consent, not advising PRS of the manufacturer's name change.

Polish Register of Shipping means Polski Rejestr Statków S.A., seated in Gdańsk, al. gen. Józefa Hallera 126, 80-416 Gdańsk, Poland, registered in the Register of Entrepreneurs of the National Court Register, under entry number 0000019880. Polish Register of Shipping, its affiliates and subsidiaries, their respective officers, employees or agents are, individually and collectively, referred to as Polish Register of Shipping or as PRS for short.

In carrying out survey activities, PRS makes efforts to ensure that they are conducted with conscientiousness and the principles of good practice, with due regard paid to the state-of-the-art technology. However, neither PRS nor its Surveyors shall bear any civil liability for damage, loss or expense which may arise in consequence or as the outcome of conducting these activities, or the result of information or advice given to the customer by PRS, irrespective of whether or not such were the result of neglect, error or lack of proper information. Nevertheless, should the customer prove that such damage, loss or expense was due to negligence on the part of the Society or its Surveyors, PRS will pay compensation to the customer for his loss up to but not exceeding the amount due for services provided, forming the basis of the customer's claim. In no cases will PRS be responsible for indirect losses (loss of prospective profits, loss of contract, inability to undertake activities) sustained by the customer and associated with the executing of a commission by PRS.

Systems components:

Components		Part No.	K-Chief	K-Safe
Operator Control Panels	COP-05 BU-AUT Panel	603529	○	○
	COP05 ALC Stand Alone	391890	○	○
	Tracker Ball Panel (TBP)	388930	○	○
	Panel ALC	603526	○	○
	Panel Input Mk3 COP 05	110-0049940	○	○
Earth Failure Indicator	EFI-16	321492	○	○
Media Converter	RMC-ST	321520	○	○
Controller	RCU 502i	421768		○
	RCU 601	477601	○	○
	RCU 602	383962	○	○
IO Units	RMP420	306712	○	○
	RMP420S	319824		○
	RDIOR420	306713	○	○
	RDIO420S	316564	○	○
	RMP422i	408442	○	○
	RMP422Si	408406		○
	RMP201-8	324400	○	○
	RSER200-4	603444	○	○
	RHUB200-5	603442	○	○
Distributed Processing Units (DPU)	Remote Analog input Module - RAi-16xe	329714	○	○
	Remote Digital output Module - RDo-16xe	329699	○	○
	Remote Digital input Module - RDi-32xe	333523	○	○
	Remote Digital input Module - RDi-32Axe	333824	○	○
	Remote Analog output Module - RAo-8xe	333505	○	○
	Remote Digital I/O Module - RIO-C2xe	333346	○	○
	PSS Module	8100184	○	○
LAN to 2 CAN gateway	L2C	404654, 406381	○	○
Network component	RTL8153B-USB3.0/3.1/3.2 to 4x Gb Ethernet	446030	○	○
Extension Alarm and Watch Call Units	WCC 600	373860	○	○
Alarm Buzzer	ALB	110-0051818	○	○



Used by product with this marking