



Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	Kongsberg Maritime AS
Address	Bekkajordet 8a, Horten, 3194, Norway
Place of Production	Kongsberg Maritime Korea Ltd 9-7, Sandan 3-ro, Jeonggwan-eup, Gijang-gun, Busan, 46027, South Korea
Place of Production	Kongsberg Maritime AS Kirkegårdsveien 45, Kongsberg, 3616, Norway
Place of Production	Kongsberg Maritime China Ltd. No. 136 North Fute Road, Pilot Free Trade Zone, Shanghai, 200131, China
Type	Control Systems
Description	Control- and Automation System for Propulsion-, Thruster- and Steering application
Trade Name	K-Chief 600
Application	Marine and Offshore applications for use in environmental categories ENV1, ENV2, ENV3 and ENV4 as defined in Lloyd's Register Type Approval System, Test Specification Number 1 – December 2021. Details of the components and the corresponding environmental categories are listed in the appendix.

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Specified Standard	Manufacturers Specification.
Additional Tests	Details of the components and the corresponding additional tests are listed in the appendix.
Other Conditions	<p>The software development and quality assurance processes of Kongsberg are covered by the Software Conformity Assessment (SCA) Certificate.</p> <p>For programmable electronic systems implementing emergency stop or safety critical functions the requirements of Control Engineering Systems needs to be satisfied.</p>

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: LR21457899TA

The Design Appraisal Document HPC1462068-24_B/TM and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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Appendix

Module	Description	Environment Category	Additional Test	Compass Safe Distance	
				Standard	Steering
ALC	Alarm and Command Panel	ENV3	-	-	-
C2xe	Distributed Processing Unit	ENV4	-15°C ¹⁾	60cm	-
C3xe	Distributed Processing Unit	ENV4	IP2x /-15°C ¹⁾	10cm	-
C4xe	Distributed Processing Unit	ENV4	IP2x /-15°C ¹⁾	10cm	-
CRP	Control Room Panel	ENV3	-	-	-
INP	Input Panel	ENV3	-	-	-
INP	COP 05 Mk3 Input Panel	ENV3	-	-	-
L2C	LAN to CAN module	ENV3	IP2x /-25°C ¹⁾	10cm	-
MPD	Multi Purpose Display	ENV4	-25°C ²⁾	30cm	-
MPP	Multi Purpose Panel	ENV4	-	10cm	-
MSI-12	Distributed Processing Unit	ENV4	IP2X /-15°C ¹⁾	20cm	-
MSI-CL	Distributed Processing Unit	ENV4	IP2X /-15°C ¹⁾	10cm	-
PSO /-P /-S	Power Switch Over Unit	ENV3	-15°C ¹⁾	10cm	-
PSS	Process Segment Star Controller	ENV4	-	-	-
RAi-10tc	Remote Analog TC Input 10Ch	ENV4	IP2X /-15°C ¹⁾	5cm	-
RAi-10tc	Remote Analog TC input Module	-	-	-	-
RAi-16xe	Remote Analog Input 16Ch	ENV4	-15°C ¹⁾	10cm	-
RAo-8xe	Remote Analog Output 16Ch	ENV4	-15°C ¹⁾	30cm	-
RDdi-32Axe	Remote Digital Input 32Ch	ENV4	-15°C ¹⁾	25cm	-
RDdi-32xe	Remote Digital Input 32Ch	ENV4	-15°C ¹⁾	10cm	-
RDo-16xe	Remote Digital Output 16Ch	ENV4	-15°C ¹⁾	10cm	-
RTL8153B	USB3.0/3.1/3.2 to 4x Gb Ethernet	ENV3	IP2X/-15°C ¹⁾	70cm	40cm
SCU	Segment Controller Unit	ENV4	-15°C ¹⁾	25cm	-
SIUxe	Sensor Interface Unit	-	-	-	-
TBP	Tracker Ball Panel	ENV3	IP2x /-15°C ¹⁾	50cm	-
TPP	Touch Pad Panel	ENV3	IP22 /-25°C ¹⁾	40cm	-
WCC 600	Watch Call Panel	ENV3	IP44 /-15°C ¹⁾	45cm	27cm

1) Low Temperature Test

Software Version K-Chief 600 For K-Chief 600 the basic software version is 12.16 which is included in the common C600 software platform release 359018.12 as described in revision history document 386083/G