



TYPE APPROVAL CERTIFICATE

Certificate no.:
TAA00000FJ
Revision No:
11

This is to certify:
that the Miscellaneous

with type designation(s)
K-Bridge and K-Bridge Standalone system platforms

issued to
Kongsberg Maritime AS
Kongsberg, Norway

is found to comply with
IMO Res. A.694(17) General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids
MSC.191(79) Performance standards for presentation of navigation-related information on shipborne navigational displays

Application:
See page 2

Issued at **Høvik** on **2025-02-06**

for **DNV**

This Certificate is valid until **2028-06-07**.

DNV local unit: **Sandefjord**

Approval Engineer: **Steinar Kristensen**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Product description

Kongsberg Maritime K-Bridge and K-Bridge Standalone system platforms comprising the modules listed below (see individual system certificates for information on required configurations).

- **K-Bridge Operator station**

K-Bridge Operator station is available in versions as either Panel Computer with integrated display and backup sensor interface, or Computer with separate Display unit and backup sensor interface, as specified below:

Panel Computer with integrated Display and Sensor Interface:

- Panel PC ¹⁾ : Panel PC 24" i5/ i7 ECDIS T22W10, Computer with i5 or i7 processor, Integrated display, embedded graphical processor and backup sensor interface (PCA100293-1; 4x NMEA input/output module)
or

Panel PC 27" i5/ i7 ECDIS T22W10, Computer with i5 or i7 processor, integrated display, embedded graphical processor and backup sensor interface (PCA100293-1; 4x NMEA input/output module)

or

Computer with separate Display Unit and backup sensor interface:

- Main Computer Unit : MC340 i7 LAN or MC360 i7 LAN, incl adapter USB to 1 serial RS232

- Graphical Interface : MC340 i7 LAN/ MC360 i7 LAN: On-board Display Port/HDMI output

- Display Unit ²⁾ : Display 24" FHD XE MK1 or
 Display 27" FHD ECDIS S MK4 or
 Display 27" FHD ECDIS KM05 MK4 or
 Display 27" FHD ECDIS G MK2 or
 Display 27" FHD XE MK2 or
 Display 32" FHD ECDIS G MK1 or
 Display 55" UHD ECDIS G MK1 or
 Display 24" FHD NAV-E MMD (HD) or
 Display 27" FHD NAV-E MMD (HD) or
 Display 32" UHD NAV-E MVD (HD) or
 Display 43" UHD NAV-E MVD (HD) or
 Display 43" UHD NAV-TE MVD (HD) or
 Display 55" UHD NAV-E MVD (HD) or
 Display 55" UHD NAV-TE MVD (HD)

- Backup sensor interface: Adapter USB 2.0 to 4x RS-422/485

Option:

- Computer accessories: Adapter USB 2.0 to 4x USB 2.0 HUB
 - USB Extender : Veinland USB Extender VL-66298 T/R

Sensor Interface : K-Bridge Sensor Integrator K-SINT, see below

Input Device : COP-05 Input and COP-05 ALC NAV or
 COP-05 ALC NAV standalone or
 TBP Track Ball Panel or
 TPP Touch Pad Panel or
 K-Master (see below)

Operator Panels (optional): COP-05 BU NAV
 COP-05 Heading Wheel, or
 MPID- Multi Purpose Input Device

Computer Keyboard : Cherry

¹⁾ Panel PCs supports utilizing the K-Bridge RADAR CP360 feature, limited to combining the radar image for up to 2 radar antennas.

²⁾ See Kongsberg Maritime Installation Manual no 455906 (DNV No 640) for details regarding reading distance of the various display units.

Power Unit ³⁾ : Phoenix Contact QUINT-PS/1AC/24DC/10 or
 Phoenix Contact PSU TRIO-PS-2G/1AC/24DC/5/B+D or
 Weidmüller Power PRO TOPDC 24DC/24DC/5A or
 Weidmüller Power PRO TOPDC 24DC/24DC/10A

K-Bridge Sensor Integrator K-SINT:

Remote Controller : RCU502i
 Serial Line Interface
 Module, 4 NMEA In/Out: RSER200-4
 RBUS Hub Module : RHUB200-5
 Power Supply : Phoenix Contact QUINT-PS/1AC/24DC/10 or
 Weidmüller Power PRO TOPDC 24DC/24DC/10A
 Network Switches : Moxa Ethernet Switch EDS-308 or EDS-316 or EDS-316-MM-SC,
 Up to 16 10/100BaseT(X) ports and 2 100BaseFX ports
Option:
 Remote IO modules : RMP420, RDIOR420 and RMP201-8

K-Master Operator station (option) ⁴⁾

Main Computer Unit : MC340 i3 LAN or MC340 i7 LAN or
 MC360 i3 LAN or MC360 i7 LAN or
 Main Display Server : MC340 i3 GPU or MC360 i5 GPU, incl. USB 3.1-4x Gb Ethernet
 Network Units : Moxa Ethernet Switch:
 - IKS-6728A-4GTXSFP-HV-HV-T ⁵⁾ or
 - EDS-316
 USB Extender : Veinland USB Extender VL-66298 T/R
 Power Unit : Phoenix Contact QUINT-PS/1AC/24DC/10 or
 Weidmüller Power PRO TOPDC 24DC/24DC/10A
 Operator Interface : Display 15" FHD XT MK1, K-Master units (Alarm Panel, I/O Controller)
 Display Unit ⁶⁾ : Display 24" FHD XE MK1 or
 Display 27" FHD ECDIS S MK4 or
 Display 27" FHD ECDIS KM05 MK4 or
 Display 27" FHD ECDIS G MK2 or
 Display 27" FHD XE MK2 or
 Display 32" FHD ECDIS G MK1 or
 Display 55" UHD ECDIS G MK1 or
 Display 24" FHD NAV-E MMD (HD) or
 Display 27" FHD NAV-E MMD (HD) or
 Display 32" UHD NAV-E MVD (HD) or
 Display 43" UHD NAV-E MVD (HD) or
 Display 43" UHD NAV-TE MVD (HD) or
 Display 55" UHD NAV-E MVD (HD) or
 Display 55" UHD NAV-TE MVD (HD)

³⁾ Power Unit may not be required in configurations where Input Device or Operator Panels are powered via USB from the computer.

⁴⁾ See Application/Limitation on page 2

⁵⁾ Ethernet switch may be installed with modules and interfaces listed in type approval certificates TAA0000043 and TAA000006N

⁶⁾ See Kongsberg Maritime Installation Manual no 455906 (DNV No 640) for details regarding reading distance of the various display units.

- **K-Bridge Standalone Operator station**

K-Bridge Standalone Operator station is available as Panel Computer with integrated display and sensor interface as specified below:

Panel Computer with integrated Display and Sensor Interface:

- Panel PC : Panel PC 24" i5/ i7 ECDIS T22W10, Computer with i5 or i7 processor, Integrated display, embedded graphical processor and backup sensor interface (PCA100293-1; 4x NMEA input/output module)
or
Panel PC 27" i5/ i7 ECDIS T22W10, Computer with i5 or i7 processor, integrated display, embedded graphical processor and backup sensor interface (PCA100293-1; 4x NMEA input/output module)

Input Device : TBP Track Ball Panel, or
TPP Touch Pad Panel

Operator Panels (optional) : COP-05 Panel NAV Standalone (for Radar only)

Computer Keyboard : Cherry

Power Unit ⁷⁾ : Phoenix Contact QUINT-PS/1AC/24DC/10 or
Phoenix Contact PSU TRIO-PS-2G/1AC/24DC/5/B+D or
Weidmüller Power PRO TOPDC 24DC/24DC/5A or
Weidmüller Power PRO TOPDC 24DC/24DC/10A

Option:

Network switches : Moxa Ethernet Switch EDS-308 or EDS-316 or EDS-316-MM-SC,
Up to 16 10/100BaseT(X) ports and 2 100BaseFX ports

- **Software modules for K-Bridge and K-Bridge Standalone Operator stations**

- Operating System : Windows 10
- K-Bridge System Platform SW : 8.2.x update 6 onwards or 9.1.x or 9.2.x
- K-Master release : 2.1.x update 10 onwards or 3.1.x
- Navtor SDK : 3.0.x
- C-Map SDK (for SENC only) : 6.0.x
- NAV WEB HMI Interface : 1.x
- IHO PresLib version : 4.0

- **K-Bridge Multi Indicators**

Computer with integrated Display and interfaces : Panel PC 13.3" 1.3GHz 13T30, 4x RS 485/ RS 422 ports

Multi Indicator SW version : 2.0.x

Option:

Network switches : Moxa Ethernet Switch EDS-308 or EDS-316 or EDS-316-MM-SC,
Up to 16 10/100BaseT(X) ports and 2 100BaseFX ports

⁷⁾ Power Unit may not be required in configurations where Input Device or Operator Panels are powered via USB from the computer.

Application/Limitation

- Installation is to be performed according to the manufacturer’s documentation.
- This certificate only identifies HW and SW used in K-Bridge and K-Bridge Standalone systems, and is intended to be read in conjunction with the individual MED Module-B certificates covering the various K-Bridge and K-Bridge Standalone systems.
 For details on compliance to system requirements, please see individual MED Module-B certificates for K-Bridge and K-Bridge Standalone systems where reference is made to this certificate.
- Topology including K-Master as operator station for K-Bridge is not in compliance with requirements in DNV rules Pt.6 Ch.3 Sec.3 and Pt.6 Ch.3 Sec.5.
- Installations which include optional K-Master as operator station for K-Bridge are subject for separate case-by-case approval.

Type Approval Documentation

DNV No	Document ID	Rev.	Description
640	455906	B	Manual: Kongsberg Maritime, ECDIS and Radar Display Distances, Installation Manual
639	INB102001-1	2025-01-30	Manual: Hatteland, User Documentation for Series_X_G3-Displays T27 (KM Doc. no 110-0090975A)
638	REP033362B	B	Report: Nemko, Display performance test report for DuraMON 24S (KM Doc. no 110-0074488A)
637	MRA000004K	2024-01-10	Certificate: DNV, EU RO MRA Type Approval certificate for certificate for DM215S, DM238S, DM 31.5 S / DuraMON 31.5 S Touch screen display (KM Doc. no 110-0063489A)
635	240620003T	2024-09-16	Report: Cal-Tech, EMC and environmental test report for HD 24T27 MMD-MA1-FAGP1A-ES (KM Doc no 110-0096097A)
633	DOC210588-1	01	Report: Hatteland, IEC 62288 Flicker Test Report for HD 24T27 MMD-MA1-FOGA1A-ES (KM Doc no 110-0096076A)
632	DOC210529-1	01	Report: Hatteland, IEC 62288 (2021) and Colour calibration test report for HD 24T27 MMD-MA1-FOGA1A-ES (KM Doc no 110-0096074A)
631	DOC209421-1	01	Report: Hatteland, Minimum brightness test of buttons and status indicators for GDCX rev 6 ((KM Doc no 110-0096069A)
629	INB101998-1	2024-10-16	Manual: Hatteland, User Documentation for HD 55T40 MVD-MAX-Cxxx and HD 43T40 MVD-MAX-Cxxx (KM Doc no 110-0090842A)
628	INB101999-1	2024-10-16	Manual: Hatteland, User Documentation for HD 32T40 MVD-MAX-Cxxx Monitor (KM Doc no 110-0090841A)
626	230704001T	2023-09-18	Report: Cal-Tech, EMC test report for HD 32T40 MVD-MA1-COJG-ES01 (KM Doc no 110-0096131A)
624	240620002T	2024-09-18	Report: Cal-Tech, EMC test report for HD 27T27 MMD-MA1-FAGP1A-ES (KM Doc no 110-0096129A)
621	DOC210527-1	01	Report: Hatteland, IEC 62288 (2021) and Colour calibration test report for HD 27T27 MMD-MA1-FOGP1A-ES (KM Doc no 110-0096105A)
620	DOC206156-1	02	Report: Hatteland, IEC 62288 Flicker Test Report for HD 27T22 MMD (KM Doc no.110-0096099A)
615	22-17667	2022-10-20	Report: AUCOTEAM, Environmental test report for VL-66298 and VL-66299 USB Extenders (KM Doc. no 110-0043600A)
614	Man_VL-66298_Rev1.4_eng	V1.4	Manual: Veinland, Technical documentation for VL-66298 USB 1x2.0-Extender via CAT (KM Doc. no 110-0035093A)
613	110-0050157	A	Report: Kongsberg Maritime, Functional test of Veinland VL-66298 USB Extender
611	D/22/4888/01	2022-09-28	Report: METEK, EMC test report for VL-66298 and VL-66299 USB Extenders (KM Doc no. 110-0043603A)
610	DOC209276-1	01	Report: Hatteland, IEC 62288 flicker test report for HD 32T40 MVD-MA1-CAJA-ES01 (KM Doc. no 110-0088584A)
609	DOC209275-1	01	Report: Hatteland, Conformance test report of LCD for user in Radar and ECDIS for HD 32T40 MVD-MA1-CAJA-ES01 (KM Doc. no 110-0088582A)
605	DOC209273-1	01	Report: Hatteland, IEC 62288 flicker test report for HD 43T40 MVD-MA1-CAJG-ES01 (KM Doc. no 110-0066393A)

DNV No	Document ID	Rev.	Description
604	DOC209274-1	01	Report: Hatteland, Conformance test report of LCD for user in Radar and ECDIS for HD 43T40 MVD-MA1-CAJG-ES01 (KM Doc. no 110-0066386A)
603	DOC209185-1	01	Report: Hatteland, IEC 62288 flicker test report for HD 55T40 MVD-MA1-CAJG-ES02 (KM Doc. no 110-0066326B)
602	DOC209183-1	01	Report: Hatteland, Conformance test report of LCD for user in Radar and ECDIS for HD 55T40 MVD-MA1-CAJG-ES02 (KM Doc. no 110-0065587B)
600	INB101420-1	08	Manual: Hatteland, User Manual for Series X- Maritime Multi Computer (MMC) Models HD 13T30 MMC (KM Doc. no 453000B)
599	P17-0150	2019-07-31	Report: EKTOS, EMC test report for DuraMON Glass 32 (selected tests) (KM Doc. no 425671B)
598	425653	B2	Manual: Kongsberg Maritime, Display 24/27/32 FHD ECDIS Instruction Manual
597	MRA0000014	6	Certificate: DNV, EU RO MRA TA certificate for Series X G2 Maritime Multi Computer (KM Doc. no 422040C)
596	417823	C	Manual: Kongsberg Maritime, Panel PC 24" and 27" Instruction Manual
588	DOC209420-1	1	Report: Hatteland, Minimum brightness test of buttons and status indicators for HD TDCMVD KIT-A1 (KM Doc. no 110-0088635A)
584	TAA00002F2	6	Certificate: DNV, Type Approval certificate for Weidmüller PRO TOPDC power supplies (KM doc. no 488329A)
574	MRA0000016	7	Certificate: DNV, EU-RO-MRA TA-certificate for HD xxT22 MMD/MVD/XRD/XVD/RMD/CMD/KMD Marine Displays (KM Doc no 435492F)
573	220801001T	1	Report: CAL-TECH, EMC and environmental test report for HD 27T40 KMD-AA4-FABP-ES Maritime Multi Display (KM Doc no 110-0013148A)
571	DOC209419-1	01	Report: Hatteland Display, Minimum brightness test of buttons and status indicators for PCA200856-1#04 (KM Doc no 110-0028173A)
570	DOC206371-1	01	Report: Hatteland Display, IEC62288 Flicker Test Report for HD 27T22 MMC (KM Doc no 110-0028171A)
569	DOC209436-1	01	Report: Hatteland Display, Conformance Test Report of LCD for use in RADAR and ECDIS for HD 27T40 KMD-AA4-FABP (KM Doc no 110-0024927A)
568	TAA000030Z	2021-07-01	Certificate: DNV, Type Approval certificate for DuraMON 10.1 S, DuraMON 15.6 S (KM Doc no 470054A1)
567	09330-000	B	Manual: ISIC, User Reference Manual – DuraMON10-24 S Series (KM Doc no 470015B)
566	P21-0035-1	2021-05-26	Report: EKTOS, EMC and environmental test report for DuraMON101 SL, DurMON156 SL, External Power Supply (KM Doc. no 481546A)
565	481409	B	Manual: Kongsberg Maritime, Display 15" FHD XT MK1 , Installation Manual
562	30.00.21562-1	3	Report: Labtest certification Inc., EMC and environmental test report for Thinkstation P360 Tiny Workstation (KM Doc. no. 110-0038633A)
561	10-0000225A	A	Manual: Kongsberg Maritime, Windows 10 Backup/Restore and installation procedures
560	110-0048723	B	Manual: Kongsberg Maritime, MC360 Computer [ThinkStation P360 Tiny] Maintenance Manual
559	110-0048720	B	Manual: Kongsberg Maritime, MC360 Computer and peripherals, Installation Manual
558	110-0048488	B	Manual: Kongsberg Maritime, MC360 System Configuration Manual
550	481031	A	Manual: Kongsberg Maritime, MC340 System Config Manual
549	479384	A	Manual: Kongsberg Maritime, MC340 Computer and Peripherals, Installation Manual
548	479386	B	Manual: Kongsberg Maritime, MC340 Computer, Maintenance Manual
545	E21059.02	03	Report: Nemko, EMC and environmental test report for RHUB200-5 Rev 2

DNV No	Document ID	Rev.	Description
543	S090A-2021	2021-03-16	Report: CSIC, EMC and environmental test report for ThinkStation P340/ MC340
540	462729	A and B	Manual: Kongsberg Maritime, K-Master Server Cabinet MK2, Maintenance Manual
538	MRA000002D	3	Certificate: DNV, MRA certificate for Hatteland Series E MMC Standard and Compact computers, KM Doc. No. 463254/B
537	E20096.02	02	Report: Nemko, IEC 60945 and IACS E10 test report for USB-232-IND-HF and USB-422-IND-HF Computer Adapters, KM Doc. No 464983/C
533	E19179.01	01	Report: Nemko, EMC and environmental test report for computer adapters (DisplayPort 1.2 to 3-Port video splitter, EX-1330M Ethernet adapter, EX-1163HM USB Hub, EX-1339HMVS USB to 8-port RS-232/422/485), KM Doc. No 460139B
520	458447	A	Manual: Kongsberg Maritime, K-Bridge MFD KM05/BI OS INS Operator Station Maintenance Manual
510	EN181113C17	2019-01-24	Report: BV, Partial EMC test report for HD 13T30 MMC-2G7-3AM1HA-ES-1 (Multi Indicators)
508	181200197TWN-001	2018-12-20	Report: Intertek Testing Services, IPx2 test report for HD 13T30 MMC-2G7-3AM1HA-ES-1 (Multi Indicators)
506	TH1_18_0446	2018-11-26	Report: PAL acoustics, Sound pressure level test report for HD 13T30 MMC-2G7-3AM1HA-ES-1 (Multi Indicators)
505	VS-TV-071130-02	2018-11-30	Report: Vibration Source Tech, Vibration test report for HD 13T30 MMC-2G7-3AM1HA-ES-1 (Multi Indicators)
503	ME8O2502	01	Report: International Certification Corp., EMC partial test report for HD 08T30 MMC-206-AAM1IA-ES-1 (Multi Indicators)
502	18-11-BAD-015-02L	2018-11-13	Report: ETC, Acoustics sound pressure level test for HD 08T30 MMC-206-AAM1IA-ES-1 (Multi Indicators)
500	VS-TV-071130-01	2018-11-30	Report: Vibration Source Technology, Vibration test report for HD 08T30 MMC-206-AAM1IA-ES-1 (Multi Indicators)
499	DOC207334-1	02	Report: Hatteland, 08T30 and 13T30 Minimum brightness test of buttons and status indicators (Multi Indicators)
498	DOC207094-1	02	Report: Hatteland, IEC62288 Ed. 2.0 Display Test for HD 13T30 MMC (Multi Indicators)
497	DOC207092-1	02	Report: Hatteland, IEC62288 flicker test report for HD 13T30 MMC (Multi Indicators)
482	454288	A	Report: Kongsberg Maritime, Hardware Compatibility Endurance Test Report, Hatteland HD27T22 Panel PC
473	452405	C	Report: Kongsberg Maritime, Presentation of black box sensor Web-HMI in K-Bridge, System Test Report
469	MRA000000S	3	Certificate: DNV, EU-RO-MR TA certificate for DuraMON15 LED, DuraMON19 LED, DuraMON22WS, DuraMON24WS and DuraMON27WS
468	MRA000000H	6	Certificate: DNV, EU-RO-MR TA certificate for DuraMON 19 GLASS, DuraMON 24 GLASS, DuraMON 26 GLASS, DuraMON 27 GLASS and DuraMON 32 GLASS displays, KM Doc. No. 429106/F
467	MRA000001B	2	Certificate: DNV, EU-RO-MR TA certificate for DuraMON 55 GLASS display
465	404702	A	Manual: Kongsberg Maritime, Display 55" UHD ECDIS MK1- Installation Manual
464	404684	A	Manual: Kongsberg Maritime, Display 55" UHD ECDIS MK1- Instruction Manual
460	446464	A	Report: Kongsberg Maritime, Test report for MPID with K-Bridge HCS and TRK
454	448166	A	Report: Kongsberg Maritime, Display 27" FHD ECDIS S MK4 System Test Report
453	448165	A	Report: Kongsberg Maritime, Display 27" FHD ECDIS KM05 MK4 System Test Report
452	448164	A	Report: Kongsberg Maritime, Display 27" FHD ECDIS G MK2 System Test Report
450	355288r00	00	Report: Nemko, Display performance test report for DuraMON 27 GLASS

DNV No	Document ID	Rev.	Description
449	443339	A	Report: Kongsberg Maritime, Display 55" UHD ECDIS G MK1 System Test Report
448	352127r01	01	Report: Nemko, Display performance test report for DuraMON Glass 55
446	E18116.00	00	Report: Nemko, Multi Purpose Input Device (MPID), EMC and Environmental test report
438	E18081.00	01	Report: Nemko, EMC and Environmental test report for RCU502i
429	TAA000006N	5	Certificate: DNV, Type Approval certificate for EDS-series Ethernet switches incl SFP-1G and SFP-1F series of modules, KM Doc. No. 427138/F
426	TAA0000043	1	Certificate: DNVGL, Type Approval certificate for Moxa IKS6700A Series Ethernet Switches, KM Doc. No. 439028/B
425	TL15055	Issue 5	Report: MS Testing, EMC and environmental test report for Moxa IKS-6728A ethernet switch
415	161170	D	Manual: Kongsberg Maritime, Cabling- General Requirement, Installation Manual
414	161012	K	Manual: Kongsberg Maritime, Kongsberg 700 Family Specification of Earthing, Shielding and Power distribution principles
413	DOC206364-1	01	Report: Hatteland Display, IEC62288 flicker test report for HD 24T22 MMC Maritime Multi Computer
392	21107	02	Report: Applca, EMC and environmental test report for HD 24T22 MMC-M82-4GP186-ES Maritime Multi Computer
391	435253	A	Report: Kongsberg Maritime, Type Approval System Test Report for Panel PC 24" 16:9 ECDIS T22 IEC 62288 Ed.2.0 Clause 4&7
390	DOC206335-1	02	Report: Hatteland Display, Conformance test report for HD 24T22 MMC-M82-4GP186-ES
388	DOC205967-1	1	Report: Hatteland Display, IEC 62288 flicker test report HD24T22 MMD
387	DOC205958-1	2	Report: Hatteland Display, Minimum brightness test of GDCX rev 5
385	435252	A	Report: Kongsberg Maritime, Type Approval System Test Report for Display 32" FHD ECDIS G MK1 IEC 62288 Ed.2.0 Clause 4&7
383	331201r00	2017-09-29	Report: Nemko, Display performance test report for DuraMON 32 Glass
368	422928	D	Manual: Kongsberg Maritime, Display MDxx ECDIS, Instruction Manual
364	TAA000006K	4	Certificate: DNV, Type Approval certificate for Moxa EDS series switches
356	425853	A	Report: Kongsberg Maritime, Hardware Compatibility Endurance Test report for K-Nav HD27T22 Panel PC
318	DOC205812-1	02	Report: Hatteland, IEC62288 flicker test report for HD27T22 MMC
303	418200	A	Report: Kongsberg Maritime, K-Bridge & K-Nav Radar and ECDIS Image transfer to VDR
300	419851	A	Report: Kongsberg Maritime, IEC 62288 test report for HD27T22 MEC panel computer
297	DOC102332-1	01	Report: Hatteland, Minimum brightness test of display control panel for HD 27T22 MEC-CGU-AABR
286	DOC102331-1	1	Report: Hatteland Display, Conformance test report HD 27T22 MEC-CGU-AABR
278	3FO16798	A	Report: SP, IP protection tests for Pointer Carrier Panel (PCP)
273	E12103.01	2012-10-22	Report: Nemko, EMC and environmental test report for KM Touchpad Large, Heading wheel and Joystick
272	T208006-8a	A	Report: Delta, EMC and environmental test report for E38-96A29D-E002 trackball
271	3P08182	2	Report: SP, EMC and environmental test report for PCP Pointer Carrier Panel
265	416662	A	Report: Kongsberg Maritime, Presentation testing, IEC 62288 (2014) K-Master 2.1.0
224	391995	B	KM Statement, K-Master Pilot Chair test statement (K-Master Pilot Chairs).
221	391780	A	Test Report: TI 3000-14-015548 Rev.- (K-Master Pilot Chair).
218	DANAK-198195	1	Test Report: DELTA, Type Approval testing of KM Common Operator Panels (COP-05)
217	DANAK-1910979	1	Test Report: DELTA DANAK-1910979, Project no.: A506924-1 (COP-05 Input Panel)
210	387155	C	Maintenance Manual: K-Master Pilot Chair.

DNV No	Document ID	Rev.	Description
190	391977	B	Test Report: K-Bridge ECDIS with K-Master MDS and ISIC.
188	391976	B	Test Report: K-Master FWD Bridge Fallback Modes and Effects.
187	391979	B	Test Report: K-Bridge with K-Master TCP as Input Device.
164	326403	B	Hardware Module Description: Phoenix contact QUINT-PS/1AC/24DC/10.
129	370398	A	Test Report: Nemko no. E12059.00 (K-Master Bridge Chair)
104	357261	B	Test Report: Nemko no. E11024.03 (K-Master Panel System)
102			Drawing: K-Bridge DNV NAUT System Topology Model (1)
96	362307	H	Manual: K-Bridge (R-Bus) SINT Cabinet Maintenance Manual
95	361286	D	Manual: K-Bridge R-Bus SINT Cabinet Installation Manual
88	351743	B	Doc: Functional Design Description, K-Bridge Navigation System
82	385169	A	Report: System Test K-Bridge NAUT
80	385171	A	Report: Type Examination Test Report K-ECDIS sensor interface
64	373032	2012-06-21	Report: Kongsberg, K-Bridge ECDIS with ISIC monitor verification test report
60	DNV-2012-05-14	2012-05-14	Report: DNV, Verification tests for K-Bridge SW 6.0 and R-BUS SINT
57	2010-08-0107	2008-04-14	Report: TI, Vibration test report of ELDON MAS 120830x KM01 cabinet
56	DANAK-198508	2007-10-17	Report: Delta, Environmental tests for RCU501, RSER200-4, RHUB200-5 and RMP200-8
55	DANAK-198696	2007-03-15	Report: Delta, Environmental testing of RMP420 and RDIOR420
49	3010-05-0052	-	Report: TI, Environmental test of KM-05 operator station 650
42	69187		Report: NEMKO, IEC 60529 / EN 60529 testing
39			Report: NEMKO – Additional Information regarding report No 16562 & 16562002
35	309397		Report: K-Bridge Sensor Integrator – Time Latency Test
34	2006-3459	01	Report: DNV, IP22 Testing of Heading Wheel
33	2006-3460	01	Report: DNV, IP22 Testing of Tracker Ball
21	DELTA-A504697-1		Report: DELTA, Type Approval testing of SONF1DC24G-K and Indicating and reset panels

Tests carried out

- Environmental testing: IEC 60945 (2002) incl Corr.1 (2008)
- Serial interface testing: IEC 61162-1 (2010) and IEC 61162-1 (2016)
- Presentation of Navigation information: IEC 62288 (2021)

Marking of product

Marking is to be in accordance with requirements in Marine Equipment Directive (MED) 2014/90/EU. See individual MED-B certificates for details.

Periodical assessment

Periodical and renewal assessments may be combined with the annual assessments for the Module-D certificate according to the Marine Equipment Directive 2014/90/EU.

The scope of the periodical/ renewal assessment is to verify that the production quality conditions stipulated for the type approval are complied with and that no alterations are made to the product design or its components and/or materials without appraisal by the Society/Notified Body.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>