



DET NORSKE VERITAS

EC TYPE-EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2002/75/EC, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This certificate is issued by Det Norske Veritas under the authority of the Government of the Kingdom of Norway.

CERTIFICATE NO. **MED-B-5181**

This is to certify that the
Track control system

with type designation(s)
TECDIS TCS

Manufacturer
Telko AS
TJØME, Norway

is found to comply with the requirements in the following Regulations/Standards:

**Module B in the Directive, SOLAS 74 as amended, IMO Resolution MSC.74(69) Annex 2, IMO Resolution A.694(17).
IMO Resolution MSC 191(79)**

Further details of the equipment and conditions for certification are given overleaf.

Høvik, 2009-04-27
for Det Norske Veritas AS

Eivind Mykland
Head of Department



Notified Body No.: **0575**

This certificate is valid until
2014-04-27

Arve Lepsøe
Surveyor

DNV local office:
DNV Sandefjord



Notice: The certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended.
The Mark of Conformity may only be affixed to the product and a Declaration of Conformity may only be issued when the production/product assessment module referred to in the council directive, is fully complied with.



Certificate No.: MED-B-5181
Item No.: A.1/4.33
Job Id.: 344.1-000651-2

Product description

See Appendix.

For latest revision of the Appendix, see <http://exchange.dnv.com/tari>

Application/Limitation

- See Appendix.
- The installation shall be verified and tested onboard according to TECDIS Installation manual - Checklist regarding Installation.

Type Examination documentation

- See Appendix.

Tests carried out

- Performance testing, IEC 62065 (2002)
- Performance testing, presentation, IEC 62288 (2008)
- Environmental testing, IEC 60945 (2002)
- Serial interface testing, IEC 61162 (2007)

Marking of product

TECDIS TCS

Each unit shall be marked with:

- Unit Name/ model
- Serial number
- Compass safe distance

Mark of Conformity

The manufacturer is allowed to affix the Mark of Conformity according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and shall issue a Declaration of Conformity, only when the module D of Annex B in the same directive is fully complied with.

Module D: The quality system for production and testing shall be approved by the Notified Body.

USCG Approval

An U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of certificates of conformity for marine equipment" signed 17 October 2005.



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APPENDIX REV. NO. 1 (PAGE 1 OF 2)

Product description

TECDIS TCS consisting of the following components:

- Telko TECDIS
- Raytheon NP2025 Plus, Heading control system

Software Modules:

- Telko TECDIS, version 4.7.X
- Raytheon NP2025 Plus, version 102-885p01e00.xx

Application/Limitation

- The system shall be connected to an alarm transfer system for transfer of back-up navigator alarms.
- The TECDIS TCS complies with the requirements for Category C Track Control Systems (Track control along pre-planned straight and curved tracks).

Type Examination documentation

- TECDIS operator's manual, edition 2.0
- TECDIS installation manual, edition 2.0
- TECDIS conformance test report, revision 2
- TECDIS conformance test report, revision 3
- Conformance test of ECDIS and TCS, rev.05
- Type Approval testing of MOUSE-TRAK trackball, Doc. No. E501359-2, as amended by Doc. No.: A503175
- Test Report for Furuno Inmarsat-C SES, FELCOM 15, Report No.: FLI 12-02-047
- Test Report IEC 60065, Doc. No.: 200112106
- Test Report for Furuno Terminal unit IB-583, Report No.: FLI 12-02-036
- Compass safe distance testing of loudspeakers HP-6 and HPS-6 according to IEC 60945, Doc. No.: 2005-3248 Rev.01
- Environmental test of loudspeakers HP-6 and HPS-6, Doc. No.: 3010-05-0284
- EMC and Environmental Testing of HT405P4 STD-A1, Doc. No.: 2006-3273 Rev.01
- EMC type approval testing of Maritime Rack Computers, Doc. No.: A503794-1
- Excessive conditions test of HT 205P4 STD Marine computer and JH 23T02 MIL Maritime Multi Display, Doc. No.: 2006-3363 Rev.01
- Type testing of 23 inch panel display, type JH 23T02 MMD E1, Doc. No.: 2005-3362 Rev.02
- Test report for FURUNO FEA-2X07, Doc. No.: FLI 12-04-030.
- Conformance Test Report for LCD for use in Radar and ECDIS – JH23T12MMD - Doc. No.: DOC100495-1
- Conformance Test Report for LCD for use in Radar and ECDIS – JH19T14MMD - Doc. No.: DOC100496-1
- Conformance Test Report for LCD for use in Radar and ECDIS – JH20T17MMD - Doc. No.: DOC100541-1
- EMC and Environmental Testing of JH19T14MMD, Doc. No.: 2008-3528 Rev.01
- EMC and Environmental Testing of JH20T17MMD, Doc. No.: 2008-3511 Rev.02
- EMC and Environmental Testing of JH23T12MMD, Doc. No.: 2008-3142 Rev.01
- Dry heat test of Maritime Computer type HT405P4 TEL, Doc. No.: 2008-3418 Rev.01
- Dips and interruption testing of monitor type JH 19T12 MMD-AA1-AAAA, Doc. No.: 2008-3190, Rev02
- EMI Test report, Doc. No.: EMV0018E.02
- Testreport for Raytheon HCS NP 2035 (2015/2025), Doc. No.: TA01-03-02-GL



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- EMC and Environmental testing of JH 19T12 MMD-DA1-AAAA, Doc. No.: 2008-3146, Rev01
- EMC and Environmental testing of JH 19T12 MMD-AA1-AAAC, Doc. No.: 2008-3143, Rev01
- EMC and Environmental testing of HM 20T07 MIL-E1, Doc. No.: 2007-3008, Rev01

Place and date

HØVIK, 2009-04-27


ARVE LERSØE





END OF CERTIFICATE