

TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MERB00006Z1
Revision No:
0

This Certificate is issued by DNV UK Limited based on authorisation of the Maritime & Coast Guard Agency (MCA) as an UK Approved Body to undertake conformity assessments on marine equipment in accordance with the requirements of the Merchant Shipping (Marine Equipment) Regulations 2016 as amended.

This is to certify:

That the Voyage data recorder (VDR) and Simplified voyage data recorder (S-VDR)

with type designation(s)
NW6000

Issued to

Netwave Systems B.V.
Zoetermeer, Zuid-Holland, Netherlands

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

Regulation **MSN 1874 Amendment 6,**

item No. UK/4.29. SOLAS 74 as amended, Regulations V/18, V/20 & X/3, IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87), IMO Res. MSC.333(90)
item No. UK/4.47. SOLAS 74 as amended, Regulation V/20, IMO Res. A.694(17), IMO Res. MSC.163(78), IMO Res. MSC.191(79), IMO Res. MSC.302(87)

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

This Certificate is valid until **2025-07-01**.

Issued at **London** on **2022-12-12**

DNV local unit:
Netherlands VMC

Approval Engineer:
Steinar Kristensen



Approved Body No.: **0097**

for **DNV UK Ltd.**

Christine Mydlak-Röder
MER Service Responsible



UK Approved Body Authorised
by the MCA

The Mark of Conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D, E or F) of Schedule 2 of the Merchant Shipping (Marine Equipment) Regulations 2016, as amended is fully complied with and controlled by a written inspection agreement with an approved body. The product liability rests with the manufacturer or his representative in accordance with the Merchant Shipping (Marine Equipment) Regulations 2016.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV UK Ltd. of any changes to the approved equipment. Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply. This certificate remains valid unless suspended, withdrawn, re-called, or cancelled.

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

NW6000 is a Voyage Data Recorder (VDR) consisting of the following components:

Component	Type designation	Location ¹⁾
Core Module – Data processor module including Power-, CPU-, Network- and battery backup- modules	NW6000	Protected
Bridge Control Unit	NW6010	Protected
Audio Hub, 6 audio ports	NW6031	Protected
Analogue Microphone, interior and exterior	NW6030	Exposed
WaveNet Buscoupler, including 3x IEC 61162-2 ports	NW6410	Protected
Serial Interface Unit, 8 ports, or 16 ports	NW64208 NW64216	Protected Protected
VHF interface	NW6060	Protected
Float Free Capsule ²⁾ - TRON 40VDR or - TRON 40VDR AIS ³⁾	NW6880 NW6880-AIS	Exposed Exposed
Hardened Fixed Recording Medium (Capsule) including: - Netwave PT9-Ninety Underwater Locator Beacon	NW6860 NW4860-695	Exposed

Options:

Component:	Type designation:	Location
Video Interface Unit, VGA, 4 channels	NW6044	Protected
Analogue Interface Unit, 4 channels 8 channels 12 channels	NW64404 NW64408 NW64412	Protected Protected Protected
Digital Interface Unit, 8 channels 16 channels 24 channels	NW64308 NW64316 NW64324	Protected Protected
DIN enclosure for DAQ adaptors	NW64900	Protected
CM bulkhead enclosure	NW6000-920	Protected
Managed Ethernet Switch	NW6000-7001	Protected

Software:

Module	Version
NW6000	v1.8.x

Application/Limitation

- The NW6000 VDR is to be installed according to manufacturer's documentation.
- Local Area Network connection may be used for transfer of screen images from ECDIS and Radar using LAN interface protocols in IEC 61996-1, Annex E.
See Installation, operation and maintenance manual for details on recording capacity of screen images.

Tests carried out

- Performance testing: IEC 61996-1 (2013) +A1(2021) and IEC 61996-2 (2007)
- Environmental testing: IEC 60945 (2002) incl. Corr. 1 (2008),
DNV-CG-0339 (2021), IACS E10 (Rev 7.0, Oct. 2018)
- Interface testing: IEC 61162-1 (2016),
IEC 61162-2 (1998),
IEC 61162-450 (2018)
- Presentation of information: IEC 62288 (2014)
- Bridge Alert Management: IEC 62923-1 (2018) and IEC 62923-2 (2018)

¹⁾ Location according to environmental categories as defined in IEC 60945 (2002). The final recording medium (capsules) meet the particular requirements for physical protection as specified in IEC 61996-1.

²⁾ Separate certificates are required for EPIRB where the Float Free Capsule is to be used to comply with carriage requirements for EPIRB

³⁾ Tron 40VDR AIS is tested for compliance with IEC 61996-1 (2013) +A1(2021) using a Galileo GNSS receiver in accordance with IEC 61108-3 (2010).

Type Examination documentation

DNV No	Document Id	Rev.	Description
66	75950873-02	Issue 01	Report: TÜV SÜD, IEC 60945, ETSI EN 301 489-1 and ETSI EN 301 489-19 test report for Tron 40VDR AIS
65	BSH/454.GNSS/TUVSUDLtd/6	1	Report: BSH, Conformance test of integrated GNSS receiver for Tron 40VDR AIS
64	75950873-09	Issue 01	Report: TÜV SÜD, IEC 61097-2 (Annex D: 121.5 MHz Homing transmitter) test report for Tron 40VDR AIS
63	75950873-08	Issue 03	Report: TÜV SÜD, IEC 61108-3 test report for Tron 40VDR AIS
62		G	Manual: Jotron, Tron 40VDR AIS Float-free EPIRB with VDR storage, User manual
60	354	2022-02-04	Certificate: COSPAS SARSAT, Type Approval certificate for a 406 Megahertz Distress Beacon for use with the Cospas-Sarsat Satellite System for EPIRB Float Free Tron 40VDR AIS
59	1354	2022-02-04	Certificate: COSPAS SARSAT, Type Approval Certificate for a 406 Megahertz Distress Beacon for use with the Cospas-Sarsat Satellite System for EPIRB Float Free Tron 40VDR AIS
57	E21187.00	2022-02-10	Report: NEMKO IEC 61996-1:2013 + AMD1:2021 – Partial test, Tron 40VDR AIS (COSPAS-SARSAT 406 MHz Satellite Emergency Position-Indicating RadioBeacon (EPIRB) with attached Voyager Data Recorder (VDR))
55	75950873-07	Issue 03	Report: TÜV SÜD, IEC 61097-2 (2021) test report for Tron 40VDR AIS EPIRB
54	0026~H0203~0000211537	01	Report: Thales, EMC test report for NW6000 VDR (IACS E.10 Rev. 7/ DNV-CG-0339:2021)
53	0026~H0203~0000213498	00	Report: Thales, Damp- and dry heat test report for NW6000 VDR (IACS E.10 Rev. 7/ DNV-CG-0339:2021)
52	UT103098	2014-08-15	Report: Universal Testing Inc, Environmental test report for INS-8528M(W) Ethernet switch (NW6000-7001)
51	VT-140905-1	2014-09-05	Report: King Design, Vibration and low temperature test report for INS-8528M(W) Ethernet switch (NW6000-7001)
50	20390	1	Report: Applicia, Acoustic noise and compass safe distance test of INS-8528M(W) Ethernet switch (NW6000-7001)
49	1470539R-ITCEP16V00	v1.0	Report: QuieTek, EMC test report for INS-8528 series Ethernet Switch (NW6000-7001)
47	BSH/454.VDR/Netwave NW6000/1-1	2021-12-01	Report: BSH, IEC 61162-450 (2018) test report for NW6000 VDR/S-VDR
46	BSH/454.VDR/Netwave NW6000/1-2	2021-12-01	Report: BSH, IEC 62923-1/-2 (2018) test report for NW6000 VDR/S-VDR
45	NW6860/3521/001	A02	Report: Netwave, IEC 61996-1:2013 Fixed Capsule Test Report, 600 bar 24h test
36		A01	Report: Orolia, Test report for NW6410 Bus Coupler and NW64216 NMEA interface unit, IEC 61162-1 and 61162-2
29	BSH/4542/002/0062770/14		Statement of Conformity: BSH, PT9 ninety underwater locating device
27	9505 002 900XX 001		Report: Thales, VDR capsule shock tests
17	E13261.06	06	Report: Nemko, Tron 40VDR IEC 60945 (2002), IEC 61097-2 (2008), IEC 61996-1 (2013) test report
16	4543/001/4292687/13-2	2015-01-09	Report: BSH, Conformance test report of VDR Display Bridge Control Unit, IEC 62288
15	4543/001/4292687/13	2015-02-25	Report: BSH, Conformance test report of Voyage Data Recorder VDR NW6000
14	454.VDR/Orolia NW6000/1	2020-07-15	Report: BSH, Conformance test report for NW-6000 VDR/S-VDR, IEC61996-1 and IEC 61992-2
13	2014-Efectis-R0268	02	Report: Efectis, 61996-1 Fire tests
12	0606882/1		Report: Lloyds, Fire, penetration and immersion tests
11	4543/001/4292938/15		Report: BSH, 61162- 450 test
10	9505 332 926XX 001		Report: Thales, IEC 60945 7,8,9 & 10
9	0000185724		Report: Thales, Low temp 60945 test
8	0000185261		Report: Thales, IEC 60945 test

DNV No	Document Id	Rev.	Description
7	4543/001/4292687/13-1		Report: BSH, IEC60945 6, 11.1 , 13-15
6	000019224		Report: Thales, IEC60945 EMC
5	NW6000-50	1.8	Manual: Netwave, Replay application NW6096 operator manual
4	NW6000-60	3.4	Manual: Netwave, Authority access Manual, Voyage data recorder
3	NW6000-10	2.16	Manual: Netwave, Installation, operation and maintenance manual- Voyage data recorder

Marking of product

The name and contact address of the manufacturer and type designation of the product is to be affixed to the equipment in a clearly visible location. In addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.