

# EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

## This is to certify:

### That the Speed and distance measuring equipment (SDME)

with type designation(s)  
**NSL500**

Issued to  
**Nortek AS**  
**RUD, Norway**

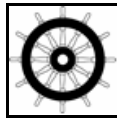
is found to comply with the requirements in the following Regulations/Standards:  
Regulation **(EU) 2019/1397**,  
**item No. MED/4.7. SOLAS 74 as amended, Regulations V/18, V/19 & X/3, IMO Res. A.694(17), IMO Res. A.824(19), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87)**

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

This Certificate is valid until **2024-11-03**.

Issued at **Høvik** on **2019-11-04**

DNV GL local station:  
**Oslo Maritime and CAP**



for **DNV GL AS**

Approval Engineer:  
**Steinar Kristensen**

Notified Body  
No.: **0575**

**Roald Vårheim**  
**Head of Notified Body**

A 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, E or F), 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.

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-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

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.



## Product description

NSL500 is a Speed log with Graphic Touch Display for measurement of Speed and Distance Through Water, consisting of the following units:

Unit	Type/Part no.	Comment/Description	Location	OS/SW/FW Versions
Display Units	NSL-HMI-eX710	HMI 10,1" Display with touch	Protected	OS: JMobile Runtime: 2.8.0.XXX Application: 1.0.XX
Interface Processing Cabinet (IPC)	NSL-IPC-1.0	Interfaces: 6x NMEA In 6x NMEA Out 4x Digital In 4x Digital Out	Protected <sup>1)</sup>	OS: Windows 10 Enterprise 2016 LTSB, v.10.0.X Application: NSL_Core_1.1.XX
Junction box	NSL-JB1-1.0	100-240V AC/24V DC and terminal board	Protected <sup>1)</sup>	
	NSL-JB2-1.0	For external 24V DC with terminal board	Protected <sup>1)</sup>	
Sensor Unit	NSL-500-1.0	Sensor unit instrument with 500kHz working frequency	Submerged	FW: SpeedLog_SECV1.4.XXXX_BBPV3.053_XX

Location specifies the location for the equipment according to IEC 60945 (2002).

## Application/Limitation

- The system shall be installed according to manufacturers documentation.
- The NSL500 meets the requirements for measuring Speed Over Ground (SOG).
- When the transducer window is filled with distilled water, the NSL500 sensor unit cannot be exposed to temperatures below 0°C

## Tests carried out

- Environmental Tests: IEC 60945 (2002) incl Corr 1. (2008)
- Performance Tests: IEC 61023 (2007)
- Serial Interface Tests: IEC 61162-1 (2016) and IEC 61162-2 (1998)
- Presentation of information: IEC 62288 (2014)
- Bridge Alert Management: IEC 62923-1 (2018) and IEC 62923-2 (2018)

<sup>1)</sup> Equipment meets requirements of IP44

## Type Examination documentation

<b>DNV GL No</b>	<b>Doc. ID</b>	<b>Rev.</b>	<b>Description</b>
45	2043-NSL-Z-VE-002	00	Report: Nortek, Performance Test Program for BAM
44	2043-NSL-Z-VE-003	02	Report: Nortek - Performance Test Program
43	370040-03r01	2019-07-05	Report: Nemko, Display performance test report eSMART07M
42	370040-02r01	2019-07-05	Report: Nemko, Display performance test report for eX707G
41	370040-01r01	2019-07-05	Report: Nemko, Display performance test report for eX710
40	E13184.00	1	Report: Nemko, EMC test report for HT 00262 OPT-A1 (partial tests)
39	2013-20053	1	Report: Applica, EMC and environmental testing of HT 00262 OPT-A1 incl IEC 61162 hardware related tests
37	2013-3135	0	Report: DNV, EMC and environmental testing of Maritime Computer HT B22GE STC-C4K-M100, incl. IEC 61162 hardware related tests
33	21411-2	01	Report: Applica, EMC testing of NSL500, IPS and NSL-JB
32	2043-NSL-Z-RB-002	00	Report: Nortek, NLS500 Performance Test - Simulation
31	2043-NSL-Z-RB-001	02	Report: Nortek, NLS500 Performance Test - Sea Trial
28	VS-TV-061012-02	2017-10-13	Report: Vibration Source Technology Co, Vibration tests of HT B30KH STC-A37-EB3G00-ES
27	ME7D0806	02	Report: International Certificaton Corp, Radiated emissions tests of HT B30KH STC-A37-EB3G00-ES
26	171200252TWN-001	2018-02-13	Report: Intertek, Temperature tests for Compact Fanless Computer HT B30KH STC-A37-EB3G00-ES
24	170905002TR1	2018-04-09	Report: CAL-TECH, EMC and environmental test report for Compact Fanless Computer HT B30KH STC-A37-EB3G00-ES-3 Technical Report 2018-170905002TR1 Maritime Rev.1
23	21110	0	Report: Applica, EMC and environmental test report for Compact Fanless Computer HT B30KH STC-A37-EB3G00-ES
21	21111	2	Report: Applica, EMC and environmental test report for Compact Fanless Computer HT B30GH STC-A3x-M13200-ES
18	21411-1	0	Report: Applica, Environmental test report for NSL500 Speed Log
13	2043-NSL-O-MB-001	02	Manual: Nortek, NLS500 HMI User Manual
12	2043-NSL-Z-MB-003	02	Manual: Nortek, NLS500 Installation Manual Tank Solution
11	2043-NSL-Z-MB-002	03	Manual: Nortek, NLS500 Installation Manual Double Bottom
10	2043-NSL-Z-MB-001	03	Manual: Nortek, NLS500 Installation Manual Single Hull

## Marking of product

The type designation and name and contact address of the manufacturer shall be affixed visibly, legibly and indelibly to the product. In addition the product shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage