TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MERB00008UK
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 Speed and distance measuring equipment (SDME)

with type designation(s)
SIMRAD R1 Easy Tank

Issued to
SAL Navigation AB
Hägersten, **Sweden**

is found to comply with the requirements in the following Regulations/Standards:
Regulation **MSN 1874 Amendment 7,**
item No. UK/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 **2029-02-08**.

Issued at **London** on **2024-02-09**

for **DNV UK Ltd.**

DNV local unit:
Finland CMC

Approval Engineer:
Steinar Kristensen

Approved Body No.: **0097**

Christine Mydlak-Röder
MER Service Responsible

Maritime & Coastguard Agency
UK Approved Body Authorised by the MCA

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with the approved body named on this certificate.
During the period of validity of this certificate the applicable regulations (international conventions and the relevant resolutions and circulars of the IMO) and testing standards may change, therefore the product conformity may need to be re-assessed by the Approved Body.
"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. In case limitations of use apply, these should be indicated in the Annex.

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

SIMRAD R1 Easy Tank is a Single Axis Speed Logs for measurement of Speed- and Distance Through the Water, consisting of the following units:

Unit	Description	Type/part no.	SW ver.	Comment	Location
Main unit	SIMRAD R1 ELC	000-14050-001	Axx	Power: In:110-115VAC/ 220-230VAC, 50-60Hz, Out: 20VDC Interfaces: 1xNMEA In 10x NMEA Out 1x Analogue Out (0.1V/kn) 2x Relay Out (200 p/NM) 1x Relay Out (power failure) 1x RS-232 In/Out (service)	Protected
Transducer	SAL R1 TRU Easy Tank 10 m	000-14051-001	NA		Submerged
Display Unit	SIMRAD SD4-3	000-14049-001	Cxx	Power, input: 10-32VDC Interfaces: 1x NMEA In 10x NMEA Out 3x Digital In (+5V) 1x Digital Out (+5V)	Exposed

Application/Limitation

- SIMRAD R1 Easy Tank is measuring and indicating the speed- and distance through the water as required by SOLAS Ch.V.19/2.3.4
- SIMRAD R1 Easy Tank shall be installed according to the SIMRAD R1 Easy Tank Installation Manual, doc. No 703854B01, Rev B01 (or later version)
- SIMRAD R1 Easy Tank does not issue alerts, hence testing according to IEC 62923-1 and IEC 62923-2 is deemed as not being applicable for this product.

Type Examination documentation

DNV No	Document ID	Rev	Description
34	1209547-1	2012-03-30	Report: Intertek, Environmental test report for SAL R1a incl WTU-Assy (SAL Navigation doc no AA12027)
32	BSH/454.ESE/Consilium R1Ed/4	2022-01-20	Report: BSH, IEC 61162-1 test report for Digital Interface (SAL Navigation doc no AA22004B)
28	703854B01	B01	Manual: SIMRAD, SIMRAD R1 Easy Tank Installation Manual (SIMRAD no 988-12849-001)
27	703852B01	B01	Manual: SIMRAD, SIMRAD R1 Easy Tank System User Manual (SIMRAD no 988-12848-001)
23	BSH 4612/4071840/11	2011-01-12	Report: BSH, IEC 61023 (2007), IEC 61162-1 (2010) and IEC 62288 (2008) test report for SAL R1a (SAL Navigation doc no AA20026)
22	BSH 4612/4071591/10-1	2010-03-17	Report: BSH, IEC 61023 (2007) and IEC 61162-1 (2007) test report for SAL R1a (SAL Navigation doc no AA20025)
21	BSH 4612/4071591/10	2010-03-17	Report: BSH, IEC 62288 Ed.1 (2008) test report for SD4-X Display unit (SAL Navigation doc no AA20024)
19	BSH/4612/4061984/11	2011-09-30	Report: BSH, IEC 61023 (2007) and IEC 61162-1 (2010) test report for SAL T3+ ELC (SAL Navigation doc no AA13034)
18	273 152B	2012-01-17	Report: Innventia, SAL R1a Mechanical testing (SAL Navigation doc no AA12032, appendix to AA12027))
17	1209547-4	2012-04-02	Report: Intertek, Storage temperature test report SAL R1a (WTU Assy) (SAL Navigation doc no AA12029)
16	1122354-1	Ed.2	Report: Intertek, EMC test report for SAL R1a with WTU assy (SAL Navigation doc no AA12026)
15	1122354-1	Ed.2	Report: Intertek, EMC test report for SAL T2 with WTU assy (SAL Navigation doc no AA12025)
11	BSH/4612/4070407/06	2006-11-28	Report: BSH, IEC 61023 test report for SAL T2/T2s/T3/T3+/T1 (SAL Navigation doc no AA06081)
10	445	2005-07-04	Certificate: BSH, SD4 Compass safe distance (SAL Navigation doc no AA05074)

Tests carried out

- Environmental Tests: IEC 60945 (2002) incl. Corr.1 (2008)
- Performance Tests: IEC 61023 (2007)
- Serial Interface Tests: IEC 61162-1 (2016)
- Presentation of information: IEC 62288 (2021)

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.