

TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MERB00001YG
Revision no.:
1

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 **Echo-sounding equipment**

with type designation(s)
Skipper ESN100

issued to

Jotron Skipper AS
Oslo, Norway

is found to comply with the Regulation (UK) **MSN 1874 Amendment 10** for
Item no. **UK/4.6 (Row 3 of 3)**
according to the following requirements:

SOLAS 74 Reg V/19 IMO Res A.224(VII), IMO Res A.694(17), IMO Res MSC.191(79), IMO Res MSC.74(69) Annex 4, IMO Res MSC.302(87), SOLAS 74 Reg V/18, SOLAS 74 Reg X/3, IMO Res MSC.36(63)-(1994 HSC Code) 13, IMO Res MSC.97(73)- (2000 HSC Code) 13

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

Date of issue: **2025-12-10**

Expiry date: **2030-12-09**

DNV local unit:
Oslo Maritime and CAP

Approval Engineer:
Steinar Kristensen



Approved Body No.: **0097**



for **DNV UK Ltd.**

Digitally Signed By:
Christine Mydlak-Röder

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 USD 300 000.

Product description

Please see Appendix: Product Description

Application/Limitation

- Installation to be performed in accordance with manufacturer's installation manuals.

Type Examination documentation

Document No.	Rev.	Title
E.17051.00	0	Report: Nemko, Environmental test report ESN100 Single Channel Navigation Echo Sounder System (Appendix 10)
-	07.06.2017	Report: DNVGL, Report from Sea test of ESN100
E.14223.01 Appendix 9	01	Report: Nemko, Environmental test report DL2-Multi Dual axis speed sensor and DL21 Dual Axis and STW speed sensor
-	04.09.2017	Report: DNVGL, Signed Performance test for ESN100 Single channel echosounder
	2021-08-20	Report: Skipper, BAM and IEC 61162-450 test report for ESN100 1.1.0.0
DM-G004-SB	2123	Manual: Skipper, ESN100 Operation and Installation Manual
TL18024	Issue 2	Report: MS Testing, EMC and environmental test report for EDS-408A-MM-ST ethernet switch
17A0322R- ITCEP16V00	V2.0	Report: Dekra, EMC test report for EDS-408A-series ethernet switches

Tests carried out

- Environmental Tests: IEC 60945 (2002) incl. Corr.1 (2008)
- Performance Tests: ISO 9875 (2000) incl. Corr.1 (2006)
- Interface Tests: IEC 61162-1 (2016), IEC 61162-450 (2018)
- Presentation of information: IEC 62288 (2021)
- Bridge Alert Management: IEC 62923-1 (2018), IEC 62923-2 (2018)

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.

APPENDIX

Product Description

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The ESN100 system consists of the following modules:

Hardware module	Model name	SW version	location
Display	ESN100-XB *	1.2.Y**	Protected
	CU-M001-XB *	1.2.Y**	Protected
Process Unit	JB50E1-XA *	1.3.Y**	Protected
Transducer	ETN50	---	Submerged
	ETN200	---	Submerged
	ETN200S	---	Submerged
	ETS50200	---	Submerged
	ETS050	---	Submerged
	ETS200	---	Submerged
Optional Features			
Remote dimming control	IR31DIM-XA*	1.Y**	Protected
Digital depth repeater	IR301	2.Y**	Protected
	UDD SAM4900	---	Protected
Digital multi repeater	CD 401 MR	1.Y**	Protected
Option			
Managed Ethernet Switch	EDS-408A	-	Protected

* X is an undefined letter that will change based on customer

** Y is a number representing minor software modifications