

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB0000441
Revision no.:
4

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

that the **Radar equipment**

with type designation(s)
HLD-RADAR900/HLD-RADAR900C/HLD-RADAR900S

issued to

Jiangsu Highland Integration Technology Co.,Ltd.
Nantong, China

is found to comply with the Implementing Regulation (EU) 2024/1975 for
Item no. **MED/4.64** (Row **1 of 1**)

according to the following requirements:

SOLAS 74 Reg. V/19, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.191(79), IMO Res. MSC.192(79), IMO Res. MSC.302(87), IMO MSC.1/Circ.1349, ITU-R M.1177-4 (04/11), SOLAS 74 Reg. V/18, And for High Speed Craft: SOLAS 74 Reg. X/3, IMO Res. MSC.36(63)-(1994 HSC Code) 13, IMO Res. MSC.97(73)-(2000 HSC Code) 13

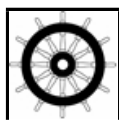
Further details of the equipment and conditions for certification are given overleaf.

Date of issue: **2025-06-06**

Expiry date: **2027-10-27**

DNV local unit:
Nantong

Approval Engineer:
Jörg Rebel



Notified Body
no.: **0098**



for **DNV SE**

Digitally Signed By:

Christine Mydlak-Röder

Christine Mydlak-Röder
Head of Notified 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-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 SE 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.

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

- The HLD-RADAR900/900C/900S are to be installed according to manufacturer's instructions.
- IMO SN.1/Circ.MSC.1/Circ.1503: ECDIS that is not updated for the latest version of IMO Standards may not meet the chart carriage requirements as set out in SOLAS regulation V/19.2.1.4.
- Chart data formats: as defined in separate certificate*)
- System interfaces (undisturbed operation): as defined in separate certificate*)
- Backup arrangements (ECDIS): as defined in separate certificate*)

*) The Type Approval certificate TAA000035G for HLD navigation system platforms in its latest revision at the date of placing the system on the market is part of this certificate, for the relevant revision see also <https://approvalfinder.dnv.com/>.

Type Examination documentation

Please see Appendix: Type Examination Documentation

Tests carried out

- Environmental and EMC testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Interface testing: IEC 61162-1 (2016), IEC 61162-2 (1998) and IEC 61162-450 (2018)
- Presentation testing: IEC 62288 (2021)
- Bridge alert management testing: IEC 62923-1 (2018) and IEC 62923-2 (2018)
- Performance testing: IEC 62388 (2013)

Marking of product

According to IEC 60945, Sect.4.9:

The product to be marked with following information, where practicable:

- Identification of the manufacturer,
- Equipment type number or model identification under which it was type tested,
- Serial number of the unit,
- Compass safe distance.

Alternatively, the marking may be presented on a display at equipment start-up, and in case of fixed equipment compass safe distance may be given in the equipment manual.

APPENDIX

Type Examination documentation

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Document No.	Rev.	Title
TAA000035G	Latest rev.	Certificate: DNV, HLD navigation systems platforms
HLD1800CZ	2.2	Manual: HLD-RADAR900 Operation
HLD10100CZ	1.5	Manual: HLD-RADAR900S Operation
DNV-2-19-HLD-INS600-03	V01C	Report: HLD, Tests acc. to IEC 62288 (2021) and MSC452(99)
DNV-10-10-HLD-RADAR 900-02	V01B	Report: HLD, Tests acc. to IEC 61162-450 (2018)
DNV-10-10-HLD-RADAR 900	V01B	Report: HLD, Tests acc. to IEC 62923-1/-2 (2018)
DNV-6-28-HLD-RADAR900S	V01C	Report: HLD, Tests acc. to IEC 62388 (2013)
DNV-5-31-HLD-RADAR 900S	V01E	Report: HLD, Test acc. to IEC 62388, Clauses 6.7.3, 6.8.3 to 6.8.5, 6.9.2 and 6.9.3
DNV-2024-03-05-HLD-RADAR900S	V01C	Report: HLD, Tests according to IEC 62388 (2013)
DNV-4-17-HLD-RADAR 900S	V01A	Report: HLD, Tests according to IEC 62388, Secs. 6.5.3, 6.6.2, 6.7.3, 6.8.3 to 6.8.5, 6.9.2 and 6.9.3
9065-16-39255-62388		Report: HLD, Tests according to IEC 62388
9065-16-39255-62388	1	Report: HLD, Test acc. to IEC 62388, Clauses 6.7.3, 6.8.3 to 6.8.5, 6.9.2 and 6.9.3
HLD10100AZ	1.5	Installation manual for HLD-RADAR900S
HLD1800AZ	2.4	Installation manual for HLD-RADAR900
DNV-5-22-HLD-INS600	V01B	Report: HLD, Tests for Ubuntu 20.04 acc. to IEC 61174, IEC 62388 and IEC 61924-2

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Product Description

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The X- and S-Band Radar upmast versions type HLD-RADAR900/HLD-RADAR900C/HLD-RADAR900S comprises of:

No.	Designation	Type Designation
1	Transceiver Units Radar Antenna Radar Transceiver	One or more units as defined in separate certificate ^{*)} as defined in separate certificate ^{*)}
2	Main Processing Units Display Electronics	as defined in separate certificate ^{*)}
3	Display Units 250mm (for Radar CAT 2 & ECDIS, alternatively)	as defined in separate certificate ^{*)}
4	Display Units 320mm (for Radar CAT 1 & ECDIS alternatively)	as defined in separate certificate ^{*)}
5	Operator Units (alternatively)	as defined in separate certificate ^{*)}
6	Sensor Interfaces (alternatively)	as defined in separate certificate ^{*)}
7	Network Switches (alternatively)	as defined in separate certificate ^{*)}
8	Optional Components	as defined in separate certificate ^{*)}

Software:

No.	Designation	Version no.
1	Application software	V2.0.x with x \geq 22597 for magnetron radar transceivers and V2.0.x with x \geq 23301 for solid state radar transceivers
2	Operating system of Display Electronics	Microsoft Windows 7 SP1 or Ubuntu 20.04

Operating system version numbers as defined in separate certificate^{*)}