

TYPE EXAMINATION CERTIFICATE – EC MODULE B

Certificate no.:
MEDB000096F

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 AS under the authority of the Government of Norway.

This is to certify:

that the Transmitting heading device THD (GNSS method)

with type designation(s)
SC90, SC120

issued to

Nantong Saiyang Electronics Co., Ltd.
Nantong, Jiangsu Province, China

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

Regulation **(EU) 2024/1975**,

item No. **MED/4.41. SOLAS 74 as amended, Regulations V/18, V/19 & X/3, IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.116(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87)**

Manufacturers authorised representative

SEA SERENITY - Sarkisian A. Olegk
Piraeus, Greece

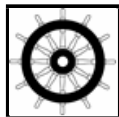
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2030-08-06**.

Issued at **Hamburg** on **2025-08-07**

DNV local unit:
Nantong

Approval Engineer:
Jörg Rebel



Notified Body
No.: **0575**

for **DNV AS**

Mydlak-Röder, Christine
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, and amended by Decision No 1/2023 dated August 21st, 2023.



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 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.

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

The transmitting heading device (THD) type SC90 and SC120 consists of following components necessary for operation:

SC90:

Antenna unit type SC901 and Data processing and display unit type SC900 with software vers. 5.x ($x \geq 5$)

SC120:

Antenna unit type SC1201 and Data processing and display unit type SC1200 with software vers. 5.x ($x \geq 5$)

Interfaces:

1 x GNSS antenna in, 2 x CAM in/out (IEC 61162-1), 2 x heading out (IEC 61162-1), 2 x heading out (IEC 61162-2), 1 x alarm relay out (normally-closed), 2 x heading out (Furuno AD-10).

Power supply: 2 x 24 VDC (11...32 VDC)

Application/Limitation

SC90 and SC120 to be connected to a backup central alert management (CAM) system. SC90 and SC120 have no own alert display according to IEC 62923-1.

Type Examination documentation

DNV No.	Document ID	Rev.	Description
14	NTSY-SC-TEST2025	2025-08-01	Report: NTSY, Tests acc. to ISO 22090-3 (2014), IEC 62288 (2021), IEC 62923-1/-2, IEC 61162-1 (2016 and 2024) and IEC 60945, 6.1 to 6.4
12	Ship Test 2021-048	2021-06-25	Report: CSIC, EMC tests acc. to IEC 60945, 9, 10 and 11.2
11	Ship Test ER2021-048	2021-08-13	Report: CSIC, Environmental tests acc. to IEC 60945 and IEC 60529
10	SY-SC-OM-EN	03E	Manual for user, maintenance and installation for SC90 and SC120

Tests carried out

- Environmental and EMC testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Interface testing: IEC 61162-1 (2016 and 2024) and IEC 61162-2 (1998 and 2024)
- Presentation testing: IEC 62288 (2021)
- Bridge alert management testing: IEC 62923-1 (2018) and IEC 62923-2 (2018)
- Performance testing: ISO 22090-3 (2014)

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