



EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00001BX
Revision No:
2

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 Rate-of-turn indicator (ROTI)

with type designation(s)
SC-70 and SC-130

Issued to

Furuno Electric Co., Ltd.
Nishinomiya, Hyogo Pref, Japan

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

Regulation **(EU) 2022/1157**,

item No. MED/4.9. SOLAS 74 as amended, Regulations V/18, V/19 & X/3, IMO Res. A.526(13), IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87)

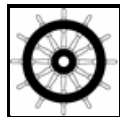
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2025-07-01**.

Issued at **Høvik** on **2023-01-30**

DNV local unit:
Kobe

Approval Engineer:
Frederik Tore Elter



Notified Body
No.: **0575**

for **DNV AS**

Sverre Olav Bergli
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 1/2019 dated February 22nd, 2019.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 300,000 USD.



Product description

The SC-70/SC-130 ROTI consists of the following units:

Unit	Location
Antenna unit	Exposed
Display unit	Protected
Junction box	Protected

For details, see Appendix.

Application/Limitation

The SC-70/SC-130 shall be installed and setup as IMO-compliant and commissioned in accordance with the installation instructions of OME-72820-K1 (or later version).

If the RD-50 remote display is installed for compliance with SOLAS regulation V/19.2.9.1 the Device Mode shall be set as ROTI in accordance with the installation instructions of OME-44530-D (or later version).

Type Examination documentation

- See Appendix.

Tests carried out

- ISO 20672 (2007)
- IEC 61162-1 (2016)
- IEC 61162-2 (1998)
- IEC 61162-450 (2018)
- IEC 62288 (2014)
- IEC 60945 (2002)
- IEC 62923-1 (2018), IEC 62923-2 (2018);

Marking of product

The designation of Manufacturer and Type to be fixed in a clearly visible location. In addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.

APPENDIX

Product description:

The SC-70/SC-130 ROTI includes the following units and parts:

Unit	Model Name	Remark
Antenna unit	SC-703	SC-70
	SC-1303	SC-130
Display unit	SC-702	
Junction box	SC-701	
Interfaces	IEC61162-1 IEC61162-2 IEC61162-450	4 ports 1 port 1 port
Remote display unit	RD-50	*option
Software versions	20151562-02.xx 20151566-02.xx 20151570-02.xx	SC-701 SC-702 SC-703/SC-1303

Type Examination documentation

NPS No.*	Document No.	Ver.	Document Title
53	LIC04-22-0178		Report IEC 60945, LABOTECH Furuno GNSS Antenna Unit, GPA-022S
38	K20-17-1652	2020/11/30	Report: Type Approval test report for Model: Satellite Compass
37	K20 -17 -1657	2020/11/30	Report: Testing Report of Bridge Alert Management Model: Satellite Compass Type: SC-70/130
35	LIC 12-20-167	30 October 2020	Report: LABOTECH IEC 61162-450 - Test Report SATELLITE COMPASS Type: SC-70/130
34	LIC 01-20-037	30 October 2020	Report: LABOTECH IEC 61162-450 - Reference document for IEC 61162-450 SC 70/130
31	OME-72820-K1	K1: MAR . 11, 2020	Manual: Furuno OPERATOR'S MANUAL SATELLITE COMPASS SC-70 SC-130
28	K20-17-125x	x=2,3,4,5	GPS/DGPS: static accuracy and angular movements
27	LIC 12-16-075		IEC62288 test report: RD-50 remote display
25	K20-19-010	1	NMEA and LAN interfaces
23	FLI12-13-045		Test report IEC61162-1/2: GP-170
22	LIC12-16-074		Test report IEC62288: SC-702
21	LIC12-16-073		Test report IEC61162-450: SC-70/SC-130
20	LIC12-16-072		Test report IEC61162-1/2: SC-70/SC-130
19	LIC 12-16-071		CSD test report IEC60945 (other): SC-70/SC-130
18	LIC 12-16-070		Test report IEC60945 (rain): SC-130
17	LIC 12-16-069		Test report IEC60945 (environ.): SC-130
15	LIC 12-16-067		Test report IEC60945 (other): SC-70
14	LIC 12-16-066		Test report SC-70: IEC60945 (environ.)
13	LIC 12-16-065		EMC test report SC-70: IEC60945
10	CW-060	statement	Statement to waive the corrosion test
9	K20-17-1256-0		Testing report of Interfering signal - L band
8	K20-17-1257-0		Testing report of Interfering signal - S band
7	K20-17-1259		Testing report of Static error test (ISO22090-3)



Job Id: 344.1-005711-3
Certificate No: MEDB00001BX
Revision No: 2

NPS No.*	Document No.	Ver.	Document Title
6	K20-17-1260		SC-70/130: Testing report For pending items
5	K20-17-1311		SC-70/130: Testing report For pending items
1	K24-17-1258		SC-70/130 DNV type approval testing report

*ref. NPS folder 344.1-005710