



EC TYPE EXAMINATION (MODULE B) CERTIFICATE (EC-US MRA)

No. 03-002065/031753

THIS IS TO CERTIFY:

That Croatian Register of Shipping did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with requirements of Marine Equipment Directive (MED) 2014/90/EU, subject to any conditions in the schedule attached hereto.

TYPE AND DESCRIPTION OF PRODUCT

Rudder angle indicator with type designation Simrad I3007 / I3005

NUMBER AND ITEM DESIGNATION (in accordance with Annex of Regulation (EU) 2024/1975)

MED/4.20 – Rudder angle indicator

MANUFACTURER:

Electronica Lowrance de Mexico S.A. de C.V. Av. Reforma 1648 Fraccionamiento Valle Verde, 22839 Ensenada, Baja California, MEXICO

Place of production (if different from above):

REGULATIONS AND STANDARDS

(in accordance with Annex of Regulation (EU) 2024/1975, row 1 of 3 of the MED item)

SOLAS 1974 as amended, Reg. V/18, Reg. V/19, Reg. X/3. IMO Res.A.694(17), IMO Res.MSC.36(63)-(1994 HSC Code) 13, IMO Res.MSC.97(73)-(2000 HSC Code) 13, IMO Res.MSC.191(79), IMO Res.MSC.302(87).

USCG Module B number: 165.167/EC2489/03-002065

NOTICE:

- 1. Further details of the product and conditions for certification are given overleaf.
2. This certificate will not be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with the notified body named on this certificate.
3. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply.
4. 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 Annex II of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.
5. In case limitations of use apply, these should be indicated of in the Schedule of Approval.
6. This product has been assigned U.S. Coast Guard Module B number in accordance with the European Council Decision 2004/425/EC dated 21 April 2004 on the conclusion of an Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment, as amended by Decision No.1/2018 of the Joint Committee established by the Agreement of the European Community and the United States of America of 18 February 2019.



Issued by Croatian Register of Shipping, notified body number 2489.

This certificate is valid until: 2025-07-01

Place and date: Split, 2024-11-04

Seal

Signature

Marinko Popović, dipl.ing.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Simrad I3007 /I3005 Rudder angle indicator consists of the following components:

	<i>Item name</i>	<i>Description</i>	<i>Part number</i>	<i>SW ver.</i>	<i>Location</i>
1.	<i>Display unit – 7”</i>	<i>I3007</i>	<i>000-14126-001</i>	<i>2.1.x</i>	<i>Protected</i>
2.	<i>Display unit – 5”</i>	<i>I3005</i>	<i>000-14125-001</i>	<i>2.0.x</i>	<i>Protected</i>
3.	<i>Junction Box</i>	<i>MX610JB</i>	<i>000-11139-001</i>	<i>1.1.xx</i>	<i>Protected</i>
4.	<i>Junction Box</i>	<i>MX612JB</i>	<i>000-10916-001</i>	<i>1.1.xx</i>	<i>Protected</i>
5.	<i>Rudder angle transmitter</i>	<i>RF300</i>	<i>20193744</i>	<i>N/A</i>	<i>Protected</i>
6.	<i>Rudder angle transmitter</i>	<i>RF25N</i>	<i>000-10756-001</i>	<i>1.1.02.00</i>	<i>Protected</i>
7.	<i>Rudder angle transmitter</i>	<i>RF45X</i>	<i>22011415</i>	<i>N/A</i>	<i>Protected</i>
8.	<i>Rudder angle transmitter</i>	<i>RF70N</i>	<i>000-10591-001</i>	<i>1.1.02.00</i>	<i>Protected</i>
9.	<i>Rudder angle transmitter</i>	<i>RF14XU</i>	<i>22506950</i>	<i>N/A</i>	<i>Protected</i>

Input information to the display unit may be:

- *NMEA0183*
- *Analog (voltage, current, frequency)*
- *Digital*

2. APPLICATION/LIMITATION OF USE

System is to be installed in a protected environment.

3. DESIGN DRAWINGS AND SPECIFICATIONS

SIMRAD I3007 - Installation Guide, item number – 988-12391-003
SIMRAD I3005 – Installation Guide, item number – 988-12390-003
SIMRAD I3005/I3007 – Operator Manual, item number – 988-12439-002
MX610 Junction Box - Installation Guide, item number – 988-12457-001
MX612 Junction Box - Installation Guide, item number – 988-12458-001
RF70N Rudder Feedback – Instruction, item number – 988-10617-001

4. TYPE TEST RECORDS/LABORATORY RECOGNITION STATUS

Environmental testing – IEC 60945(2002) including Corrigendum 1 (2008);
Serial interface testing – IEC 61162-1(2016) & IEC 61162-2 (1998);
NMEA 2000 standard – IEC61162-3(2008);
Serial interface testing – IEC 61162-450 (2011), Lightweight Ethernet;
Presentation of navigation information – IEC 62288 Ed.2 (2014-07);
Performance testing – ISO 20673 Ed. 1 (2007);
CRS letter of approval – 2064/TSE/VB/031380 dated 2019-07-22;
Serial interface testing – IEC 61162-450 Ed. 2.0 (2018);
CRS letter of approval – 1474/TSE/NP/031516 dated 2021-07-13.

5. MATERIALS OR COMPONENTS REQUIRED TO BE TYPE APPROVED OR TYPE TESTED

This approval remains valid for subsequent minor software amendments, as allowed by the 2.1.x format (x=a numeral), where written details of any such modification have been submitted to and accepted by the approvals authority.

6. OTHER MATERIALS AND/OR COMPONENT

There are several optional units – junction boxes for a more complex display interconnections, as stated in the product description table. Due to a lot of different signal inputs many other approved rudder angle transmitters may be used as well.

7. PRODUCTION SURVEY REQUIREMENTS

The I3005/I3007 display indicator shall be supplied by 24VDC in accordance with Installation Manual.

8. ONBOARD INSTALLATION AND MAINTENANCE REQUIREMENTS

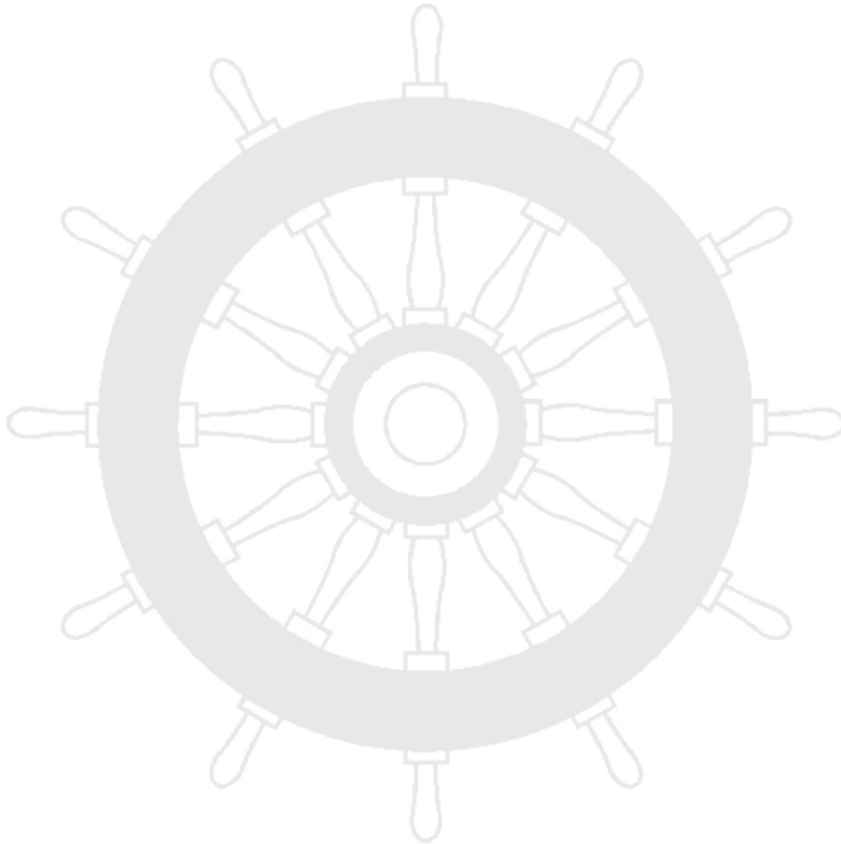
The installation on board shall be verified and tested according to Installation & Operation Manual.

9. MARKING AND IDENTIFICATION

Subject to compliance with the conditions in this Schedule of Approval which forms part of certificate, and those of Articles 9, 10 and 15 of the Directive, the Manufacturer is allowed to affix the “Mark of Conformity” to the Product described herein.

xxxx/yy
xxx - the number of the Notified Body undertaking surveillance module(2489 in case of CRS)
yy - the last two digits of year mark affixed

This product has been assigned US Coast Guard Module B number **165.167/EC2489/03-002065**. In those instances where the Notified Body conducting the conformity assessment in accordance with either Module D, E or F of the Marine Equipment Directive is not CRS, such Notified Body would use the above U.S. Coast Guard Module B number to provide the manufacturer with the U.S. Coast Guard approval number by noting it on the Certificate of Conformity, thereby authorizing the manufacturer to mark the product accordingly.



APPENDIX – TYPE EXAMINATION DOCUMENTATION

	<i>Document title</i>	<i>Identification number</i>	<i>Revision index</i>
1.	<i>I3005 Display – IEC/EN60945:2002 + Cor. 1:2008 NEMKO AS – Test Report</i>	<i>E19102.00</i>	<i>2019-07-10</i>
2.	<i>I3007 Display – IEC/EN60945:2002 + Cor. 1:2008 NEMKO AS – Test Report</i>	<i>E19106.00</i>	<i>2019-07-10</i>
3.	<i>I3005 Display Performance NEMKO AS – Test Report</i>	<i>373270r00</i>	<i>2019-07-05</i>
4.	<i>I3007 Display Performance NEMKO AS – Test Report</i>	<i>368173r00</i>	<i>2019-07-05</i>
5.	<i>I3007 Display – Acoustic noise and signal test NEMKO AS</i>	<i>373068-R1TRFEMC</i>	<i>2019-06-06</i>
6.	<i>I3005 Display – Digital Interface IEC 61162-1:2016 (Ed. 5.0), IEC 61162-2:1998 (Ed. 1.0), ITU-T V.11:1996 BSH Test Report</i>	<i>454.Display/Navico I3005 & P2005/1</i>	<i>2019-07-10</i>
7.	<i>I3007 Display – Digital Interface IEC 61162-1:2016 (Ed. 5.0), IEC 61162-2:1998 (Ed. 1.0), ITU-T V.11:1996 BSH Test Report</i>	<i>454.Display/Navico I3007 & P3007/1</i>	<i>2019-07-10</i>
8.	<i>S180 Junction Box (MX610/MX612) IEC60945 – EMC EMC Technologie Test Report</i>	<i>120414.1</i>	<i>2012-06-06</i>
9.	<i>S180 Junction Box (MX610/MX612) IEC60945 – Environmental DnV Test Report</i>	<i>2012-3214</i>	<i>2012-05-29</i>
10.	<i>RF300 Rudder Feedback Unit IEC60945; IEC61162-1 DnV Technical Report</i>	<i>2003-3440</i>	<i>2003-11-05</i>
11.	<i>RF14XU Rudder Feedback Unit IEC60945 – NEMKO EMC Test Report</i>	<i>199949289</i>	<i>2000-01-03</i>
12.	<i>RF25N; RF70N Rudder Feedback Units DnV – MED B Certificate</i>	<i>MED-B-9587</i>	<i>2015-01-22</i>
13.	<i>RF45X ; RF300S Rudder Feedback Unit IEC60945 ; IEC61162-1 DnV Technical Report</i>	<i>2002-3131</i>	<i>2002-04-08</i>
14.	<i>CRS Witness Test : ISO 20673 Ed. 1 (2007)</i>	<i>NAVICO TestLink</i>	<i>2019-07-12</i>
15.	<i>CRS Witness Test: IEC 61162-450 Ed. 2.0 (2018)</i>	<i>NAVICO Testrail</i>	<i>2021-07-06</i>

- END OF CERTIFICATE -