



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

No.	<b>03-001694/031405</b>
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### 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

#### 12 kW X-BAND – RADAR SYSTEM

with type designation **R3016 12U/6X**

### NUMBER AND ITEM DESIGNATION

(in accordance with Annex of Regulation (EU) 2018/773 – 2<sup>nd</sup> Implementing Regulation)

MED/4.36 – Radar equipment CAT 3

### MANUFACTURER:

**NAVICO RBU ITALIA S.r.l.**

**Via Romita 26, 50025 Montagnana V.P. – Montespertoli (FI), ITALY**

### REGULATIONS AND STANDARDS

(in accordance with Annex of Regulation (EU) 2018/773 – 2<sup>nd</sup> Implementing Regulation)

SOLAS 1974 as amended, Reg. V/18 and 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) and  
ITU-R M.1177-4(04/11).

### USCG Module B number:

**165.117/EC2489** (see application/limitation of use)

### 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.

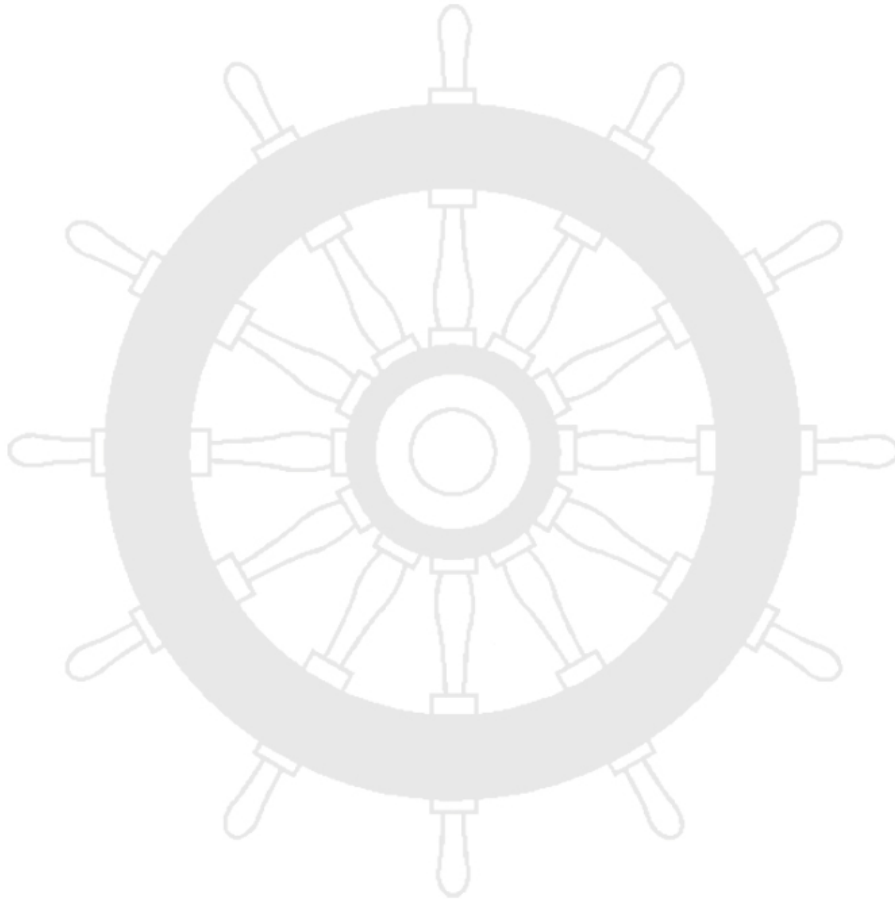
Issued by Croatian Register of Shipping, notified body number 2489.

This certificate is valid until: **2023-08-07**

Place and date: Split, 2019-08-08

Seal

Signature  
Marinko Popović, dipl.ing.



## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION

*R3016 12 kW X-BAND RADAR SYSTEM consists of the following components:*

	<i>Item name</i>	<i>Item number</i>
1.	<i>12 kW SRT X-Band Lan Transceiver</i>	<i>000-12383-001</i>
2.	<i>X-BAND 6FT ANTENNA</i>	<i>000-10324-001</i>
3.	<i>R3016, Radar Control Unit, 16"</i>	<i>000-12188-001</i>
4.	<i>R3000 Power Supply Unit</i>	<i>000-12384-001</i>
5.	<i>15 m Power Cable</i>	<i>000-12387-001</i>
6.	<i>15 m Ethernet Cable</i>	<i>000-12390-001</i>
7.	<i>R3016 Bracket Mounting Kit</i>	<i>000-12412-001</i>
8.	<i>High Speed NMEA0183 8WAY 2M</i>	<i>000-12393-001</i>
9.	<i>1.5 m HDMI DVI Cable</i>	<i>000-12427-001</i>
10.	<i>SI80 Simrad Signal Interface</i>	<i>000-10425-001</i>

### 2. APPLICATION/LIMITATION OF USE

*R3016 12U/6X Radar is found to comply with the requirements for Radar carriage requirements on vessels up to 500 GT. This radar equipment fulfil Performance Requirements for CAT 3 Radar categories of ship/craft for SOLAS Ch. V:*

<i>Minimum operational display area diameter</i>	<i>180mm</i>
<i>Minimum acquired radar target capacity</i>	<i>20</i>
<i>Minimum activated AIS target capacity</i>	<i>20</i>
<i>Minimum sleeping radar target capacity</i>	<i>100</i>
<i>Minimum total AIS target and reports capacity</i>	<i>120</i>

*This product has been assigned U.S. Coast Guard Approval Category for the Automatic Tracking Aid (ATA) only. The manufacturer must obtain the Federal Communication Commission (FCC) certification on the Radar System before installation on board the U.S. vessel. The system is tested for compliance to communicate with Bridge Alert Management System (BAM).*

### 3. DESIGN DRAWINGS AND SPECIFICATIONS

*R3016 12U/6X HW INST & SYSTEM WIRING MAN, item number 988-10912-XXX;  
R3016 12U/6X SYSTEM CONFIG & MAINT MAN, item number 988-10913-XXX;  
R3016 12U/6X OPERATOR MANUAL, item number 988-10911-XXX;  
R2009/R3016 QSG Multlang, item number 988-10951-XXX;  
SI80 - Radar Serial Interface Box – Installation Guide.*

### 4. TYPE TEST RECORDS/LABORATORY RECOGNITION STATUS

*Performance testing - IEC 62388 Ed. 2.0 (2013-06), CRS witness test - Montagnana, January/April 2016.;*  
*Environmental testing - IEC 60945 Ed. 4.0 (2002-08) including Corrigendum I(2008);*  
*Serial interface testing - IEC 61162-1(2016), CRS witness test - Montagnana, August 2019.;*  
*Presentation of navigation information - IEC 62288 Ed. 2.0 (2014-07), CRS witness test - Montagnana, January/April 2016;*  
*CRS letter of approval - 1115/TSE/VB/031175 dated 2016-05-09 (All Technical Documents & Test Reports included).*

### 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 SW numerical format. Written details of any such modification shall be submitted to and accepted by the approvals authority.*

### 6. OTHER MATERIALS AND/OR COMPONENT

*For more demanding installation (use of BAM and INS system only) Serial Input Expansion Box - Simrad SI80 may be used.*

**7. PRODUCTION SURVEY REQUIREMENTS**

The manufacturer is allowed to affix the Mark of Conformity to equipment referred and to issue a Declaration of Conformity as long as either of the following is fulfilled:

Module D – The quality system for production and testing shall be approved by the Notified Body.

**8. ONBOARD INSTALLATION AND MAINTENANCE REQUIREMENTS**

The R3016 12U/6X Radar shall be supplied by 24VDC in accordance with Installation Manual.

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 **165.117/EC2489**. 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.

**10. OTHER****SOFTWARE:**

<i>Item name</i>	<i>SW version</i>
<i>R3016, 12U/6X Software</i>	<i>1.0.XX</i>
<i>Radar Application Software</i>	<i>6.0.XX</i>
<i>SRT Software Version</i>	<i>81.XX</i>
<i>SRT Protocol</i>	<i>I</i>

**OPTIONAL EQUIPMENT:**

<i>Item name</i>	<i>Item No.</i>
<i>R3000 Power Supply Unit</i>	<i>000-12384-001</i>
<i>Heater Upgrade kit for SRT Lan</i>	<i>000-12386-001</i>
<i>30 m Power Cable</i>	<i>000-12388-001</i>
<i>65 m Power Cable</i>	<i>000-12389-001</i>
<i>30 m Ethernet Cable</i>	<i>000-12391-001</i>
<i>65 m Ethernet Cable</i>	<i>000-12392-001</i>

**APPENDIX – TYPE EXAMINATION DOCUMENTATION  
TEST REPORTS**

<i>Document title</i>	<i>Identification number</i>	<i>Revision index</i>
<i>R3016 Radar System (Block Diagram) - Navico RBU</i>	<i>992-21511-01A</i>	<i>17-Dec-15</i>
<i>R3016 CAT 3 Stand Alone Radar - BSH Test Report</i>	<i>BSH/4543/001/4372911/15</i>	<i>2015-11-27</i>
<i>R3016 CAT 3 Stand Alone Radar - BSH Test Report</i>	<i>BSH/4543/001/4372988/16-1</i>	<i>2016-02-03</i>
<i>R3016 CAT 3 Stand Alone Radar - BSH Test Report</i>	<i>BSH/4545/001/4372988/16-2</i>	<i>2016-04-29</i>
<i>Wind tunnel tests on Radar NAVICO - Politecnico di Milano</i>	<i>P036-15PC</i>	<i>2015-09-14</i>
<i>Technical Report following IEC 62288 Ed. 2.0 (2014-07), CNR - Istituto Nazionale di Ottica</i>	<i>3F-RT15008</i>	<i>2015-11-26</i>
<i>Radar Display 16" : Bracket and panel mounting Vibration test, Koncar Institute, Zagreb</i>	<i>21520-B-2015-164</i>	<i>2015-11-05</i>
<i>Radar Display 16" : Panel mounting Vibration test, Koncar Institute, Zagreb</i>	<i>21520-B-2015-164-1</i>	<i>2015-11-05</i>
<i>Radar Display 16" : Bracket mounting Vibration test, Koncar Institute, Zagreb</i>	<i>21520-B-2016-026</i>	<i>2016-02-19</i>
<i>12 kW SRT X-Band LAN Transceiver with 6' X-Band Antenna Vibration test, Koncar Institute, Zagreb</i>	<i>21520-B-2015-165</i>	<i>2015-11-05</i>
<i>SRT R3000 Power supply unit 24VDC Vibration test, Koncar Institute, Zagreb</i>	<i>21520-B-2015-166</i>	<i>2015-11-05</i>
<i>R3016 12U/6X Radar System, Resistance to environmental conditions, Koncar Institute, Zagreb</i>	<i>51-14515</i>	<i>2015-12-21</i>
<i>R3016 12U/6X Radar System, Electromagnetic Compatibility Test, Koncar Institute, Zagreb</i>	<i>21583EMC15046_v3</i>	<i>2015-11-10</i>
<i>R3016 Radar display, 16" - Electrical safety test, Protection against accidental access to dangerous voltages, Koncar Institute, Zagreb</i>	<i>21583SIG15031</i>	<i>2015-11-10</i>
<i>R3000 Power Supply Unit - Electrical safety test, Protection against accidental access to dangerous voltages, Koncar Institute, Zagreb</i>	<i>21583SIG15032</i>	<i>2015-11-10</i>
<i>12kW SRT X-BAND LAN transceiver - Electrical safety test, Protection against accidental access to dangerous voltages, Koncar Institute, Zagreb</i>	<i>21583SIG15033</i>	<i>2015-11-10</i>
<i>12 kW SRT X-Band LAN transceiver - Testing and verification of the degree of protection provided by enclosures, Koncar Institute, Zagreb</i>	<i>21583IP15015</i>	<i>2015-10-20</i>
<i>R3016 12kW/6X Radar - Compass safe distance, Laboratories G.S.D. S.r.l, Pisa</i>	<i>15822</i>	<i>2015-11-04</i>
<i>R3016 12U/6X Radar System - waivers to IEC 60945 ed 4.0 Paragraf 8.10 - Solar radiation Paragraf 8.12 - Corrosion/salt mist Paragraf 12.3 - Emission from visual displays, Paragraf 12.4 - X-Radiation</i>	<i>NAVICO</i>	<i>2015-10-29 2015-10-29 2016-01-22 2016-01-13</i>
<i>Test Report Antenna 6' X-BAND, according to IEC62388 Ed.2.0 Paragraf 6.10.2 , 6.10.3 and 6.10.4, FINMECCANICA, Land &amp; Naval Defence Electronic Division</i>	<i>SANT6XL002-P152449-0-4</i>	<i>2016-03-14</i>
<i>Consilium Selesmar SELUX-ST – BSH Test Report</i>	<i>BSH/4612/4340779/08-1</i>	<i>2009-06-26</i>
<i>Selesmar Selux T-250 ARPA – BSH Test Report</i>	<i>BSH/4612/4340337/08</i>	<i>2008-01-25</i>

- END OF CERTIFICATE -