



Marine &amp; Offshore

Certificate number: 65612/A0 MED

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USCG Module B number: 165.123 / EC2690

This certificate is not valid when presented without the full attached schedule composed of 7 sections  
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Notified Body 2690 - MARINE EQUIPMENT DIRECTIVE 2014/90/EU

## EC TYPE EXAMINATION CERTIFICATE

as per Module B of Directive 2014/90/EU of the European Parliament and of the Council of 23 July 2014 as transposed in the French Regulations and Commission Implementing Regulation (EU) 2021/1158 of 22 June 2021

This certificate is issued to:

**TOKYO KEIKI INC. Marine Systems Company**

Yaita - JAPAN

for the type of product

**ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEM (ECDIS) WITH BACKUP, AND RASTER CHART DISPLAY SYSTEM (RCDS)**

EC-9000 series

**Requirements:**

SOLAS 74 Convention as amended, Regulations V/18, V/19, V/27, X/3

IMO Res. MSC.36(63) -(1994 HSC Code)- as amended, 13

IMO Res. MSC.97(73) -(2000 HSC Code)- as amended, 13

IMO Res. A.694(17)

IMO Res. MSC.191(79), MSC.232(82), MSC.302(87)

IMO MSC.1/Circ.1503.Rev.1

IEC 60945 (2002) + /Corr. 1 (2008),

IEC 61162 series: IEC 61162-1 (2016) - IEC 61162-2 ed1.0 (1998-09) - IEC 61162-3 ed1.2 Consol. with am1 ed. 1.0 (2010-11) and am2 ed. 1.0 (2014-07) - IEC 61162-450:2018,

IEC 61174 Ed. 4.0 (2015),

IEC 62288 Ed. 2.0 (2014-07),

IEC 62923-1:2018,

IEC 62923-2:2018.


This certificate is issued on behalf of the French Maritime Authorities to attest that Bureau Veritas Marine & Offshore did undertake the relevant type-examination procedures for the product identified above which was found to comply with the relevant requirements of the Directive 2014/90/EU of the European Parliament and of the Council of 23 July 2014 as transposed in the French Regulations.

**This certificate will expire on: 11 Feb 2027****For Bureau Veritas Marine & Offshore Notified Body 2690,**

At BV KOBE, on 11 Feb 2022,

Shinichi Takemoto



This certificate does not allow to issue the Declaration of Conformity and to affix the mark of conformity (wheelmark ) to the products corresponding to this type. To this end, the production-control phase module (D, E or F) of Annex II of the Directive is to be complied with and controlled by a written inspection agreement with a notified body.

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. 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. Bureau Veritas Marine & Offshore is designated by the French Maritime Authority as a "notified body" under the terms of the French Regulations Division 140 Chapter 140-2. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

Tokyo Keiki ECDIS EC- 9000 series consist of the following 4 units :

- Display Unit
- Control Unit
- IF Unit
- Alarm Unit

And lined up to the following models due to a monitor size :

Model name	Size
EC-9027	27 inch
EC-9024	24 inch
EC-9019	19 inch

### **1.1 Hardware modules:**

#	Component	Type / Version
1	Control Unit	ACU-011
2	Display Unit	19inch LCD : ADU-011 (EC-9019) 24inch LCD : ADU-012 (EC-9024) 27inch LCD : ADU-013 (EC-9027)
3	Alarm Unit	AOP-011
4	I/F Unit	AIF-011

### **1.2 Software:**

#	Component	Type / Version
1	ECDIS	Ver.2.0.x EC-9019/9024/9027
2	Presentation library	Ver.4.0
3	Operation unit AOP-011	Ver.1.0
4	Operating System	Microsoft Windows 10 Iot Enterprise LTSC 64bit

### **2. DOCUMENTS AND DRAWINGS:**

2.1 - Drawings: 189921250 ( PSW\_PWB ), 189921260 ( Block Diagram PSW ), 189921280 ( Block Diagram EXFNC2 ), 189921270 ( EXFNC2\_PWB ), 189921290 (SNG\_PWB), 189921320 (Block Diagram RDI), 189921300(BLOCK DIAGRAM SNG), 189921310 (RDI\_PWB), 189921330 (CUSTOMIZED POWER SUPPLY (Block Diagram ) , 189921200 (System Block Diagram), 189921210 (Cable Wiring Diagram), 189921220 (DISPLAY UNIT) 189921230 (DISPLAY UNIT), 189921240 (DISPLAY UNIT) 189921340 (CUSTOMIZED POWER SUPPLY (Sequence ) ) , 189921350 (EC-9000 (NAME PLATE LAYOUT)) 189921380 (ALARM UNIT) 189921370 (IF UNIT 189921360 (CONTROL UNIT), 189921390 (POWER BOX (LAYOUT DRAWING)), 189921400 (PROCESSOR BOX (LAYOUT DRAWING))

2.2 - EU RO MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE, N°MRA0000016 dated 2021-07-01 and issue by DNV

2.3 - Hardware Descriptions : CMRC-21-069 Basic Specifications for EC-9000 rev.1.1, CMRC-21-071 Hardware Design Specifications for EC-9000 with diagrams

2.4 - Software Descriptions : CMRC-21-072 Software Specifications for EC-9000 series, 2.7 - E18-9000 Operator's Manual EC-9000 Rev1. dated August 2021

2.5 - Installation Instructions : CMRC-21-075 InstallationManual EC-9000 dated August 2021, CMRC-21-076 Service Menu Manual EC-9000 rev.1.0

2.6 - Information for witness testing : CMRC-12-060 C-MAP Simulator User's Manual, CMRC-14-114 (CAM simulator) BAM

Simulator 1.1 User's Manual, CMRC-14-145 VDR Simulator Operator Manual, DATE20080123 RDTSIM Instructions, CMRC-16-138 Route Transfer simulator user manual, CMRC-16-173 Sentence simulator user manual, MED-4.30 ECDIS TA Programme

### **3. TEST REPORTS:**

- 3.1 - CMRC-21-080 IEC60945 Ed.4 Environmental test report EC-9000 Dated 10/08/2021 issued by TOKYO KEIKI INC.
- 3.2 - CMRC-21-081 IEC61174 Ed.4 (2015) Test Report EC-9000 Dated 08/2021 issued by TOKYO KEIKI INC and witnessed by BV surveyor.
- 3.3 - CMRC-21-082 IEC61162 Ed.5 (2016) Test Report EC-9000 Dated 08/2021 issued by TOKYO KEIKI INC and witnessed by BV surveyor (including IEC 60945 Ed.4 additional test report dated 30/09/2021).
- 3.4 - CMRC-21-083 IEC61162 Ed.1 (1998) Test Report EC-9000 Dated 08/2021 issued by TOKYO KEIKI INC and witnessed by BV surveyor.
- 3.5 - CMRC-21-084 IEC61162-450 Ed.2 (2018) Rev.1.0 Test Report EC-9000 Dated 08/2021 issued by TOKYO KEIKI INC and witnessed by BV surveyor.
- 3.6 - CMRC-21-085 IEC61996 Ed.2.0 (2013) Rev.1.0 Test Report EC-9000 Dated 08/2021 issued by TOKYO KEIKI INC and witnessed by BV surveyor.
- 3.7 - CMRC-21-086 IEC62288 Ed.2.0 (2014) Rev.1.0 Test Report EC-9000 Dated 08/2021 issued by TOKYO KEIKI INC and witnessed by BV surveyor.
- 3.8 - CMRC-21-088 IHO S-64 Ed3.0.3 (2020) Rev.1.0 Test Report EC-9000 Dated 08/2021 issued by TOKYO KEIKI INC and witnessed by BV surveyor.
- 3.9 - CMRC-21-089 IEC62923-1.0 Ed.1 / -2 Ed.1.0 (2018) Rev.1.0 Test Report EC-9000 Dated 08/2021 issued by TOKYO KEIKI INC and witnessed by BV surveyor.
- 3.10 - CMRC-21-126 Items pointed out in the witness test EC-9000 Dated 09/2021 issued by TOKYO KEIKI INC and witnessed by BV surveyor.
- 3.11 - CMRC-21-127 IEC60945 Ed.4 (2002) Rev.1.0 Test Report EC-9000 Dated 08/2021 issued by TOKYO KEIKI INC and witnessed by BV surveyor.
- 3.12 - CMRC-21-128 Test item and Block Diagram for witness, Rev.1.0, EC-9000 Dated 08/2021 issued by TOKYO KEIKI INC and witnessed by BV surveyor.
- 3.13 - DOC205958-1, Rev 2 Minimum Brightness test of GDCX rev 5, dated 05/04/2017 issued by HATTELAND DISPLAY and witnessed by DNV-GL surveyor.
- 3.14 - DOC206081-1, Rev 3 IEC62288 flicker test report HD19T22MMD dated 08/12/2017 issued by HATTELAND DISPLAY and witnessed by DNV-GL surveyor.
- 3.15 - DOC208529-1, Rev 1 Conformance Test Report of LCD for use in RADAR and ECDIS dated 13/08/2021 issued by HATTELAND TECHNOLOGY and witnessed by DNV-GL surveyor
- 3.16 - DOC206365-1, Rev 01 IEC62288 flicker test report HD 24T23 MMD dated 05/02/2018 issued by HATTELAND DISPLAY and witnessed by DNV-GL surveyor.
- 3.17 - DOC208531-1, Rev 01, Conformance Test Report of LCD for use in RADAR and ECDIS dated 13/08/2021 issued by HATTELAND TECHNOLOGY and witnessed by DNV-GL surveyor.
- 3.18 - DOC208534-1, Rev 01, Conformance Test Report of LCD for use in RADAR and ECDIS dated 13/08/2021 issued by HATTELAND TECHNOLOGY and witnessed by DNV-GL surveyor.
- 3.19 - DOC206156-1, Rev 01 IEC62288 flicker test report HD 27T22 MMD dated 05/02/2018 issued by HATTELAND DISPLAY and witnessed by DNV-GL surveyor.

### **4. APPLICATION / LIMITATION:**

- 4.1 - As per requirements of Regulations stated on front page of this certificate.
- 4.2 - Only Hardware and Software successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer are covered by this certificate.
- 4.3 - A dual installation of ECDIS EC-9019, EC-9024, EC-9027 complies with requirements for ECDIS with backup arrangement.
- 4.4 - To use RCDS mode, upgrading to new software under development should be needed.

### **5. PRODUCTION SURVEY REQUIREMENTS:**

This certificate alone does not allow the applicant to issue the Declaration of Conformity and to affix the mark of conformity (wheelmark) to the products corresponding to this type. To this end, the production-control phase module D "Production Quality Assurance" or E "Product Quality Assurance" or F "Product Verification" of Annex B of the Directive is to be complied with and controlled by a written inspection agreement with a Notified Body.

### **6. MARKING OF PRODUCT:**

- 6.1 - Maker's name or trademark,
- Serial number of the units,
- Equipment type number or model identification under which it was type-tested.

6.2 - Reference is made to MED 2014/90/EU chapter 2.

In particular Article 10.3 specifies that the wheelmark shall be followed by the identification number of the Notified Body involved in the production control phase (module D, E or F) and by the year in which the mark is affixed (4 digits or last 2 digits).

- In pursuance of the EU/US MRA+, and in accordance with the Council Decision 2004/425/EC of 21 April 2004 amended by Decision 1/2018 of 18 February 2019, the product(s) marked as per MED 2014/90/EU may be marked with the USCG conformity marking as authorized by the Notified Body undertaking surveillance module.

6.3 - Alternatively, the marking may be presented on a display at equipment start-up.

6.4 - The title and version of each software element included in the installed software system shall be either marked or displayed on command on the equipment.

6.5 - When the marking and the title and version of the software are displayed only on the display, such information shall also be included in the equipment manual.

6.6 - Minimum safe distance at which the equipment may be mounted from a standard and a steering magnetic compass.

## **7. OTHERS:**

It is **TOKYO KEIKI INC. Marine Systems Company** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

**\*\*\* END OF CERTIFICATE \*\*\***