



Marine & Offshore

Certificate number: 11989/D2 MED

File number: NAV 02/12577/06

Item number: MED/4.3

USCG Module B number: 165.103 / EC2690

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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) 2018/773 of 15 May 2018

This certificate is issued to:

TOKYO KEIKI INC. Marine Systems Company

Yaita - JAPAN

for the type of product

GYRO COMPASS

Gyrocompass - Type : TG-8000 series

Double Gyrocompass Change-Over Unit - Type : DGC-80

Step Repeater Compass Lamp Dimmer - Type : BH /BB /MB

Sensitive Element and Control unit Type: I/S/D

Requirements:

SOLAS 74 Convention as amended, Regulations V/18 and V/19

IMO Res. A.424(11)

IMO Res. A.1021(26)

IMO Res. A.694(17)

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

ISO 8728:2014

IEC 60945 (2002) incl./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 ed1.0 (2011-06) + am1 (2016),

IEC 62288 Ed. 2.0 (2014-07).

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: 14 Feb 2023

For Bureau Veritas Marine & Offshore Notified Body 2690,

At BV KOBE, on 22 Oct 2018,

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:

1.1 - Gyrocompass - Type : TG-8000 series

The TG-8000 series consists of:

- Master Compass Unit Type N° TG-8000
- Control Unit associated with Interfacies Type I/S/D
- Additional Interface Unit Type N° AGI-50 (with / without Rep. switching function), AGI-80.
- Optional equipment Universal Display UD-10.
- Optional equipment Universal Display UD-100.
- Optional equipment Digital Repeater DR-10/100/110. Allowed for installation in Steering Gear Room.
- Annunciator unit

1.2 - Double Gyrocompass Change-Over Unit - Type : DGC-80

The DGC-80 carries out the following functions:

- change-over and output of double gyrocompasses signals
 - 18 serial signal (True Heading, Rate of Turn sentences) output circuits
 - 6 step signal (DC 24V) output circuits (optionnal extension of step signals)
 - 3 ROT analog signal output circuits
 - 1 DGC-80 running contact output signal
- distribution of the input signals to both gyrocompass
 - GNSS serial signal (Latitude, Ship's speed signal, UTC information)
 - Log serial signal (Speed Through Water, Speed Over Ground)

Note: Dual gyrocompass systems with the units comply with the requirements of IEC 61924-2-Maritime navigation and radiocommunication equipment and systems Integrated Navigation Systems.

1.3 - Repeater Mounting - Type : BB /MB and Repeater Stand - Type : BH

BH /BB /MB consists of:

- Dimmer (PWB type)
- Repeater Switch

1.4 - Repeater - Type : RP-41-1, RP-41-2, RP-51-1 & RP-53-1

1.5 - Transmitting Heading Sensor System THS-100/200

1.6 - Annunciator unit

1.7 - Control unit Type I/S/D and Sensitive Element

- Control Unit I/S/D (LED Numeric Display Type and LCD Display Type)
- Sensitive Element (Type GS100)

2. DOCUMENTS AND DRAWINGS:

2.1 - In accordance with the manufacturer's drawings and documents, at latest and at any subsequent issue endorsed by Bureau Veritas:

2.1.1 - Master Compass Drawings:

110016960 - 101895020 - 110016970 - 101695043 - 110016980 - 101895080 - 110016990 - 108895040 - 110017000 - 101895060 - 110017010 - 101695277.

2.1.2 - Control Unit drawings:

110017020 - 101895241 - 110017030 - 101895261 - 110017040 - 110017030 - 101895200 - 110017050 - 101895380 - 110017060 - 101895320 - 110017070 - 101895360 - 110017080 - 101895340 - 110017090 - 101895121 - 110017100 - 101895160 - 110017110 - 101895180 - 110017120 - 101895220.

2.1.3 - Technical Documentation dated 31/05/2002 including:

- General Description
- System block diagram N°s: 110016820 - 110016790 - 110016800 - 110016810.
- Software Documentation
- Outline Drawings N°s: 109901100 - 109900640 - 109901110 - 109900650 - 109900660 - 109901120
110016840 - 110016830 - 110016660.
- Operator Manual.

2.1.4 - Technical Documentation dated 27/03/2009 including:

- General Description
- System block diagram
- Software Documentation
- Outline Drawings N°s: 101896510 - 101896520 - 109902290 - 109902380 - 109902310 - 101896520
109902320 - 109902330 - 109922340, 109902360.
- Operator Manual

2.1.5 - Universal Display UD-10 technical documentation and test reports dated 06/12/2011.

2.1.6 - Digital Repeaters DR-10/ 100/ 110 technical documentation and test reports dated 06/12/2011. Vibration tests meeting requirements of IEC60092-504.

2.1.7 - Technical Documentation dated 20/09/2013 including:

- General Description
- System block diagram
- Software Documentation
- Outline Drawings N°s: 119901780 - 109903600 - 109903800 - 109903712 - 109903723 - 109903742
109903751 - 109902540 - 109902530 - 109903630.
- Operator Manual E10-1089 Ver.1.0.

2.1.8 - Technical Documentation dated 20/02/2015 including:

- General Description
- System block diagram
- Software Documentation
- Outline Drawings N°s: 109904360 - 109904370 - 109904380 - 109904390 -109904400

2.1.9 - Technical Documentation dated 18/08/2017 including:

- General Description
- Outline Drawing N#s : 10990453- 11990165-

Nb: This above list can be revised to show changes to drawing issue status.

Before changes can be implemented, new drawings must be provided to Bureau Veritas for review and acceptance.

The new drawing list will be stamped and endorsed accordingly.

2.2 - Risk assessment Ref: 170X-Z026-FMEA-1.

2.3 - 11989/D2 Version submitted documentation is listed in TOKYO KEIKI Document No. 170X-Z034 submitted to Bureau Veritas on 25/09/2018.

3. TEST REPORTS:

3.1 - Test report dated 07/11/01 ~ 16/05/02 issued by TOKYO KEIKI INC. in-house Laboratory. The tests were witnessed by a Society's Surveyor.

3.2 - Test report dated 06/12/07 issued by TOKYO KEIKI INC. in-house Laboratory. The tests were witnessed by a Society's Surveyor.

3.3 - Test report dated 26&27/03/09 issued by TOKYO KEIKI INC. in-house Laboratory. The tests were witnessed by a Society's Surveyor.

3.4 - Certificate of Laboratory Recognition N° SMS.L.I. CE/22796/A0.

3.5 - IEC61162-1 Ed.4 and IEC61162-2 Ed.1 test reports included in Documents for Type Approval for BV issued by TOKYO KEIKI INC. in-house Laboratory and dated 19/11/2012.

3.6 - ISO8728 (1997), ISO 16328 (2001), IEC 60945(2002), IEC 61162 (2000) Test report dated 18&19/03/13 issued by TOKYO KEIKI INC. in-house Laboratory. The tests were witnessed by a Society's Surveyor.

3.7 - IEC60945 Ed.4 (2002) Test report dated 11/03/13 issued by INTERTEK Laboratory.

3.8 - IEC62288 Ed.1 (2008) Test report dated 27/02/13 issued by TOKYO KEIKI INC. in-house Laboratory. The tests were witnessed by a Society's Surveyor.

3.9 - THS-100/200 Test Report Dated : 20/05/2014.

3.10 - IEC 62288 Ed.2 (2014) Test Report dated 20/02/2015

3.11 - Annunciator Unit Test Report Dated : 19-20/02/2015

3.12 - ISO 8728 ed.2 (2014) Test Report Dated : 18/08/2017.

3.13- IEC 60945 ed.4(2002) Corr.2008 Test Report Dated : 18/08/2017

3.14 - 11989/D2 Version submitted test reports are listed in TOKYO KEIKI Document No. 170X-Z034 submitted to Bureau Veritas on 25/09/2018.

4. APPLICATION / LIMITATION:

- 4.1 - As per Requirements of Regulations stated on the front page of this certificate.
- 4.2 - Annunciator unit is to be provided for alert communications with a Bridge Alert Management [IMO Res.MSC.302(87)] and an Integrated Navigation System [IMO Res.MSC.252(83) and IEC 61924-2].
- 4.3 - The following component(s) shall comply with the requirements of MED2014/90/EU, as amended, and be wheelmarked:
- Gyrocompass - Type : TG-8000 series as described in 1.
- 4.4 - IEC 61162-3 and IEC 61162-450 are not applicable.

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - 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 II of the Directive is to be complied with and controlled by a written inspection agreement with a Notified Body.
- 5.2 - For information concerning the production phase modules, **TOKYO KEIKI INC.**, has declared the following manufacturing site(s):

**333-4 Azumacho, Yaita, (Tochigi) 329-2136
Japan**

6. MARKING OF PRODUCT:

- 6.1 - 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).
- 6.2 - In pursuance of the EU/US MRA+, and in accordance with the Council Decision 2004/425/EC of 21 April 2004, 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.

7. OTHERS:

- 7.1 - It is **TOKYO KEIKI INC.**, **333-4 Azumacho, Yaita**, 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.
- 7.2 - This certificate supersedes EC Type Examination Certificate n° 11989/D1 EC issued on 10/07/2018 by the Society.

*** END OF CERTIFICATE ***