



UK Approved Body Authorised  
by the MCA

Certificate number: 74136/A0 UK

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

**Approved Body 8517 - UNITED KINGDOM MARINE EQUIPMENT APPROVAL**

## UK TYPE-EXAMINATION (MODULE B) CERTIFICATE

*This is to certify that Bureau Veritas SA UK Branch Office did undertake the relevant type approval procedures for the type of equipment identified below which was found to be in compliance with the requirements of the Merchant Shipping (Marine Equipment) Regulations 2016, as amended, subject to any conditions in the schedule attached hereto.*

*This certificate is issued to:*

**Navico Holding A.S.**  
EGERSUND - NORWAY

*for the type of product*

**GYRO COMPASS**

Gyrocompass Type: GC80

Double System Controller Unit

Sensitive Element and Control unit Type: COMPACT MK2/EXPANDED MK2/DUAL MK2

### Requirements:

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

IMO Res. A.424(11)

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 61162-450:2018,

IEC 62288 Ed. 2.0 (2014-07).

IEC 62923-1:2018,

IEC 62923-2:2018.

*The attached (schedule of approval) forms part of this certificate.*

*This certificate remains valid unless suspended, expired or withdrawn, provided the conditions in the attached schedule are complied with.*

**This certificate will expire on: 19 Mar 2028**

**Issued by Bureau Veritas SA UK Branch Office**

**(Approved Body 8517)**

At BV KOBE, on 19 Mar 2023,

Shinichi Takemoto

***This certificate was created electronically and is valid without signature***



*Note 1: This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with the approved body named on this certificate.*

*Note 2: Should the specified Regulations or standards be amended during the period of validity of this certificate, the product(s) is/ are to be re-approved prior to it/ they being placed on the UK market and on board vessels to which the amended regulations of standards apply.*

*Note 3: "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 Schedule 2 of the Merchant Shipping (Marine Equipment) Regulations 2016, as amended is fully complied with and controlled by a written inspection agreement with an approved body."*

*Note 4: In case limitations of use apply, these should be indicated in the Annex.*

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 is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site [www.veristar.com](http://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:**

#### **" GC80 GYRO COMPASS "**

Consisting of:

- Master Compass Unit Type N° GC80
- Double System Controller Unit

The Double System Controller Unit 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 (DC24V) output circuits (optional extension of step signals)
  - 3 ROT analog signal output circuits
  - 1 Double System Controller Unit 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.

- Control Unit associated with Interfaces Type COMPACT /EXPANDED /DUAL
- Repeater Unit Type N° AR81 & N° AR83
- Annunciator unit
- Control Unit Type COMPACT MK2/EXPANDED MK2/DUAL MK2 (LED Numeric Display Type and LCD Display Type)
- Sensitive Element

#### **Software Versions:**

##### **COMPACT MK2 (LED Display)**

| PWB type     | Software version | Unit                       |
|--------------|------------------|----------------------------|
| GPANEL-A.PWB | v1.xx            | Operating Panel (LED Type) |
| ICNT.PWB     | v2.xx            |                            |

##### **COMPACT Mk2 (LCD Display)**

| PWB type   | Software version | Unit                       |
|------------|------------------|----------------------------|
| LPANEL.PWB | v1.xx            | Operating Panel (LCD Type) |
| ICNT.PWB   | v2.xx            |                            |

##### **EXPANDED MK2 (LED Display)**

| PWB type     | Software version | Unit                       |
|--------------|------------------|----------------------------|
| GPANEL-A.PWB | v1.xx            | Operating Panel (LED Type) |
| SCC.PWB      | v2.xx            |                            |

##### **EXPANDED MK2 (LCD Display)**

| PWB type   | Software version | Unit                       |
|------------|------------------|----------------------------|
| LPANEL.PWB | v1.xx            | Operating Panel (LCD Type) |
| SCC.PWB    | v2.xx            |                            |

**DUAL MK2 (LED Display)**

| PWB type     | Software version | Unit                          |
|--------------|------------------|-------------------------------|
| GPANEL-A.PWB | v1.xx            | Operating Panel (LED Type)    |
| PCC.PWB      | v2.xx            | Gyro Monitor Panel (LED Type) |
| SCC.PWB      | v2.xx            |                               |
| SCOIF.PWB    | v1.xx            |                               |

**DUAL MK2 (LCD Display)**

| PWB type   | Software version | Unit                          |
|------------|------------------|-------------------------------|
| LPANEL.PWB | v1.xx            | Operating Panel (LCD Type)    |
| ANNM.PWB   | v1.xx            | Gyro Monitor Panel (LCD Type) |
| SCC.PWB    | v2.xx            |                               |
| SCOIF.PWB  | v1.xx            |                               |

**Double System Controller**

| PWB type  | Software version | Unit      |
|-----------|------------------|-----------|
| DGCIF.PWB | v1.xx            |           |
| SCC.PWB   | v2.xx            |           |
| ANNM.PWB  | v1.xx            | DGC Panel |
| DGCT.PWB  | v1.xx            |           |

**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/May/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.

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

2.3 - 13080/D2 Version submitted documentation is listed in TOKYO KEIKI INC. Document No. 170X-Z034 submitted to Bureau Veritas on 25/09/2018.

2.4 - TG-8000/8100/8500/8600 IEC62923-1/-2 Alert List issued by TOKYO KEIKI INC. and dated 31/03/2021

**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.

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

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

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

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

3.4 - 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.

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

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

3.7 - 13080/D2 Version submitted test reports are listed in TOKYO KEIKI Document No. 170X-Z034 submitted to Bureau Veritas on 25/09/2018.

3.8 - IEC62923-1 and IEC 62923-2 test reports issued by Tokyo Keiki Inc. and dated 3-4 June 2021

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

4.1 - As per Requirements of Regulations stated on the front page of this certificate.

4.2 - IEC 61162-3 and IEC 61162-450 are not applicable

4.3 - 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].

4.4 - The approved equipment :

- embeds only BAM fonction type P

- if installed on a BAM compliant bridge, the equipment shall not use non-BAM compliant alert communications, unless allowed by the administration

4.5 - If the installed equipment is not fitted with its own BAM compliant HMI, it should be connected to a redundant CAM/CMA-HMI (approved by the Administration) using IEC 61162-1 or IEC 61162-2 digital interfaces for BAM harmonized presentation of its alerts (Category B warnings within Navigation Cluster).

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

5.1 - This certificate alone does not allow the applicant to issue the UK Declaration of Conformity and to affix the mark of conformity (United Kingdom conformity mark) to the products corresponding to this type. To this end, the production-control phase module D Production Quality Assurance or module E Product Quality Assurance or module F Product Verification of Schedule 2 of the Merchant Shipping (Marine Equipment) Regulations 2016, as amended, is to be complied with and controlled by a written inspection agreement with an Approved Body.

5.2 - For information concerning the production phase modules, **NAVICO HOLDING A.S., Egersund - Norway** has declared the following manufacturing site(s):

**TOKYO KEIKI INC.  
333-4, Azuma-cho 329-2136 Yaita  
JAPAN**

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

6.1 - Reference is made to the Merchant Shipping (Marine Equipment) Regulations 2016, as amended, Part3:

In particular Article 15.3 specifies that the United Kingdom conformity mark shall be followed by the identification number of the Approved 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).

### **7. OTHERS:**

7.1 - It is **NAVICO HOLDING A.S., Egersund - Norway**'s 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 \*\*\*