

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

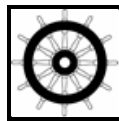
Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:**That the Gyro compass; Gyro compass for High Speed Craft;**with type designation(s)
PGM-C-010

Issued to

**PJSC Perm Scientific Industrial Instrument Making Company
25th of October Street,106,614990 Perm, Russian Federation**is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2018/773,****item No. MED/4.3. SOLAS 74 as amended, Regulations V/18, V/19, IMO Res. A.424(XI), IMO Res. A.694(17), IMO Res. MSC.191(79), IMO Res. MSC.302(87)****item No. MED/4.31. SOLAS 74 as amended, Regulation X/3, IMO Res. A.694(17), IMO Res. A.821(19), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.302(87), IMO MSC.1/Circ.1349**

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2023-03-25**.Issued at **Hamburg** on **2019-01-14**DNV GL local station:
St. PetersburgApproval Engineer:
Harald BluhmNotified Body
No.: **0098**for **DNV GL SE****Sven Dudzus**
Head of Notified Body

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-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled. Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.



Product description

Gyro compass system consisting of:

1. Main Unit with integrated control unit MU-7
The following 3 variants are available:

- MU-7 without a remote Control Unit, with labels in Russian
- MU-7-1 with a remote Control Unit, with labels in Russian
- MU-7-2 without a remote Control Unit, with labels in English
- MU-7-3 with a remote Control Unit, with labels in English
- MU-7-6 without a Control Unit, with labels in Russian
- MU-7-7 without a Control Unit, with labels in English

Software Version:
MU-7-x: gvkd-2.8, RCU: v1.1

The variants in Russian language are not accepted for the international market.

2. Remote Control Unit: RCU
3. Digital Repeater: 38-RTsM4
4. Analog Repeater: 38-RShM3
5. Analog Repeater: 19-RShM3
6. Digital Heading Translator: TKTs4
7. Distribution Box: RK2
8. Uninterrupted Power Supply Unit: BBP2
9. Digital Course Recorder: 23Ts1
10. Selector Switch: PK2
11. Digital Selector Switch: PK2, PKTs1
12. Optional Direction Finder: PGK-2
13. Pelorus: 20-RSh1, 21-RSh1, 22-RSh1

Documents:

1. Operation and Maintenance Manual, PIKV.461524.010 RE
2. Log Book, PIKV.461524.010 FO

Type Examination documentation

Test reports: No 38/77, 121006,
Environmental testreport (ISO 8728, 16328): 38/1-25 dated 2018-04-17
Interface testreport (IEC61162-1 and -2): 38/1-89 dated 2018-11-19
Functional testreport (ISO 8728, 16328): 38/1-29 dated 2018-04-18

Tests carried out

ISO Standard 8728 (2014): Ships and marine technology – Marine gyro-compasses.
ISO Standard 16328 (2014): Ships and marine technology – Gyro-compasses for high-speed craft.
IEC Standard 62288 (2014): Maritime navigation and radiocommunication equipment and systems – Presentation of navigation-related information on shipborne navigational displays – General requirements, methods of testing and required test results.
IEC Standard 60945 (2002): Maritime navigation and radio communication equipment and systems - General requirements - Methods of testing and required test results.
IEC Standard 61162-1 (2016) and 61162-2(1998): Maritime navigation and radiocommunication equipment and systems, - Digital interfaces.

Marking of product

Job Id: **344.1-008024-1**
Certificate No: **MEDB00003Y7**

According to IEC 60945, Sect.4.9:

The product to be marked with following information, where practicable:

- Identification of the manufacturer,
- Equipment type number or model identification under which it was type tested,
- Serial number of the unit,
- Compass safe distance.

Alternatively, the marking may be presented on a display at equipment start-up, and in case of fixed equipment compass safe distance may be given in the equipment manual.

According to Article 10 of the Council Directive (MED):

- Wheel mark to be affixed visibly, legibly and indelibly to the product or to its data plate and, where relevant, embedded in its software. Where that is not possible or not warranted on account of the nature of the product, it shall be affixed to the packaging and to the accompanying documents.

- Wheel mark to be affixed at the end of the production phase.

For specific products, manufacturers may use an appropriate and reliable form of electronic tag instead of, or in addition to, the wheel mark.

END OF CERTIFICATE