



Marine & Offshore

Certificate number: 39655/B1 BV

File number: AP4595

Product code: 2658H

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

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Bachmann electronic GmbH

Feldkirch - AUSTRIA

for the type of product

GENERATOR CONTROL AND PROTECTION UNITS

Grid modules: GM260, GMP232, GSP274

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 33

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 23 Jul 2025

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 12 Jan 2023,

Dirk Hoepfner

This certificate was created electronically and is valid without signature



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. 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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The grid modules from controller hardware of M1 series comprises the following components:

Module type	Model	Description
Grid Modules	GM260	Grid measurement module
	GMP232/1, /2, /3, /4	Grid measurement and protection module
	GMP232/12, /22, /32, /42, /52	Grid measurement and protection module
	GSP274	Grid measurement, synchronization and protection module

Main characteristics:

Power Supply: 24VDC nominal voltage
Degree of protection: IP20
Firmware version: M-Base V4.xx and V3.xx

2. DOCUMENTS AND DRAWINGS:

- Data sheets dated 01/2014; 12/2014 and 04/2015
- Operating manual: Benutzerhandbuch M-BASE V4.00, revision 02, dated 28 April 2016
- User manual-Grid monitoring module GMP232/x revision 02 dated April 28, 2016
- Software Quality Assurance documents: G130, dated 28.07.2016 ; G135, dated 28.07.2016 ; G142, dated 16.08.2016 ; G150, dated 07.10.2016 ; G161, dated 11.10.2016 ; G162, dated 11.10.2016 ; G170, dated 29.11.2016 ; G180, dated 07.10.2016 ; G194, dated 01.08.2016 ; RLG100-20, REV 000.1, dated 13.02.2013 ; RLG100-01, REV 017, dated 11.4.2016 ; RLG100-07, REV 005, dated 27.04.2015 ; RLG100-17, REV 008.1, dated 15.02.2011; RLG100-08, REV002, dated 09.02.2015; RLG100-18, REV 005.1, dated 09.03.2011

For B1 version:

- Data sheet: GMP232/x2 dated 09/2022; Schematic: GMP232/1000/5/B 16.06.2021

3. TEST REPORTS:

- Bachmann: 12482 dated 05 May 2011, 13 June 2011 and 19 Aug 2011; 12718.00.03/04 dated 29.10.2014; 12718.00.05/06/11 dated 28.11.2014; 12718.00.10 dated 24.11.2014; 12718.00.13/14/17/18 dated 30.10.2014; 12718.00.19 dated 30.10.2014; 12718.00.20 dated 30.10.2014; 12718.00.21 dated 22.01.2015 Rev.1; 12718.00.23 dated 29.11.-30.11.14
- TÜV SÜD: 71366028 dated 2010-06-21, 14312-03974-1(Ed. 1) dated 28 July 2011 and 71386807 dated 2011-08-04; 713051191 dated 2014-11-25; 14312-52016-01 Ed.1 dated 13 Nov 2014

For B0 version:

- TÜV SÜD: TR-14312-89434-01 Ed.01 dated 2020-07-02

For B1 version:

- Bachmann: 14498-000-3,4 dated 2022-12-05; 14498-000-5,6,11 dated 2022-12-05; 14498-000-9,10 dated 2022-12-05; 14498-000-13,15,16,17,18 dated 2022-12-05; 14498-000-19,20 dated 2022-12-05
- TÜV SÜD: TR-713252021-00 Rev.1 dated 2022-04-27; TR-14312-24452-01 Ed.2 dated 22-06-09

4. APPLICATION / LIMITATION:

4.1 - Bureau Veritas Rules for the Classification of Steel Ships

4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT** and **AUT-IMS**.

4.3 - Bureau Veritas Environmental Category, **EC Code: 33**

4.4 - The equipment (except GMP232/12, /22, /32, /42, /52) fulfils the EMC requirements for installation on bridge or deck zones by using an interference filter on power supply lines as specified in the M-Base V4.xx Operating manual.

4.5 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev8.

4.6 - The product designation of some modules may be followed by "CC" and additional marked with "*" at the front and the product designation of processor modules may be followed by "W". These features are not relevant for the certificate.

4.7 - In accordance with IACS UR E22 and as applicable to programmable devices for computer based systems of Category II or III, for each ship application:

- Ship specific documentation is to be submitted including software documentation and categorization of the computer based system.

- Inspection and testing before installation onboard is to be performed under the surveillance of the Society.

4.8 - 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 is covered by this certificate.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be supplied by **Bachmann electronic GmbH** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **Bachmann electronic GmbH** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products :

Bachmann electronic GmbH
Kreuzäckerweg 33
6800 Feldkirch
AUSTRIA

6. MARKING OF PRODUCT:

- Maker's name or trademark
- Date of manufacture and/or serial number
- Equipment type or model identification under which it was type-tested.
- The title and version of each software element included in the installed software system shall be either marked on the equipment or displayed on command by a visualization unit.

7. OTHERS:

7.1 - It is the responsibility of **Bachmann electronic GmbH - AUSTRIA** 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 the Type Approval Certificate N° 39655/B0 BV issued on 23 Jul 2020 by the Society.

*** END OF CERTIFICATE ***