



Marine & Offshore

Certificate number: 57989/B0 BV

File number: AP4880

Product code: 4501H

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

ifm electronic GmbH
Essen - GERMANY

for the type of product

PROGRAMMABLE LOGIC CONTROL UNITS

Programmable Controller
CR0032, CR0232, CR0234, CR7032, CR7132

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships
EC Code: 33, 43

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: 25 Mar 2029

For Bureau Veritas Marine & Offshore,
At BV HAMBURG, on 25 Mar 2024,
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.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The **CR0...**, **CR7...** programmable controller series consist on following units:

Designation	Data	Software
CR0032	Classic controller - 16 configurable inputs - 16 configurable outputs	V03.00xx
CR0232 / CR0234	Extended controller - 32 configurable inputs - 48 configurable outputs	V01.00xx
CR7032	Safety controller - 16 configurable safety-related inputs - 16 configurable safety-related outputs	V01.00xx
CR7132	Safety controller - 32 configurable inputs (16 of them safety-related) - 48 configurable outputs (16 of them safety-related)	V01.00xx

Processor: 32-bit CPU Infineon TRICore 1796
Memory: CR0...: Flash 2Mbytes, Ram 2Mbytes, Remanent 128kbytes
CR7...: Flash 4Mbytes, Ram 2Mbytes, Remanent 128kbytes
CAN interface: 4x CAN
Serial interfaces: 1x RS232
Power supply: 24VDC nominal voltage
Degree of protection: IP65, IP67

2. DOCUMENTS AND DRAWINGS:

- Data Sheets: CR0032-02 dated 22.10.2014; CR0232-02 dated 22.10.2014; CR0234-00 dated 10.09.2015;
CR7032-00 dated 17.03.2015; CR7132-00 dated 17.03.2015
- Instructions: 80223796/00 dated 10/2014; 80223797/00 dated 10/2014; 80223240/00 dated 11/2014;
80004328/00 dated 08/2017; 80004329/00 dated 08/2017
- 10236723 Rev.08 dated 03.09.2014

3. TEST REPORTS:

- EMCE GmbH: IMO38a01 dated 2017-11-15; IMO26a01 dated 2017-11-15
- TELUS GmbH: 508e/17 dated 20 Oct. 2017
- fm ecomatic GmbH: M17_38_Test_Report_en, V1.0 dated 15.09.2017
- RST GmbH: P50-10-0008 dated 12.01.2010

For B0 version:

- EMCE GmbH: 22-0174RP38-006 dated 2023-10-09

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, 43**

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

4.5 - 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.

4.6 - Only Hardware and Firmware / Software successfully tested together in compliance with the Rules 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 mentioned products are to be supplied by **ifm 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 - **ifm 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.

5.4 - For information, **ifm Electronic GmbH** has declared to Bureau Veritas the following production sites:

**ifm ecomatic GmbH
Address im Heidach 18
88079 Kressbronn**

**ifm Electronic GmbH
ifm- Straße 1
88069 Tettnang
GERMANY**

6. MARKING OF PRODUCT:

- Maker's name or trademark
- Equipment type or model identification
- Date of manufacture and/or serial number
- The title and version of each software element included in the installed software system shall be traceable by appropriate marking on the equipment or by displaying on command in the application.

7. OTHERS:

7.1 - It is the responsibility of **ifm Electronic GmbH** 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° 57989/A0 BV issued on 10 Dec 2019 by the Society.

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