



Marine & Offshore

Certificate number: 23645/C0 BV

File number: AP4183

Product code: 4501H

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

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

HIMA Paul Hildebrandt GmbH

Brühl - GERMANY

for the type of product

PROGRAMMABLE LOGIC CONTROL UNITS

HIMax System

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships.

EC Code: 31

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: 05 Jan 2027

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 05 Jan 2022,

Dirk Hoefner



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 electronic version is available at: <http://www.veristarm.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=wr4iwietew>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The **HIMax** is a modular safety-related programmable logic control system. A base-plate with 10, 15 or 18 slots will connect the modules and is panel mountable or for 19-inch rack installation (15 slot). A fan system (2 to 4 fans) will ensure the ventilation.

The system may consist of the following components:

Designation	Module type	Main characteristic
X-CPU 01	Processor	4x RJ-45
X-CPU 31	Processor	4x RJ-45
X-SB 01	System bus	Processor system, Service and system bus interface
X-COM 01	Communication	4x RJ-45, 2 x 9-pole D-Sub, up to 6 different protocols
X-DI 64 01	Digital input	64 channels, 24 VDC
X-DI 32 01	Digital input	32 channels, 24 VDC
X-DI 32 02	Digital input	32 channels, 8.2 VDC, proximity switch
X-DI 32 03	Digital input	32 channels, 48 VDC
X-DI 32 04	Digital input	32 channels, 24 VDC, SOE
X-DI 32 05	Digital input	32 channels, 8.2 VDC, proximity switch, SOE
X-DI 16 01	Digital input	16 channels, 120 VAC
X-DO 32 01	Digital output	32 channels, 24 VDC, 0.5 A, short-circuit monitoring LS, individual channel shut-off
X-DO 24 01	Digital output	24 channels, 24 VDC, 0.5 A, line monitoring LS/LB, individual channel shut-off
X-DO 24 02	Digital output	24 channels, 48 VDC, 0.5 A, line monitoring LS/LB, individual channel shut-off
X-DO 12 01	Relay output	12 channels, 230 VAC/DC, current measurement, cycle counting
X-DO 12 02	Digital output	12 channels, 24 VDC, 2 A, short-circuit monitoring LS, individual channel shut-off
X-AI 32 01	Analog input	32 channels, 4...20 mA
X-AI 32 02	Analog input	32 channels, 4...20 mA, SOE
X-CI 24 01	Counter	24 channels, 0...20 kHz
X-AO 16 01	Analog output	16 channels, 4...20 mA, pairwise galvanically isolated

Accessories:

Designation	Description
H7505	Interface converter
H7506	Bus terminal
H7201	Feed Line and Distribution Fuse Board
H7202	Distribution Fuse Board

Circuit Breakers are subject of individual BV Type Approval Certification.

Power supply: 24V DC
Degree of protection: IP20
Software versions: Processor module: 13.2
System bus module: 7.34
Communication module: 14.8
I/O-modules: 7.48 I/O

2. DOCUMENTS AND DRAWINGS:

- HI 801 009/007/011/015/017/059/051/053/057/097/019/023/099/021/055/113/111 E Rev. 3.00;
- HI 801 093/095/ E Rev. 3.01; HI 801 355 E Rev. 6.01 dated 2014; HI 800 357/359 Rev. 0.07
For C0 version:
- SILworX - Programming System Version: 12.28; Release-Notes V14 HI 801 557 D Rev. 1.01

3. TEST REPORTS:

- TÜV Rheinland: 71368806a Rev. 1, dated: 2010-07-07; 968/EZ 274.19/15 dated 11.12.2015;
01/205/0727.01/14 dated 201402-12; Revision List 01/205/0727.01/14 dated 201402-12
- HIMA: P1 EV_114, Revision A, dated: 08.04.2010; AMS-09-03 dated: 09.10.2009
- EMV Rhein-Neckar: 5200-359 dated: 09.07.2010
For C0 version:
- EMV Rhein-Neckar: 5200-398 dated 13.06.2017; 5200-3107 dated 04.02.2019; 5200-3113 dated 12.10.2020;
5200-391 dated 03.03.2016; 5200-3107 dated 04.02.2019

4. APPLICATION/LIMITATION:

4.1 - Bureau Veritas Rules and Regulations 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: 31**

4.4 - The equipment fulfils the EMC requirements for installation in General Power Distribution Zone.

4.5 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev7.

4.6 - 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.

4.7 - Only Hardware and Firmware 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 mentioned products are to be supplied by **HIMA Paul Hildebrandt 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 - **HIMA Paul Hildebrandt GmbH** has to make the necessary arrangements to have its works recognized by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

HIMA Paul Hildebrandt GmbH
Albert-Bassermann Strasse 28
68782 Brühl
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 either marked or displayed on command on the equipment.

- When the marking and the title and version of the software are displayed only on the display, such information shall also be included in the equipment manual.

7. OTHERS:

7.1 - It is the responsibility of **HIMA Paul Hildebrandt 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° 23645/B0 BV issued on 03 Mar 2016 by the Society.

*** END OF CERTIFICATE ***