



Marine & Offshore  
Division

Certificate number: 23645/B0 BV

File number: AP4183

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*

**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

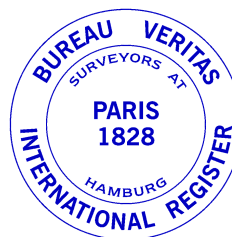
*This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 03 Mar 2021**

**For BUREAU VERITAS,**

At BV HAMBURG, on 03 Mar 2016,

Sandro Schmidt



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. 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 Division 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 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 **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: 7.10  
 System bus module: 7.24  
 Communication module: 7.20  
 I/O-modules: 7.20

### 2. DOCUMENTS AND DRAWINGS:

- SILworX - Programming System Version: 7.18  
 - 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

### 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

**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 - Documents relating to each application are to be submitted to the Society's examination prior fitting on board.  
4.6 - Depending on the Application, Factory Acceptance and On-board Tests are to be performed in accordance with requirements for Category II or III Equipment.  
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.  
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 Industrie-Automatisierung**  
**Albert-Bassermann Strasse 28**  
**68782 Brühl**  
**GERMANY**

- 5.4 - Equipment is to be supplied with manual(s) for installation, use and maintenance.

**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 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time and that **HIMA Paul Hildebrandt GmbH - GERMANY**, will accept full responsibility for informing shipbuilders, ship owners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 23645/A0 BV issued on 07 Mar 2011 by the Society.

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