



**Marine & Offshore
Division**

Certificate number: 23886/B0 BV

File number: AP4196

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
Modular safety-related programmable logic control system
Planar 4

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships.
EC Code: 31

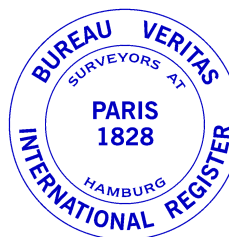
This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 07 Mar 2021

For BUREAU VERITAS,

At BV HAMBURG, on 07 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. 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.

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BV Mod. Ad.E 530 October 2014

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The **Planar 4** is a modular safety-related programmable logic control system. A subrack with 21 slots will connect the modules and is for 19-inch rack installation.

Modules:

Designation	Main characteristic	Hardware revision	IEC 61508
12100	4-fold Input Module	20	SIL 4
13110	2-fold Input Module	20	SIL 4
22100	4-fold Output Module; 25V DC/ 3W	20	SIL 4
22120	Output Module; 25V DC/ 24W	20	SIL 4
22121	Output Module; 60V DC/ 24W	20	SIL 4
32100	2-fold Relay Amplifier; 24V DC/ 120W or 24V AC/ 120VA	20	SIL 4
32101	2-fold Relay Amplifier; 48/60V DC/ 40W or 60V AC/ 240VA	20	SIL 4
32102	2-fold Relay Amplifier; 110V DC/ 40W or 127V AC/ 500VA	20	SIL 4
32103	2-fold Relay Amplifier; 220V DC/ 40W or 230V AC/ 1000VA	20	SIL 4
32110	4-fold Relay Amplifier; 250V DC/ 40W or 250V AC/1000VA	20	SIL 2
42100	4-fold AND Element	20	SIL 4
42110	8-fold AND Element	20	SIL 4
42200	4-fold AND, 2-fold OR Element Combination	20	SIL 4
42300	8-fold OR Element	20	SIL 4
42400	8-fold Blocking Element	20	SIL 4
42500	4-fold Selection Element	20	SIL 4
52100	Time Delay Element;	20	SIL 3
52110	4-fold Time Delay Element; 1...15s	20	SIL 3
62100	2-fold analogue Limit Monitor; 0/4...20mA; 0/1...5V	16	SIL 3
80105	Communication Module; MODBUS	00	-
80106	Communication Module; Profibus DP	00	-
80107	Communication Module; Ethernet (OPC)	00	-
80110	Reset Module, for reset of the error messages (ERR)	20	-
90100	4-fold Fuse Module	20	-
90300	2-fold Bypass Module	20	-

Power supply: 24V DC

Degree of protection: IP20

2. DOCUMENTS AND DRAWINGS:

- 12100 (0128); 13110 (0128); 22100 (0128); 22120 (0128); 22121 (0128); 32100 (0128); 32101 (0128); 32102 (0128);
- 32103 (0128); 32110 (0128); 42100 (0128); 42200 (0128); 42300 (0515); 42400 (0128); 42500 (0128); 52100 (0128);
- 52110 (0128); 62100 (0908); 80105 (0128); 80106 (0312); 80107 (0128); 80110 (0128)

3. TEST REPORTS:

TÜV:

- 71368806b Rev. 1, dated: 2010-07-07; HB52768C, revision 2.0.1, dated: 1999-07-06; HB52768C-e1, dated: 2001-10-16;
- HB52758, dated: June 29, 1998; HB86562T dated 2015-03-12;
- Revision List V 2.1.0 U 980619183027 dated 2015/03/12

HIMA:

- P1 EV_114, Revision A, dated: 08.04.2010

EMV Rhein-Neckar:

- 5200-359 dated: 09.07.2010

Mikes Product Service:

- E 14297-1-00 RG, E 14297-2-00 RG, E 15058-1-00 RG, E 15058-2-00 RG, E 15058-7-00 RG, E 15800-1-00 RG,
- E 15800-2-00 RG, E 16168-1-00 KO and E 16168-2-00 KO

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 - In the scope of this approval the module 13110 is not intended for (Ex)i applications.
4.7 - Depending on the Application, Factory Acceptance and On-board Tests are to be performed in accordance with requirements for Category II or III Equipment.
4.8 - 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.

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° 23886/A0 BV issued on 06 May 2011 by the Society.

*** END OF CERTIFICATE ***