



MARINE DIVISION

Certificate number: 14291/C0 BV

File number: AP 3625

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 + Co KG**

Brühl - GERMANY

*for the type of product*

### PROGRAMMABLE LOGIC CONTROL UNITS

Programmable Systems, type H41q and H51q.

**Requirements:**

Bureau Veritas Rules for the Classification of Steel Ships.

*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: 01 Nov 2017****For BUREAU VERITAS,**

At BV HAMBURG, on 01 Nov 2012,

Dirk Hoepfner



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 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 **HIMA Programmable Electronic Systems (PES) families H41q & H51q** consist of modules for central devices, assembled under 19" technology.

The compact **H41q** systems are suitable for automation tasks with a maximum of 208 I/O points.

The **H51q** systems are recommended for automating processes with more I/O points, their modular structure being extensible.

#### **1.1 HIMA System racks & modules H41q & H51q:**

<b>Designation</b>	<b>Main characteristic</b>	<b>HW-version</b>
B 5233-1	Assy. kit system for H51-HS	02
B 5233-2	Modular automation device for system H51-HRS	02
B 9302	Assembly kit, I/O subrack, 4U, central module rack	02
F 3236	16-channel binary input module, safety-related	05
F 3237	8-channel input module, safety-related	04
F 3322	16-channel output module with safe isolation	-
F 3330	8-channel output module, safety-related, with safe isolation	54
F 3331	8-channel output module, safety-related, with safe isolation	53
F 3334	4-channel output, safety-related	03
F 3349	8-channel output module with safe isolation	00
F 6217	8-channel analogue input, safety-related	02
F 6705	2-channel D/A converter, safety-related, with safe isolation	03
F 7553	Coupling module with switch-off of the watchdog signal, for H51q	01
F 8621A	Coprocessor module for H51q	02
F 8650X	Central module for H51q-MS, HS, HRS	01

#### **1.2 Mounting rail equipment:**

<b>Designation</b>	<b>Main characteristic</b>	<b>HW-version</b>
H 4007	1-channel isolation amplifier, with power supply for (Ex) transmitter or (Ex) valves	-
H 4012	Switching amplifier, safety-related, electrical isolation, wire break and wire short-circuit monitoring.	-
H 4135A	Relay amplifier in terminal case for safety-related circuits	-
H 7505	Multifunctional interface converter to build the bus systems	09
H 7506	Bus terminal	01

#### **1.3 Power supply current & distribution:**

<b>Designation</b>	<b>Main characteristic</b>	<b>HW-version</b>
PS 1000/115/ 0 2	Power supply unit, input 115 VAC, output 24 VDC, 40 A	-
PS 1000/230/ 0 1	Power supply unit, input 230 VAC, output 24 VDC, 40 A	-
K7214	Fusing and current distribution, 120 A, with 18 circuit breaker slots for 24 VDC	-
F 7131	Power supply monitoring with backup batteries for PES H51q	02
F 7133	4-fold power distribution with miniature fuse	01
B 9361	Additional power supply rack 5 VDC for systems H51q	-
F 7126	Power supply distribution module, in 24 VDC, out 5 VDC	00
H 6200A	Analogue isolator/power supply, (Ex)i, HART, safety-related, 2 or 3-wire, 4..20mA	-

### **2. DOCUMENTS AND DRAWINGS:**

- The H41q and H51q System families, ref. K 00.08E (0250), not dated
- Data sheets: K 7214 (0419), H 4012 (0230), B 9361 (0012), H 4007, ref. H 4007 AEA (0252) H 6200, ref. HI 800 172 AEA;
- PS 1000/115 01, ref. HI 800 123 AEA, F 3236, F3237, F 3322, F 3330, F 3331, F3349, F 6217, F 7133, F 7553;
- H41qH51q\_2011-39\_sig dated 2011-10-06; H6200A\_AN\_EXT2\_HMX Rev. 113 dated 30.04.10;
- AN\_H4135A Rev. 1.0 dated 04.06.07; AN\_F8650X\_V1.0 Rev. 1.0 dated 30.06.05

### **3. TEST REPORTS:**

#### **HIMA:**

- P1 EV\_116A dated 2006.03.06; VPS-02-01 dated 26.11.2002; EH 04 101 D dated 29.03.96;
- EH 04 113A dated 17.06.99; EH 04 114 A dated 29.07.97; EH 04 114 A dated 12.12.96;
- EH 04 114 Y dated 02.08.2004; EH 04 114 Y dated 17.05.2004; AMS-04-07 dated 30.06.2004;
- QSE Test Report on F 3334 dated 6.03.96;
- Test Report on F 3322 dated 14.06.96; Test Report on F 7133 dated 8.09.96; Test Report on F 8621A dated 14.08.96.



**TÜV:**

- HB96495C, rev. 1, dated 1 Jun 1995; HB52548C Rev. 3.1 dated 2000-06-20 and Amendment 1 dated 05 Sep. 2000;
- 990187410 Rev. 1.0 dated 18.10.2000; MHM-EST-7.70072075a dated 14.05.2004; 968/EZ 129.16/10 dated 2010-11-09
- **H4007**: EX5 02 11 19183 038 dated 29.11.2002; EX8 02 11 19183 039 dated 29.11.2002;
- **H4012**: EX5 99 07 19183 029X dated 08.07.1999;
- **H6200A**: TÜV 04 ATEX 7064 with 1st Suppl. dated 2008-04-25; TÜV 04 ATEX 7065X with 1st Suppl. dated 2008-04-25

**Rhein-Neckar GmbH:**

- 5200-347 dated 14.07.2006; 5200-345e dated 21.12.2005; 5200-313 dated 28.02.2003; 5200-332 dated 30.06.2004

**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: 31.**
- 4.4 - Documents for each application and configuration is to be submitted to the Society's examination prior to fitting on board.
- 4.5 - The following parts A1, A1dig and A1 FRAM (Compact PES) fulfils the EMC requirements for installation on the Bridge and Deck Zone. The other items are to be installed in General Power Distribution Zones. Line filter and snap ferrite are those used during EMC measurements.
- 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 successfully tested in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer are covered by this certificate.

**5. PRODUCTION SURVEY REQUIREMENTS:**

- 5.1 - The above mentioned products are to be manufactured, examined and tested by **HIMA Paul Hildebrandt GmbH + Co. KG** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.
- 5.2 - Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end **HIMA Paul Hildebrandt GmbH + Co. KG** has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.
- 5.3 - **HIMA Paul Hildebrandt GmbH + Co. KG** has declared to Bureau Veritas that the types of product described in this certificate are manufactured at the following production site:

**HIMA Paul Hildebrandt GmbH + Co. KG Industrie-Automatisierung**  
**Albert-Bassermann Strasse 28**  
**68782 Brühl**  
**GERMANY**

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

**6. MARKING OF PRODUCT:**

- Maker's name or trade mark.
- Equipment type or model identification.
- Date of manufacture and/or serial number.
- Ex marking, as relevant

**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 + Co. KG - GERMANY**, will accept full responsibility for informing shipbuilders, shipowners 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° 14291/B0 BV issued on 01 Dec 2006 by the Society.

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