



Marine &amp; Offshore

Certificate number: 09816/C1 BV

File number: AP 3288

Product code: 39911

*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*

**maresystems GmbH**

Hamburg - GERMANY

*for the type of product*

**MAIN ALARM SYSTEMS**

Integrated Automation System

Type: VISTA ALARM

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships.

*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: 24 Mar 2019**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 24 Aug 2018,

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 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](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 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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

## THE SCHEDULE OF APPROVAL

### **1. PRODUCT DESCRIPTION:**

The **VISTA ALARM** is an Integrated Automation System comprising: Process Control System (Workstation based on Bureau Veritas approved PC).

Process stations with

- Central SMU (Substation Management Unit) data processing unit and VBI (Fieldbus Converter)
- DAD (Data Acquisition Display)
- RCP (Remote Control Panel)
- Process I/O Nodes
- XAS (eXtention) Alarm System with Printers and PPI (Parallel Printer Interface)
- Bus Systems

#### 1.1 - Hardware Components:

Type	Component Abbreviation	Description	SW-Version	HW-Version
A205; A206	DAD	Data Acquisition Displays (64 or 128 LEDs)	1.001	E734.1; E735.1; E385.1
F101	ACI6	6 Analogue Inputs: 4-20mA	1.53	E713.1
F101	ACI6 +	6 Analogue Inputs: 4-20mA	2.009	E713.2; E724.1
F101	ACI6 +	6 Analogue Inputs: 4-20mA	3.001	E713.3; E724.3
F102	API6	6 Analogue Inputs: Pt 100 (3-wire)	1.53	E716.1
F102	API6	6 Analogue Inputs: Pt 100 (4-wire)	1.53	E720.1
F101	API6 +	6 Analogue Inputs: Pt 100 (3-wire)	2.009	E720.2; E724.1
F102	API6 +	6 Analogue Inputs: Pt 100 (4-wire)	3.001	E720.3; E724.3
F103	ATI6	6 Analogue Inputs: Thermocouple	1.53	E717.1
F103	ATI6 +	6 Analogue Inputs: Thermocouple	3.001	E717.3; E724.3
F104	DVI24	24 Digital Inputs - Voltage	1.15	E711.1
F105	DCI24	24 Digital Inputs - NC/NO Contact	1.2	E712.1
F105	DCI24+	24 Digital Inputs - NC/NO Contact	2.05	E712.2; E724.1
F201	DCO8	8 Digital Outputs - Relay	1.20	E714.1
F202	ACO8	8 Analogue Outputs - 0-25mA	1.20	E718.1
F202	ACO8 +	8 Analogue Outputs: 0-25mA	2.003	E718.2
F203	DCO16	16 Digital Outputs - Relay	1.11	E723.1
F203	DCO16 +	16 Digital Outputs - Relay	2.001	E723.2; E724.1
F401	VBI5	5 Channels Fieldbus Converter	n.a.	E702.1
F402	SCN	Save Clock Node	1.14	E721.1
F403	VBI1	1 Channel Fieldbus Converter	n.a.	E732.1
F404	VBI6+	6 Channels Fieldbus Converter	0.200	E725.1
F404	VBI6+	6 Channels Fieldbus Converter with Standby	0.200	E725.1; E726.1
F503	XAS	Extension Alarm Panel	3.55	E704.1; E705.4
F504; F505; F506	RCP/RCD	Remote Control Panels / Displays	1.001	E731.1; E734.1; E735.1
F507	PCP	Process Control Panel	1.023	1.0
F601	PPI	Parallel Printer Interface	1.09	E715.2
F802	SMU	Substation Management Unit	2.4.18	0.6
F803 001A	SMU	Substation Management Unit	2.6.30	1.0
F902 002A	XAS-X	XAS - Distribution Board	n.a.	E707.1
F902 006A	RSI	RS232 Signaling Interface	n.a.	E736.1
D701	ML280	OKI ML280 Printer	n.a.	n.a.
D903	-	Ethernet Switch	n.a.	n.a.
D502	KBD/TKB	Keyboard + Trackball	n.a.	n.a.
UPS700	UPS	Uninterruptible Power Supply	n.a.	n.a.

#### 1.2 - Software / Firmware Versions:

	Operating System	Application Software Ver.
Operator Workstation	Windows 2000	Citect 5.42
Process Station	SMU: Linux 2.4.18	3.060

**2. DOCUMENTS AND DRAWINGS:**

- Catalogues: IDE- FLASH-104V.1.00/ 10.11.98 - Interface;
- EMERALD-MM: 4-channel Multi-protocol serial Port, PC/104 User Manual V3.1
- STARTECH- ST16C554D/Aug. 3, 1995: Asynchronous RX/TX with FIFOs
- AX10465: Ethernet PC/104 Module user's manual
- PC/104 486 V1.01/V2.00: I/O plugs.
- Automation System / User's manual VistaAlarm\_en No:77 000 015, Rev. 8 dated 01.12.02.
- Test Set Up Ver. 1.00; Test Procedure Ver. 1.04
- Drawings: - E.702.1(1) Rev. B; E.702.1-Rev. A, E.704.1 Rev. B; E.704.1(1) Rev. B; E.705.2 Rev. A- sheets 1+2;
- E.705.2(1) Rev. A; E.708.1 Rev. B; E.708.1(1) Rev. B; E.709.1 Rev. A; E.709.1(1) Rev. A; E.711.1 Rev. B;
- E.711.1(1) Rev. B; E.712.1 Rev. A; E.712.1(1) Rev. A; E.713.1 Rev. C; E.713.1(1) Rev. C; E.714.1 Rev. B;
- E.714.1(1) Rev. B; E.715.2 Rev. B; E.715.2(1) Rev. B; E.716.1 Rev. B; E.716.1(1) Rev. B; E.717.1 Rev. B;
- E.717.1(1) Rev. B; E385.1/1.1 Rev. C; E707.1/1.1; E710.1/1.1 Rev. C; E712-2 Rev. G; E713-2 Rev. D;
- E713-3 Rev. B; E715.2/2.2; E717-3 Rev. A; E718.1/1b/1c/1.1; E718-2 Rev. D; E720.1/1.1; E720-2 Rev. E;
- E720-3 Rev. A; E721.1/1.1; E723.1/1.1 Rev. C; E723-2 Rev. B; E724-1 Rev. C; E724-3 Rev. A;
- E725-1 Rev. C; E726-1 Rev. A; E731.1/1.1 Rev. C; E732.1/1.1 Rev. B; E734.1/1.1 Rev. H/H1;
- E735.1/1.1 Rev. B; E736-1-2 Rev. A; H. Klar 03.05.99 Ver 02.10; H. Klar 05.05.99 Ver 01.10;
- H. Klar 03.05.99 Ver 02.10;

**3. TEST REPORTS:**

- AMOTEC:** - PCP\_Klima\_080111 dated 15.02.2008; PCP\_Vibration\_070927 dated 15.10.2007
- CEcert:** - 404.022.1 dated 29 July 2004; 404.022.2; 404.022.3; 404.022.4; 404.022.5; 404.022.6; 404.022.7;
- 404.022.8; 404.022.9; 404.022.11; 404.022.12; 404.022.13 dated 04 August 2004.
- Delphi:** - VL2010001JCK.115.02-01 Rev.02 dated 2010-06-08;
- EMC TestHaus Dr. Schreiber GmbH:** - 24/17 dated May 11,2010
- EMV Labor der FH-Kiel:** - B-09-020-IMS-001 dated 06.04.2009
- EMV Testlabor GEDIS GmbH:** AB2067-001 dated 13.03.2009; AB2258-001 dated 16.10.2009;
- AB2571-001 dated 01.03.2011; AB2571-002 dated 01.03.2011; EMV005306e 6.04.06
- H.M.Stein Sohn:** - B60169-VA dated 22.02.2006
- IABG:** - P-340 2222-13-TA 22-1 dated 06.05.2004; P-340 3311-03-TA 36-1 dated 24.01.2008;
- TP-TR50-4795 dated 19.04.2004; TP-TR50-6256 dated 20.09.2007
- Interschalt:** - TR-2009-1 dated 06.01.2009; TR-2009-3 dated 06.07.09
- LACON embedded GmbH:** - PCP\_Rev.1\_Vortests\_080214 dated 15.02.2008
- Norbert Eichler:** - 09-001 dated 1 Apr 2009; 09-003 dated 1 Apr 2009; 09-006 dated 7 Dec 2009;
- 09-008 dated 7 Dec 2009; 09-010 dated 7 Dec 2009; 11-006 dated 14 Apr 2011; 11-008 dated 14 Apr 2011;
- 11-010 dated 14 Apr 2011
- Raytheon Anschutz GmbH:** ET05-07/99 & UWL dated 28/07/99; ET-01-01-09 dated 27.01.2009;
- ET-03-01-09 dated 27.01.2009; ET-04-04-06 dated 27.06.2006; ET-12-05-11 dated 05.05.2011;
- ET-13-05-11 dated 05.05.2011; ET-14-05-11 dated 05.05.2011; ET-50-11-09 dated 23.11.2009;
- ET-51-11-09 dated 23.11.2009; ET-52-11-09 dated 23.11.2009; ET-53-11-09 dated 24.11.2009;
- ET-54-11-09 dated 24.11.2009; ET-55-11-09 dated 24.11.2009
- Schwille Elektronik:** - 1980 dated 7.4.2004; 3066 dated 3.3.2008
- VST:** - EMV 0089E.99 issued on 01.07.99.
- W+Z Mess-u. Prüftechnik:** - L1384 dated 27.03.04.

**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** for I/O nodes / **21** for other modules.
- 4.4 - I/O nodes and SMU fulfills the EMC requirements for installation in General power Distribution Zones. Other modules can be installed on bridge or deck zones.
- 4.5 - Documents relating to each application are to be submitted to the Society's examination prior fitting on board.
- 4.6 - No safety stop device required by the Rules shall be activated through this system.
- 4.7 - Factory Acceptance and On-board Tests are to be performed in accordance with requirements for Category II Equipment.
- 4.8 - The equipment, once installed on board ship, is to be tested in accordance with the above referred Regulations under the supervision of a Society's Surveyor.
- 4.9 - Only Hardware and Software successfully tested together 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 product is to be supplied by **maresystems GmbH** in compliance with the type described in this certificate.

5.2 - The Integrated Automation System is within the category IBV of Bureau Veritas Rule Note NR320.

5.3 - BV product certificate is required.

5.4 - **maresystems GmbH** has declared to Bureau Veritas the following production site of the components:

**maresystems GmbH**  
**Eichkamp 15**  
**24217 Schönberg**  
**GERMANY**

5.5 - 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.

- \ or @ conformity marking, as relevant.

**7. OTHERS:**

7.1 - It is in the responsibility of **maresystem 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° 09816/C0 BV issued on 24 Mar 2014 by the Society.

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