

MARINE DIVISION

Certificate number: 05747/D0 BV

File number: AP 1913

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

PRAXIS AUTOMATION TECHNOLOGY B.V.
LEIDEN - NETHERLANDS

for the type of product

MAIN ALARM SYSTEMS

G-DATA, MAXI/MEGA-GUARD, Integrated Alarm, Monitoring and Control System.

Requirements:

BV 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: 28 Sep 2014

For BUREAU VERITAS,

At BV ROTTERDAM, on 28 Sep 2009,

Erwin Poortvliet



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. 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 :

Type **G-Data, Mega-Guard, Maxi-Guard**, Integrated Alarm- Monitoring and Control System consisting of:

Technical Data / Application Range	
OWS	<ul style="list-style-type: none"> - Operator Work Station (also named 'All in one' Work Station) for the following typical processes: - Alarm/Control and Monitoring - Pump- and Valve Control - Duty Alarm System - Patrol Alarm System - Electrical Power Management - Main Engine Control - PID Control - Graphic presentation of ship's data - Dynamic Positioning <p>The OWS comprises the following components:</p> <ul style="list-style-type: none"> - Model 6001 Marine Personal Computer ; including redundant network interface (type 98.6.001.7xx) - TFT colour Graphic screen (type 98.6.02x.6xx) - Operator Keyboard (type 93.6.02x.00x) - Engineering Keyboard (type 76.0.200) - Keyboard/Tracker ball (type 93.6.02x.x0x) - Ethernet HUB/Router (type 76.0.81x) - 6010 Fieldbus Driver Board (type 98.6.010.7x0)
EAS	<ul style="list-style-type: none"> - Extension Alarm System for the remote alarm indication consisting of: - Local Operator Panel (type 98.6.02x.6xx) - 3 / 8 Channel LED Panel (type 93.0.31x) - Fire Alarm Panel (type 98.6.021.60x) - Watch Entrance Unit (type 93.0.359) - Reset Box (type 93.0.351) - Bedroom Buzzer (type 93.0.363)
PCU	<ul style="list-style-type: none"> - Model 16 Channel Alarm Panel (type 93.0.92x) - Process Control Units Maxi-Guard/Mega-Guard DIN Rail Model (also called DPU or SAU) for processing of inputs, outputs, alarms and control loops, consisting of: - Model 6030, 12 x Digital input / 8/12 x Digital output executed as Din rail model (Type 98.6.030.7xx). - Model 6032, 24 x Digital Input unit executed as Din rail model (type 98.6.032.7xx). - Model 6034, 16 x Analog input /mixed input output executed as Din rail model (type 98.6.034.7xx) - Model 6049, Control Processor executed as Din rail model with redundant network interface executed as Din rail model (type 98.6.049.7xx). - Display Panel (type 98.6.02x.6xx) - Serial Interface Converter (type 91.6.040.40x) - Sensor Supply Module (type 98.6.010.7xx)
BMS	<ul style="list-style-type: none"> - Bridge Manoeuvring system (also called PCS) consisting of: - All models mentioned under PCU - Bridge/Control Room control Lever and Telegraph Panel (type 98.6.02x.62x) - BMS Telegraph Panel (type 98.6.02x.62x) - Bridge Order Printer Panel (type 98.6.02x.63x) - Telegraph and Safety Panel (type 98.6.02x.63x) - Governor Panel (type 98.6.02x.60x) - Emergency Stop DIN Module (type 98.6.034.7xx) - Electronic Drive Unit (type 98.6.010.7xx) - Electronic Actuator (type 98.0.3xx) - 7" TFT Operator Panel (type 98.6.02x.6xx)

	<ul style="list-style-type: none"> - BMS Indication/Command Panel (type 98.6.02x.62x) - BMS Command Panel (Type 98.6.02x.64x) - BMS Indication Module (type 98.6.034.7x)
AHS	<ul style="list-style-type: none"> - Anti Heeling System comprising of: - Model 6001 Marine Personal Computer ; including redundant network interface (type 98.6.001.7xx) - TFT colour Graphic screen (type 98.6.02x.6xx) - Operator Keyboard (type 93.6.02x.00x) - Keyboard/Tracker ball (93.6.02x.x0x) - All models under PCU
PMS	<ul style="list-style-type: none"> - Power Management System consisting of: - All models mentioned under PCU - PMS input/output Din module (type 98.6.034.7xx) - Local Operator Panel (type 98.6.02x.6xx) - 7" TFT Operator Panel (type 98.6.02x.6xx) - Display and Operating module (type 98.6.02x.6xx) <p>Overload trip, Reverse Power Trip, Low-/High Frequency Trip/ Low-/High Voltage Trip, Standby Start, Synchronising, Preferential Trip, Load Sharing, Low Load Stop, Manual Start/Stop, Safety System</p> <p>Application software version 1.x (up to 3 DG's), version 2.x (up to 5 DG's)</p>
BNWAS	<p>Bridge Navigational Warning & Alarm System comprising of:</p> <ul style="list-style-type: none"> - Local Operator Panel (type 98.6.02x.6xx)
DP	<ul style="list-style-type: none"> - Dynamic Positioning system comprising of: - Model 6001 Marine Personal Computer ; including redundant network interface (type 98.6.001.7xx) - TFT colour Graphic screen (type 98.6.02x.6xx) - Operator Keyboard (type 93.6.02x.00x) - Keyboard/Tracker ball (93.6.02x.x0x) - All models under PCU - 7" TFT Operator Panel (type 98.6.02x.6xx) - Joystick and Rate Of Turn Panel (type 98.6.02x.6xx)
UPS	<ul style="list-style-type: none"> - Uninterruptible Power Supply comprising of: - 230VAC Series UPS - 24VDC Series UPS

2. DOCUMENTS AND DRAWINGS :

According to documents filed in AP 3350 & AP 1913.

3. TEST REPORTS :

- 3.1 - Test report issued by Kema (Arnhem, Netherlands), dated 02/09/99 and referenced 93130-KRQ/EMC 99-4334b.
- 3.2 - Praxis Automation Technology environmental test report rev.1.0 dated 12/Jun./2009
(The test were witnessed by a Society Surveyor)
- 3.3 - DARE Consultancy test report N° 09C00180RPT01 dated 07/May/2009
- 3.4 - TNO Test report N° TNO-034-DTM-2009-00269 dated 16/Feb./2009
- 3.5 - Praxis Automation Technology environmental test report rev.1.0 dated 15/Apr./2009
- 3.6 - Praxis Automation Technology environmental test report rev.1.0 dated 09/Apr./2009
- 3.7 - Praxis Automation Technology environmental test report rev.1.0 dated 14/Apr./2009
- 3.8 - Praxis Automation Technology environmental test report rev.1.0 dated 17/Jun./2009 (Part one)
(The test were witnessed by a Society Surveyor)
- 3.9 - Praxis Automation Technology environmental test reports rev.1.0 dated 17/Jun./2009 (Part two).

4. APPLICATION / LIMITATION :

- 4.1 - Every application (user's program and configuration) is to be submitted to the Society's Approval.
- 4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-IMS, AUT-CCS, AUT-PORT.**
- 4.3 - 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.

4.4 - 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.

4.5 - Software Modification:

Any modification of program contents and data, as well as a change of version, shall be documented and submitted to BV for appraisal.



4.6 - The machinery protection based on data processing techniques is to be duplicated by another and different system.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The above products are to be manufactured, examined and tested by **Praxis Automation Technology B.V.** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.

5.2 - Arrangements shall be made for a Society's Surveyor to attend the relevant tests and examinations at manufacturer's works or to perform the relevant audits when an alternative survey scheme (BV Mode I) has been agreed. Relevant Bureau Veritas certificate will be issued after satisfactory completion of the procedure.

6. MARKING OF PRODUCT :

- Maker's name or trade mark,
- Serial number of the units,
- Equipment type number or model identification under which it was type-tested,
-  or  conformity 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 at any time, and that **Praxis Automation Technology B.V., Leiden - The NETHERLANDS** will accept the responsibility for informing shipbuilders or their sub-contractors of the proper methods of use and general maintenance of the contractors and of the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 05747/C0 BV issued on 21/03/2003 by the Society.

*** END OF CERTIFICATE ***