



## TYPE APPROVAL CERTIFICATE

**Certificate No.** : RTD23958-AC001 **Initial Approval** : 29th June, 2009.  
**Product** : Alarm, Monitoring and Control System  
**Manufacturer** : Praxis Automation Technology B.V.  
Willem Barentszstraat 1, 2315 TZ, Leiden, The Netherlands

**Product Description** : Ship Automation System ( Type : Maxi-Guard, Mega-Guard )

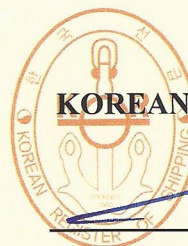
" See Appendix 1 ~ 3 "

**Approval Condition** : " See Appendix 3 "

**THIS IS TO CERTIFY** that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows and entered in the "List of Approved Manufacturers and Type Approved Equipment".

Pt. 6, Ch. 2, Art. 301 of the Rules for Classification, Steel Ships.

This Certificate is valid until 28th June, 2019.  
Issued at Busan, Korea on 24th November, 2014.



**KOREAN REGISTER OF SHIPPING**

*General Manager of  
Class Equipment Team*

**Note :1** : The approval will be automatically suspended and the Certificate become invalid from the expiry date of the Certificate in the event that the extension has not been granted or the renewal of the Certificate is not underway.

**2** : The manufacturer should notify this Society of any modification or changes that may affect the validity of this Certificate.



## Appendix 1

# Product Description and/or Approval Condition

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Date of Issue : 24th November, 2014.

### A. Product Description ;

#### 1. This system consists of the following items.

- 1) OWS – Operator Work Station (also named ‘All in one’ Work Station) consisting of ;
  - Model 6001 Marine Personal Computer; including redundant network interface (type 98.6.001.7xx.x)
  - Model 6001 Marine Personal Computer; including redundant network interface (type 98.6.001.8xx)
  - TFT colour Graphic screen (type 98.6.02x.6xx.x)
  - 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)
  - Ethernet switches 8-port 24VDC (76.0.85x)
  - Ethernet switches 8-port 230VAC (76.0.85x)
  - Ethernet switches 24-port 24VDC (76.0.84x)
  - Ethernet switches 24-port 230VAC (76.0.84x)
  - 6010 Fieldbus Driver Board (type 98.6.010.7xx)
- 2) EAS – Extension Alarm System for the remote alarm indication consisting of:
  - Local Operator Panel (type 98.6.02x.6xx)
  - Local Operator Panel (type 93.0.96x)
  - 3/8 Channel LED Panel (type 93.0.31x)
  - Fire Alarm Panel (type 98.6.021.60x)
  - Watch Entrance Unit (type 93.0.35x, 93.0.36x and 93.0.37x)
  - Reset Box (type 93.0.35x)
  - Bedroom Buzzer (type 93.0.35x and 93.0.36x)
- 3) PCU – 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 6030, 18 x Digital input / 18 x Digital output executed as Din rail model (Type 98.6.030.8xx)
  - Model 6032, 24 x Digital Input unit executed as Din rail model (type 98.6.032.7xx)
  - Model 6032, 36 x Digital Input unit executed as Din rail model (type 98.6.032.8xx)
  - Model 6034, 16 x Analog input /mixed input output executed as Din rail model (type 98.6.034.7xx)
  - Model 6034, 24x Analog input /mixed input output executed as Din rail model (type 98.6.034.8xx)
  - Model 6034, Addressable fire alarm input output executed as Din rail model (type 98.6.034.8xx)
  - Model 6049, Control Processor executed as Din rail model with redundant network interface executed as Din rail model (type 98.6.049.7xx)
  - Model 6049, Control Processor executed as Din rail model with redundant network interface executed as Din rail model (type 98.6.049.8xx)
  - Display Panel (type 98.6.02x.6xx)
  - Serial Interface Converter (type 91.6.040.40x)
  - Serial Interface Converter (type 91.6.040.80x)
  - USB to NMEA Interface (type 98.6.040.80x)
  - Sensor Supply Module (type 98.6.010.7xx)
  - Distribution Panel (type 93.4.50x)
  - Praxis Earth Fault Detection Module (type 91.6.040.20x)
  - Alarm Panel 16 Ch. (type 93.0.92x)
  - Window Wiper Panel (type 93.0.95x)
  - Window Wiper I/O Module (type 98.6.030.80x)
  - Navigation Lights Panel (type 93.0.93x)
  - Nav. Lights I/O-module (type 98.6.030.80x)
  - Fire Alarm Panel (type 93.0.94x)
  - LCD Operator Panel (type 93.0.96x.x)

< To be continued >



## Appendix 2

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- 4) BMS – 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)
  - Emergency Stop DIN Module (type 98.6.034.7xx)
  - BMS Telegraph Panel (type 98.6.02x.6xx)
  - Bridge Order Printer Panel (type 98.6.02x.63x)
  - Telegraph and Safety Panel (type 98.6.02x.63x)
  - LCD Operator Panel (type 93.0.96x.x)
  - Electronic Drive Unit (type 98.6.010.7xx)
  - Electronic Actuator (type 98.0.3xx)
  - 7" TFT Operator Panel (type 98.6.02x.6xx)
  - 8" TFT Operator Panel (type 98.6.02x.6xx)
  - BMS Indication/Command Panel (type 98.6.02x.62x)
  - BMS Indication Panel (type 98.6.02x.64x)
  - BMS Indication Module (type 98.6.034.7xx)
  - PCS Control lever (Type 98.6.022.621x)
  - PCS Azimuth control lever (Type 98.6.022.622x)
- 5) AHS – Anti Heeling System comprising of:
  - All models mentioned under OWS
  - All models mentioned under PCU
  - Inclinator (type 98.0.23x)
- 6) PMS – Power Management System consisting of:
  - All models mentioned under PCU
  - PMS input/output Din module (type 98.6.034.7xx)
  - PMS input/output Din module (type 98.6.034.8xx)
  - Local Operator Panel (type 98.6.02x.6xx)
  - 7" TFT Operator Panel (type 98.6.02x.6xx)
  - 8" TFT Operator Panel (type 98.6.02x.6xx)
  - Display and Operating module (type 98.6.02x.6xx)
  - ※ 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
  - ※ Application software version 1.x (up to 3 DG' s), version 2.x (up to 5 DG' s), version 3.x (up to 9 DG' s)
- 7) BNWAS – Bridge Navigational Warning & Alarm System comprising of:
  - Local Operator Panel (type 98.6.02x.6xx and 93.0.96x)
- 8) DP – Dynamic Positioning system comprising of:
  - All modules under OWS
  - All modules under PCU
  - 7" TFT Operator Panel (type 98.6.02x.6xx)
  - 8" TFT Operator Panel (type 98.6.02x.6xx)
  - Joystick and Rate of Turn Panel (type 98.6.02x.6xx)
- 9) UPS – Uninterruptible Power Supply comprising of :
  - 230VAC Series UPS
  - 24VDC Series UPS

< To be continued >



## Appendix 3

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### B. Basic software/firmware

Device	Pro-series	E-series	Description
MPC	CAMMAN. EXE (rev. 4. xx, 5. xx)	-	G-Data Marine Personal Computer
MPC	MEGA-GUARD. EXE (rev. 6. xx)	MEGA-GUARD (rev. 6. xx)	Data collection, central visualization and HMI
XP	60XX_xxx. HEX (rev. 1. xx ~ 4. xx)	-	Data processing
XP	DIN (rev. 2. x)	app-xxx; loader-xxx (rev2. x)	Data processing, Local data visualization and local HMI
Local Operator Panel/LCD Panel	LOP_xxx. HEX (rev. 1. xx)	app-xxx; loader-xxx (rev2. x)	Data processing, Local data visualization and local HMI
Functional keyboard	Functional keyboard (rev. 2. xx, 3. xx)	Functional keyboard (rev. 2. xx, 3. xx)	Dedicated (limited) operator keyboard
I/O Modules	IP Modules (rev. 2. x)	IO Module (rev. 2. x)	Data acquisition
Stand-alone	PANEL (rev. 1. x)	PANEL (rev. 1. x)	Stand-alone panels (Alarm Panel and Window Wiper) data processing and visualization

### C. Approval Conditions ;

1. This approval is granted on the basis of the following test reports.
  - 1 Mega-Guard-Type approval augustus 2006 Rev 1.0.doc (30-Jan-2008, Rev.:1.0)
  - 2 Mega-Guard-Type approval 2008\_2 Rev 1.0.doc (28-Jan-2008, Rev.:1.0)
  - 3 Mega-Guard-Type approval 2008\_3 Rev 1.0.doc (30-Jan-2008, Rev.:1.0)
  - 4 Mega-Guard-Type approval 2008\_4 Rev 1.1.doc (30-Jan-2008, Rev.:1.1)
  - 5 Mega-Guard-Type approval 2008\_5 Rev 1.0.doc (30-Jan-2008, Rev.:1.0)
  - Environmental Test Report, Ship Automation System (09-Sep-2010, Rev.:1.2)
  - Environmental Test Report, Ship Automation System (21-Jun-2011, Rev.:1.2)
  - Environmental Test Report, Ship Automation System (19-Aug-2013, Rev.:1.2)
2. The manufacturer should inform this Society of all kinds of revisions of the approved softwares. If the changes are recognized to affect functionality of the approved system, Type Test to confirm the reliability of the revised software may be performed in the presence of our surveyor.
3. In case where this system is installed on board, the system drawings for individual vessel are to be approved by this Society.
4. Unless specially directed by the Administration, the approval for BNWAS is not to be construed as a substitute for a flag Administration's approval. In order to be installed on board the Korean flag vessels in Korea, Product is to be type approved by the Korean Government.
5. Individual Product Certification is required.

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