



**TYPE APPROVAL CERTIFICATE**  
**No. ELE158616XG**

**This is to certify** that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

<i>Description</i>	<b>Alarm, monitoring and control system</b>
<i>Type</i>	<b>G-DATA / Mega-Guard / Maxi-Guard</b>
<i>Applicant</i>	<b>PRAXIS AUTOMATION TECHNOLOGY B.V</b> <b>ZIJLDIJK 24A</b> <b>2352 AB LEIDERDORP</b> <b>NETHERLANDS</b>
<i>Manufacturer</i>	<b>PRAXIS AUTOMATION TECHNOLOGY B.V</b>
<i>Place of manufacture</i>	<b>ZIJLDIJK 24A</b> <b>2352 AB LEIDERDORP</b> <b>NETHERLANDS</b>
<i>Reference standards</i>	<b>Rules for the Classification of Ships- Part C - Machinery, Systems and fire protection - Ch.3 ; Sect. 6, Tab.1</b>

Issued in **Hamburg** on **September 5, 2016**. This Certificate is valid until **September 4, 2021**



RINA Services S.p.A.  
**Giuseppe Russo**

This certificate consists of this page and 1 enclosure



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**G-DATA / Mega-Guard / Maxi-Guard**

**G-DATA, MAXI /MEGA GUARD** consisting of:

- OWS**            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

The OWS comprises the following components:

- Model 6001 Marine Personal Computer, including redundant network interface (type 98.6.001.7xx)
- Model 6001 Marine Personal Computer; including redundant network interface (type 98.6.001.8xx)
- TFT colour Graphic screen (type 98.6.02x.6xx.x)
- 17" widescreen TFT LCD monitor (type 98.6.02x.6xx)
- 26" widescreen TFT LCD monitor (type 98.6.02x.6xx)
- 5.7" TFT Screen (type 93.0.980)
- 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)
- Panel PC 10" (type 98.6.022.84x.x)
- Panel PC 17" (type 98.6.022.87x.x)
- Panel PC 19" (type 98.6.022.82x.x)
- Panel PC 22" (type 98.6.022.88x.x)
- Panel PC 26" (type 98.6.022.89x.x)
- Trackerball Controller (98.6.022.632)
- Joystick Controller (98.6.022.631)
- Ethernet switch 8 ports 24VDC (type 76.0.85x)
- Ethernet switch 8 ports 220VAC (type 76.0.85x)
- Ethernet switch 8 ports 24VDC (type 98.6.040.802)
- Ethernet switch 18 ports 24VDC (type 98.6.040.803)
- Ethernet switch 24 ports 24VDC (type 76.0.84x)
- Ethernet switch 24 ports 230VAC (type 76.0.84x)
- DIN module Media converter RJ45 <-> Fiber ST (type 98.6.040.806)

- 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.x)
  - 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)



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### 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 / 18x Digital output executed as DIN rail model (type 98.6.030.80x).
- 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, 24 x Analog input executed as DIN rail model (type 98.6.034.8xx)
- Model 6034, 24 x Analog mixed input/ output executed as DIN rail model (type 98.6.034.8xx)
- Model 6049, Control Processor with redundant network interface executed as DIN rail model (type 98.6.049.7xx)
- Model 6049, Control Processor 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 98.6.040.80x)
- Sensor Supply Module (type 98.6.010.7xx)
- Alarm Panel 16 Channel (type 93.0.92x)
- Navigation Lights Panel (type 93.0.93x)
- Nav. Lights I/O-module (type 98.6.030.80x)
- Fire Alarm Panel (type 93.0.94x)-Addressable fire alarm input output executed as DIN rail model (type 98.6.034.8xx)
- Window Wiper Panel (type 93.0.95x)
- Window Wiper I/O-module (type 98.6.030.80x)
- LCD Operator Panel (type 93.0.96x)
- USB to NMEA Interface (type 98.6.040.80x)
- DP Thruster Controller (type 98.6.049.801)
- 8-port NMEA Interface (98.6.040.804)

### 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)
- Bridge/Engine Room Telegraph Panel (type 98.6.02x.6xx)
- 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 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)
- Control lever (type 98.6.022.623x)
- Azimuth lever (type 98.6.022.624x.x)



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- AHS 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
  - Inclinator (type 98.0.23x)
  - All models under OWS
- 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 98.6.034.80x)
  - 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 8 DG's)
- BNWAS Bridge Navigational Warning & Alarm System comprising of:
- All models mentioned under PCU
  - Local Operator Panel (type 98.6.02x.6xx and 93.0.96x)
- DP 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)
  - 8" TFT Operator Panel (type 98.6.02x.6xx)
  - Joystick and Rate Of Turn Panel (type 98.6.02x.6xx)
  - DP Thruster Controller (type 98.6.049.801)
- UPS Uninterruptible Power Supply comprising of :
- 230VAC Series UPS:  
(type UPS-250: 98.0.504); (type UPS-500: 98.0.500); (type UPS-750: 98.0.505);  
(type UPS-1000: 98.0.501); (type UPS-1500: 98.0.502)
  - 230VAC/24VDC Series UPS:  
(type PSU-250: 98.0.504.1); (type PSU-500: 98.0.500.1)
  - UPS Input Module (93.4.504)
  - UPS Distribution board (93.4.501)



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### Technical Documents

#### Operator Guides

MEGA-GUARD OPERATOR WORKSTATION and Extension Alarm System

(File PTD\_Mega-Guard-OWS\_Rev6.9 )

MAXI-GUARD OPERATOR WORKSTATION and Extension Alarm System

(File PTD\_Maxi-Guard-OWS\_Rev6.6 )

MEGA-GUARD PROCESS CONTROL UNIT

(File PTD\_Mega-Guard-PCU\_Rev5.30)

MAXI-GUARD PROCESS CONTROL UNIT

(File PTD\_Maxi-Guard-PCU\_Rev5.30)

MEGA-GUARD POWER MANAGEMENT SYSTEM

(Files PTD\_Mega-Guard-PMS-LOP-Rev.6.46; PTD\_Mega-Guard-PMS-LED Rev.6.37 and

PTD\_Mega-Guard\_E-series\_PMS\_Rev1.10.doc)

MEGA-GUARD BRIDGE MANOUVRING SYSTEM

(File PCM\_Mega-Guard\_BMS-TFT\_MBD\_Rev3.11)

MEGA-GUARD DYNAMIC POSITIONING SYSTEM

(Files PTD\_Mega-Guard-DP0-Rev0.2, PTD\_Mega-Guard-DP1-Rev0.1 and

PTD\_Mega-Guard-DP2-Rev0.2.doc)

MEGA-GUARD ANTI HEELING SYSTEM

(File PTD\_Mega-Guard-AHS-TFT\_Rev1.0)

MEGA-GUARD WINDOW WIPER SYSTEM

(File PTD-Wiper-Control-System-R1.02)

MEGA-GUARD NAVIGATION LIGHT SYSTEM

(File PTD-Navigation-Light-Control-System-R1.06)

MEGA-GUARD FIRE ALARM SYSTEM

(File PTD-Fire-Alarm-Panel-R1.05)

MEGA-GUARD ALARM PANEL

(File PTD-Alarm-Panel-Manned-Engine-Room-R1.04)

### Test Reports

- Test reports issued by Kema (Arnhem, Netherlands, dated 02/09/99 and referenced 93130-KRQ/EMC 99-4334b.
- TNO 2003-CMC-B01/WSS (2003-02-05)
- TNO 2003-CMC-B02/WSS (2003-03-03)
- TNO 2003-CMC-M0291/WSS (2003-12-08)
- TNO Test report N° TNO-034DTM-2009-00269 dated 16/Feb./2009
- DARE Consultancy test report N° 09C00180RPT01 dated 07/May/2009
- 1 Mega-Guard-Type Approval augustus 2006 Rev 1.0
- 2 Mega-Guard Type Approval 2008\_2 Rev 1.0
- 3 Mega-Guard-Type Approval 2008\_3 Rev 1.0
- 4 Mega-Guard-Type Approval 2008\_4 Rev 1.1
- 5 Mega-Guard-Type Approval 2008\_5 Rev 1.0
- Type Approval Flammability test report june 2009 Rev 1.1 signed
- Mega-Guard-Type Approval test document november 2008 all parts
- Mega-Guard-Type Approval EMC Bridge equipment all parts
- Mega-Guard-Type Approval test document february 2009 Rev 1.0
- Type Approval test document december 2009 Rev 1.3. Total



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### Test Reports (continued)

- Type Approval 2009 – 02 Rev 1.0.pdf
- Type Approval 2011 – 01 – Rev 1.27.pdf
- Type Approval 2012 – 01- rev1.1.pdf
- Type Approval 2012 – 04 rev1.0.pdf
- Type Approval 2012 – 10 – Drive Unit.pdf
- Type Approval 2013 – 1 – rev1.0.pdf
- Type Approval 2015 – Set 1 rev1.0.pdf
- Type Approval 2015 – Set 2 rev1.0.pdf

### Marking of the Product/Modules:

- The Manufacturer name or trade mark is: Praxis Automation Technology G-DATA/MEGA-Guard/Maxi-Guard
- Serial numbers on the units: The serial number is indicated on each module on attached label.
- Type of equipment or identification according to the type approval certificate: The part number is indicated on each component on attached label

### Remarks

The following documentation is to be sent to RINA for approval before each delivery on board:

- Drawings showing the systems layout and the details of power supply to the various subsystems.
- Description of functions / controls implemented and the relevant F.M.E.A., to prove the compliance case by case with the applicable Marine Requirements (eg. SOLAS)
- Documentation of the applied software versions.

*This Certificate annuls replaces the certificate ELE132210XG.*



Hamburg September 5, 2016