TYPE APPROVAL CERTIFICATE
No. **ELE271121XG**

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

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

Issued in **Hamburg** on **December 23, 2021**. *This Certificate is valid until* **December 22, 2026**

RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure

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TYPE APPROVAL CERTIFICATE
No. **ELE271121XG**
Enclosure - Page 1 of 5
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 Touch Operator Panel (type 93.0.98x)
- 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 98.6.040.802)
- Ethernet switch 18 ports 24VDC (type 98.6.040.803)
- 8-port NMEA Interface (type 98.6.040.804)
- 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)
- 5,7" TFT Touch Operator Panel (type 93.0.98x)
- 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, 93.0.37x)
- Reset Box (type 93.0.351)
- Bedroom Buzzer (type 93.0.35x, 93.0.36x)

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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 inputI / 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)
- 5,7" TFT Touch Operator Panel (type 93.0.98x)

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)
- Joystick controller (type 98.6.022.631)

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AHS Anti Heeling System comprising of:
- All models under PCU
- Inclinometer (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 98.6.034.8xx)
- 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.64x)
- Display and Operating module (type 98.6.02x.6xx)

Overload trip, Reverse Power Trip, Low-/High Frequency Trip/ Low-/High Voltage Trip, Standby Start, Synchronizing, 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), version3.x (up to 9 DG’s)

BNWAS Bridge Navigational Warning & Alarm System comprising of:
- Local Operator Panel (type 98.6.02x.6xx and 93.0.96x)
- 5,7" TFT Touch Operator Panel (type 93.0.98x)
- DIN IO-Module BNWAS (type 98.6.030.805)

DP Dynamic Positioning system comprising of:
- All models under PCU and OWS
- 7” TFT Operator Panel (type 98.6.02x.6xx)
- 8” TFT Operator Panel (type 98.6.02x.6xx)
- Joystick and Rate 0f Turn Panel (type 98.6.02x.6xx)
- DP Thruster Controller (type 98.6.049.801)
- MRU (type 98.0.231.x)

UPS Uninterruptible Power Supply comprising of :
- 230VAC Series UPS
- 24VDC Series UPS
-UPS Input Module (type 93.4.504, 93.4.505)
-UPS Distribution Panel (type 93.4.503)

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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 Nº TNO-034DTM-2009-00269 dated 16/Feb./2009
- DARE Consultancy test report Nº 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
- BICON Report PRA-20210930-X1,01 v2021102901;
- BICON Report PRA-20210930-X1,02,SE v2021102901;
- BICON Report PRA-20210930-X1,03 v2021102901;
- BICON Report PRA-20210930-X1,04 v2021102901;

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 o each modul 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 anulls replaces the certificate ELE158616XG.

Hamburg December 23, 2021

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