



## *Confirmation of Product Type Approval*

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product. This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 18-JUL-2022. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

**Product Name:** Automation and Controls System  
**Model Name(s):** Mega-Guard / Maxi-Guard

**Presented to:**  
PRAXIS AUTOMATION TECHNOLOGY B.V.  
ZIJLDIJK 24A  
2352 AB  
Netherlands

**Intended Service:** Use on ABS Classed Vessels and Offshore Facilities in accordance with the listed ABS Rules and International Standards.

**Description:** The Mega-Guard / Maxi-Guard Common Control Platform can be used in different Praxis Automation controller systems, e.g. main engine remote and safety control system, alarm monitoring and control system, power management system, DPS-1 & DPS-2 dynamic positioning systems on vessels with AMS, ACC & ACCU notations and offshore units. OWS-Operator Work Station for control and graphic presentation, comprising Model 6001 including redundant network interface, TFT colour Graphic screen, Operator Keyboard, Engineering Keyboard, Keyboard/Tracker ball, Ethernet HUB/Router, Ethernet switches 8-port / 24-port , 8-Ports Ethernet Switch, 18-ports Ethernet Switch, 6010 Fieldbus Driver Board . Panel PC 10" Panel PC 17" Panel PC 19" Panel PC 22" Panel PC 26" DIN module Media Converter RJ45 <-> Fiber ST Trackerball Controller Joystick Controller EAS-Extension Alarm System for the remote alarm indication, Comprising Local Operator Panel, 5.7" TFT Operator Panel, 3 / 8 Channel LED Panel, Watch Entrance Unit, Reset Box, Bedroom Buzzer. PCU/DPU - Process Control Units / Distributed Processing Unit for processing of inputs, outputs, alarms and control loops, comprising: -Model 6030, 12 x Digital input, 8/12 x Digital output executed as Din rail model. -Model 6030, 18 x Digital input, 18 x Digital output executed as Din rail model. -Model 6032, 24 x Digital Input unit executed as Din rail model. -Model 6032, 36 x Digital Input unit executed as Din rail model. -Model 6034, 16 x

Analog input /mixed input output executed as Din rail model. -Model 6034, 24 x Analog input /mixed input output executed as Din rail model. -Model 6049, Control Processor executed as Din rail model with redundant network interface executed as Din rail model. - Display Panel, Serial Interface Converter, Sensor Supply Module, Alarm Panel 16 Ch., Window Wiper Panel, Window Wiper I/O Module, Navigation Lights Panel, Nav. Lights I/O-module, Fire Alarm Panel, LCD Operator Panel, -8-port NMEA Interface -DP Thruster Controller PCS/BMS - Propulsion Control System / Bridge Manoeuvring System comprising All models mentioned under PCU, Bridge/Control Room control Lever and Telegraph Panel, BMS Telegraph Panel, Bridge Order Printer Panel, Telegraph and Safety Panel, Governor Panel, Emergency Stop DIN Module, Electronic Drive Unit, Electronic Actuator, 7" TFT Operator Panel, 5.7" TFT Operator Panel, BMS Indication/Command Panel, BMS Command Panel, BMS Indication Module, Control Lever, Azimuth Lever. DPS-1 & DPS-2 Dynamic Positioning System comprising All Modules under OWS & PCU, 7" TFT Operator Panel, 5.7" TFT Operator Panel, Joystick and Rate of Turn Panel, MRU. PMS - Power Management System comprising all models as mentioned under PCU, PMS input/output Din module, Local Operator Panel, 7" TFT Operator Panel, 5.7" TFT Operator Panel, Display and Operating module. BNWAS - Bridge Navigational Warning and Alarm System comprising Local Operator Panel & All models under PCU. UPS - 230VAC/24VDC Series UPS comprising Distribution Panel, Praxis Earth Fault Detection Module, Phoenix Contact Power Supplies, UPS Input Module, UPS Distribution board.

<b>Tier:</b>	5
<b>Ratings:</b>	Power Supply: 230 VAC and 24 VDC
<b>Service Restrictions:</b>	Unit Certification is required for this product as indicated on ABS Steel vessels rules (2017) 4-1-1/table 3 items 28, 29, 30, 31, 34 & 35. Assessment is for hardware only. Each installation and individual configuration is to be specifically approved. Mega-Guard / Maxi-Guard can be categorized as either Computer Based Systems category II or III as indicated on ABS Rules for Building and Classing Steel Vessels (2017) 4-9-3/ table 1. Relevant documentation must be available to ABS upon request as this is mentioned in 4-9-3/Table 2 of the ABS Rules for Building and Classing Steel Vessels (2017).
<b>Comments:</b>	The Common Control Platform (CCP) can be used in different Praxis Automation applications. When the equipment is for a specific project such as main propulsion or DP controls, a failure mode and effect analysis of the control system is specifically required. Tests and approval are for hardware and firmware only. Each configuration and external connection is to be specifically approved. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
<b>Notes / Documentation:</b>	Drawing No. 91.6.010.810 - A01, THRUSTER CONTROL PROCESSOR Schematic Diagram, Revision: B, Pages: 10 Drawing No. 91.6.020.676-01, Joystick USB Controller Schematic Diagram, Revision: C, Pages: 3 Drawing No. 91.6.020.677-A01, 91.6.020.677 Schematic Diagram, Revision: F, Pages: 1 Drawing No. 91.6.040.804-A01, 4 x NMEA Input - USB Interface, Revision: B, Pages: 5 Drawing No. 91.6.040.806-A01, FDDI Converter Schematic Diagram, Revision: A, Pages: 2 Drawing No. 91.6.049.310 - A01, TFT Power Supply Schematic Diagram, Revision: D, Pages: 6 Drawing No. 98.6.022.631-M01, Joystick and operator panel Mounting and Dimensions, Revision: E, Pages: 1 Drawing No. 98.6.022.632-M01, Trackball & Keyboard Operator Panel Mounting and Dimensions, Revision: B, Pages: 1 Drawing No. 98.6.022.8xx-F01, Panel Marine PC Connection and Operation Diagram, Revision: C, Pages: 1 Drawing No. 98.6.040.804-M01, 8 Channel NMEA to USB I/O Module Mounting and Dimensions, Revision: A, Pages: 1 Drawing No. 98.6.040.806-M01, Ethernet Media Converter RJ45/Fiber ST 100Mb Mounting and Dimensions, Revision: A, Pages: 1 Drawing No. 98.6.049.801-M01, Thruster Control Module Mounting and Dimensions, Revision: B, Pages: 1 Drawing No. ABS 01-LD206404-6-PDA, CERTIFICATE DESIGN ASSESSMENT, Revision: 0, Pages: 1 Drawing No. ABS - 01-LD206404-6-PDA-DUP, CERTIFICATE OF DESIGN ASSESSMENT, Revision: 0, Pages: 1 Drawing No. ASBESTOS FREE, ASBESTOS DECLARATION, Revision: 0, Pages: 1 Drawing No. Correspondence, INCOMING EMAIL - PRAXIS - DATED 1-2-2017, Revision: 0, Pages: 1 Drawing No. ENV_Test_Report, Environmental Test Report, 2017-01-14 Revision: 1, Pages: 512 Drawing No. PDA

REQUEST, PDA REQUEST, Revision: 0, Pages: 1 Drawing No. PI 113, MEGA-GUARD\_ES software release PI 113 Date 2017-01-14, Revision: -, Pages: - Drawing No. PTD\_Mega-Guard-DP2-FMEA, DP2 FMEA, Revision: -, Pages: - Drawing No. PTD\_Mega-Guard-PCS-BMS-FMEA, PCS-BMS FMEA, Revision: 1, Pages: -

**Term of Validity:**

This Product Design Assessment (PDA) Certificate 17-LD1644980-PDA, dated 19/Jul/2017 remains valid until 18/Jul/2022 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

**ABS Rules:**

- Steel Vessel Rules (2017): 1-1-4/7.7, 1-1-A3&A4, 4-9-1/7.3.3, 4-9-1/7.3.5, 4-9-2/3.1.1, 4-9-2/3.1.2, 4-9-2/3.1.3, 4-9-2/3.1.4, 4-9-2/3.1.5, 4-9-2/3.5, 4-9-2/3.7, 4-9-2/7.1, 4-9-2/7.5, 4-9-2/7.7, 4-9-2/7.9, 4-9-2/7.11, 4-9-2/7.13, 4-9-3/5, 4-9-3/7, 4-9-3/11, 4-9-3/13.1, 4-9-8/1, 4-9-8/3, 4-9-8/7, 4-9-8/13, 4-9-8/Table 1 and Table 2  
 - Steel Vessels Under 90 Meters (295 Feet) in Length (2017): 1-1-4/7.7, 1-1-A3&A4, 4-7-2/9, 4-7-2/ table 1. - Facilities on Offshore Installations (2017): 1-1-4/9.7, 1-1-A2&A3, 3-6/13.1, 3-6/13.3, 3-6/13.5, 3-6/13.7, 3-6/13.9. - Offshore Support Vessels (2017): 1-1-4/7.7, 1-1-A3&A4, 4-9-1/7.3.3, 4-9-1/7.3.5, 4-9-2/3.1.1, 4-9-2/3.1.2, 4-9-2/3.1.3, 4-9-2/3.1.4, 4-9-2/3.1.5, 4-9-2/3.5, 4-9-2/3.7, 4-9-2/7.1, 4-9-2/7.5, 4-9-2/7.7, 4-9-2/7.9, 4-9-2/7.11, 4-9-2/7.13, 4-9-3/5, 4-9-3/7, 4-9-3/11, 4-9-3/13.1, 4-9-8/1, 4-9-8/3, 4-9-8/7, 4-9-8/13, 4-9-8/Table 1 and Table 2  
 - Mobile Offshore Drilling Units (2017): 1-1-4/9.7, 1-1-A2&A3, 4-3-4/5. - Steel Vessels for Service on Rivers and Intracoastal Waterways (2017): 1-1-4/7.7, 1-1-A3&A4. - High Speed Crafts (2017): 1-1-4/11.9, 1-1-A2&A3, 4-7-8/3, 4-7-3/5. - Steel Barge Rules (2017): 1-1-4/7.7, 1-1-A3&A4.

**National Standards:**

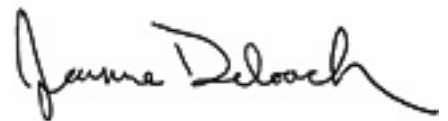
**International Standards:** IACS UR E10, Rev.6 2014, E22 (CAT II)

**Government Authority:**

**EUMED:**

**Others:**

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	17-LD1644980-PDA	19-JUL-2017	18-JUL-2022



ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.