



Marine &amp; Offshore

Certificate number: 27807/B0 BV

File number: AP 1913

Product code: 4472I

*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.**  
LEIDERDORP - NETHERLANDS

*for the type of product*

**DYNAMIC POSITIONING CONTROL UNITS**  
Mega-Guard DPX

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

*This certificate is issued to attest that Bureau Veritas Marine & Offshore 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: 08 Oct 2024**

For Bureau Veritas Marine & Offshore,  
At BV GRONINGEN, on 08 Oct 2019,  
John Mondt



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 Marine & Offshore. 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 & Offshore available on the internet site [www.veristar.com](http://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 Marine & Offshore 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 electronic version is available at: <http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=9evmqtfgtw>  
BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

Type **Mega-Guard DPX** dynamic positioning control system:

	Technical Data / Application Range
<b>OWS</b>	<ul style="list-style-type: none"> <li>- Operator Work Station (also named 'All in one' Work Station) for Dynamic Positioning System</li> <li>The OWS comprises the following components: <ul style="list-style-type: none"> <li>- Model 6001 Marine Personal Computer ; including redundant network interface (type 98.6.001.7xx, 98.6.001.8xx)</li> <li>- TFT colour Graphic screen (type 98.6.02x.6xx)</li> <li>- Panel PC 10" (type 98.6.022.84x.x)</li> <li>- Panel PC 17" (type 98.6.022.87x.x)</li> <li>- Panel PC 19" (type 98.6.022.82x.x)</li> <li>- Panel PC 22" (type 98.6.022.88x.x)</li> <li>- Panel PC 26" (type 98.6.022.89x.x)</li> <li>- Operator Keyboard (type 93.6.02x.00x)</li> <li>- Engineering Keyboard (type 76.0.200)</li> <li>- Keyboard/Tracker ball (type 93.6.02x.x0x)</li> <li>- Ethernet HUB/Router (type 76.0.81x)</li> <li>- Ethernet switches 8-port/24-port (type 76.0.84x, 76.0.85x, 98.6.040.80x)</li> <li>- DIN module media converter RJ45/Fiber ST (98.6.040.806)</li> <li>- 6010 Fieldbus Driver Board (type 98.6.010.7x0)</li> </ul> </li> </ul>
<b>PCU</b>	<ul style="list-style-type: none"> <li>- Model 16 Channel Alarm Panel (type 93.0.92x)</li> <li>- 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: <ul style="list-style-type: none"> <li>- Model 6030, 12 x Digital input / 8/12 x Digital output executed as Din rail model (Type 98.6.030.7xx).</li> <li>- Model 6030, 18 x Digital input / 18 x Digital output executed as Din rail model (Type 98.6.030.8xx).</li> <li>- Model 6032, 24 x Digital Input unit executed as Din rail model (type 98.6.032.7xx).</li> <li>- Model 6032, 36 x Digital Input unit executed as Din rail model (type 98.6.032.8xx).</li> <li>- Model 6034, 16 x Analog input /mixed input output executed as Din rail model (type 98.6.034.7xx)</li> <li>- Model 6034, 24 x Analog input /mixed input output executed as Din rail model (type 98.6.034.8xx)</li> <li>- Model 6049, Control Processor executed as Din rail model with redundant network interface executed as Din rail model (type 98.6.049.7xx, 98.6.049.8xx).</li> <li>- Display Panel (type 98.6.02x.6xx)</li> <li>- Serial Interface Converter (type 91.6.040.40x, 91.6.040.80x)</li> <li>- Sensor Supply Module (type 98.6.010.7xx)</li> </ul> </li> </ul>
<b>DP</b>	<ul style="list-style-type: none"> <li>- Dynamic Positioning system comprising of: <ul style="list-style-type: none"> <li>- All Models under OWS</li> <li>- All models under PCU</li> <li>- 7" / 8" TFT Operator Panel (type 98.6.02x.6xx)</li> <li>- DP Thruster Controller (type 98.6.049.80x)</li> <li>- Joystick and Rate Of Turn Panel (type 98.6.02x.6xx)</li> <li>- MRU (98.0.231.x)</li> </ul> </li> </ul>
<b>UPS</b>	<ul style="list-style-type: none"> <li>- Uninterruptible Power Supply comprising of: <ul style="list-style-type: none"> <li>- 230VAC Series UPS</li> <li>- 24VDC Series UPS</li> <li>- Power supply units Phoenix Contact QUINT-PS/1AC/24DC/10</li> <li>- UPS input module (type 93.4.504/505); - UPS distribution module (type 93.4.503).</li> </ul> </li> </ul>

### 2. DOCUMENTS AND DRAWINGS:

- 2.1 - Mega-Guard Product Technical Description N°PTD\_Mega-Guard\_Engineering\_Guide, Rev. 6.01, dated 13/04/2011.
- 2.2 - FMEA Document N°PTD\_Mega-Guard-FMEA, Rev. 1.4, dated 29/06/2011.
- 2.3 - Mega-Guard Software Description, Rev.001, dated 04/01/2012.
- 2.4 - Software Logic, N°LOGIC LADDER DP SOFTWARE, Rev.1.0, dated 13/02/2012.
- 2.5 - Mega-Guard Operator Guide N°PTD\_Mega-Guard-DP-Manual, Rev. 1.3, dated 18/02/2011.
- 2.6 - Drawing N°NYY.XX00-F02, Rev. A, dated 01/02/2011.
- 2.7 - Drawing N°NYY.XX00-F03, Rev. B, dated 05/12/2011.
- 2.8 - Drawing N°NYY.XX00-F01, Rev. A, dated 01/02/2011.
- 2.9 - Drawing Package N° NP11-112, Rev. 1.2, dated 16/11/2011.
- 2.10- Drawings N°N11.3021-F11, N11.3021-CO2 and Part List related to UPS.

2.11- Documents filed 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
- 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)
- 3.9 - Praxis Automation Technology environmental test reports rev.1.0 dated 17/Jun./2009 (Part two).
- 3.10 - Praxis Automation Technology EMC test report rev.1.1 dated 27/02/2012
- 3.11 - Praxis Automation Technology environmental test reports rev.1.0 dated 30/01/2008
- 3.12 - TNO Test report N°06090102 rev.01 dated 19/07/2007
- 3.13 - TNO Test report N°2008-D-R0047 dated 01/2008
- 3.14 - Praxis Automation Technology environmental test reports rev.1.0 dated 28/01/2008
- 3.15 - Praxis Automation Technology environmental test reports dated 01/10/2003
- 3.16 - TNO Test report N°2005-CMC-R048 dated 22/08/2005
- 3.17 - TNO Test report N°06061303 rev.02 dated 20/07/2006
- 3.18 - TNO Test report N°06061303 rev.04 dated 11/10/2006
- 3.19 - Praxis Environmental Test Report dated: 28/04/2016
- 3.20 - Praxis Environmental Test Report dated: 04/12/2015

### **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: **DYNAPOS SAM or AM/AT, AM/AT R, AM/AT RS.**
- 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.
- 4.7 - The following component(s) shall comply with the requirements of the relevant Bureau Veritas rules and be type approved:  
- **Mega-Guard DPX dynamic positioning control system.**

### **5. PRODUCTION SURVEY REQUIREMENTS:**

- 5.1 - The above products are to be supplied by **Praxis Automation Technology B.V.** in compliance with the type and the requirements described in this certificate.
- 5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.
- 5.3 - BV product certificate is required.
- 5.4 - For information, **Praxis Automation Technology B.V.** has declared to Bureau Veritas the following production site(s):

**ZIJLDIJK 24A 2352 AB LEIDERDORP  
NETHERLANDS**

### **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 - It is **Praxis Automation Technology B.V.**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.
- 7.2 - This certificate supersedes EC Type Examination Certificate N° 27807/A0 BV, issued on 06/05/2013 by the Society.

\*\*\* END OF CERTIFICATE \*\*\*