

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the General Controller**with type designation(s)  
**XIOS UC1, UC2**

Issued to

**Heinzmann GmbH & Co. KG**  
**Schönau/Schwarzwald, Germany**

is found to comply with

**DNV GL rules for classification – Ships, offshore units, and high speed and light craft****Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

<b>Temperature</b>	<b>B</b>
<b>Humidity</b>	<b>B</b>
<b>Vibration</b>	<b>B</b>
<b>EMC</b>	<b>A</b>
<b>Enclosure</b>	<b>A</b>

Issued at **Hamburg** on **2018-08-21**for **DNV GL**This Certificate is valid until **2021-03-17**.DNV GL local station: **Augsburg**Approval Engineer: **Jens Dietrich**

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**Joannis Papanuskas**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



## Product description

Modular and flexible engine controller for combustion engines and/or power generation, monitoring system and expansion of I/O capacity.  
XIOS consists of main board and additional I/O boards.

### XIOS UC1 consists of:

Main Board MC  
Expander Board MD1  
Extension Boards MA1...MA9

### XIOS UC2 consists of:

Main Board MC  
Expander Board MD2  
Extension Boards MA1...MA9

### Programming Options:

-CoDeSys, MATLAB™

### Applications:

-Digital Speed Governor  
-Monitoring System  
-I/O Expansion  
-Generator Set Management Functions

### Software:

1) XIOS Diesel / Propulsion  
-Application Standard 00.00.09  
-Application Standard with Modbus 00.60.09  
-Application Ship 00.64.09  
-Application Generator 00.03.09  
-Application Generator with Modbus 00.63.09  
-Application Master 00.60.09  
-Application Master / Slave with Modbus 00.66.09  
-Application Master / Slave with Modbus TCP 00.64.09  
-Application Multiple Engine: 00.05.09  
2) XIOS Genset  
-Basic Software 00.00.00.

Degree of protection: IP20

Power Supply: 16...32VDC.

## Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL Rules for Ships Pt.4, Ch.8 Electrical Installations and/or Pt.4 Ch.9 Control and Monitoring Systems. Segregation of functions (i.e. safety functions) as required by the rules have to be observed.

The controller is not to be used for electric generator primary protection functions.

### Product certificate

If specified in the above mentioned Rules the system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After the certification the clause for application software control will be put into force.

Job Id: **262.1-028807-1**  
Certificate No: **TAA00001ZX**

#### Clause for application software control

All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

### **Type Approval documentation**

Test reports: TÜV 60907-1300032927-1 (ed.3); TÜV 32927-60907-02 (ed.1);  
e&c testlab 15PBI010875-02; Load step tests SW 00.64.01, dated 2015-12-11;  
XIOS UC1 Instruction Manual UC 14 001-e/11-15.  
Product description ETM\_XIOSGen\_001\_18\_04\_e\_1\_2018; Heinzmann Klima Test Report, May-2018;  
E&C testlab, report no. 18PBI010413, dated 2018-05-04.  
Periodical assessment report, DNV GL Augsburg, dated 2018-05-09.

### **Tests carried out**

Applicable tests according to class guideline DNV GL CG-0339, November 2016.

### **Marking of product**

Manufacturer, type designation, serial number.

### **Periodical assessment**

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of this certificate.

END OF CERTIFICATE