



Marine & Offshore

Certificate number: 20020/C0 BV

File number: AP3858

Product code: 3927H

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

Heinzmann GmbH & Co. KG
Schönau (Schwarzwald) - GERMANY

for the type of product

ELECTRONIC SPEED GOVERNORS
HELENOS II /IV versions

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships.

EC Code: 31, 33 (see item 4.3)

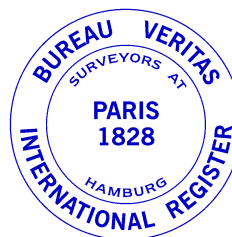
This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 03 Jan 2024

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 03 Jan 2019,

Dirk Hoepfner



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. 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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The **HELENOS II/IV series** are governors, microprocessor-controlled and mechanical amplified for the control of medium speed diesel and gas engines.

1.1 - Main characteristics:

Power supply voltage : 24V DC or 12V DC
 Degrees of protection: IP00 connections
 IP55 / IP00 for control units (DC...)
 IP55 actuators (EDC)
 IP65 / IP00 actuators (STG...)
 IP00 for Set point pot. (SW(s))
 Software Versions: 00.4.36 Propulsion mode fixed
 00.6.36 Propulsion mode Master/Slave via CAN
 00.3.36 Generator mode fixed
 00.9.36 Generator mode fixed, CAN

1.2 - System components:

	HELENOS II	HELENOS IV
Engine power	50kW up to 1000kW	200kW up to 1500kW
Basic system	DG 20102 - 02 DG 20402 - 02 DG 20802 - 02	DG EDC 2 - 02
Control Unit	DC 20102 - 02 DC 20402 - 02 DC 20802 - 02	DC EDC 2 - 02
Actuator*	STG 2010 STG 2040 STG 2080	EDC supplied by Bosch
Setpoint Pot.	SW...	SW...
Pickup	IA...	IA...

*Bosch EDC actuator (RE...) is directly mounted on the in-line pump so that no linkage is necessary to injection pump as for STG actuators linkage system.

2. DOCUMENTS AND DRAWINGS:

- DG 09 007-e/12-09; DG 10 008-e/05-10; 320-00-175-00/b; 320-00-175-01/b; 511-00-010-01/d; 512-01-011-02/a;
 - 514-01-002-01/a; 610-00-004-00/00; 620-00-009-00/00; 620-01-029-00/00; 620-00-009-00/b; 620-00-009-01;
 - 320-00-106-03; 320-00-226-00/a; 511-00-010-01/d; 512-00-011-02/e; 514-00-002-01/e; DE145551926 Rev. 03-13
 - Software Changes Helenos 2012 dated 15.01.2013

For C0 version:

- Hardware modification dated 13.05.2014 (last modification); Software changes dated 22.04.2015

3. TEST REPORTS:

RMS GmbH & Co. KG:

- 1-04/97 dated 19/Apr./1997

Mercedes-Benz AG, EP/CMS:

- 95365 dated 16/Jan./1996

KRIWAN Testzentrum GmbH & Co. KG:

- 009224_01_G dated 24/June/2009; 009224_02_G dated 30/Jul/2009; - 009229_01_H dated 25/June/2009;

- 009229_03_H dated 06/Jul/2009

For C0 version:

E&C Testlab GmbH

- 16PBI040216-01 dated 24-11-2016, 16PBU01040001 dated 25/11/2016

Heinzmann GmbH & Co. KG:

- Performance test dated: 22.05.17, PB20170518_DCEDC2-02-00_PowerSupplyTest dated 18.05.2017

4. APPLICATION / LIMITATION:

- 4.1 - Bureau Veritas Rules for the Classification of Steel Ships.
- 4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
- 4.3 - Bureau Veritas Environmental Category, Control Unit: **EC Code: 31**, Actuator: **EC Code: 33**
- 4.4 - Drawings and documents relating to each application are to be submitted to the Society's examination prior fitting on board.
- 4.5 - The machinery protection based on data processing techniques is to be duplicated by another and different system.
- 4.6 - Any modification of program contents and data, as well as a change of software version, shall be documented and submitted to the Society's examination.
- 4.7 - Factory Acceptance and On-board Tests are to be performed for each application in accordance with requirements for system category II or III equipment.
- 4.8 - Functional/Integration tests of the units are to be performed at each engine under Type Approval Test.

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The above mentioned products are to be supplied by **Heinzmann GmbH & Co. KG** in compliance with the type described in this certificate.
- 5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
- 5.3 - **Heinzmann GmbH & Co. KG** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

Heinzmann GmbH & Co. KG
Am Haselbach 1
79677 Schönau
GERMANY

- 5.4 - Equipment is to be supplied with manual(s) for installation, use and maintenance.

6. MARKING OF PRODUCT:

- Maker's name or trademark.
- Equipment type or model identification.
- Date of manufacture and/or serial number.

7. OTHERS:

- 7.1 - It is in the responsibility of **Heinzmann GmbH & Co. KG - GERMANY** 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 the Type Approval Certificate N° 20020/B0 BV issued on 11 Apr2013 by the Society.

*** END OF CERTIFICATE ***