

TYPE APPROVAL CERTIFICATE

This is to certify that the undernoted product(s) has/have been tested in accordance with the relevant requirements of the DNV GL Type Approval System.

Certificate No.	33 573 - 06 HH
Company	Heinzmann GmbH & Co. KG Am Haselbach 1 79677 Schönau, GERMANY
Product Description	Digital Injection Valve Control for multiple engine installations DARDANOS
Type	MVC01
Environmental Category	D, EMC2
Technical Data / Range of Application	620-00-147-10: 20 x 24V injection solenoids, 620-00-147-11: 20 x 24V injection solenoids with CR solenoid control, 620-00-147-20: 20 x 48V injection solenoids with CR solenoid control, 620-00-147-00: 20 x 90V injection solenoids with CR solenoid control. 3 Speed inputs for Hall sensors with $f_i = 25..8000$ Hz, 1 Frequency input für inductive sensors with $f_i = 25..8000$ Hz, 5 Temperature inputs PT1000 / NTC /PT200, 4 Analogue inputs: Voltage 0...5V, Current 0...25mA, 11 Digital inputs, pull down $U_0 < 2$ V, $U_1 > 6,5$ V, 2 Analogue outpus Voltage 0...5V, Current 0...25mA; 6 digital outputs, high-side switching $I_{source} < 3$ A, 2 digital outputs, low-side switching $I_{sink} < 3$ A,
Test Standard	Guidelines for the Performance of Type Approvals VI-7-2, Edition 2012.
Documents	Test report : KRIWAN 008146_01_H, KRIWAN 008146_01_G; Heinzmann Test Report MVC01-20; Heinzmann System FMEA, dated 19.6.2009, Type Approval Test Report 32/40CR, dated 2007-11-28; Software Questionnaire RC3. Continued on page 2.
Remarks	See page 2. This certificate is issued on the basis of GL Guidelines for the Performance of Type Approvals, Chapter 1 - Procedure (VI-7-1), edition 2007.

Valid until **2018-05-14**

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File No. **I.B.01**

Hamburg, 2014-09-16

Type Approval Symbol



DNV GL


Marco Rinkel


Jens Dietrich

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**20 Control magnet drivers Ihold, max < 6 A, Iboost, max < 25 A,
depending on type: 24/48/90 VDC, current controlled.**

**2 CAN Communication lines (system communication),
1 Serial interface ISO9141 (dialogue/diagnostic),
Power supply: 24VDC.
Base software version: 00.00.00
Alarming of system failures to external system to be accomplished.**

**Additional Test Reports:
KRIWAN 110522_01_B, 110522_02_H, 110522_01_B, 110446_01_G, 110446_02_G;
Heinzmann Test Report CR-Outputs with a BCI Probe, dated 2014-08-25,
Heinzmann Comparison MVC-Versions regarding the tests at KRIWAN, dated 2014-09-12.
Heinzmann Dardanos Walkthrough Summary and Black Box Test version no. 07-14.
Witnessed Test on Simulator and measuring plots, dated 2014-08-29.**

**Remarks:
Suitability needs to be approved for the individual engine type.
Independent safety system / exhaust gas monitoring required.
Alarming of system failures to external system to be accomplished.**

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