

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.	86 249 - 09 HH
Company	Marine- und Automatisierungstechnik Rostock GmbH Friedrich-Barnewitz-Str. 7 18119 Rostock, Germany
Product Description	Direction and drive control system for surface piercing propellers
Type	HDDPA-Control
Environmental Category	D, EMC 1
Technical Data / Range of Application	Controlling of ship speed and course with two or four surface piercing propellers by controlling the drive (rpm) and the pitch of the variable pitch propellers The system may consist of the following main components: 722.50012-1100XX Non follow up (NFU) control system 723.50012-1100XX Follow up (FU) control system with PLC 723.50012-1200XX Follow up (FU) control system with IPC 723.50012-2100XX Separated pitch and rpm-control system 723.50012-1110XX Azimuth control lever 723.50012-1111XX Azimuth control lever with electronic shaft system 723.50012-1120XX Indication and alert display unit
Test Standard	Guidelines for the Performance of Type Approvals Chapter 2, Edition 2012
Documents	Test report : GL-MAR-11-09
Remarks	None

Valid until **2019-11-18**

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

Hamburg, 2014-11-27

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724.50012-1100XX Operation unit main steering stand
725.50012-1100XX Operation unit wing steering stand
728.50012-1100XX Redundant indication for thrust and direction (FU control)
728.50012-1200XX Redundant indication for thrust, direction, rpm and pitch (NFU and FU control)
728.50012-2100XX Alarmsystem

Power supply: 24V DC
Degree of protection (front): IP65
System adjustment and parametrisation via display unit
Software version (FU control system): V2.3.xx
Software version (display unit): V2.3.xx

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