

# 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.	<b>61 623 - 13 HH</b>
Company	<b>Noris Automation GmbH</b>  <b>Friedrich Barnewitz Str. 10</b> <b>18119 Rostock, GERMANY</b>
Product Description	<b>Remote Control System</b>
Type	<b>NORISTAR 4</b>
Environmental Category	<b>C, EMC1</b>
Technical Data / Range of Application	<b>Remote Control System for Main Propulsion and Lateral Thrust Propeller Application:</b>  <b>Type-C for Controllable Pitch Propeller Control</b> <b>with engine start/stop, clutch control, engine load control</b> <b>Type-F for Fixed Pitch Propeller Control</b> <b>with reverse gear control and engine speed setting</b> <b>Type-A for Azimuth Control</b> <b>with additional FPP or CPP functionality</b> <b>Type-J for Waterjet/Pumpjet Control</b> <b>drive control as sub type of Type-A</b> <b>Type-T for Thruster Control</b> <b>auxillary drive control as sub type of Type-F or Type-C</b>  <b>Software Version: PLC_PRG Vb2.0 / date</b> <b>Base Library: 1.13</b> <b>Function Library: 5.01</b>
Test Standard	<b>GL Guidelines for the Performance of Type Approvals Chapter 2-Test Requirements for Electrical / Electronic Equipment and Systems (VI-7-2), Edition 2012</b>
Documents	<b>Test report : Test_Schedule_CPP_System_DrawingNo_472.050A.00, V.1.01, 2013-10-30; Test_Schedule_FPP_System_DrawingNo_472.050B.00, V 1.01, 2013-10-30; Test_Schedule_AZIMUTH_System_DrawingNo_472.050C.00, V 1.01, 2013-10-30</b>
Remarks	<b>This certificate is issued on the basis of GL Guidelines for the Performance of Type Approval, Chapter 1 - Procedure (VI-7-1), Edition 2007</b>

Valid until **2019-07-21**  
Page **1 of 2**  
File No. **I.B.01**  
**Hamburg, 2014-07-22**

Type Approval Symbol



**DNV GL**

  
Marco Rinkel

  
Holger Jansen

# 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. **61 623 - 13 HH**

## Power Supply 24VDC;

Hardware: System may consist of the following components:

- PLC system components NORISYS 4 (37886-12HH)
- Signal Converter SA502-3G (37888-12HH)
- Speed Measuring and Signal Processing NORISPEED FMN6-... (37885-12HH)
- Control Lever System NORISYS LS4 (61975-14HH)
- Control Lever System Azimuth NORISYS LA4 (61983-14HH)
- Remote Control Panels NORISYS 4 MP, NORISYS 4SP (60293-13HH)
- Resistive Angular Positioning Sensor: DWA50-xx, DWA70-xx, DWA90-xx (20536-04HH)
- DC-Isolation Amplifier VariTrans B 130XY1 (14627-99HH)
- Indicator NIQ2-0xx, NIQD2-0xx (44856-07HH)
- Speed Proximity Senos FA1J-4A-70 (42658-02HH)
- Speed sensor FAJ1- (60395-09HH)
- Micro Panel, XV-112-DB-70TWRC-70 (61763-14HH)
- Servo Controller: SG2000

## Documents:

Noristar 4 Remote Control System Test Procedures Ver. 1.01; Doc.No. NAR-KD-0104-12-en; 2014-03-10  
 Noristar 4 Remote Control System Description Ver. 1.17; Doc.No. NAR-KD-0104-10-en; 2014-03-06  
 Noristar 4 Programm structure Ver. 1.0; Doc.No. NAR-I-0084-en; 2012-03-02  
 List of actual subroutines (FB) for Noristar 4 Ver. 1.00; NAR-I-0083-en; 2012-03-02  
 RCS Noristar 4 (CPP); Doc.No. 472.050A.00 Rev.A; 2014-03-10  
 RCS Noristar 4 (FPP); Doc.No. 472.050B.00 Rev.A; 2014-03-10  
 RCS Noristar 4 (Azimuth); Doc.No. 472.050C.00 Rev.A; 2014-03-10  
 Noristar 4 Technical Description; Doc.No. 472.050A Ver. 2.00; 2014-03-10  
 Noristar 4 Technical Description; Doc.No. 472.050B Ver. 2.00; 2014-03-10  
 Noristar 4 Technical Description; Doc.No. 472.050C Ver. 2.00; 2014-03-10

Valid until **2019-07-21**

Page **2 of 2**

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

**Hamburg, 2014-07-22**

Type Approval Symbol



**DNV GL**

  
 Marco Rinkel

  
 Holger Jansen