



TYPE APPROVAL CERTIFICATE
No. ELE073423XG

This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

<i>Description</i>	Propulsion remote control system
<i>Type</i>	NORISTAR 4
<i>Applicant</i>	NORIS AUTOMATION GMBH FRIEDRICH-BARNEWITZ STRASSE 10 D-18119 ROSTOCK GERMANY
<i>Manufacturer</i>	NORIS AUTOMATION GMBH
<i>Place of manufacture</i>	FRIEDRICH-BARNEWITZ STRASSE 10 D-18119 ROSTOCK GERMANY
<i>Reference standards</i>	Rules for the classification of ships.- Part C - Machinery, systems and fire protection. - Ch.3, Sect. 6, Table 1.

Issued in **HAMBURG** on **May 30, 2023**. *This Certificate is valid until* **May 29, 2028**



RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure

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NORISTAR 4

The **NORISTAR 4** is a remote propulsion control system. It meets the requirements for RINA class AUT-UMS. The system has been designed to cooperate with the external systems like DP and joystick systems.

NORISTAR 4 system types:

- F: Fixed Pitch Propeller Control with Reverse Gear and Engine Speed Control
- C: Controllable Pitch Propeller Control with Clutch and Engine Load Control
- A: Azimuth, Podded Propulsion or Rudder Propeller Control with FPP/CPP System
- J: Water Jet or Pump Jet Control (drive control as sub type of Type A)
- T: Thruster Control (auxiliary drive control as sub type of Type F or Type C)

NORISTAR 4 remote control for ship propulsion systems comprises the following equipment:

Control Levers:	LA4, LS4, LSD4, LSN4, LT4, LTD4 with SAR45 kit
Control Panels:	MP-xx and SP-xx
PLC:	NORISYS 4 CPU with extension I/O modules
Multifunctional device:	NORISPEED FMN6-1-11-K
R/U/I Transducer:	SA502-3G
Pressure Controller:	SG 2000

Technical descriptions:

General: FL-NORISTAR_4_en_V01.02
NAR-KD-0104-10-en_V125_NORISTAR_4_Remote_Control_System_Description
Type C: 3440_Technical_Description_472-050A_V1.0
Type F: 3441_Technical_Description_472-050B_V1.0
Type A: 3442_Technical_Description_472-050C_V1.0

Software information:

NAR-I-0084-en_V100_NORISTAR_4_program_structure
NAR-I-0083-en_V107_NORISTAR_4_list_of_actual_routines
NAR-KD-0101-2-en_V140_NORISYS_4_functional_software_routines_description

Test Reports:

Test_Schedule_CPP_System_-_Drawing_No_472.050A.00
Test_Schedule_FPP_System_-_Drawing_No_472.050B.00
Test_Schedule_AZIMUTH_System_-_Drawing_No_472.050C.00

Remarks:

System configuration / block diagram and function list to be approved for each installation on board.
Depending on the system configuration, the project specific FAT and FMEA documents could be requested for review and approval.
Failures occurring on the NORISTAR 4 modules shall always produce an alarm in the manned control stations.

HAMBURG May 30, 2023

