



Polski Rejestr Statków

TYPE APPROVAL CERTIFICATE

This is to certify that the undernoted product type

PROPULSION CONTROL SYSTEM

NORISTAR 4 RCS

issued to

**NORIS Automation GmbH
Friedrich-Barnewitz-Str.10
D-18119 Rostock
Germany**

is approved as complying with the requirements of the

PRS Rules and is suitable for use on board of ships classified by PRS or in appliances with PRS certificates.

Certificate No. TE/2217/883027/18

Expiry date 2023-09-27

Issued at

Gdańsk, 2018-09-28



Signature

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Continued overleaf

Product description / purpose:

Propulsion remote control system for cabinet and console mounting based on NORISYS 4 PLC with configurable master and slave modules.

Intended for / propulsion type: FPP, CPP, Azimuth, POD, Rudder, Water jet, Pump jet, Thruster (Stern/Bow).

System components:

NORISYS 4 CPU – Central processing unit (main PLC)
 NORISYS 4 24DIO – I/O module (extension unit)
 NORISYS 4 UNIO – I/O module (extension unit)
 MP-TU23L9B, MP-12L12B - control (master) panels
 SP-12L12B-LA4/LS4/LT4, SP-TU-7L2B, SP-6L6B, SP-6L, SP-4B, SP-3L3B – control (slave) panels
 LS4, LSN4, LSD4, LT4, LTD4, LA4 – control levers
 NORISPEED – speed transducer
 SA502-3G – pitch transducer
 SG2000 – servo controller

General technical data:

Power supply rated voltage: 230VAC / 24 VDC (redundant).

Max. permissible ambient temperature range: from -25°C up to +70°C.

Enclosure protection degree:

IP56 control panels and control levers (front – when mounted with sealing)

IP20/IP30 all other modules and components (to be mounted in the cabinet / console)

Basic software version for main PLC (NORISYS 4 CPU): PLC_PRG Vb2.0.

Basis of approval

1. The technical documentation approved by PRS on 2018-09-28.
2. The inspection of the production process and quality control system carried out on 2018-09-26.
3. The Quality Management System Certificate No. DE008324-1 issued by Bureau Veritas Certification.
4. Reports from environmental and EMC tests carried out acc. to PRS Publication 11/P (Edition January 2016).
5. Tests carried out in presence of PRS Surveyor on 2018-09-26.
6. PRS Survey Report No. TM/PU/18/18 issued on 2018-09-28.

Additional conditions and remarks:

1. This type approval is only for hardware and basic software.
2. Each system is to have PRS Test Certificate issued after tests (FAT) in presence of PRS Surveyor in manufacturer workshop. For small non-complicated systems it is possible to carry out FAT on the Ship (PRS decision after early request from manufacturer).
3. The following technical documentation of each system is to be submitted to PRS for approval before FAT: general diagram of the system (configuration), test programme (FAT procedure), components list.
4. Components of each system are to be marked with: manufacturer name, type, basic technical data, serial No.
5. The condition for maintain validity of this Certificate is to maintain validity of a.m. ISO9001 Certificate.

Notes

- 1 The approval is valid only when the product is used in accordance with the manufacturer's conditions.
- 2 Changes of product design and materials which influence product quality are to be agreed with PRS.
- 3 Type Approval Certificate will be cancelled in the case of dissatisfactory service results, modifications made in the product structure or materials without PRS' consent, not advising PRS of the manufacturer's name change.

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