



TYPE APPROVAL CERTIFICATE

Certificate No. : HMB27973-AC003 **Initial Approval** : 23rd June, 2017
Product : Programmable Logic Controller System
Manufacturer : NORIS Automation GmbH
Friedrich-Barnewitz Strasse 10, D-18119 Rostock, Germany

Product Description : Type : NORISYS 4

" See Appendix 1 "

Approval Condition : 1. This approval is granted on the basis of the approved documentation and test reports.
2. The product or packing is to be marked with the manufacturer's name and type designation on a suitable position.
3. Individual Product Certification is not required.

THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows and entered in the "List of Approved Manufacturers and Type Approved Equipment".

Pt. 6, Ch. 2, Art. 301 of the Rules for Classification, Steel Ships.

This Certificate is valid until 22nd June, 2022

Issued at Busan, Korea on 23rd June, 2017



KOREAN REGISTER OF SHIPPING

[Signature]
General Manager of
Marine & Ocean Equipment Team

*Note : 1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.
2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.*

Appendix 1

Product Description and/or Approval Condition

Certificate No : HMB27973-AC003

Date of Issue : 23rd June, 2017

A. Product Description:

Programmable Logic Controller System (Type: NORISYS 4)

Consists of the following components:

NORISYS 4 CPU : 400MHz, 64MB RAM, 32MB Flash
2x Ethernet, 2x CAN-Bus, 1x RS232, RS 422, RS485,
1x USB, 1x SDcard memory
4x digital inputs 24V DC
4x relay outputs 30V DC, 2A

NORISYS 4 UNIO 4 AI : Analogue input 4 channels
NORISYS 4 UNIO 8 AI : Analogue input 8 channels
NORISYS 4 UNIO 4 AO : Analogue output 4 channels
NORISYS 4 UNIO 8 AO : Analogue output 8 channels
NORISYS 4 UNIO 4AI/4AO : Analogue input 4 channels/Analogue output 4 channels
NORISYS 4 UNIO 8PT100 : PT100 inputs 8 channels (3-wire) with earth fault detection
NORISYS 4 24DIO : 24 digital channels (configurable)

1. Main Characteristics

- Power supply : 24V DC
- Degree of protection : IP30

2. Documents and Drawings

- Drawings : 091.001.03.xxx, 091.002.03.xxx, 091.003.03.xxx
00748365 Rev.H05, 00748392 Rev.H05, 81028622 Rev.04
SAR40-c Rev.c, SAR41-c Rev.c, SAR42-d Rev.d, SAR43-a
- Part list : SL40-c_V104, SL41-c_V106, SL42-d_V106, SL43-a_V102
- NAR-KD-0100-1-en_V163_NORISYS_4_Platform_Manual
NAR-KD-0101-1-en_V142_NORISYS_4_basic_software_routines_description
NAR-KD-0101-2-en_V134_NORISYS_4_functional_software_routines_description
NAR-PD-0100-2-en_V016_NORISYS_4_Hardware_Description
NAR-PD-0100-3-en_V079002_Firmware_Documentation_UNIO_24DIO
NAR-PD-0110-1-en_V101_NORISYS_4_Firmware_element_modbus_description

3. Test Reports

- NORIS Automation GmbH
- TTBMP12-001_NAR Ver.01
- NAR-PB-0100-3-en V.1.01, NAR-PB-0100-4-en V.1.01, NAR-PB-0100-5-en V.1.01,
NAR-PB-0100-6-en V.1.01
- Teseq GmbH
- D/11/3863/01, D/11/3863/02, D/11/3863/03, D/11/3863/04
- TUV Rheinland
- Report No. 21173861 (Order No. E5.664 Part A / 3031766)
Report No. 21173861 (Order No. E5.664 Part B / 3031766)
- Report No. 21187305 001

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