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## Type Approval Certificate

*This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.*

*This certificate supersedes certificate number 12/20012 issued on 07 May 2012 which is hereby cancelled.*

This certificate is issued to:

**PRODUCER** NORIS Automation GmbH

**PLACE OF PRODUCTION** Friedrich-Barnewitz-Strasse 10  
18119 Rostock  
Germany

**DESCRIPTION** Programmable Logic Controller System

**TYPE** NORISYS 4

**DESIGNATION** NORISYS 4 CPU \*1)

Extension modules type:

NORISYS 4 24DIO \*1)  
NORISYS 4 UNIO 4AI/4AO \*1)  
NORISYS 4 UNIO 4AI \*1)  
NORISYS 4 UNIO 8AI \*1)  
NORISYS 4 UNIO 4AO \*1)  
NORISYS 4 UNIO 8AO \*1)  
NORISYS 4 UNIO 8PT100 \*1)

Software Version: 1.01.x (x for minor changes)

NORISYS 4 32DI  
NORISYS 4 16DI8R  
NORISYS 4 16DI4AI4AO  
NORISYS 4 16AI

Software Version: 1.10x (x for minor changes)


**ADDITIONAL TESTS** Low temperature test: -25°C for 16 hours  
For modules marked with \*1):  
Mechanical shock test: half sine, 15g, 11ms  
Number of load planes: 6 (±X, ±Y and ±Z)  
Number of shocks per load plane: 3 (in total 18)


**Certificate No.** 12/20012 (E1)

**Issue Date** 04 December 2015

**Expiry Date** 03 December 2020

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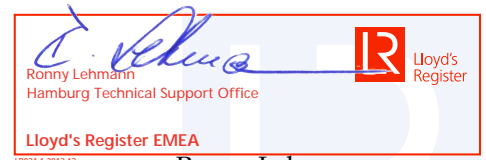
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<b>APPLICATION</b>	Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2 and ENV3 (Modules marked with *1) also ENV4) as defined in Lloyd's Register Type Approval System, Test Specification Number 1 – 2014.
<b>STANDARD</b>	Manufacturer's specification
<b>RATINGS</b>	Power Supply: 24V DC (18 to 32V DC), galvanic isolated CPU: 400 MHz, 64 MB RAM, 32 MB Flash 4x Digital IN, galvanic isolated 4x Digital OUT, change over relay 1x EIA-485 NORISYS 4 ExtBus, 1x EIA-232/422/485, 2x CANbus, 2x Ethernet, 1x USB 1.1 Host, 1x SDHC card slot UNIO/24DIO: 1xEIA-485 NORISYS 4 ExtBus UNIO AI/AO: 4 or 8 x analogue IN/ OUT; 0 to 20 mA or 4 to 20mA and 0 to 5V, -5 to 5V, 0 to 10V or -10 to 10V, 2-wire technology, galvanic isolated 24DIO: 24x digital IN/ OUT; 1-wire technology; in-/outputs selectable by software UNIO 8PT100: 8 channel inputs in 3-wire technology; wire break and earth fault detection, short circuit proof 32DI/16DI8R/16DI4AI4AO/16AI: 2x EIA-485 NORISYS 4 ExtBus; earth fault detection 32DI: 32 digital IN, 2-wire & 3-wire technology 16DI8R: 16x digital IN, 8x relay OUT, 2-wire & 3-wire technology 16DI4AI4AO: 16x digital IN, 2x relay OUT, 2-wire & 3-wire technology; 4x analogue IN, 0 to 5V, -5 to 5V, 0 to 10V, -10 to 10V, 0 to 20mA, 4 to 20mA, PT100, PT1000, Thermocouple, Resistance; selectable by software, 2-wire & 3-wire technology, galvanic isolated in pairs; 4x analogue OUT, 0 to 5V, -5 to 5V, 0 to 10V, -10 to 10V, 0 to 20mA, 4 to 20mA, selectable by software, 2-wire technology 16AI: 16x analogue IN; 0 to 5V, -5 to 5V, 0 to 10V, -10 to 10V, 0 to 20mA, 4 to 20mA, PT100, PT1000, Thermocouple, Resistance; selectable by software, 2-wire & 3-wire technology
<b>Certificate No.</b>	12/20012 (E1)
<b>Issue Date</b>	04 December 2015
<b>Expiry Date</b>	03 December 2020
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**OTHER CONDITIONS**

Final functional arrangements are to comply with appropriate Lloyd's Register Rules and will be subject of the Plan Approval process, if applicable.



LR Software Conformity Assessment is not a part of this Type Approval and therefore every application of NORISYS 4 is to be examined for compliance with LR requirements for programmable electronic systems implementing emergency stop or safety critical functions.

*"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."*

*The Design Appraisal Document No. HTS/ETS 32797-15 and its supplementary Type Approval Terms and Conditions form part of this Certificate.*

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