Certificate no.:
TAA00003CX

TYPE APPROVAL CERTIFICATE

This is to certify:

that the General Controller

with type designation(s)
RFC 4072R

issued to
Phoenix Contact GmbH & Co. KG
Blomberg, Nordrhein-Westfalen, **Germany**

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.
Location classes:

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**B***
Enclosure	**IP20**

*** see Application/Limitation**

Issued at **Hamburg** on **2024-01-22**
This Certificate is valid until **2029-01-21**.
DNV local unit: **Essen**

for **DNV**

Approval Engineer: **Heinz Scheffler**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

The RFC 4072R is a controller with redundancy function.

A redundant control system with two RFC 4072R controllers enables you to ensure uninterrupted processes in systems.

The two controllers establish a synchronization connection via the SYNC interface. Before each cycle, the PRIMARY controller transmits the data that is to be synchronized to the BACKUP controller. If one of the controllers fails, the other controller takes over the control tasks without interruption. Data synchronization time depending on the amount of redundancy data. Data buffering/backup in the event of voltage failures

General data	
Mounting type	DIN rail mounting
Module classification	PROFINET controller
Operating system	Yocto/Linux
Processor	Intel® Core™ i5-6300U 2x 2.4 GHz (Standard)
Flash memory	100 Mbyte (internal flash memory
Application interface	OPC UA OPC UA Pub/Sub
Realtime clock	integrated (capacitive buffering)
Diagnostics display	yes
Controller redundancy	yes
External memory	yes
Web server	yes
Optical interface	yes
RFC Fan Module	Optional (item number 2404085)
Display	
Display type	8,9 cm / 3,5"-TFT
Touch technology	Analog resistive, single-touch control
Display formats	4:3
Screen resolution	240 x 320 Pixel(s)
Interface Ethernet	
Bus system	RJ45
Connection method	RJ45 jack
Note on the connection method	Auto negotiation and auto crossing, auto polarity exchange
Number of interfaces	4
Transmission speed	10/100/1000 Mbps (LAN 1/LAN 2, half duplex or full duplex) 10/100 Mbps (LAN3.1/LAN3.2 (internally switched), half duplex or full duplex)
Firmware	2023.0.4

Application/Limitation

Location class EMC B: With line filter Phoenix Contact (ME-MAX/NEF)

The Installation notes for electricians is to be observed regarding the suitable power supplies.
For security in networks please observe the Manual

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems. If the control system is intended for remote software maintenance the functionality shall be part of the system documentation as required in DNV Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Product certificate

If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After the certification the clause for application software control will be put into force.

Clause for application software control

All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

Type Approval documentation

Test Reports and Documents: TAA00003CX _Overview_Documents Rev.00

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021

Marking of product

The products to be marked with:

- Model name
- Manufacturer name
- Serial number
- firmware version
- supply voltage

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials. The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer’s product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE