

EU RO MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

Certificate No:
MRA0000019
Revision No:
1

This Certificate is issued to

Elektronix AS
Lysaker, Norway

for
Computers and Programmable Logic Controllers

with type designation(s)
enix-2087, enix-3087, enix-41x10, ELPAC-125

The product is found to comply with
EU RO Mutual Recognition Technical Requirements for Computers and Programmable Logic Controllers

Intended service
Computers for control, monitoring, alarm, and safety functions subject to classification requirements.

System context
Application of the control, monitoring, alarm, and safety systems are subject for approval of the individual RO classing the vessel.

Temperature [°C]: -15°C and 70°C, enix-41x10: 5°C and 70°C
Vibration: ±1mm / 0.7g
EMC: All locations including bridge and open deck
IP Code: IP20

This Certificate is valid until **2022-10-22**.

Issued at **Høvik** on **2018-02-08**

DNV GL local station: **Oslo Maritime and CAP**

Approval Engineer: **Nils Jarem**

for **DNV GL**

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Odd Magne Nesvåg
Head of Section

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.



Job Id: **262.4-000086-3**
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Product description

enix-2087: 2U fanless maritime approved PC that can accept up to 3x low profile add on cards.
Rating: 24V DC

Compass safe distance: Standard compass: 240 cm
 Steering compass: 150 cm

enix-3087: 3U fanless maritime approved PC than can accept up to 3x full height add on cards.
Rating: 24V DC

Compass safe distance: Standard compass: 170 cm
 Steering compass: 115 cm

enix-41x10: 4U high performance maritime PC that can accept up to 6x full height add on cards.
Rating: 100-240V AC 50/60Hz

Compass safe distance: Standard compass: 150 cm
 Steering compass: 90 cm

ELPAC-125 is a maritime approved full length compact PC with Intel Atom 1.6GHz N270 CPU.
It can accept up to 4 PCI add on cards and 2 x PCIe1 add on cards.

Rating: 230V AC 50/60Hz
Compass safe distance: Standard compass: 160 cm
 Steering compass: 100 cm

BIOS version enix-2087 and enix-3087 is 2.2c.
BIOS version for ELPAC-125 is 1.8.
BIOS version enix-41x10 is 2.0a/T20160172129

Manufactured by

Elektronix AS
Strandveien 35,
1366 Lysaker
Norway

Application/Limitation

This approval covers hardware only. This excludes firmware, application software, and hardware designed for specific applications subject to classification. Firmware, system software, and application software are subject to additional separate approval, according to UR E22 and the rules of the classing RO (FAT and on-board review / tests).

Type Approval documentation

Data sheets: enix-2087, enix-3087, enix-41x10
Manuals: User manual enix-2087 and enix-3087 version 1.1
 User manual ELPAC-125 v1.0, Revision 1.0
 User manual enix-41x10 series, Revision 1.0
Test reports: E14165.01, revision 01
 E12104.04, revision 04
 E15278.00, revision 00

EU RO MR Type Approval PQA Scheme initial assessment checklist dated 2017-06-26

Marking of product

Manufacture: Elektronix AS
Model number: As listed under product description
Serial number: Unique for each delivered item
Power supply: 230VAC – 50/60Hz / 24VDC

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Other Conditions

The units have been verified for compliance with EU Mutual Recognition Technical Requirements for Computers and programmable logic controllers (PLC) version 0.3, dated 2016-04-01.

Applicable tests for protected equipment according to IEC 60945, 4th edition (2002) have additionally been verified); except salt mist test (8.12), and acoustic noise and signals test (11.1) that have been waived as the computer does not have any buzzer / acoustic alarm device.

Enix-41x10 has also gone through tests for protected equipment according to IEC 60945, 4th edition (2002), except (8.4) Low temp test and salt mist test (8.12).

Environmental test parameters:

Temperature: -15°C and 70°C
5°C and 70°C for enix-41x10
Vibration: ±1mm / 0.7g
EMC: All locations including bridge and open deck
Enclosure: IP20

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 annually and at renewal of this certificate.

END OF CERTIFICATE