



EUROPEAN UNION RECOGNISED ORGANISATION (EU RO) MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

Certificate No:
MRA000004T

In accordance with Article 10.1 of EU Regulation 391/2009

This Certificate is issued to

ISIC A/S

Brabrand, Midtjylland, Denmark

for

Computers and Programmable Logic Controllers

with type designation(s)

PCM4-Q170 Marine Computer

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.

Temperature [°C]: -15°C to 70°C

Vibration: ±1 mm / 0.7g

EMC: All locations including bridge and deck zone

IP Code: IP20

This is to certify:

that the Product referred to herein has been inspected for the Manufacturer, pursuant to the relevant requirements of the European Union Recognised Organisation Mutual Recognition procedure, required by Article 10.1 of EU Regulation 391/2009, and has been found in accordance with those requirements.

This Certificate is valid until **2029-07-11**.

Issued at **Høvik** on **2024-07-12**

DNV local unit: **Denmark CMC**

for **DNV**

Approval Engineer: **Ståle Sneen**

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Frederik Tore Elter
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: MRTA 201

Revision: 2022-12

www.dnv.com

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Product description

ISIC PCM4-Q170 Marine Computer (P/N 09600-xxx)

Nominal Voltage: 115V 60Hz / 230V 50Hz / 24 Vdc

	Mfr.	Description
Cabinet	ISIC	ISIC aluminium marine PC cabinet
Motherboard	Aaeon	IMBA-Q170A ATX Desktop board Q170
Power Supply	FSP ISIC	PSU ac FSP300-731UJ 300 Watt PSU DC-DC ISIC P/N 04779-000
CPU	Intel	6 th and 7 th Generation Intel® Core™ Processors: Core i7-7700 (65W), Quad core, 8 threads, 3,6/4,2 GHz Core i7-6700 (65W), Quad core, 8 threads, 3,6/4,0 GHz Core i5-7500 (65W), Quad core, 4 threads, 3,4/3,8 GHz Core i5-6500 (65W), Quad core, 4 threads, 3,2/3,6 GHz Core i3-7101E (54W), Dual core 4 threads, 3,9 GHz Core i3-6100 (51W), Dual core 4 threads, 3,7 GHz
Memory	ADATA	4 GB DDR4-2666 MHz DIMM 8 GB DDR4-2666 MHz DIMM 16 GB DDR4-2666 MHz DIMM
Graphics	Intel	HD graphics 530/630 (depends on CPU installed)
	Asus	GeForce Nvidia GT730-SL-2GB5-BRK-E 2GB DDR5 PCIe x 16 GeForce Nvidia GT730-SL-2GB5-BRK 2GB DDR5 PCIe x 16 *Asus GeForce GT710-2-SL-BRK 2GB
	MSI	MSI GeForce Nvidia GT1030-2GHD4 LPOC PCIe x 16
Disk	ADATA	3D TLC ISSS31C (2.5" SATA) IM2S31C8 (M.2 SATA 3.0)
	Samsung	PM893 (2.5" SATA)
	Transcend	SSD470K-I (2.5" SATA)
	Adlink	2280 ASDSM8SHE-256GT0 (M.2 SATA 3.0)
	Intel	*D3 S4510 (2.5" SATA)
Optical disk	Lite-On	iHAS124-14 (SATA DVD R/W)
	TEAC	DV-W28SS-B93B (SATA DVD R/W)
Additional cards and components	Sunix	*Sunix IPC-P2108SI 8-port isolated RS422/485 PCI
	Intel	Intel® Ethernet Server Adapter i210-T1, PCIe * Intel® Ethernet Server Adapter I350 series (Dual port I350-T2 / Quad port I350-T4) ** Intel® Ethernet Server Adapter I340 series (Dual port I340-T2 / Quad port I340-T4) ** Intel GigaBit LAN PRO1000
	Moxa	CP-114EL-I 4-port RS232/422/485 / PCIe serial communication card ** CP-118U-I 8-port RS232 / PCI serial communication card *** CP-134U/U-I 4-port RS422/485 / PCI serial communication card *** CP-104UL-I 4-port RS232 / PCI serial communication card
	ICY DOCK	Removable drive bay MB994IPO-3SB
	Logilink	Logilink Single/Dual Parallel port card PCI
	Delock	4 x Internal SATA RAID ports card PCI 61775 Front Panel 2 x USB 3.0 w/ PCIe x 1 ** External Buzzer connected to audio out @3400Hz (ISIC P/N 05935-000) ** Remote on/off with power (ISIC P/N 05948-000)

* Type approved within PCM4-Q87, documented by DNV TAC TAA0000076

** Type approved within PCM4-H77, documented by DNV TAC TAA000001X

*** Type approved within PCM4-G43, documented by DNV TAC A-14109

The type approved configuration of ISIC PCM4-Q170 may include any individual components already covered by a valid DNV type approval of ISIC PCM4-xxx.

Overview of tested hardware/firmware including name and versions are listed in ISIC's statement
"ISIC statement no. 2024-05-27 Rev. A".

Compass safe distance

P/N 09600-xxx: Standard: 105 cm, Steering: 65 cm.

Manufactured by

ISIC A/S
Edwin Rahrs Vej 54
DK-8220 Brabrand
Denmark

Application/Limitation

The Type Approval covers all hardware listed under Product description. The computers are intended for use in control, monitoring, alarm, and safety functions subject to classification requirements.

Type Approval documentation

Marking of product

Manufacturer's name: ISIC
Type: PCM4-Q170
Unique serial No.: YYWWxxxx
Year of manufacture: YYYY
(Additional to the year of manufacture, year and week of production is included in the serial No.)
Power supply ratings: Input voltage / Input Current / Power (Max.)
Compass safe distance

Other conditions

The unit have been verified for compliance with EU Mutual Recognition Technical Requirements for Computer and programmable logic computers (PLC) version 0.8, dated 2023-01-01.

Applicable tests according to IACS Unified Requirements E10 rev. 9 have been verified.

20 times 6-axes 5 g 11 ms shock test according to IEC 60068-2-27:2008 has been verified.

Applicable tests for protected equipment according to IEC 60945 (Fourth edition - 2002) including Corrigendum 1 have additionally been verified for all products listed under Product description.

Environmental test parameters

Temperature: -15°C and 70°C
Vibration: ± 1 mm / 0.7 g
EMC: All locations including bridge and deck zone
Enclosure: IP20

DNV location classes

B
A
B
A

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

Generic Statement for EU RO MR Type Approval Certificate

When a product is presented with this EU RO MR Type Approval Certificate for given application, its acceptability with regards to the limitations stated in the certificate conditions defined in 1b, 1c and 1d of the applied Technical Requirement will be evaluated by the EU RO in charge of classing the ship or being in charge of the unit/system certification.

In accordance with Article 10 of Regulation (EC) No 391/2009 of the European Parliament and of the Council of 23 April 2009 "on common rules and standards for ship inspection and survey organizations", the following organizations, recognized by the EU on this date, have agreed on the technical and procedural conditions under which they will mutually recognize this certificate:

- American Bureau of Shipping (ABS);
- Bureau Veritas (BV);
- China Classification Society (CCS);
- Croatian Register of Shipping (CRS);
- DNV;
- Indian Register of Shipping (IRS);
- Korean Register (KR);
- Lloyd's Register Group Ltd. (LR);
- Nippon Kaiji Kyokai General Incorporated Foundation (ClassNK);
- Polish Register of Shipping (PRS);
- RINA Services S.p.A. (RINA).

The scheme for the mutual recognition of class certificates for materials, equipment and components laid down by Article 10(1) of Regulation (EC) No 391/2009 is only enforceable within the Union in respect of ships flying the flag of a Member State. As far as foreign vessels are concerned, the acceptance of relevant certificates remains at the discretion of relevant non-EU flag States in the exercise of their exclusive jurisdiction, notably under the United Nations Convention on the Law of the Sea (UNCLOS). (In accordance with COMMISSION IMPLEMENTING REGULATION (EU) No 1355/2014 amending Regulation (EC) No 391/2009 - recital (25)).