



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. A-10480
This Certificate consists of 3 pages

This is to certify that the
Personal Computer
with type designation
KEI-3240 Computer System

Manufactured by
Kawai Electronic Innovation System Co., Ltd.
Osaka 544-0024, Japan


is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and
Det Norske Veritas' Offshore Standards

Application
Location classes:

| | |
|-------------|---|
| Type | KEI-3240 Computer System |
| Temperature | A/B* |
| Humidity | A |
| Vibration | A |
| EMC | B |
| Enclosure | Required protection according to the Rules to be provided upon installation on board. |

*) Class B is applicable for the KEI-ILS power supply, power line noise filter, and for the ILS local units.

Place and date
Høvik, 2007-09-25
for DET NORSKE VERITAS AS


Knut Svein Ording
Head of Section



Local Office
DNV Kobe

This Certificate is valid until
2009-12-31


Knut Rapp Snee
Surveyor

Notice: 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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



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File No.: 899.30
Job. ID: 262.1-003977-1

Product description

KEI 3240-Computer system consisting of:

| Name | Type | Description |
|-------------------------|---|--|
| AGU IV | KEI-3240A | Computer for AC100V |
| Host & Graphic computer | KEI-3240D | Computer for DC24V |
| Keyboard | ENTRY-KEY32 | Keyboard |
| ILS System I/F Module | PC4-ILS | ILS CENTER module |
| ARCNET I/F Module | PC4-ARC | ARCNET I/F Module |
| ILS System Local | SVA24SA SVA24SC24 MBW-12R5-22 | Power supply AC100V Power supply DC24V Noise filter for power line |
| ILS Local Unit | ILS-DI ILS-DV ILS-DO ILS-AII ILS-AVI ILS-PT ILS-VR4 ILSBIO ILS-BVO ILS-REP | Contact input unit AC voltage input unit Contact output unit Current input unit Voltage input unit 3 wire PT input unit Potentiometer input unit Current output unit Voltage output unit ILS line repeater unit |

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 Pt.4 Ch.9 Control and Monitoring Systems.

Product certificate.

Each delivery of the application system is to be certified according to Pt.4 Ch.9 Sec.1. The certification test is to be performed at the manufacturer of the application system according to an approved test program before the system is shipped to the yard. 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.



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Type Approval documentation

Ring binder containing:

- Environmental test procedure for DNV Type approval test, Doc.No. DNV-TYP3240-501,
 - Test report for LR type approval system, KEI-3240 system, Doc.No. LRS-TYP3240AGU-533
 - Test report for LR type approval system, KEI-3240 system, Doc.No. LRS-TYP3240ILS-533
 - Test report for LR type approval system, KEI graphic unit, Doc.No. LRS-TYP3240-515
 - Test report for NK type approval system, KEI-3240 computer system, Doc.No. NK-TYP3240ILS-505
 - KEI graphic unit (AGU IV), Test report, Doc.No. NK-TYP3240-510
 - Specification KEI-3240 Computer system, Doc.No. LRS-TYP3240-532
- DNV Kobe Certificate retention survey report for A-9673, dated 21.08.2007

Tests carried out

Applicable tests according to Standard for Certification No. 2.4.

Certificate retention survey

The scope of the retention/renewal survey 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 survey 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

Retention survey is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE