DNV·GL

Certificate No:
TAA0000294

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Programmable Electronic System

with type designation(s)
UMS Series

Issued to
BEMAC Corporation
Imabari, Ehime Pref., Japan

is found to comply with
DNV GL 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 GL.

Location classes:

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**A**
Enclosure	**Required protection according to the Rules shall be provided upon installation onboard. Control panels and monitor fronts: A**

Issued at **Høvik** on **2019-04-03**
This Certificate is valid until **2023-12-31**.
DNV GL local station: **Hiroshima**

Approval Engineer: **Nils Jarem**

for **DNV GL**

Trond Sjåvåg
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.

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Job Id: **262.1-002462-5**
Certificate No: **TAA0000294**

Product description

UMS Series programmable electronic system for alarm and monitoring system, containing:

Central processing unit	UNT-301/304 UAI02, UAM01, UAS01, UDI01, UDO01/02, UHS01,UIO01, UMP02, UTC01
Central Processing system for multiplexing system	UNT-201/202/203/204, UTL-AI03, -AT01, -CR02, -DI02, -DO02, -MB02
Input signal conversion unit	UNT-100, UAT-P, -R, -T, -V, -MV, -SR, -VV, UPT
Operation panel	UKB-3
Touch Display	TM-332
Flat Panel Display	UZFPD15
CRT display unit	UZCRT15/21
Extension alarm panel	UEA-1600, UEA-1600S
Rack Unit	URK35-12
Power Supply Unit	SV10007
Printer	UZAP, UZLP

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, 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 GL rules for classification of 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 certification the clause for software control will be put into force.

Software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV GL for evaluation and approval before implemented on board. Certification of modified functionality may be required for the particular vessel.

Type Approval documentation

Tests carried out

Applicable tests according Standard for Certification No. 2.4, April 2006.

Marking of product

The products to be marked with:
- manufacturer name
- model name
- serial number
- power supply ratings

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