DNV·GL

Certificate No:
TAA00001ME

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Monitoring System

with type designation(s)
System Alarm Monitor Panels SAM2 *-*X**

Issued to
BMTECH
Busan, Korea

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.

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

Issued at **Busan** on **2018-02-12**
This Certificate is valid until **2023-01-24**.
DNV GL local station: **Gimhae Station**

Approval Engineer: **Baeg Soon Choi**

for **DNV GL**

Michael Jost Auf der Stroth
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: **262.1-027927-1**
Certificate No: **TAA00001ME**

Product description

Technical Data/Range of Application

1. Compact Alarm/Status Indicator panels with 4….30 indicator circuits (channels)
   SAM2aa-bXc-d:

   aa=A: Abnormal alarm display only (1 color)
   aa=AR: Abnormal alarm/Run display (2 colors)
   aa=B: Normal, Abnormal display (2 colors)
   aa=BR: Normal, Abnormal/Run display (2 colors)
   aa=C: Normal, Abnormal, Malfunction (3 colors)
   aa=CR: Normal, Abnormal, Malfunction/Run (4 colors)
   b=2 or 3 Rows, c=2…10 Columns. (Min. 2x2=4, Max. 3x10=30 circuits)
   d=M: Master unit, d=E: Extension Unit.

2. Functions:
   Alarms/Indication with adjustment of display 0…30s for each circuit.
   Buzzer, Extension Alarm 2ndary: Secondary alarm (re-trigger function), run Indication, Reset Function, Self diagnosis.

3. Power supply: 24V DC

4. Degree of Protection: IP40

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNVGL, 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 DNVGL Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Remarks: Suitability of alarm logic to be evaluated for the respective application.

Type Approval documentation

Tests carried out

Guidelines for the Performance of Type Approvals Chapter 2, Edition 2012.
Environmental Category : A, EMC1

Periodical assessment

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

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

END OF CERTIFICATE