DNV·GL

Certificate No:
TAA00000ZU

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Peripheral Equipment

with type designation(s)
AL8-2

Issued to
DEIF A/S
SKIVE, Denmark

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	**See page 2**

This Certificate is valid until **2022-01-09**.
Issued at **Høvik** on **2017-01-10**

DNV GL local station: **Aalborg**

Approval Engineer: **Bartosz Kabak**

for **DNV GL**
Digitally Signed By: Sneen, Ståle
Location: DNV GL Høvik, Norway
Signing Date: 2017-01-10, on behalf of

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: **262.1-021122-1**
Certificate No: **TAA00000ZU**

Place of manufacture

DEIF A/S
7800 Skive
DENMARK

Product description

AL8-2 Alarm Panel
Programmable alarm panel, applicable to switchboards and marine plants for alarm and warning purposes. May consist of one master unit and up to 5 slave units connected. Auxiliary voltage: 24 V DC appr. 6 W.

Technical data
Inputs: 8 alarm channels for connection of contacts. Individual programming of delay, inhibit and grouping of alarms; supervision of cable failure and N/O or N/C contacts.
1 channel for inhibitation of alarms.
Outputs: 1 Normally activated relay output for connection of audio-visual alarm devices. 2 Programmable relay outputs for alarm grouping. Individual programming of activated / deactivated relay at alarm. Potential-free C/O contacts; ratings: 250 V - 2 A - 400 W AC; 250 V - 1 A - 50 W DC.
Indicators: LED indicators for alarms, group alarms, cable failure and power.

Degree of protection: Enclosure: IP 54; Terminals: IP 20.

Application/Limitation

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

Type Approval documentation

Test reports: IPG 0030 of 28.11.1995;
Description D 411-1/E, 4921230002C
Test 16A 2007-03-02
Test 2B 2007-02-14
Test report summary IPA 0030-02 (2009-11-13)
15A (4910215105F)

DNV GL Type Approval assessment report dated 2016-11-14

Tests carried out

Applicable tests according to Guidelines for the Performance of Type Approvals - Test Requirements for Electrical / Electronic Equipment and Systems (2003).

Marking of product

Unit shall be externally marked to enable identification in accordance with the documentation and be marked with the manufacturer’s name.

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