DNV·GL

Certificate No:
TAA0000022

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Level Alarm System

with type designation(s)
AU-2030A/2016;PR-30EX-1/2

Issued to
PANASIA CO., LTD.
Busan, Republic of Korea

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

Application :

Ships, High Speed & Light Craft and Offshore installation

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Type	Temperature	Humidity	Vibration	EMC	Enclosure
AU-2030A/2016	A	B	A	B	B
PR-30EX-1/2	D	B	A	B	C

This Certificate is valid until **2020-10-18**.

Issued at **Busan** on **2015-10-19**

for **DNV GL**

DNV GL local station: **DNV Pusan Station**

Approval Engineer: **Hee Jin Song**

Baeg Soon Choi
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: **262.1-007899-4**
Certificate No: **TAA0000022**

Product description

High and Overfill Alarm system consisting of:
Alarm Monitors: AU2016 / AU2030A
Level Switches: PR-30EX-1 / PR-30EX-2
I.S. Barriers: KFD2-SR2-Ex2.W / KFD2-SR2-Ex1.W.LB / RDN211 / Z779

Application software/firmware name and version:
LeMon – 20.1 for AU – 2030A/ 2016

Approval conditions

The following documentation of the actual application is to be submitted for approval in each case:

- Reference to this Type Approval Certificate
- System block diagram
- Power supply arrangement (may be part of the System block diagram)

The Type Approval covers hardware and software listed under Product description.
Alarm horn and light are not included in this Type Approval.

As long as the units are covered by the Type Approval, a product certificate according to Pt.4 Ch.9 Sec.1 A 202 will not be required. Correct configuration and set up for each delivery to be tested during commissioning after installation.

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.
A Certification of Application Functions may be required for the particular vessel.

Application/Limitation

The maximum length of the level switch is 1.2m. For lengths above this additional support is required.

Ex installations to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Ex-certification is not covered by this certificate and the following listing, which is for information only, is based on information received from the manufacturer, but not verified by DNV:
BAS01ATEX7005, dated 26-07-2001
PTB 00 ATEX 2080, dated 20-07-2000
LCIE 02 ATEX 6104X

Type Approval documentation
Tests carried out

Applicable tests according to Standard for Certification 2.4.

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

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

END OF CERTIFICATE