TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00001YX
Revision No:
3

This is to certify:

That the Level Alarm System

with type designation(s)
ITHLA

Issued to
Inelteh d.o.o.
RIJEKA, **Croatia**

is found to comply with
DNV 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.

Location classes:

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**A**
Enclosure	**B (Monitoring Unit) / C (Level Switches)**

Issued at **Hamburg** on **2023-09-12**

This Certificate is valid until **2028-08-05**.
DNV local station: **Rijeka**

Approval Engineer: **Holger Jansen**

for **DNV**
Digitally Signed By: Papanuskas, Joannis
Location: DNV GL SE Hamburg, Germany

Joannis Papanuskas
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.

Product description

High and Overfill Alarm System for Cargo Tanks comprising:

Monitoring Unit ITDAC	14	14A	14B	ITPC-FB
Binary Input	10	9	-	5
Analogue Inputs	3	-	8	-
Commmon Alarm Relay Outputs	1	-	1	1+1
Group Alarm Relay Outputs	-	4	-	-

Microcontroller with not-user-changeable program code
Software Version: HighOvf v2.05
Power supply and input/output module ITHLA-26
Internal NiCd battery for power supply failure
Power Supply: 24V AC / DC
Magnetic Level Switch ITHLA-1 (single level alarm) with protection tube
Magnetic Level Switch ITHLA-2 (double level alarm) with protection tube
Magnetic Level Switch ITHLA-1/C (single level alarm) wihout protection tube
Magnetic Level Switch ITHLA-2/C (double level alarm) wihout protection tube
Magnetic Level Switch ITHLA-1/D (single level alarm) for LNG/LPG
Magnetic Level Switch ITHLA-2/D (double level alarm) for LNG/LPG
Magnetic Level Switch ITHLA-M/D (multiple level alarm) for LNG/LPG
Level Switch Rosemount 2120 and 2130 models *

Components marked with '*' are 3rd party equipment and are type approved separately.

Application/Limitation

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.

As long as the units are covered by the Type Approval, a product certificate according to Pt.4 Ch.9 Sec.1 [1.4] will not be required. Correct configuration and set up for each delivery to be tested during commissioning after installation.

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 for evaluation and approval before implemented on board. Certification of modified functionality may be required for the particular vessel.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to DNV Rules and Ex-Certification / Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

The ITHLA-x/D is designed as "Simple apparatus" for using in potentially explosive atmospheres; suitable Intrinsic Safety Isolators have to be used (for example GMI D1031Q or equivalent).

The operating temperature of the the ITHLA-x/D is specified and tested down to -195°C.
The operation pressure of the ITHLA-x/D is specified up to 18 bar. Test is necessary for LPG use.

Type Approval documentation

Test report: KONCAR No. 21584VIB20013 (29.09.2020)
Test report: KONCAR EMC Lab. No. 21580181102
Test report: KONCAR No. 21584VIB17014 (29.12.2017)
Test report: KONCAR No. 21584VIB17017 (29.12.2017)
Test report: KONCAR No. 51-09714 (02.07.2014)
Test report: INELTEH no. CT-Cold-1403-001 (07.03.2014)
Test report: KONCAR no. 21583EMC21034 (30.06.2021)
LGA EMC Test Center No. 23423 RP1
INELTEH Type Approval Testing No. 0598001
INELTEH PT-Performance-2101
INELTEH PT-Performance-2102
INELTHE ITHLA-x-D-2021, 2021-01-21 v1.0
SIQ Nos. T221-012/98, T231-0657/98
System Technical Description: HIGH LEVEL AND OVERFILL ALARM SYSTEM type ITHLA
Document: Magnetic level switches ITHLA, comparison
Inelteh HiOvf, appendix 1
Inelteh Testprogram for high and overfill alarm system (07.08.2020/16.09.2020)
Type Approval Assessment Report issued at Rijeka on 2023-08-08

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021.

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