

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Gas Detector

with type designation(s)

GDU Incus Ultrasonic Pressurised Gas Leak Detector with mounting bracket GDU-02-412

Issued to

Rosemount Measurement Limited
SLOUGH, BERKSHIRE, United Kingdom

is found to comply with

DNV GL rules for classification – Ships and offshore units

Application :

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

Location classes:

Temperature	D
Humidity	B
Vibration	A
EMC	B
Enclosure	C / IP 66/67

This Certificate is valid until **2018-06-30**.

Issued at **Høvik** on **2015-10-16**

DNV GL local station: **Southampton**

Approval Engineer: **Andrzej Gdaniec**

for **DNV GL**

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: **262.1-016411-3**
Certificate No: **TAA000005E**

Product description

GDU-Incus is an ultrasonic gas leak detector for detecting airborne ultrasound generated from gas leaks. Airborne ultrasound is generated when gas moves from a high-pressure area to a low pressure area with a ratio in excess of 1.8:1 upstream to downstream, however GDU-Incus is only recommended for pressures down to 2 bar.

GDU-Incus is not designed to detect specific gas types, LEL or ppm, but instead responds instantaneously to pressurised gas leaks or other sources of ultrasonic noise between 25 kHz and 100 kHz whilst being un-affected by even the most extreme weather conditions.

Specific technical data can be found in "Specifications"- Section 9 of "Reference Manual"
No. MAN-GDU-INCUS-Rev.07.

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.

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.

Type Approval documentation

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Tests carried out

Applicable tests according to DNV Standard for Certification No. 2.4 Edition April 2006.

Marking of product

Type designation
Manufacturer
Unique serial no.
Power supply rating 24 VDC, range: 15 to 30 VDC

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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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE