DNV·GL

Certificate No:
TAA0000142

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Level Switches

with type designation(s)
Control Units: MCU 201, MCU 203,
Sensors: 402 SD...G, 433 SD...G, 442 SD...G

Issued to
Rosemount Measurement Limited
SLOUGH, BERKSHIRE, United Kingdom

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:

Type	Temperature	Humidity	Vibration	EMC	Enclosure
Control Units	B	B	A	A	B / IP65
Sensors	B	B	B	A	C / IP66 / IP67

Issued at **Høvik** on **2017-03-14**
This Certificate is valid until **2022-02-12**.
DNV GL local station: **Southampton**

Approval Engineer: **Ståle Sneen**

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.

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Product description

Ultrasonic Sensing System for the detection of Liquid Level, Interface Level and Emulsions or Liquids with Entrained Particles

Control Units: MCU 201, MCU 203
Sensors: 402 SD...G, 433 SD...G, 442 SD...G

Control units technical data

Power supply	MCU 201:	110/230V AC
	MCU 203:	24V DC
Output signal:	2 c/o contacts	
Contact rating:	5 A 230 V AC	

Sensors technical data

402 SD...G:	Interface sensor, stainless steel, for lateral tank installation or pipe installation
433 SD...G:	Interface sensor, stainless steel, for vertical installation
442 SD...G:	Across pipe sensor, stainless steel, for installation in pipings

Sensor with fixed cable (50 meters, type Habia RG 178), mechanically protected.

Approval conditions

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

Tests carried out

Guidelines for the Performance of Type Approvals, Chapter 2, Edition 2003

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