Certificate No:
TAA00003BT

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Level transmitter

with type designation(s)
Rosemount 3408 Level transmitter

Issued to
Rosemount Tank Radar AB
Mölnlycke, Västra Götalands Län, Sweden

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.

Temperature	**D (-40°C to 80°C)**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**B (IP66 and IP68 (3 m / 45 min))**

Issued at **Hamburg** on **2023-10-16**
This Certificate is valid until **2028-10-15**.
DNV local unit: **Sweden CMC**

Approval Engineer: **Didier Girardin**

for **DNV**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Product description

The Rosemount 3408 Level Transmitter is a two-wire non-contacting radar transmitter for level measurements on liquids. It can be used for monitoring, process-control, and for safety applications such as overfill prevention, dry-run prevention and level range monitoring.

- Rosemount 3408 with process seal antenna (SAA)
- Rosemount 3408 with lens antenna (SBA)

For detailed product description, see details under ANNEX.

Place of manufacture

Rosemount Tank Radar AB
Layoutvägen 1
435 33 Mölnlycke
Sweden

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, 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 the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex certificate issued by a notified/recognized Certification Body.

Type Approval documentation

See ANNEX

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

ANNEX
Nomenclature

covered by the certificate:

Rosemount 3408[a], [b], [c], [d], [e], [f], [xx], [h], [i], [j], [k], [l], [m], [n], Radar Level Transmitter

a = Profile: A (Standard monitoring & control applications)

b = Measurement type: 1 (Liquid level measurement)

c = Performance class: S (Standard)

d = Signal output: H (4–20 mA with HART® 7)

e = Housing material: A (Aluminium)

f = Conduit / Cable threads: ½-14 NPT, M20x1.5, ½-14 NPT, M20 x 1.5 (1, 2, 4 or 5)

XX = Hazardous locations certifications

h = Materials of construction: 1 or 7

i: Process connection type: Flat face flange, raised face flange, NPT thread or BSPP (G) thread (F, R, N or G)

j: Available connection size from ¾-in to 6-in/DN150/150A (C, 1, A, 2, 3, 4, 6)

k: Process connection rating: ZZ, AA, AB, DA, DB, JA or JB (Flange connection identification according ASME /US standard, EN1092 /European standard, JIS /Japan standard

l: Antenna type Process seal or Lens antenna (SAA, SBA)
m = M6 (Graphical LCD display)
n = Other (Options not related to present type approval): DA1, ET, MV, C2, C4, C5, C8, AW, EW, J1, Q4, Q5, Q8, QT, Q15, Q25, Q35, Q66, Q67, Q68, Q79, Q73, Q76, U1, WR3, WR5, EC, MC or PXXXX

Type Approval documentation

Doc. Ref (see 262.1-039730-1)	**Vers.**	**Issuing date**	
Reports			
ProdApp-0346	1.0	2023-08-28	
P119094 (Env. Tests)	0.0	2023-07-13	
P112873 (EMC)	C	2023-09-12	
O187183		2021-12-03	
E-15-0007E-15-0007	2	2022-02-21	
Performance test report		2023-07-12	
ProdApp-0333	1.3	2023-05-31	
ProdApp-0334	1.	2023-04-28	
ProdApp-0335 Document list	1.0	2023-04-28	
ProdApp-0337	1.7	2023-07-10	
00813-0100-4418, Rev AC Data Sheet		April 2023	