DNV·GL

Certificate No:
TAA000013T

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Level Indicating System

with type designation(s)
EMx40 Cargo Gauging System, EM540 - EM940 Radar Transmitter, TA3840-S Safety Unit, TA3840-C Communication Unit, TA3840-R Repeater Unit, LOG3840 Local Indicator, T901-P Temp./Pressure Transmitter

Issued to
HONEYWELL MARINE
BOURGES, France

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
EMx40 Cargo Gauging System					
EM540 - EM940 Radar Transmitter	**D**	**B**	**A**	**B**	**C**
TA3840-S Safety Unit	**B**	**B**	**A**	**B**	**A**
TA3840-C Communication Unit	**B**	**B**	**A**	**B**	**A**
TA3840-R Repeater Unit	**B**	**B**	**A**	**B**	**A**
LOG3840 Local Indicator	**D**	**B**	**A**	**B**	**C (IP 67)**
T901-P Temp./Pressure Transmitter	**D**	**B**	**A**	**B**	**C**

Issued at **Høvik** on **2017-12-04**
This Certificate is valid until **2019-12-03**.
DNV GL local station: **Le Havre**

Approval Engineer: **Jens Erling Bråten**

for **DNV GL**

Odd 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

Microwave Cargo Tank Level Gauging System EMx40 consisting of:

EM540	Level Transmitter, Software: CCU Ver. A2.2 - LCU Ver. A2.1
EM940	Level Transmitter, Software: CCU Ver. A2.2 - LCU Ver. A2.1
TA 3840-C	Communication Unit, Software: Ver. 1.1
TA 3840-R	Repeater Unit, Software: Ver. 1.1
TA 3840-S	Safety Unit
LOG 3840	Local Indicator, Software: Ver. 1.1
T 901-P	Temperature/Pressure sensor

Application/Limitation

The following documentation of the actual application is to be submitted for approval in each case:
- Reference to this Type Approval Certificate
- Scope of Supply
- System block diagram
- Power supply arrangement (may be part of the System block diagram)
- Test program for certification

The Type Approval covers hardware and application software listed under Product description.

Product certificate
Each delivery of the application system is to be certified according to Pt.4 Ch.9. The certification test is to be performed at the manufacturer of the application system according to an approved test program before the system is shipped to the yard. After the certification the clause for application software control will be put into force.

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 GL 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.

Type Approval documentation

Tests carried out

Functional tests 2005-09-09 at Bourges - France, according to test procedure PE 1023 Rev00.
Applicable tests according to Standard for Certification No. 2.4 of April 2006.

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

A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE