



Certificate No:
TAA000033E

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Level Indicating System

with type designation(s)
VPMS Multi Purpose Monitoring and Control System

Issued to
PSM Instrumentation Ltd
Haywards Heath, West Sussex, United Kingdom

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	B
Enclosure	Required protection according to the Rules shall be provided upon installation on board

Issued at **Høvik** on **2021-12-09**

This Certificate is valid until **2023-12-08**.

DNV local station: **Manchester**

for **DNV**

Approval Engineer: **Jens Erling Bråten**

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Jan Tore Grimsrud
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.



Form code: TA 251

Revision: 2021-03

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Page 1 of 4

Product description

Multipurpose Monitoring and Control System consisting of:

Control Unit	VPMS
Analogue Input Unit	AN-ZBANA (*)
Analogue/Digital Input Unit	AN-ZBHART (*)
Digital Input Unit	AN_ZB485 (*)
Amplifier	AN-SGCNV (incl. in AJB 500-x) (*)

(*) Covered by separate Type Approval TAA0000036

Software: Application software/firmware versions: VPMS GUI interface rev. 1.1.4 onwards / VPMS firmware revision 1.1.2 onwards. DNV to be notified upon major changes, i.e., incrementation of the first digit (see also information under "Clause for application software control").

Application:

- Level monitoring
- High / High-high cargo level alarm system
- Pressure monitoring
- Temperature monitoring
- Flooding detection

Approval Conditions

The following documentation of the actual application is to be submitted for approval in each case:

- Reference to this Type Approval Certificate
- Description of scope of delivery, i.e., project specific functions and systems (**)
- System block diagram
- Power supply arrangement (may be part of the System block diagram) (***)
- List of control and monitored points
- Test program for certification

(**) With respect to user rights and access control for the operator stations, a final configuration sheet shall be produced for each system detailing the passcodes, assignments, and locations.

(***) Power supply arrangement in accordance with IMO MSC.1 Circ.1291, (continuously powered and with automatic changeover to backup supply), to be documented for flooding detection systems.

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

The current software numbers and versions are listed in internal release documents "VPMS GUI interface revision list" and "VPMS firmware revision list".

When the type approved software is revised (affecting all future deliveries) DNV is to be informed by forwarding updated software version documentation. If the changes are judged to affect functionality for which rule requirements apply (affects first two digits of SW version, covering major functionality and/or safety matters), a new type test may be required, and the certificate may have to be renewed to identify the new software version.

Product certificate

Each delivery of the application system is to be certified according to Pt.4 Ch.9 Sec.1 [1.4].

The certification test is to be performed at the manufacturer of the application system 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 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.

Application/Limitation

Ex installations 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.

Ex-certification is not covered by this certificate.



Job Id: 262.1-035293-1
Certificate No: TAA000033E

Type Approval documentation

Tests carried out

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

Marking of product

The products to be marked with:

- Manufacturer's name
- Type designation
- model name
- serial number

Place of manufacture

The PCB can be manufactured by:

FermionX Ltd
Technology Centre
Easting Close
Worthing
West Sussex, BN14 8HQ
United Kingdom
Tel: +44 (0)1903 524600
ISO 9001:2015 - Certificate No. 126284

G&B Electronic Designs Ltd
54 Woolmer Industrial Estate
Bordon
GU35 9QF
T: 01420 474188
ISO 9001:2015 - Certificate No. 597-04

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 renewal of this certificate.

END OF CERTIFICATE