

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00007EX

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV AS under the authority of the Government of Norway.

This is to certify:

That the Water level detectors

with type designation(s)
VPMS Flood Detection System

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

is found to comply with the requirements in the following Regulations/Standards:
Regulation (EU) 2021/1158,
item No. MED/8.1. SOLAS 74 as amended, Regulation II-1/22-1, II-1/25 & XII/12, IMO Res. MSC.188(79), IMO Res. A.1021(26) and IMO MSC.1/Circ.1572

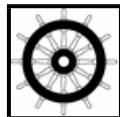
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2027-06-07**.

Issued at **Høvik** on **2022-06-08**

DNV local station:
Manchester

Approval Engineer:
Ståle Sneen



Notified Body
No.: **0575**



for **DNV AS**

Digitally Signed By:
Trond Kleivi Sjøvåg
Location: DNV Høvik, Norway
on behalf of

Sverre Olav Bergli
Head of Notified Body



The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled. Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

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

VPMS multipurpose control, monitoring & alarm system with the following capabilities:

- Ballast tanks / service tanks / cargo tanks / draught indication cargo pressure monitoring,
- High / high-high cargo level and overflow alarm system,
- Flood detection.

This certificate covers flood detection for passenger vessels.

The VPMS Flood Detection System comprises the following units as required:

Central control unit	VPMS ¹⁾
Analogue input unit	AN-ZBANA ^{1,2)}
Analogue/digital input unit	AN-ZBHART ^{1,2)}
Digital input unit	AN-ZB485 ^{1,2)}
Amplifier	AN-SGCNV (incl. in AJB 500-x) ^{1,2)}
Level switch	BLS9200 ³⁾
Pressure sensor	APT500S ⁴⁾
Pressure sensor	APT1000S ⁴⁾

¹⁾ Hardware is covered by separate type approval certificate TAA000033E

²⁾ Hardware is covered by separate type approval certificate TAA0000036

³⁾ Hardware is covered by separate type approval certificate TAA00002E6

⁴⁾ Hardware is covered by separate type approval certificate MRA000001R

Software versions at time of testing:

Software Version	Release date	Description
V1.1.2 FW	2021-05-14	Operating Firmware
V1.1.4 GUI	2021-09-16	User Interface

Application/Limitation

The VPMS Flood Detection System is designed and approved for use in passenger vessels, ref. MSC.1/Circ.1291. Application according to IMO Resolution MSC.188(79) has not been considered and is not covered by this certificate.

Power supply arrangement shall be in accordance with IMO MSC.1 Circ.1291, i.e. continuously powered and with automatic changeover to backup supply.

The equipment is found to comply with following location/application dependent requirements (for definition of each of the location classes, see below the table):

EQUIPMENT	TEMPERATURE	VIBRATION	EMC	ENCLOSURE
VPMS	TEM-B	VIB-A	EMC-B	-
AN-ZBANA	TEM-B	VIB-A	EMC-B	-
AN-ZBHART	TEM-B	VIB-A	EMC-B	-
AN-ZB485	TEM-B	VIB-A	EMC-B	-
AN-SGCNV	TEM-B	VIB-A	EMC-B	-
BLS9200	TEM-D	VIB-A	Not relevant	IP68 (1.2 m / 48 h)
APT500S	TEM-D	VIB-A	EMC-B	IP68 (50 m / 24 h)
APT1000S	TEM-D	VIB-A	EMC-B	IP68 (50 m / 24 h)

Definition of the location classes with reference to relevant standards:

- Temperature: TEM-B – Location (5°C to 70°C) (ref. IEC 60092-504:2016 table 1 item 6-7)
- TEM-D – Location (-25°C to 70°C) (ref. IEC 60092-504:2016 table 1 item 6-7)
- Vibration: VIB-A – For general applications (ref. IEC 60092-504:2016 table 1 item 10)
- EMC: EMC-B – Bridge and deck zone (any location) (ref. IEC 60092-504:2016 table 1 item 13-20)
- Enclosure: IP68 – Continuous immersion (ref. IEC 60529 Edition 2.2:2013)

Type Examination documentation

Documentation for VPMS Flood Detection System:

Title	Drw. No.	Rev. / Date
System Overview - Scanjet Connect - VPMS	023	3 / 2021-06-17
User Manual and Reference Scanjet Connect VPMS	Man 092	A / 2021-04-01
Product Software Control (I320)	QP15	B / 2021-06
Control System Functional Description (I020)	VPMS_TA_0001	B / 2021-06-17
Witnessed Test Plan Scanjet Connect - VPMS	VPMS_TA_0002	B / 2021-06-08
Signed Witnessed Test Plan Scanjet Connect - VPMS	VPMS_TA_0002_signed	B / 2021-06-08
System block diagram (topology) (I1030)	VPMS_TA_0003	A / 2021-03-16
User Interface documentation (I1040)	VPMS_TA_0004	A / 2021-03-18
Power supply arrangement (I1050)	VPMS_TA_0005	B / 2021-06-17
Technical Data Sheet - Environmental Specifications (I1080)	VPMS_TA_0006	A / 2021-04-01
List of controlled and monitored points (I110)	VPMS_TA_0007	A / 2021-04-01
Test Procedure at Manufacturer (Z252)	VPMS_TA_0008	A / 2021-04-27
Failure Mode Descriptions (Z070)	VPMS_TA_0009	A / 2021-04-15
Work Instructions 101 - Software Quality Plan	WI 101	1 / 2019-01
Work Instructions 102 - Software version/revision control	WI 102	2

The hardware is separately type approved. Type Examination documentation can be found in the respective TA-folders:

- TAA000033E – 262.1-035293
- TAA0000036 – 262.1-002498
- TAA00002E6 – 262.1-009301
- MRA000001R – 262.4-000098

Tests carried out

The system has been tested according to the following standards:

- IEC 60092-504:2016,
- IEC 60529 Ed. 2.2:2013 incl. Corr1:2013 and Corr2:2015,
- IMO MSC.1/Circ.1291.

Testing according to IMO Res. MSC.188(79) is not considered relevant as this system is not intended to be used for water ingress detection in cargo spaces.

Marking of product

The Manufacturer and Type Designation to be applied to the equipment in a clearly visible location. In addition, the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/ or supply voltage.

For identification to this type examination certificate the products shall be marked with:

- Manufacturer's name or trade mark
- Type designation
- Mark of Conformity (wheel mark), followed by
 - identification number of the NoBo involved in production control (MED D)
 - the year the mark is affixed
 - Example: 0575/2022