Certificate no.:
TAA00003D6

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Versatilis Sensors

with type designation(s)
HVT, HVSS

issued to
Honeywell International Inc.
Fort Washington, PA, USA

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	**D**
Humidity	**B**
Vibration	**B**
EMC	**B**
Enclosure	**C**

Issued at **Hamburg** on **2024-05-06**
This Certificate is valid until **2029-05-05**.
DNV local unit: **India CMC MES**

for **DNV**

Approval Engineer: **Holger Jansen**

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

HVT

The HVT models contains:

Sensor	Range	Accuracy
Pressure	335 to 1100 hPa	0,5% of span
Temperature	-40 to +80°C	±3°C
Humidity	0 to 100 %RH	±3%
Ambient Temperature	-40 to +80°C	±2°C
Audio Acoustics	20 to 20.000 Hz Upto 120	 ±3dBSPL
Triaxial Vibration/Acceleration	5 to 2500 Hz (±16G)	± 1dB

Specification:
Battery voltage: 3,6 Vdc
Communication: 2.4 GHz, Low energy 5.0 Communication (Bluetooth) & LoRaWAN (Long Range Communication – Multiple regions)
Status LED: Green – On/Operational
Red – failure

HVSS

The HVSS models contains:

Sensor	Range	Accuracy
Pressure	300 to 1100 hPa	0,5% of span
Temperature	-40 to +70°C	±3°C
Humidity	0 to 100 %RH	±3%
Methane Gas	50 to 65.535ppm	

Specification:
Battery voltage: 3,6 Vdc
Communication: 2.4 GHz, Low energy 5.0 Communication (Bluetooth) & LoRaWAN (Long Range Communication – Multiple regions)
Status LED: Green – On/Operational
Red – failure

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 Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems. Category III systems shall not use wireless data links according to IACS UR E22 Rev.3.

Type Approval documentation

Tests carried out

Applicable tests according to DNV Class Guideline CG-0339, August 2021.

Place of Production:

Honeywell International (India) Private Limited
Plot No.2, GAT No.181
Village Fulgaon
Tal-Habveli PUNE-412216 INDIA

Marking of product

The products to be marked with:

- Model name
- Manufacturer name
- Serial number

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