Certificate no.:
TAA00003T4

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Fire Detector

with type designation(s)
FDS-303H

issued to
Micropack (Engineering) Ltd
Aberdeen, **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	**D (Tested at -60°C and +85°C)**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**B / IP67**

Issued at **Høvik** on **2026-02-17**
This Certificate is valid until **2031-02-16**.
DNV local unit: **UK & Ireland CMC & VMC**

for **DNV**

Approval Engineer: **Frode Nygård**

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 USD 300 000.

Product description

The FDS303H IR3 Multi Spectrum Flame Detector is an explosion proof multi spectrum IR hydrogen (H_2) flame detector designed specifically to detect hydrogen (H_2) fires.

Firmware version 1.1x

Nominal voltage 24V DC

Approval conditions

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 classification of ships Pt.4 Ch.9 Control and monitoring systems.

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 and the following paragraph, which is for information only, is based on information received from the manufacturer, but not verified by DNV.

Information on Ex-Certification received from manufacturer – Not verified by DNV		
Equipment	Marking	Certificate No.
FDS303H	II 2 G Ex db IIC T4 Gb Ta: -60°C to +85°C	FM18ATEX0040X

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021.
Functional testing according to EN 54-10:2002+A1:2005 and FM 3260:2021 (Radiant Energy-Sensing).

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.

Manufactured by:

Consilium Safety Sweden Production AB
Sodra Hildedalsgatan 6,
417 05 Gothenburg
Sweden

END OF CERTIFICATE