DNV·GL

Certificate No:
TAA00002F6

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Fire Detector

with type designation(s)
Optical UV-Flame Detector FL 80/1AN, FL 80/1AM, FL 80/1AM-1, FL 80/1AM-EW, FL 80/1AM-EW-1A, FL 80/1AM-EW-VG1

Issued to
Egon Harig GmbH
Oststeinbek, Germany

is found to comply with
IEC 60092-504 Ed. 4.0 (2016-09) Electrical installations in ships – Part 504: Automation, control and instrumentation
DNV GL class programme DNVGL-CP-0203 – Type approval – Electronic and programmable equipment and systems

Application :

Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV GL.
Location classes:

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**B**

Issued at **Hamburg** on **2019-08-06**
This Certificate is valid until **2024-08-05**.
DNV GL local station: **Magdeburg**

Approval Engineer: **Heinz Scheffler**

for **DNV GL**

Joannis Papanuskas
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

Optical UV-Flame Detector typs:

- FL80/1Ax
- FL80/1Ay
  x = N: Relays K1 and K2 with potential-free contacts
  y = M, M-1, M-EW, M-EW-1A, M-EW-VG1: Relays K1 and K2 with signal lines adaptation for the relevant fire alarm control panel

Technical data:

- Alarm sensibility: according to EN54 part 10, class 1
- Optical Location Angle: 180°
- Response time: typical < 2s
- Power supply: 24 V DC
- Current consumption: quiescent 35mA, alarm condition 55mA
- Outputs: One potential-free close contact for voltage failure, 1 A, 250 V AC
  One potential-free close contact for fire alarm, 1 A, 250 V AC

Application/Limitation

Observe the DNVGL RU Ship Pt 6 Additional class notations.
Function of the potential free contact is part of the relevant project.

Type Approval documentation

Test Reports: 17-9045 Rev.1; 071694.140.17 V1.2; BMA 10046, 12-L-00139-01, 12-4065
Documents: Datasheet 4.0248; Operating Instruction 4.0249; Description 4.0250; Pamphlet sheet S-PB-4.9194-1; Overview Drawing List 4.03244, Rev. 14

Tests carried out

- EN 54-10:2002 incl. A1:2005
- IEC 60092-504:2016
- IEC 60533:2015

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.

Job Id: **262.1-032158-1**
Certificate No: **TAA00002F6**

END OF CERTIFICATE