

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

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 GL AS under the authority of the Government of Norway.

This is to certify:

That the Fixed fire detection and fire alarm systems components for control stations, service spaces, accommodation spaces, cabin balconies, machinery spaces and unattended machinery spaces: Flame detectors – Point detectors

with type designation(s)
FV311S, FV311SC, FV311SC-N

Issued to

Tyco Fire & Security GmbH
Neuhausen am Rheinfall, SH, Switzerland

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2019/1397**,
item No. MED/3.51e. SOLAS 74 as amended, Regulation II-2/7 & X/3, 1994 HSC Code 7, 2000 HSC Code 7, FSS Code 9, IGF Code 11 and IMO MSC.1/Circ.1242

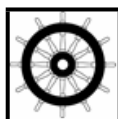
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2024-12-09**.

Issued at **Høvik** on **2019-12-10**

DNV GL local station:
Manchester

Approval Engineer:
Nils Jarem



Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
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 GL 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.



Product description

The FLAMEVision FV300 flame detector uses an infrared array based sensing technology to provide the ultimate programmable flame detector. An array of 256 IR sensors plus two optical channels view the protected area. An optional integral video camera to display a live image of the field of view, this is in addition to the alarm location and status information which is available as standard on the video output. It is configurable with either DIP switch settings or using the configuration software.

Type	Product code	Description
FV311S	516.300.006	20mm IR array flame detector
FV311SC	516.300.008	20mm IR array flame detector – PAL camera
FV311SC-N	516.300.007	20mm IR array flame detector – NTSC camera

Supply voltage: 24 Vdc

Place of manufacture

Tyco Fire & Security Czech Republic s.r.o.
Ulice Osvobození 363, Ráječko
Czech Republic

Application/Limitation

Ex-certification is not covered by this certificate. Application in hazardous area 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.

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

MODEL	TEMPERATURE	VIBRATION	EMC	Enclosure
FV311S FV311SC FV311SC-N	TEM-D	VIB-A	EMC-B	IP66/67 Salt mist

Definition of the location classes with reference to relevant standards:

Temperature:

TEM-D: (-25°C to +70°C) (ref. IEC 60092-504 (2016) table 1 item 6-7)

Vibration:

VIB-A: For general applications: $\pm 1\text{mm}$ / 0.7g (ref. IEC 60092-504 (2016) table 1 item 10)

EMC:

EMC-B: All locations incl. bridge and open deck (ref. IEC 60092-504 (2016) table 1 item 19-20)

Type Examination documentation

Tests carried out

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

Marking of product

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: 0575/2019



Job Id: **344.1-010214-1**
Certificate No: **MEDB00006A3**