

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Fire Detector**

with type designation(s)

DT/Ex, DF-Ex DO/Ex, DOT-Ex, FDA, FDCI, FDCIO, FDF, FDM, FDO, FDOOT, FDT, HI, OP, OH, OOH & SB3

Issued to

**Siemens Schweiz AG
Zug, Switzerland**

is found to comply with

DNV GL rules for classification – Ships**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Temperature B****Humidity B****Vibration A****EMC B****Enclosure Required protection according to the Rules shall be provided upon installation on board.**Issued at **Hamburg** on **2018-02-13**This Certificate is valid until **2023-02-12**.for **DNV GL**DNV GL local station: **Augsburg**Approval Engineer: **Heinz Scheffler****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.



Product description

Addressable and non-addressable smoke detectors, heat detectors, manual call points, flame detectors, and Input / Output Module.

Smoke detectors

- FDO221 Smoke Detector with Short-Circuit Isolator
- FDOOT221 Multisensor Detector (Point detector with two additional heat sensors) with Short-Circuit Isolator
- FDO241 Smoke Detector with Short-Circuit Isolator
- FDOOT241-A9 Multisensor Detector (Point detector with two additional heat sensors) with Short-Circuit Isolator
 - Compatible Base Adapter: FDB299; FDB241
 - Compatible Base Attachment: FDB291
 - Compatible Base Attachment Wet: FDB295
 - Compatible Base Attachment Wet with Sealing: FDB293
 - Compatible Detector Base Addressable: FDB221; FDB222; SPF600
 - Compatible Detector Base Collective: FDB201; FDB202; DB1101A
 - Can be used addressed on the FD-Net of Sinteso® fire control panels FC2020-AA ; FC2020-AE; FC2040-AA; FC2040-AE.
- FDOOT241-A9-Ex Multisensor Detector Ex (Point detector with two additional heat sensors) with Short-Circuit Isolator
 - Compatible Base Attachment: FDB291
 - Compatible Base Attachment Wet with Sealing: FDB293; FDB295
 - Compatible Detector Base Addressable: FDB221; FDB222
 - Compatible Detector Base Collective: FDB201; FDB202
 - The Safety barrier SB3 shunt Zener diode barrier and the safety barrier FDCL 221-EX are used as an interface between explosion-hazard and non-hazardous areas. The Ex approval is not integral part of this certificate; see BVS 12 ATEX E 087 X and BVS 12 ATEX E 094.
 - Can be used addressed on the FD-Net of Sinteso® fire control panels FC2020-AA; FC2020-AE; FC2040-AA; FC2040-AE and collective on the AlgoRex® CS1140 MED.
- OP720 Smoke Detector
 - Compatible Base Attachment: BA720
 - Compatible Base Attachment Wet: BA721
 - Compatible Detector Base Addressable: DB720; DB721; DB722
 - Compatible Base Attachment / Base Seal: BA720/RS720
 - Can be used addressed on the CNET of CerberusPRO® fire control panels FC722-ZA; FC722-ZE; FC724-ZA; FC724-ZE.
- OOH740-A9-Ex Multisensor Detector Ex (Point detector with two additional heat sensors)
 - Compatible Base Attachment Wet: FDB295
 - Compatible Base Attachment Wet with Sealing: FDB293
 - Compatible Detector Base Addressable: FDB221; FDB222
 - Compatible Detector Base Collective: FDB201; FDB202
 - The Safety barrier SB3 shunt Zener diode barrier and the safety barrier FDCL 221-EX are used as an interface between explosion-hazard and non-hazardous areas. The Ex approval is not integral part of this certificate; see BVS 12 ATEX E 087 X and BVS 12 ATEX E 094.
 - Can be used addressed on the CNET of CerberusPRO® fire control panels FC722-ZA ; FC722-ZE; FC724-ZA; FC724-ZE and collective on the AlgoRex® CS1140 MED.

- OOH740 Multisensor Detector (Point detector with two additional heat sensors)
 - Compatible Base Attachment: BA720
 - Compatible Base Attachment Wet: BA721
 - Compatible Base Attachment / Base Seal: BA720/RS720
 - Compatible Detector Base Addressable: DB720; DB721; DB722
 - Can be used addressed on the CNET of CerberusPRO® fire control panels FC722-ZA; FC722-ZE; FC724-ZA; FC724-ZE.
- OH720 Multisensor Detector (Point detector with two additional heat sensors)
 - Compatible Base Attachment: BA720
 - Compatible Base Attachment Wet: BA721
 - Compatible Base Attachment / Base Seal: BA720/RS720
 - Compatible Detector Base Addressable: DB720; DB721; DB722
 - Can be used addressed on the CNET of CerberusPRO® fire control panels FC722-ZA; FC722-ZE; FC724-ZA; FC724-ZE
- DOT1151A-Ex Multisensor Detector (Point detector with additional heat sensor)
 - Compatible Detector Base Collective: DB11xx
 - The Safety barrier SB3 shunt Zener diode barrier is used as an interface between explosion-hazard and non-hazardous areas. The Ex approval is not integral part of this certificate, see PTB 02 ATEX 2098.
 - For use on the addressable: FD-Net of AlgoRex® CS1140 MED fire control panels

Heat detectors

- FDT221 Heat Detector
- FDT241 Heat Detector
 - Compatible Base Adapter: FDB299; FDB241
 - Compatible Base Attachment: FDB291
 - Compatible Base Attachment Wet: FDB295
 - Compatible Base Attachment Wet with Sealing: FDB293
 - Compatible Detector Base Addressable: FDB221; FDB222
 - Can be used addressed on the FD- Net of Sinteso® fire control panels FC2020-AA; FC2020-AE; FC2040-AA; FC2040-AE
- HI720 Heat Detector
- HI722 Heat Detector
 - Compatible Base Attachment: BA720
 - Compatible Base Attachment Wet: BA721
 - Compatible Detector Base Addressable: DB721; DB722; DB720
 - Compatible Base Attachment / Base Seal: BA720/RS720
 - Can be used addressed on the CNET of CerberusPRO® fire control panels FC722-ZA; FC722-ZE; FC724-ZA; FC724-ZE
- DT1101A Heat Detector
- DT1102A Heat Detector
- DT1151A-Ex Heat Detector
 - Compatible Detector Base Collective: DB11xx
 - Can be used addressed on the FD-Net of AlgoRex® CS1140 MED fire control panels
 - The Safety barrier SB3 shunt Zener diode barrier is used as an interface between explosion-hazard and non-hazardous areas. The Ex approval is not integral part of this certificate, see PTB 02 ATEX 2098.

Manual call points

- FDM226-RP Manual Call Point
- FDM224H Manual Call Point
- FDM224 Manual Call Point
- FDM221 Manual Call Point
- FDM223-Ex Manual Call Point Ex
 - The line adapter (Ex) FDCL221-Ex ensures electrical isolation of the potentially explosive areas and the areas not at risk. The Ex approval is not integral part of this certificate; see BVS 12 ATEX E 095 X.
 - Can be used addressed on the CNET of CerberusPRO® fire control panels FC722-ZA; FC722-ZE; FC724-ZA; FC724-ZE and FD- Net of Sinteso® fire control panels FC2020-AA; FC2020-AE; FC2040-AA; FC2040-AE

Flame detectors

- FDF241-9 Flame Detector
 - Compatible Detector Base Collective: FDFB291
 - Can be used addressed on the CNET of CerberusPRO® fire control panels FC722-ZA; FC722-ZE; FC724-ZA; FC724-ZE and FD- Net of Sinteso® fire control panels FC2020-AA; FC2020-AE; FC2040-AA; FC2040-AE
- DF1151-Ex Flame Detector
 - Compatible Detector Base Collective: DFB1190
 - The Safety barrier SB3 shunt Zener diode barrier is used as an interface between explosion-hazard and non-hazardous areas. The Ex approval is not integral part of this certificate, see PTB 02 ATEX 2159.
 - Can be used addressed on the FD-Net of AlgoRex® CS1140 MED fire control panels

Input/Output Module

- FDCI221 Input/Output Module with Short-Circuit Isolator
- FDCIO221 Input/Output Module with Short-Circuit Isolator
- FDCI222 Input/Output Module with Short-Circuit Isolator
- FDCIO222 Input/Output Module with Short-Circuit Isolator
- FDCIO223 Transponder with Short-Circuit Isolator
- FDCIO224 Input/Output Module with Short-Circuit Isolator
 - Installation Housing: FDCH221
 - Can be used addressed on the CNET of CerberusPRO® fire control panels FC722-ZA; FC722-ZE; FC724-ZA; FC724-ZE and FD- Net of Sinteso® fire control panels FC2020-AA; FC2020-AE; FC2040-AA; FC2040-AE.
- FDCL221-Ex Input/Output Module Line Adapter with Short-Circuit Isolator
 - Installation Housing: FDCH222
 - Can be used addressed on the CNET of CerberusPRO® fire control panels FC722-ZA; FC722-ZE; FC724-ZA; FC724-ZE; C-NET-Ex and FD- Net of Sinteso® fire control panels FC2020-AA; FC2020-AE; FC2040-AA; FC2040-AE and FDnet-Ex.
- FDAI92-Ex Alarm Indicator Ex
 - Adapter frame: AI330
- FDAI91 / 92 Alarm Indicator
 - Adapter frame for FDAI92: AI330
 - Indicator housing, incl. washer: DJZ1193
 - Housing with cover: DCA1191
 - Can be used for direct connection to detector output
- SB3 Safety barrier (shunt zener diode barrier)
 - Installation Housing: DCA1191, DCA1191-AB

Job Id: **262.1-027707-1**
Certificate No: **TAA00001M1**

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNVGL, 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 DNVGL Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

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 Excertificate issued by a notified/recognized Certification Body.

Type Approval documentation

Test Reports and Documents: DNVGL_Documentation_Reports_2018-02-26

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016; EN 54-5 (2000) including A1 (2002); EN 54-7 (2000) including A1(2002) and A2 (2006); EN 54-10 (2002) including A1(2005); EN 54-11 (2001) including A1(2005); EN 54-18 (2005) including AC(2007); EN 54-17 (2007) including AC(2007); IEC 60092-504 (2001) including IEC 60092- 504 Corrigendum 1 (2011); IEC 60533 (1999).

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