EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00001M8
Revision No:
3

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Sample extraction smoke detection systems components: (a) control and indicating equipment. Electrical installations in ships, (b) power supply equipment, and (c) aspiring smoke detectors

with type designation(s)
SDS-72

Issued to
safetec Brandes und Niehoff GmbH
Scharnebeck, **Germany**

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2022/1157,**
item No. MED/3.63c. SOLAS 74 as amended, Regulation II-2/7, II-2/19 & II-2/20 and IMO FSS Code 10
item No. MED/3.63b. SOLAS 74 as amended, Regulation II-2/7, II-2/19 & II-2/20 and IMO FSS Code 10
item No. MED/3.63a. SOLAS 74 as amended, Regulation II-2/7, II-2/19 & II-2/20 and IMO FSS Code 10

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

This Certificate is valid until **2027-10-23**.

Issued at **Hamburg** on **2023-09-04**

DNV local station:
Hamburg – CMC North/East

Approval Engineer:
Heinz Scheffler

Notified Body
No.: **0098**

for **DNV SE**

Christine Mydlak-Roeder
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 SE 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 smoke detection system SDS-72 is a sample extraction smoke detection system for up to 72 detection lines for cargo holds onboard ships.
The main features of the system are:

- Simultaneously monitoring of air samples for smoke via sampling pipes
- Separate detection loop for smoke detectors monitoring exhaust ventilation ducts
- Using the CO2 extinguishing pipes up to DN150 for smoke sampling
- Possibility to connect the smoke detection panel to the remote panels with two redundant data and power bus cables
- Interface to voyage data recorder according to IEC 61162-1 and potential free signals to the Machinery Alarm System
- Flexible configuration settings, including on site configuration via configuration menu
- Self-monitoring features

The smoke detection system SDS-72 is available in three main variants configured to the below listed hardware:

- Variant A: The sampling pipes for all cargo holds run separately into the CO2 room, where they are connected via 3/2-way-valves to the smoke detection panel. It is recommended for sampling pipe diameters of max. DN20/DN25.
- Variant B: The sampling pipes for all cargo holds run separately into the CO2 room, where they are connected via valves to the smoke detection unit. The smoke detection unit(s) is / are connected with the smoke detection panel. It is recommended for sampling pipe diameters of max. DN150.
- Variant C: The sampling pipes for all cargo holds run separately into the suitable passageway beneath the cargo holds, where they are connected via valves to the smoke detection unit. The smoke detection unit is connected via loop isolator with the smoke detection panel. It is recommended for sampling pipe diameters of max. DN150.

Fan unit SDS-M0440 / SDS-M0441 / SDS-M450 or SDSD-M0460 is to be used in variants A...C according to the airflow volume requirements of the project.

Hardware:

Type	Name	Typical Location	Remark
ADP-3500	Adapter module	near Remote Panel	required for Remote Panel
SDS-3000	Smoke detection panel	CO2 room or passageway	without integrated detection lines
SDS-3104	Smoke detection panel	CO2 room	1-4 detection lines integrated
SDS-3108	Smoke detection panel	CO2 room	5-8 detection lines integrated
SDS-3112	Smoke detection panel	CO2 room	9-12 detection lines integrated
SDS-3208	Extension panel	CO2 room	5-8 detection lines
SDS-3212	Extension panel	CO2 room	9-12 detection lines
SDS-3216	Extension panel	CO2 room	13-16 detection lines
SDS-3300	Smoke detection unit (SDU)	CO2 room or passageway	1 detection line for pipes up to DN150
SDS-3350	Smoke detection unit (SDU-EVD)	Cargo holds or passageway	Monitoring of air samples at the exhaust
SDS-3500	Remote Panel	bridge or fire control station	flush mount / wall mount
SDS-3600	junction box	passageway	for SDS-M460
SDS-3700	junction box	safe area	for SDS-3300 (SDU)
SDS-3800	3/2-way flap	CO2 room or passageway	for fan module SDS-M0460
SDS-M0440	fan unit	CO2 room or passageway	2 fans on a frame, 230V~
SDS-M0441	fan unit	CO2 room or passageway	2 fans on a frame, 110V~
SDS-M0450	fan unit	CO2 room or passageway	2 fans on a frame, 230V~
SDS-M0460	fan module	CO2 room or passageway	1 fan

Software
Firmware: CM3100A-01.02.XXX; CM3100B-01.02.XXX

Approval conditions

As long as the System or components are covered by the Type Approval, no Product Certificate will be required according to Pt.4 Ch.9 Sec.1 - Control and monitoring systems.

The following documentation of the actual application is to be submitted from the supplier for approval in each case:

- Reference to this type approval certificate
- Functional description (incl. description of functions covered by software)
- Application software configuration and Software release
- System Block diagram
- User interface description
- Electrical diagram with interfaces (incl. List of control and monitored points
- Power Supply arrangement (may be part of the System block diagram)
- Arrangement drawings showing location of suction points, fans and central units.
- Test program for application software at manufacturer

Clause for application software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV for evaluation and approval before implemented on board. Certification of modified functionality may be required for the particular vessel.

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.

Type Approval documentation

Test Report and Documentation: DL6 List of Documents Rev 6, dated 21.08.2023

Tests carried out

MSC.98(73) - (FSS- Code) 10; EN 54-2 (1997) including AC (1999) and A1(2006); EN 54-4 (1997) including AC (1999), A1(2002) and A2(2006); EN 54-20 (2006) including AC (2008); IEC 60092-504 (2016); IEC 60533 (2015), EN IEC 60079-0 (2018)

Marking of product

For identification to this type examination certificate the products shall be marked with:

- Manufacturer's name
- Type designation with device type
- Serial Number
- Mark of Conformity

END OF CERTIFICATE