



Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	safetec Brandes und Niehoff GmbH																										
Address	Kringelsburg 2a, Scharnebeck, 21379, Germany																										
Place of Production	safetec Brandes und Niehoff GmbH Kringelsburg 2a, Scharnebeck, 21379, Germany																										
Type	Smoke Detection and Alarm System																										
Description	<p>The smoke detection system SDS-72 is a sample extraction smoke detection system acc. to FSS Code, Chapter 10 for up to 72 sampling pipes for cargo holds onboard ships.</p> <p>SDS-72 consists of the following units:</p> <table><tr><td>ADP-3500</td><td>Adapter Module for Remote Panel SDS-3500</td></tr><tr><td>SDS-3000</td><td>Smoke Detection Panel, without integrated detection lines</td></tr><tr><td>SDS-3104</td><td>Smoke Detection Panel, 1-4 detection lines</td></tr><tr><td>SDS-3108</td><td>Smoke Detection Panel, 5-8 detection lines</td></tr><tr><td>SDS-3112</td><td>Smoke Detection Panel, 9-12 detection lines</td></tr><tr><td>SDS-3208</td><td>Extension Panel, 5-8 detection lines</td></tr><tr><td>SDS-3212</td><td>Extension Panel, 9-12 detection lines</td></tr><tr><td>SDS-3216</td><td>Extension Panel, 13-16 detection lines</td></tr><tr><td>SDS-3300</td><td>Smoke Detection Unit SDU, one detection lines</td></tr><tr><td>SDS-3350</td><td>Smoke Detection Unit SDU-EVD for one exhaust ventilation duct</td></tr><tr><td>SDS-3500</td><td>Remote Panel</td></tr><tr><td>SDS-3600</td><td>Junction Box for Fan Module SDS-M0460</td></tr><tr><td>SDS-3700</td><td>Junction Box for Smoke Detection Unit SDU</td></tr></table>	ADP-3500	Adapter Module for Remote Panel SDS-3500	SDS-3000	Smoke Detection Panel, without integrated detection lines	SDS-3104	Smoke Detection Panel, 1-4 detection lines	SDS-3108	Smoke Detection Panel, 5-8 detection lines	SDS-3112	Smoke Detection Panel, 9-12 detection lines	SDS-3208	Extension Panel, 5-8 detection lines	SDS-3212	Extension Panel, 9-12 detection lines	SDS-3216	Extension Panel, 13-16 detection lines	SDS-3300	Smoke Detection Unit SDU, one detection lines	SDS-3350	Smoke Detection Unit SDU-EVD for one exhaust ventilation duct	SDS-3500	Remote Panel	SDS-3600	Junction Box for Fan Module SDS-M0460	SDS-3700	Junction Box for Smoke Detection Unit SDU
ADP-3500	Adapter Module for Remote Panel SDS-3500																										
SDS-3000	Smoke Detection Panel, without integrated detection lines																										
SDS-3104	Smoke Detection Panel, 1-4 detection lines																										
SDS-3108	Smoke Detection Panel, 5-8 detection lines																										
SDS-3112	Smoke Detection Panel, 9-12 detection lines																										
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SDS-3600	Junction Box for Fan Module SDS-M0460																										
SDS-3700	Junction Box for Smoke Detection Unit SDU																										

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

Matthias Karg

Electrical & Control - Specialist to Lloyd's Register EMEA
A member of the Lloyd's Register group

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SDS-3800	3/2-way flap for Fan Unit SDS-M0460
SDS-M0440	Fan Unit
SDS-M0441	Fan Unit
SDS-M0450	Fan Unit
SDS-M0460	Fan Module

For detailed product description, pls. refer to appendix.

Trade Name	SDS-72
Application	Marine, Offshore and Industrial applications for use in environmental categories ENV1 and ENV2, as defined in Lloyd's Register Type Approval System, Test Specification Number 1 – December 2021.
Specified Standard	EN 54-2: 1997 incl. AC 1999 +A1: 2006 EN 54-4: 1997 incl. AC 1999 +A1: 2002 +A2: 2006 EN 54-20: 2006 +AC: 2008 IEC 60092-504: 2016 IEC 60533: 2015 IACS UR E10 Rev. 8: 2021 IACS UR F29 Rev. 6 (for fan unit SDS-M0440/-M0450) MSC.98(73)-(FSS- Code) 10 IEC 60079-0: 2017(for SDS-3000, SDS-31xx, SDS-32xx, SDS-33xx, SDS-3700) IEC 60079-11: 2011 (for SDS-3000, SDS-31xx, SDS-32xx, SDS-33xx, SDS-3700) EN ISO 80079-36: 2016 (for fan unit SDS-M0440/-M0450) EN ISO 80079-37: 2016 (for fan unit SDS-M0440/-M0450) EN 14986: 2017 (for fan unit SDS-M0440/-M0450)
Ratings	Power supply: 220/ 230 VAC (50/60 Hz) 110/115 VAC (50/60 Hz)

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Firmware version:
CM3100A-01.02.xxx
CM3100B-01.02.xxx (xxx = minor modifications as bug fixes etc.)

Other Conditions

For systems consisting of the listed components the final functional arrangement and application software are to comply with appropriate Lloyd's Register Rules and Regulations and shall be subject to project related Plan Approval Process, when installed on LR classed vessels. Documents and drawings for the actual application are to be provided according relevant LR Rules and Regulations.

Specific Conditions of Use as stated in applicable Ex-certificates and the conditions of the LR Rules & Regulations for the Classification of Ships, Part 6, Chapter 2 shall be observed when installed in hazardous areas. The Ex-certification does not form part of this certificate.

All devices must be installed a safe area, except Smoke Detection Unit SDU-EVD (SDS-3350).

External piping system is not covered by this Type Approval.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: 17/20105 (E1)



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The Design Appraisal Document HPC1562237-23/MK and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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Appendix

DESCRIPTION

Smoke Detection System SDS-72 consists of the following types:

Type	Description	Art. No.
ADP-3500	Adapter Module for Remote Panel	BG03.590
SDS-3000	Smoke Detection Panel, without integrated detection line without external detector loop and with safety barrier (max. 6 channels)	SDS03.000
	without external detector loop and with safety barrier (1-4 channels)	SDS03.001 SDS03.002 SDS03.003 SDS03.004
	with external detector loop and without safety barrier	SDS03.010
	with external detector loop and with safety barrier (1-4 channels)	SDS03.011 SDS03.012 SDS03.013 SDS03.014
	SDS-3104	Smoke Detection Panel, 1-4 integrated detection lines
	without external detection loop	SDS03.101 SDS03.102 SDS03.103 SDS03.104
	with external detection loop	SDS03.121 SDS03.122 SDS03.123 SDS03.124
SDS-3108	Smoke Detection Panel, 5-8 integrated detection lines	
	without external detection loop	SDS03.105 SDS03.106 SDS03.107 SDS03.108
	with external detection loop	SDS03.125 SDS03.126 SDS03.127 SDS03.128
SDS-3112	Smoke Detection Panel, 9-12 integrated detection lines	
	without external detection loop	SDS03.109 SDS03.110 SDS03.111 SDS03.112
	without external detection loop	SDS03.129 SDS03.130 SDS03.131 SDS03.132
SDS-3208	Extension Panel, 5-8 detection lines	SDS03.205 SDS03.206 SDS03.207 SDS03.208



DESCRIPTION (continued)

Type	Description	Art. No.
SDS-3212	Extension Panel, 9-12 detection lines	SDS03.209 SDS03.210 SDS03.211 SDS03.212
SDS-3216	Extension Panel, 13-16 detection lines	SDS03.213 SDS03.214 SDS03.215 SDS03.216
SDS-3300	Smoke Detection Unit SDU, one detection line	SDS03.340
SDS-3350	Smoke Detection Unit SDU-EVD for one exhaust ventilation duct for non-hazardous areas, steel pipe connection	SDS03.350
	Smoke Detection Unit SDU-EVD for one exhaust ventilation duct for non-hazardous areas, hose connection	SDS03.351
	Smoke Detection Unit SDU-EVD for one exhaust ventilation duct for hazardous areas, steel pipe connection	SDS03.352
	Smoke Detection Unit SDU-EVD for one exhaust ventilation duct for hazardous areas, hose connection	SDS03.353
SDS-3500	Remote Panel (flush mount)	SDS03.500
	Remote Panel wit integrated adapter module (wall mount)	SDS03.510
SDS-3600	Junction Box for Fan Module SDS-M0460	SDS03.611
		SDS03.621
SDS-3700	Junction Box with loop isolator and safety barrier (s)	SDS03.703
		SDS03.704
SDS-3800	3/2-way flap for Fan Module SDS-M0460	SDS03.801
SDS-M0440	Fan Unit (hose connection diameter: 75 mm)	SDS02.440
	Fan Unit (hose connection diameter: 89 mm)	SDS02.442
SDS-M0441	Fan Unit (hose connection diameter: 75 mm, 110 V)	SDS02.441
SDS-M0450	Fan Unit (hose connection diameter: 89 mm)	SDS02.450
SDS-M0460	Fan Module	SDS03.468
		SDS03.469
		SDS03.470