EC TYPE EXAMINATION (MODULE B)
CERTIFICATE No. MED037623CS/003

This is to certify *that RINA Services S.p.A. (Notified Body No. 0474) did undertake the relevant type approval procedures for the equipment identified below, which was found to be in compliance with the Fire Protection requirements of Marine Equipment Directive (MED) 2014/90/EU, including the requirements and testing standards of Regulation (EU) 2022/1157.*

MED Item N°	**MED/3.51g; MED/3.51e**
Description	**Fixed fire detection and fire alarm systems components for control stations, service spaces, accommodation spaces, cabin balconies, machinery spaces and unattended machinery spaces** **(g) Short circuit isolators** **(e) Flame detectors: Point detectors**
Type	**MD9902 IR Tri-Spectrum**
Applicant	**MICRODATA DUE SRL** VIA GRETI DEL VARA 9 19020 FOLLO (SP) ITALY
Testing standards	**EN 54-10 (2002) incl. A1 (2005) ; EN 54-17 (2007) incl. AC (2007); IEC 60092-504 (2016); IEC 60533 (2015); RINA Rules for the certification of Marine Equipment.**
Reference standards	**SOLAS 74 Reg. II-2/7; SOLAS 74 Reg. X/3; IMO Res. MSC.36(63)-(1994 HSC Code) 7; IMO Res. MSC.97(73)-(2000 HSC code) 7; IMO Res. MSC.98(73)-(FSS Code) 9; IMO Res. MSC.391(95)-(IGF Code) 11; IMO MSC.1/Circ 1242; RINA Rules for the certification of Marine Equipment**

Issued in Genoa on
February 22, 2023

This Certificate is valid until
February 21, 2028

This Certificate consists of this sheet plus an attachment

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ATTACHMENT TO CERTIFICATE No. MED037623CS/003

Manufacturer
MICRODATA DUE SRL

Place of Manufacturer
VIA GRETI DEL VARA 9
19020 FOLLO (SP)
ITALY

Product description:

MD 9902 IR Tri-Spectrum
Analogue, Addressable detectors able to provide flame detection and temperature analog value.

The flame is detected by three sensors working simultaneously; one of them is working on the hot carbon dioxide specific flame wavelength , the two other measure the interference radiation on the near wavelengths.
Sensitivity Class 1, 2 , 3 as defined on the EN 54-10 Requirements is complied with.

In case a failure occurs in the fire detection and alarm system (eg. loss of communication with detectors through loop card), the degraded mode is activated and a digital signal is sent to the central unit to activate the relevant loop led on the central unit.

A signalling LED on the detector housing is also flashing when a fire alarm is detected.
The detector warns its failure conditions or degradation.
IR sensors is contained in Aluminium chamber.

Detector housing: IP 65/ 67 _Poliycarbonate flame retardant
(in connection with approved socket type **MD9900-BS** or **MD9900-BS-PT** and **MD9900-BSI** or **MD9900-BSI-PT**);

Detector housing : IP 32 _ Poliycarbonate flame retardant
(in connection with approved socket type **MD9900-BC** or **MD9900-BC-PT** and **MD9900-BCI** or **MD9900-BCI-PT**);

IP 32 protection with bases **MD9900-BC** and **MD9900-BCI**
IP 65 protection with bases **MD9900-BS** and **MD9900-BSI**
IP 66/IP67 protection with bases **MD9900-XF** and **MD9900-XFI**
IP X7 protection with bases **MD9900-BS** and **MD9900-BSI**

Reference documents:

Microdata Due	Technical descriptions:	ST24737 Rev. C
Microdata Due	Data sheets:	D25795 Rev. H
Microdata Due	Software description:	D25806 Rev. 0
Microdata Due	Installation and maintenance manual	IS 31219 Rev. A
Microdata Due	Risk Assessment:	D36685 Rev. 0
Microdata Due	Comparing Lexan 920 and Lexan 923 resin	D36647 Rev. 0

Test reports:

BRE Laboratory	Environmental / Performance	Report n. TE227965, (07/11/2006)
BRE Laboratory	Environmental / Performance	Report n. TE227965 -SW (10/01/2007)
Microdata Due	Functional tests	Report n. 1050 annex to IS-26872 Rev. 0, (13/12/2006)
Istituto Giordano Lab	IP test	Report n. 213254 (30/06/2006)
Istituto Giordano Lab	IP test	Report n. 225438 (10/05/2007)
Test Lab	EMC (EN60092-504)	Report n. 17B302E-c
Test Lab/Microdata Due	Functional tests	Report n. 0974-17 (28/11/2017)

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Fire detector bases

The following **detector bases** may be used in connection with **MD9902 detectors**

Models MD9900 BC or **MD9900-BC-PT and MD9900 BCI** or **MD9900-BCI-PT detector bases**
(IP 32 in connection with the MD9900 and MD9901 detectors) for false ceiling installation;
Models MD9900-BCI or **MD9900-BCI-PT** in addition contain a short circuit isolator.
Models MD9900-BC-PT and MD9900-BCI-PT are suitable for connection to PTS Satellite

MD 9900 BS or **MD9900-BS-PT** and **MD 9900-BSI or MD9900-BSI-PT detector bases:**
(IP67 in connection with the MD9902 for installation in wet or outdoor areas)
Models **MD9900-BSI** or **MD9900-BSI-PT** in addition contain a short circuit isolator
Models MD9900-BS-PT and MD9900-BSI-PT are suitable for connection to PTS Satellite

MD9900-XF or MD9900-XFI detector bases:
(proof base IP66+IP67) particularly suitable for installation in areas exposed to severe environmental conditions.
Model **MD9900-XFI** in addition contain a short circuit isolator.

Reference documents:

Microdata Due	Technical specification	n. ST21405 rev. C
Microdata Due	Data sheet	n. D24729 Rev. F
Microdata Due	Data sheet	n. D24730 Rev. F
Microdata Due	Data sheet	n. D37706 rev. A
Microdata Due	Functional Test Procedure	n. D36618 Rev.0

Test reports:

BRE Laboratory	Report n. TE213449/A, (03/10/2007)_Environmental / Performance
Microdata Due	Test procedure n° IS 34434_report 822/14 testing on 16/05/2014
Microdata Due	Test procedure n. D36618 Rev.0 (13/07/16)_report 656/16 (2/08/16) - Functional Test Procedure
Microdata Due	Test Report n° 172048F-b_UNI-EN 54-17 for MD9900BSI
Microdata Due	Test Report n° 172048F-d UNI-EN 54-17 for MD9900-XFI
Microdata Due	Test Report n° 1951561A, degrees of protection test for MD99002 with MD9900-XF base
RINA	Report n° 2006CS014611 for MD9902

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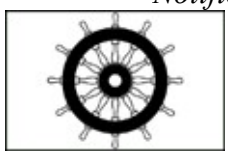
The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production control phase module (D, E or F) of Annex II of the Directive is fully complied with a written inspection agreement with a Notified Body



XXXX/YYYY

"WHEELMARK FORMAT"
XXXX Notified Body number undertaking surveillance module
YYYY The year in which the mark is affixed

General conditions for the approval

a) The initial conditions verified by RINA at the time of the approval are to be maintained

b) Any changes to the initial conditions are to be promptly communicated to RINA, which reserves the right to repeat the relevant assessment

c) This certificate will no be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with RINA

d) RINA personnel are to be allowed to witness during the performances of activities, upon their request

e) The activities are to be carried out in compliance with the RINA Rules and/or other applicable Rules

f) Should the specified regulations or standards be amended during the validity of this certificate, the product is to be reapproved prior to it being placed on board vessels to which the amended regulations or standards apply.

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