

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Fire Detectors for Micordata MD 9800, MD9800-LC, MD2010-CU FD Panels

with type designation(s)

MD9900, MD9901Class (A1, B or C), MD9901-EX, MD9902, MD9900 (BC, BCI, BS, BSI, BSZ, BSZI, BBZ, BBZI, BS with MD9902

Issued to

Microdata Due S.r.l.
Follo, SP, Italy

is found to comply with

DNV GL rules for classification – Ships and offshore units
Det Norske Veritas' Rules for Classification of High Speed & Light Craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

GL Environmental Category ¹⁾			C/EMC1
DNV GL Location classes			
Temperature	Humidity	Vibration	EMC
D	B	A	B

¹⁾(IP) Required protection according to the Rules shall be provided upon installation on board

This Certificate is valid until **2020-09-07**.

Issued at **Høvik** on **2015-09-08**

DNV GL local station: **Genoa**

for **DNV GL**

Approval Engineer: **Didier Girardin**

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Odd Magne Nesvåg
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

Sensors for use in combination with Centralized or Distributed Control System, according to one or more Fire detection controller(s) in combination (s. type MD 9800, MD9800-LC, MD2010-CU)

HW Type,	P/N	HW	SW	HW description
Fire detector				
MD9900	25626	25626	SW26400.0	Dual-Function Addressable Smoke det.
MD9901Class A1	26654-A1	26654	SW26714.0	Dual-Function Addressable Smoke & Heat 57°C det.
MD9901Class B	26654-B	26654	SW26714.0	Dual-Function Addressable Smoke & Heat 80°C det.
MD9901Class C	26654-C	26654	SW26714.0	Dual-Function Addressable Smoke & Heat 90°C det.
MD9901-EX	27010	27010	SW26714.0	Addressable Intrinsically Safe (multicriteria Smoke & Heat 57C°)
MD9902	26718	26718	SW26933.0	Addressable Flame Detector
MD9900BC	26397-1	26937	-	Detector Base IP 32 ¹⁾
MD9900BCI	26397-2	26937	-	Detector Base and short circuit IP 32 ¹⁾
MD9900BS	26398-1	26398	-	Detector Base IP 65 ¹⁾
MD9900BSI	26398-2	26398	-	Detector Base and short circuit IP 65 ¹⁾
MD9900BSZ	27356-BS	27356	-	Detector Base IP65 with Buzzer
MD9900BSZI	27356-BSI	27356	-	Detector Base IP65 with Buzzer and SCI
MD9900BBZ	26640-1	26640	-	Detector Base IP32 with Buzzer
MD9900BBZI	26640-2	26640	-	Detector Base IP32 with Buzzer and SCI
MD9900BS with MD9902	26398-1	26398	-	Detector Base with Addressable Flame Detector IP X7 ²⁾

Manual Call point				
MD9820	25936	25936	SW26402.0	Addressable MCP IP42 ³⁾
MD9831	27746	27746	SW26402.0	Addressable MCP IP66 ⁴⁾

- ¹⁾ tested with test report No. 213254
²⁾ tested with test report No. 225438
³⁾ Declaration of conformity by MENVIER CSA. 26/01/2001
⁴⁾ IP66 Test ABTEST ENV1630

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.
- IP class shall be in accordance with installed area on board.
- Detectors and MCPs are type approved for use with Microdata Control Panels type MD 9800, MD9800-LC, MD2010-CU. System application and location of detectors and MCPs is to be in accordance with relevant parts of DNVGL Rules.

Approval conditions

The Type Approval covers hardware and basic software listed under Product description.

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

- Reference to this Type Approval Certificate
- Revision numbers of hardware and software including description of changes if different from type approved versions

When the type approved software is revised (affecting all future deliveries) DNV GL is to be informed by forwarding updated software version documentation. If the changes are judged to affect functionality of applicable rule requirements a new functional type test may be required and the certificate may have to be renewed to identify the new software version.

Product certificate

Deliveries condition according DNV GL Certificate TAA0000042

Clause for application software control

All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV GL for evaluation and approval. Major changes in the software are to be approved before being installed. A Certification of Application Functions may be required for the particular vessel.

Type Approval documentation

Renewal documentation. September 2015 (by taking in account former TA DNV A-10420, A-10421, A-10422 & GL 58 620-08 HH Certificates)

Remark: Rules reference provided for S, OS and H. Has H rules not published by present day reference is made to DNV-H

MD9900 and MD9901 fire detectors

MD9900 Datasheet	D24728_D
MD9901 Datasheet	D24731_D
MD9900-BC Datasheet	D24729_E
MD9900-BS Datasheet	D24730_E
MD9900 Technical specification	ST21405_B
MD9901 Technical specification	ST24736_A
MD9900 SW description	D23583_A
MD9901 SW description	D24735
MD9900 Test Report	TE213449A
MD9900 SW Test Report	TE213449SW
MD9901 Test Report	TE220771-A
MD9901 SW Test Report	TE220771SW
IP32_65 Test Report	213254

MD9900BBZ-BSZ DETECTOR BASE W.BUZZER

MD9900BBZ Datasheet	D27897_E
MD9900BSZ Datasheet	D29020_B
MD9900BBZ/BSZ Report	TESLAB 08C189F-3
MD9900BBZ Report	TESLAB155103A-c
MD9900BSZ Report	TESLAB155103A-b

MD9901-EX Intrinsically Safe Detector

MD9901-EX Datasheet	D29009_B
MD9901-EX Report	BRE TE255351
MD9901-EX Report	BRE 255351 Rev. 1??

MD9902 flame detector

MD9902 Datasheet	D25795_F
MD9900-BS Datasheet	D24730_E
MD9902 Technical specification	ST24737_B

Job Id: **262.1-020360-1**
Certificate No: **TAA000004E**

MD9902 SW description	D25806
MD9902 Test Report	TE227965
MD9902 SW Test Report	TE227965SW
IP32_65 Test Report	213254
IPX7 Test Report	225438
MD9820 Manual Call Point	
MD9820 Datasheet	D24724_D
MD9820-MD9830 Technical specification	ST23511
MD9820Test Report	TESLAB 051014F-3
MD9831 Manual Call Point	
MD9831 Datasheet	D29066_C
Comparison with MD9820 M.C.P.	D30100_A
IP66 Test	ABTEST ENV1630

Tests carried out

According applicable GL test requirements for Electrical / Electronic Equipment and Systems [VI-7-2]

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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE