



Italia

CERTIFICATE

[1] **EU-TYPE EXAMINATION CERTIFICATE**

[2] **Equipment or Protective System intended for use
in potentially explosive atmospheres
Directive 2014/34/EU**

[3] EU-Type Examination Certificate number:

TÜV IT 24 ATEX 0162 X Rev.1

[4] Equipment or Protective System: Personal Monitor gas detector series PMxxx

[5] Manufacturer: SEITRON S.p.A. a socio Unico

[6] Address: Via del Commercio, 9/11
IT-36065 Mussolente (VI) - Italy

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] TÜV Italia, notified body no. 0948 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. R 23 EX 068 Rev.1.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2018; EN 60079-1:2014 ; EN 60079-11:2012 (IEC 60079-11:2023)

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:



II 1G Ex da ia IIC T4 Ga (PM with LEL sensor VQ548MP2-DS)

II 2G Ex db ia IIC T4 Gb (PM with LEL sensor 4P75)

II 1G Ex ia IIC T4 Ga (PM without LEL sensor)

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Issue date: 19th August 2024

1st Issue date: 19th February 2024



PRD N° 081B

Membro degli Accordi di Mutuo Riconoscimento
EA, IAF e ILAC
Signatory of EA, IAF and ILAC Mutual
Recognition Agreements



TÜV Italia S.r.l.
Notified body N° 0948

Alberto Carelli
Alberto Carelli

**Industry Service - Real Estate & Infrastructure
Managing Director**

TÜV Italia has been authorized by Italian government to operate as notified body for the certification of equipment or protective system intended for use in potentially explosive atmospheres. This document is not valid without official signature and logo. The internal reference code is 722355003.

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SCHEDULE

[14]

**EU-TYPE EXAMINATION CERTIFICATE
No. TÜV IT 24 ATEX 0162 X Rev.1**

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Certificate History

Revision:	Description:	Report rev.:	Issue Date:
-	First issued	-	19/02/2024
1	Updated listed documents	1	19/08/2024

[15] **Description of equipment**

PMxxx is a series of portable personal monitor safety gas detectors capable to recognize combustible gases, toxic gases and oxygen concentration.

The device is available in two main configurations PM2 and PM4, they differ from each other in the number of gas sensors that can be installed.

The electronic board is protected by intrinsic safety protection method type "ia", the integrated LEL gas sensors are protected by flameproof enclosure "da" or "db".

The ATEX marking of PM with integrated LEL gas sensors can be category 1G (suitable for installation in zone 0,1,2) or 2G (suitable for installation in zone 1,2) depending on the marking of component gas sensor installed in the device ("da" or "db" respectively).

The ATEX marking of PM without LEL gas sensors is category 1G only with intrinsically safe protection method "ia".

The unit is powered by a rechargeable non-removable lithium-ion battery.

The electronic unit it is contained in an anti-static plastic shell integrating a keyboard interface (two buttons) and a graphic display. Four contact terminals are used for battery charge and data-transfer. Battery charging and data communication shall be done in the non-hazardous area, exclusively using the charge communication interface docking station (accessories apparatus) SEITRON type AMDS01.

The unit can be used in hazardous environment in conjunction with the accessories AMGC01 or AMGC02 which serve as gas applicators, as well as with the accessories AMAF01 or AMAF02 which serve as additional filter against dusts to be used in dirty environments.

Product Coding

PM2	Personal Monitor with 2 Sensors		
Z	Z	O ₂ sensor (Long Life)	S1 position
	G	O ₂ sensor (Galvanic)	
	X	No sensor installed in this position	
L	L	LEL sensor (VQ548MP2-DS)	S2 position
	R	LEL sensor (4P75)	
	C	CO sensor	
	H	H ₂ S sensor	
	N	NO sensor	
	B	NO ₂ sensor	
	S	SO ₂ sensor	
	Y	H ₂ sensor	
	K	Cl ₂ sensor	

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		A	NH ₃ sensor		
		D	CO + H ₂ S sensor (dual)		
		X	No sensor installed in this position		
		0	Without Bluetooth module		
		1	With Bluetooth module		
			-----	Non ATEX related characters	
		SE	Branding Seitron		

PM4	Personal Monitor with 4 Sensors			
		Z	O ₂ sensor (Long Life)	S1 position
		G	O ₂ sensor (Galvanic)	
		X	No sensor installed in this position	
		L	LEL sensor (VQ548MP2-DS)	S2 position
		R	LEL sensor (4P75)	
		X	No sensor installed in this position	
		C	CO sensor	S3 position
		H	H ₂ S sensor	
		B	NO ₂ sensor	
		S	SO ₂ sensor	
		Y	H ₂ sensor	
		K	CL ₂ sensor	
		A	NH ₃ sensor	
		N	NO sensor	
		X	No sensor installed in this position	
		C	CO sensor	S4 position
		H	H ₂ S sensor	
		B	NO ₂ sensor	
		S	SO ₂ sensor	
		Y	H ₂ sensor	
		K	CL ₂ sensor	
		A	NH ₃ sensor	
		D	CO + H ₂ S sensor (dual)	
		X	No sensor installed in this position	
		0	Without Bluetooth module	

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						1	With Bluetooth module
						--	Non ATEX related characters
						SE	Branding Seitron

Rated characteristics PMxxx series

Power Supply	Internal rechargeable Li-Ion 3.7V, 2200mA/h
Operating temperature	-20°C ... +55°C
Storage temperature	-20°C ... +55°C
Operating and storage relative humidity	5% .. 90% RH (non condensing)
Alarms signals	nr.1 Buzzer nr.1 Vibration motor nr.3 LEDs
Display	Graphic display 180x128 with backlight
Communication modules	Bluetooth 5.0 Low energy
Enclosure materials	Transparent PC shell with TPE overmolding surface resistance <math> < 10^9 \Omega </math>
Enclosure degree of protection	IP67 (as per EN 60529)
External interfaces	Battery charge and data communication by nr.4 gold galvanized brass contacts.
Gas detected	Flammable gases (CH ₄ , C ₃ H ₈ and other C _x H _y) O ₂ , CO, NO, NO ₂ , SO ₂ , H ₂ , H ₂ S, NH ₃ , CL ₂ , CO+H ₂ S (LEL, VOL, PPM)

Rated characteristics AMDS01

Power Supply	Wall mount 5Vdc USB
Operative temperature	-20°C ... +55°C
Storage temperature	-20°C ... +55°C
Operative and storage relative humidity	5% .. 90% RH (non condensing)
Power supply output charger	5.9Vdc 500mA
Communication	Standard USB type
Interface	Battery charge output and data communication by nr.4 gold galvanized brass contacts.

Safety parametersPMxxx equipment for connection with charge/communication interface AMDS01Max. input voltage: $U_i = 6.5V$ AMDS01 charge/communication interface accessories apparatusMax. input voltage at non-intrinsically safe connection: $U_m = 60Vdc$ Max. input prospective current at non-intrinsically safe connection: $PSCC = 35A$ Max. output voltage: $U_o = 6.5V$ **Warning label**

"CHARGE ONLY IN SAFE AREA"

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"USE ONLY CHARGER/COMMUNICATION INTERFACE SEITRON AMDS01"

[16] **Report no.** R 23 EX 068 Rev.1**Routine tests**

None.

[17] **Special conditions for safe use**

- The equipment is intended to be used in ambient temperatures range from -20°C to +55°C.
- Charge and data communication shall be performed only in non-hazardous area by the appropriated SEITRON accessories model AMDS01.
- The equipment shall exclusively be used with the battery pack provided with the device. Battery pack replacement is permitted only by service centers authorized by SEITRON and certified according to the IEC 60079-19 standard. Battery pack replacement is not permitted by end user.

[18] **Essential Health and Safety Requirements**

Assured by compliance with the standards set out in the [9].

[19] **Drawings and Documents****Listed documents** (prot. 722312692 + 722355003)

Doc. ID	Description	Pag.	Date
044017	PM- Ex Technical Note and Risk Analysis	57	25/05/2024
043347	PM- Ex Risk Analysis Spreadsheet - Digital Board	3	09/04/2024
041578	PM- Ex Risk Analysis Spreadsheet - Analog Board	2	19/12/2023
041226	AMDS01_ Ex Technical Note and Risk Analysis	15	28/12/2023
041542	AMDS01_ Ex Risk Analysis Spreadsheet	2	20/12/2023
043672	PM- + AMDS01 IS Block Diagram	1	27/05/2024
037572	PM- Digital Board - Schematic Diagram - MASTER	3	14/11/2023
037634	PM4- - Analog Board - Schematic Diagram - MASTER	2	11/12/2023
037668	PM2- - O2 TOX - Analog Board - Schematic Diagram - MASTER	2	13/10/2023
037687	PM2- - O2 LEL - Analog Board - Schematic Diagram - MASTER	2	05/10/2023
042713	AMDS01 - Schematic Diagram - MASTER	2	09/01/2024
037646	WSTR01487_Gerber - PM4- - Analog Board	1	22/09/2023
037704	WSTR01488_Gerber - PM2- O2 TOX - Analog Board	1	20/12/2023
037709	WSTR01489_Gerber - PM2- O2 LEL - Analog Board	1	20/12/2023
042450	WSTR01579_Gerber - PM- Digital Board	1	22/11/2023
042721	WSTR01581_Gerber - AMDS01	1	09/01/2024

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043356	PM- - Digital Board - List of IS Relevant Safety Components	1	09/02/2024
042097	PM4- - Analog Board - List of IS Relevant Safety Components	1	11/09/2023
042150	AMDS01 List of IS Relevant Safety Components	1	15/09/2023
042153	AMDS01 - List of IS Relevant Safety Components NOT on PCB	1	20/12/2023
043415	PM- - List of IS Relevant Safety Components NOT on PCB	1	18/04/2024
042607	PM- Serial Number Label	1	14/12/2023
043987	PM- Product Label - LEL Sensor VQ548MP2-XX	1	29/07/2024
043988	PM- Product Label - LEL Sensor 4P75	1	29/07/2024
043989	PM- Product Label - Without LEL Sensor	1	29/07/2024
043945	AMPB010000SE Battery Label	1	19/07/2024
042612	AMDS01 - Docking Station - Marking	1	14/12/2023
042633	PM- - ATEX Safety Instructions	2	05/02/2024

One copy of all documents is kept in TÜV Italia files.

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