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[1] # EU-TYPE EXAMINATION CERTIFICATE

[2] **Equipment and Protective System intended for use in potentially explosive atmospheres Directive 2014/34/EU – Annex III**

[3] Certificate Number: **EPT 20 ATEX 3704 X** **Issue 0**

[4] Equipment: **Sensor assemblies**

Models: **EXSA-1 and EXSA-3**

[5] Manufacturer: **MASTERWATT S.r.l.**

[6] Address: Via Collegno n° 31, 10044 Pianezza (TO) - Italy

[7] This equipment and its accepted variations are specified in the annex to this Certificate.

[8] Eurofins Product Testing Italy S.r.l., Notified Body n. 0477 in accordance with Article 21 of the Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II of the Directive.
The examination and test results are recorded in the confidential Report N° EPT.20.REL.01/1913071

[9] Compliance with the essential health and safety requirements is assured through the verification of them and by compliance with the harmonized standards :

EN 60079-0:2018, EN 60079-1:2014, EN 60079-31:2014

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

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, the exam and the tests of the specified equipment.
Further requirements of the Directive 2014/34/EU apply to the manufacture and supply of this equipment. These requirements are not object of this Certificate.

[12] The equipment shall include the symbol Ex and at least one of the following strings:

II 2G Ex db IIC T6...T1 Gb	**-50°C ≤ Ta ≤ +60°C**
II 2D Ex tb IIIC T85°C...T450°C Db	**-50°C ≤ Ta ≤ +60°C**

Place and date of issue:
Torino, 2020-04-10

CE

Dionisio Bucchieri
Directive Responsible

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Eurofins Product Testing Italy
eurofins
Notified Body N. 0477

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PRD N° 119B
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This Certificate has 3 pages and it is reproducible only in its entirely. Conditions of validity are reported below.

[13] [14] **ANNEX**
EU-TYPE EXAMINATION CERTIFICATE N. EPT 20 ATEX 3704 X **Issue 0**

[15] **Equipment description**

The sensor assemblies, models "EXSA-1" and "EXSA-3" are used to measure temperature of solids, liquids or gases. They are suitable to be used in presence of gas (Group IIC) and/or dust (Group IIIC).
The equipment can be installed in Zone 1 and/or Zone 21.

The two models of the equipment are made of metallic material.
The sensing element is installed within a thermowell and fixed through a threaded compression fitting.
The ends of the thermowell and the female threaded nozzle are welded to the external frame of the process.

The equipment consist of the following parts:

- A thermowell (tube or enclosure) in AISI 316 (or AISI 316L or Incoloy 800 or Incoloy 825 or Inconel 625);
- n. 1 (EXSA-1) or 3 (EXSA-3) temperature sensor with mineral oxide cable
- n. 1 (EXSA-1) or 3 (EXSA-3) male compression fitting size 1/8" NPT (ATEX certified) in stainless steel (or brass)
- n. 1 (EXSA-1) or 3 (EXSA-3) female threaded nozzle with size 1/8" NPT in stainless steel (or brass)

The equipment are identified as follows:

EXSA-n SSxxxx S/N NNNN		Description
n	Value	Model
	1	EXSA-1 (with one temperature sensor)
	3	EXSA-3 (with three temperature sensor)
SS	Value	Type of sensor
	PT	Thermoresistances PT100
	TC	Thermocouples
xxxx		Number that identifies univocally the model and its characteristics specifying dimensions, material of enclosure and type of sensor
S/N		Serial number prefix
NNNN		Progressive number identifying the delivered unit

Electrical characteristics: Not relevant for the type of protection

Degree of protection: IP 66 (according to EN 60079-0 and EN 60529).

Ambient temperature: from -50°C to +60 °C

Maximum process temperature: 450°C

Surface temperature

The Temperature Class of the equipment **T6…T1 / T85°C…T450°C** is specified and affixed on the nameplate by the manufacturer and depends on the process temperature.

The maximum surface temperature for equipment suitable to be used with flammable dust is selected as the highest temperature value for the corresponding Tclass.

Cable entries

The cable entry devices are already ATEX Certified.

Warning label

"WARNING: Do not open when energized"

[13] [14] **ANNEX**
EU-TYPE EXAMINATION CERTIFICATE N. EPT 20 ATEX 3704 X **Issue 0**

Routine tests

The manufacturer has to verify the integrity of the welded construction by means of routine overpressure testing (In compliance with clause 16 of EN 60079-1). As an alternative, when this test is impractical, the integrity of the welds may be verified by the following methods:

- Liquid penetrant weld inspection; or
- Radiographic weld inspection.

[16] **Assessment Report n° EPT.20.REL.01/1913071**

This EU-Type Examination Certificate is released after the positive result of the conformity assessment of the Council Directive 2014/34/EU and to harmonized technical standards listed in this Certificate; performed by the Notified Body Eurofins Product Testing Italy S.r.l., and reported in the Assessment Report above cited.

[17] **Special condition of use**

- Graphite tape type shall be applied to the entry threads.
- The point of installation of the compression fitting shall not be subjected to temperatures in excess to +450°C.
- The user has to connect the free extremity of cable either in non-explosive atmosphere or in an enclosure protected by a recognised type of protection suitable for the area.
- Flameproof joints are not intended to be repaired

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

Assured by compliance with harmonized standards.

[19] **Descriptive documents**

The equipment object of this Certificate is described by the following documents that are scheduled documents and therefore they cannot be modified without the explicit authorization of the Notified Body.

Type of document	Document identification	Rev.	Date
Design document	CAP-EX-0003	01	2020/02/27
Safety instructions	MAN-EX-0009	00	2020/02/17
Drawing: EXSA Execution – Process side / TB Connection side	71002441	00	2020/01/22
Thermometric well	7362072	00	2019/11/13

[20] **Terms and conditions**

The product liability rests with the Manufacturer, his representative or, in the absence of a representative, with the importer, in accordance with the General Product Safety Directive 2001/95/EC.

The following conditions may render this certificate invalid:

- changes in the design or construction of the product;
- changes or amendments to the 2014/34/EU Directive;
- changes or amendments in the standards which form the basis for documenting compliance with the essential requirements of the 2014/34/EU Directive.

[21] **Certificate History**

Issue	Description	Issue date
0	First emission	2020-04-10