



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX EUT 20.0002X** Page 1 of 5 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2020-04-10

Applicant: **MASTERWATT S.r.l.**  
Via Collegno 31  
Pianezza (TO) 10044  
Italy

Equipment: **Sensor assemblies; Models: EXSA-1 and EXSA-3**

Optional accessory:

Type of Protection: **Flameproof, Dust Tight**

Marking: Ex db IIC T6...T1 Gb  
Ex tb IIIC T85°C...T450°C Db

Approved for issue on behalf of the IECEx  
Certification Body:

**Dionisio Bucchieri**

Position:

**Head of IECEx CB**

Signature:  
(for printed version)



Date:

2020-04-10

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Certificate issued by:

**Eurofins Product Testing Italy S.r.l.**  
Via Cuorgnè  
n.21 - 10156 Torino  
Italy



Product Testing



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Manufacturer: **MASTERWATT S.r.l.**  
Via Collegno 31  
Pianezza (TO) 10044  
Italy

Additional  
manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

## STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

**IEC 60079-0:2017** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

**IEC 60079-1:2014-06** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

**IEC 60079-31:2013** Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

## TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[IT/EUT/ExTR20.0004/00](#)

Quality Assessment Report:

[IT/EUT/QAR14.0002/05](#)



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## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

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);
- 1 (EXSA-1) or 3 (EXSA-3) temperature sensor with mineral oxide cable
- 1 (EXSA-1) or 3 (EXSA-3) male compression fitting size 1/8" NPT (IECEx certified) in stainless steel (or brass)
- 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

## SPECIFIC CONDITIONS OF USE: YES as shown below:

- 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





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## Equipment (continued):

### 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 IECEx Certified.

### Warning label

"WARNING: Do not open when energized"



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## Additional information:

### 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 IEC 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