



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx EUT 17.0003X

Issue No: 0

Certificate history:

Issue No. 0 (2018-01-11)

Status: **Current**

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Date of Issue: **2018-01-11**

Applicant: **Euromag International S.r.l.**
Via della Tecnica, 20 - Mestrino (Padova)
Italy

Equipment: **Electromagnetic Flowmeters**

Optional accessory: *Series: MUTEX 2200 EL, MUTEX 2300, MUTEX 1000 EL, MUTEX 2400 EL, MUTEX 2660, MUTEX 1222*

Type of Protection: **Encapsulation "m"**

Marking:

Ex mb IIC T6...T4 Gb

Ex mb IIIC T85°C...T135°C Db -20°C ≤ Ta ≤ +60°C

Approved for issue on behalf of the IECEx
Certification Body:

Dionisio Bucchieri

Position:

Head of IECEx CB

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

Euofins Product Testing Italy S.r.l.
Via Cuornè,
n.21 - 10156 Torino
Italy



Product Testing



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Manufacturer: **Euromag International S.r.l.**
Via della Tecnica, 20 - Mestrino (Padova)
Italy

Additional Manufacturing location(s):

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 apparatus 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 : 2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0
IEC 60079-18 : 2014 Explosive atmospheres – Part 18: Equipment protection by encapsulation “m”
Edition:4.0

*This Certificate **does not** indicate compliance with electrical 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/ExTR17.0004/00](#)

Quality Assessment Report:

[IT/EUT/QAR18.0001/00](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The electromagnetic flowmeters are used to measure the flow rate of conductive liquid, they base their operation on the Faraday principle. The equipment, in order to execute a flow rate measurement, must be connected to a converter. The sensor, which is the object of the certification, is located in a hazardous area while the converter must be placed in a safe area and satisfy the manufacturer's specifications.

The electromagnetic flowmeters can be divided in two main families:

- insertion sensor;
- sensor with flow tube.

The operating principle is the same, both are protected by encapsulation "m", with a level of protection "mb". They are suitable for gas group IIC and for dust group IIIC.

Ambient temperature range: $-20^{\circ}\text{C} \div +60^{\circ}\text{C}$.

Process temperature range: $-20^{\circ}\text{C} \div +80^{\circ}\text{C}$ for insertion sensor and flow tube sensor with metallic pipe coated with ebonite; $-20^{\circ}\text{C} \div +95^{\circ}\text{C}$ for flow tube sensor with metallic pipe coated with PTFE.

Temperature class and maximum surface temperature limits:

$-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$		
TEMPERATURE CLASS	MAX SURFACE TEMPERATURE ($^{\circ}\text{C}$)	PROCESS TEMPERATURE ($^{\circ}\text{C}$)
T6	77	70
T5	92	85
T4	102	95

$-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$		
MAX SURFACE TEMPERATURE LIMITS	MAX SURFACE TEMPERATURE ($^{\circ}\text{C}$)	PROCESS TEMPERATURE ($^{\circ}\text{C}$)
T85 $^{\circ}\text{C}$	77	70
T100 $^{\circ}\text{C}$	92	85
T135 $^{\circ}\text{C}$	102	95



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Electrical characteristics of the equipment:

Rated voltage: 30V;

Rated current: 70mA;

The equipment have to be protected by an external fuse which is placed in safe area.

Electrical characteristics of the fuse:

Rated current: 200 mA,

Rated Voltage: ≥ 30 V

Sensors must be supplied by the waveform indicated by the manufacturer in order to not impair the safety; This waveform is provided by the converter, installed downstream of a protective device capable to interrupt the 1500A prospective short circuit current.

Routine test

The manufacturer has to perform:

- the visual inspection in compliance to clause 9.1 of EN 60079-18;
- the dielectric strength test in compliance to clause 9.2 of EN 60079-18; the test shall be carried out at a voltage equal to 500V r.m.s. and at a frequency included between 48 Hz to 62 Hz, this voltage shall be maintained for at least 1 s; alternatively the test shall be carried out at 600 V m.s. for at least 100 ms.

Warning label

None

SPECIFIC CONDITIONS OF USE: YES as shown below:

The equipment has to be protected by a suitable external fuse as indicated in clause 8.2 and 8.3 of the safety instruction.

The safety of the equipment depends on the supply features, it may be impaired by a waveform different than the nominal one indicated by the manufacturer.