



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 IBE 18.0016X

Issue No: 0

Certificate history:

Issue No. 0 (2019-01-21)

Status: **Current**

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Date of Issue: **2019-01-21**

Applicant: **ecom instruments GmbH**
Industriestraße 2
97959 Assamstadt
Germany

Equipment: **Intrinsically Safe Remote Speaker Microphone RSM-Ex 01***

Optional accessory:

Type of Protection: **Intrinsic safety 'ib'**

Marking:

Ex ib IIC T4 Gb
Ex ib IIIC T135°C Db IP64
Ex ib I Mb

*Approved for issue on behalf of the IECEx
Certification Body:*

Dipl.-Ing. Willamowski

Position:

Deputy Head of Certification Body

*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:

IBExU Institut für Sicherheitstechnik GmbH
Certification Body
Fuchsmühlenweg 7
09599 Freiberg
Germany





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Manufacturer: **ecom instruments GmbH**
Industriestrasse 2,
D-97959 Assamstadt
Germany

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

IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

*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:

[DE/IBE/ExTR18.0023/00](#)

Quality Assessment Report:

[DE/PTB/QAR07.0004/05](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The RSM-Ex 01* is an intrinsically safe remote speaker microphone. The connection to the smartphone or further sources is realized with cable. The integrated loudspeaker is very powerful and allows clear communication even inside very harsh and noisy industry areas. It is a hand held device. The mounting on the user via belt clip is also possible. Power is supplied by a Li-ion battery, which is permanently installed in the device. Charging must take place outside the hazardous locations. Optionally, approved headsets can still be used for this device.

Technical Data

Technical data:

Ambient temperature range: from -20 °C to +55 °C

Degree of ingress protection: IP 64

Fixed battery
MoliceI ICP 103450CA (Li-ION) or
MoliceI ICP 103450DA (Li-ION)
Nominal voltage: 3.7V
Nominal capacity: 1960 mAh or 2200 mAh

Intrinsically safe signal circuit in Ex ia IIC

U_o 4.2 V

I_o 22.3 mA

P_o 23.5 mW

U_i 4.2 V

I_i 300 mA

P_i 400 mW

L_i 1 μ H

C_i 1 μ F



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Common L_o and C_o

| | | | | | | | | | | |
|------------------|------|-----|-----|-----|-------|-------|-------|-------|-------|-------|
| L_o in mH | 0.64 | 0.5 | 0.2 | 0.1 | 0.049 | 0.019 | 0.009 | 0.004 | 0.001 | 0.000 |
| C_o in μ F | 2.3 | 3.0 | 5.5 | 7.6 | 10 | 16 | 23 | 39 | 129 | 419 |

The RSM-Ex 01 has a jack connector where a headset can be connected. Following headsets are approved and allowed to be connected to RSM-Ex 01*:

- ComCom Ex and additional in-ear plug Serenity SPC Ex
- RSM HS 01 -W
- RSM HS 01 -B

The approved headsets are allowed to connected and disconnected directly inside the Ex-area.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- Do not charge or open the device inside the Ex-area
- It must be ensured that the maximum input voltage (U_m) for the device from the charger between the lines is 6V
- The ambient temperature during the charging shall be in the range from 0 °C to +45 °C
- Only those accessories approved by ecom instruments GmbH may be used
- Do not use the device in zones 0 or 20

For using in mining zone only

- The device must be protected against strong impacts for Group I
- The device must be protected against the constant contact with oils, hydraulic liquids and fats
- The device must be removed from the Ex-area in case of fire damp