



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

Certificate No.: **IECEX UL 22.0094X** Page 1 of 4 [Certificate history:](#)
Status: **Current** Issue No: 1 [Issue 0 \(2022-12-29\)](#)
Date of Issue: 2023-03-29
Applicant: **Federal Signal Corp.**
2645 Federal Signal Dr.
University Park, IL 60466
United States of America
Equipment: **Audible Non-Metallic Loudspeakers, GEN-IIB; GEN-IIB-ISMT; GEN-IIC; GEN-IIC-ISMT**
Optional accessory:
Type of Protection: **Flameproof "db", Dust Ignition Protection by Enclosure "tb"**
Marking: **GEN-IIB and GEN-IIB-ISMT :**
Ex db IIB+H₂ T4 Gb (-50°C to 65°C)
Ex db IIB+H₂ T5 Gb (-50°C to 53°C)
Ex tb IIIC T135°C Db
GEN-IIC and GEN-IIC-ISMT :
Ex db IIC T4 Gb (-50°C to 65°C)
Ex db IIC T5 Gb (-50°C to 53°C)
Ex tb IIIC T135°C Db

Approved for issue on behalf of the IECEx
Certification Body:

Katy A. Holdredge

Position:

Senior Staff Engineer

Signature:
(for printed version)

Date:
(for printed version)

2023-03-29

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Certificate issued by:

UL LLC
333 Pfingsten Road
Northbrook IL 60062-2096
United States of America





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Manufacturer: **Federal Signal Corp.**
2645 Federal Signal Dr.
University Park, IL 60466
United States of America

Manufacturing locations: **Federal Signal Corp.**
2645 Federal Signal Dr.
University Park, IL 60466
United States of America

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 60079-31:2022-01](#) Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

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 Reports:

[US/UL/ExTR22.0096/00](#)

[US/UL/ExTR22.0096/01](#)

Quality Assessment Report:

[US/UL/QAR06.0012/12](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The GEN-IIB/GEN-IIC and GEN-IIB-ISMT/GEN-IIC-ISMT non-metallic Loudspeakers are 25W max, 100VAC line powered loudspeakers with several user-selectable audio power levels.

The GEN-IIB and GEN-IIB-ISMT are rated for gas group IIB+H2 and comprises of a flameproof housing along with a transformer and terminal block mounted to a PCB. The PCB on the ISMT model has a low powered circuit for remote tapping and monitoring.

The GEN-IIC and GEN-IIC-ISMT are rated for gas group IIC and comprises of a flameproof housing along with a transformer and terminal block mounted to a PCB. The PCB on the ISMT model has a low powered circuit for remote tapping and monitoring.

The loudspeakers dimensions are approximately 232mm in height and 347mm in length. Mounting is achieved by a stainless steel ratcheted mounting bracket that locks the loudspeaker in position at a specific angle without slipping.

Connection for field wiring is provided by two M20 x 1.5 mm threaded openings in the main speaker housing, and terminated via internal terminal blocks. The housing is rated IP66.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The equipment has a metallic mounting bracket that can store electrical charge and may provide a potential electrostatic charging hazard. The metallic mounting bracket has a capacitance of 11 pF.
- Potential electrostatic charging hazard. See installation instructions for guidance on minimizing risk of electrostatic discharge.
- Do not repair flameproof joints.
- Replacement cover screws are not standard fasteners. They must be sourced from the equipment manufacturer only.
- If the equipment contains an unused entry hole after installation, use only suitable IECEx certified Ex 'tb' (IP66) and Ex 'db' (IIC gas) rated components to seal the entry hole before operating. The manufacturer recommends EATON/REDAPT, Part # PD-U Series stopping plugs.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1: Add alternate temperature ambient rating and IEC 60079-31 standard edition update.

Annex:

[Annex to IECEx UL 22.0094X Issue 1.pdf](#)



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TYPE DESIGNATION

The GEN-IIB/GEN-IIC and GEN-IIB-ISMT/GEN-IIC-ISMT non-metallic Loudspeakers are 25W max, 100VAC line powered loudspeakers with several user-selectable audio power levels.

The GEN-IIB and GEN-IIB-ISMT are rated for gas group IIB+H₂ and comprises of a flameproof housing along with a transformer and terminal block mounted to a PCB. The PCB on the ISMT model has a low powered circuit for remote tapping and monitoring.

The GEN-IIC and GEN-IIC-ISMT are rated for gas group IIC and comprises of a flameproof housing along with a transformer and terminal block mounted to a PCB. The PCB on the ISMT model has a low powered circuit for remote tapping and monitoring.

The loudspeakers dimensions are approximately 232mm in height and 347mm in length. Mounting is achieved by a stainless steel ratcheted mounting bracket that locks the loudspeaker in position at a specific angle without slipping.

Connection for field wiring is provided by two M20 x 1.5 mm threaded openings in the main speaker housing and terminated via internal terminal blocks. The housing is rated IP66.

Nomenclature for equipment:

- GEN-IIB and GEN-IIB-ISMT:
 - o Ex db IIB+H₂ T4 Gb (-50°C to 65°C) or Ex db IIB+H₂ T5 Gb (-50°C to 53°C)
 - o Ex tb IIIC T135°C Db
- EN-IIC and GEN-IIC-ISMT:
 - o Ex db IIC T4 Gb (-50°C to 65°C) or Ex db IIC T5 Gb (-50°C to 53°C)
 - o Ex tb IIIC T135°C Db

PARAMETERS RELATING TO THE SAFETY

Voltage: 100 V AC

Current: 0.25 A

Power: 25 W

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MARKING

Marking has to be readable and indelible; it has to include the following indications:

GEN-II LOUDSPEAKER

 II 2 G Ex db IIB+H2 T4 Gb (Tamb = -50°C to +65°C)
II 2 G Ex db IIB+H2 T5 Gb (Tamb = -50°C to +53°C)
II 2 D Ex tb IIIC T135°C Db IP66
UL 22 ATEX 2889X IECEX UL 22.0094X  0539

Model Number: **GEN-IIB-ISMT** Electrical Ratings
Series: A Audio Line Voltage: 100V
Serial Number: xxxxxxx-xxxx Max Rated Power: 25W
Entries: 2x M20x1.5

WARNINGS:

- Do not open when an explosive gas or dust atmosphere is present.
- Potential electric static charging hazard. See installation instructions.

 Federal Signal Corporation
University Park, IL 60484 U.S.A.

ITEM 1 – IIB+H2

GEN-II LOUDSPEAKER

 II 2 G Ex db IIC T4 Gb (Tamb = -50°C to +65°C)
II 2 G Ex db IIC T5 Gb (Tamb = -50°C to +53°C)
II 2 D Ex tb IIIC T135°C Db IP66
UL 22 ATEX 2889X IECEX UL 22.0094X  0539

Model Number: **GEN-IIC-ISMT** Electrical Ratings
Series: A Audio Line Voltage: 100V
Serial Number: xxxxxxx-xxxx Max Rated Power: 25W
Entries: 2x M20x1.5

WARNINGS:

- Do not open when an explosive gas or dust atmosphere is present.
- Potential electric static charging hazard. See installation instructions.

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ITEM 2 – IIC

ROUTINE EXAMINATIONS AND TESTS

Routine pressure test empty enclosure at 185 psi (12.8 bar) for 10s minimum, 60s maximum without rupture in accordance with IEC 60079-1. There shall be no sign of damage, deformation or rupture that will invalidate the concept of protection.



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LIST OF CERTIFIED COMPONENTS

No certified components are used within the equipment. Guidance for choosing suitable stopping plugs are provided within Drawing No. 25500655.