



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

Ex COMPONENT CERTIFICATE

Certificate No.: **IECEx FMG 07.0003U**

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Certificate history:

Status: **Current**

Issue No: 8

[Issue 7 \(2020-12-15\)](#)

[Issue 6 \(2020-10-19\)](#)

[Issue 5 \(2019-12-23\)](#)

[Issue 4 \(2019-11-12\)](#)

[Issue 3 \(2013-01-23\)](#)

[Issue 2 \(2010-12-06\)](#)

[Issue 1 \(2009-02-16\)](#)

[Issue 0 \(2007-04-27\)](#)

Date of Issue: 2022-04-01

Applicant: **MSA – The Safety Company**
1000 Cranberry Woods Drive
Cranberry Township, PA 16066
United States of America

Ex Component: X Series Junction Box and JB5000 Junction Box

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

Type of Protection: **Flameproof Ex db IIC, Dust-Ignitionproof Ex tb IIIC**

Marking: Ex db IIC Gb IP66

Ex tb IIIC Db IP66

Approved for issue on behalf of the IECEx
Certification Body:

J. E. Marquedant

Position:

VP, Manager - Electrical Systems

Signature:
(for printed version)

Date:
(for printed version)

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 www.iecex.com or use of this QR Code.



Certificate issued by:

FM Approvals LLC
1151 Boston-Providence Turnpike
Norwood, MA 02062
United States of America





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Manufacturer: **MSA – The Safety Company**
1000 Cranberry Woods Drive
Cranberry Township, PA 16066
United States of America

Manufacturing locations: **MSA – The Safety Company**
1000 Cranberry Woods Drive
Cranberry Township, PA 16066
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 component 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 component listed has successfully met the examination and test requirements as recorded in:

Test Reports:

US/FMG/ExTR07.0004/00
US/FMG/ExTR07.0004/03
US/FMG/ExTR07.0004/06

US/FMG/ExTR07.0004/01
US/FMG/ExTR07.0004/04
US/FMG/ExTR07.0004/07

US/FMG/ExTR07.0004/02
US/FMG/ExTR07.0004/05

Quality Assessment Report:

FR/INE/QAR08.0011/11



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Ex Component(s) covered by this certificate is described below:

X Series Junction Box and JB5000 Junction Box

SCHEDULE OF LIMITATIONS:

1. *Where necessary for safety, the contents of the enclosure shall comply with the appropriate requirements of relevant standards for electrical apparatus.*
 2. *Rotating machines, or other devices which create turbulence, shall not be incorporated.*
 3. *Primary and secondary cells and batteries shall only be used in accordance with Annex E of EN60079-1.*
 4. *Enclosures which can be opened more quickly than the time necessary for the discharge of incorporated capacitors or the cooling of hot components shall be labeled in accordance with the requirements of EN 60079-0.*
 5. *Oil-filled circuit-breakers and contactors shall not be used.*
 6. *All entry or closure devices when fitted shall satisfy the requirements of Clause 5 of EN60079-1, or be specifically evaluated with the apparatus and be suitable for the conditions of use. Threads interrupted by the set screw shall not be counted in satisfying the requirements of Clause 5 of EN 60079-1. A thread of engagement of ≥ 5 threads is required and depth of engagement 8mm is required.*
 7. *For all Gas Groups, the content of the enclosure apparatus may be placed in any arrangement, provided that an area of at least 20 % of each cross-sectional area remains free to permit an unimpeded gas flow and, therefore, unrestricted development of an explosion.*
- For the purpose of both of the above, separate relief areas may be aggregated provided that each area has a minimum dimension in any direction of 12.5 mm.*
8. *Contact the manufacturer for flamepath details. The joints are non-repairable*
 9. *The EX Port Line Bushing assembly is rated for Service Temperature of $-50^{\circ}\text{C} \leq +105^{\circ}\text{C}$*



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Removed reference to T-code and T ambient, added note 9 to schedule of limitations.