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 13.0065X**

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Certificate history:

Issue 3 (2023-03-21)
Issue 2 (2019-11-14)
Issue 1 (2015-10-02)
Issue 0 (2013-10-24)

Status: **Current**

Issue No: 4

Date of Issue: 2024-01-30

Applicant: **Malema Engineering Corp.**
1060 S. Rogers Circle
Boca Raton, FL 33487
United States of America

Equipment: **Intrinsically Safe Flow Switches, Type M-50X, M-60X, M-100X, M-200X**

Optional accessory:

Type of Protection: **Intrinsic Safety "ia"**

Marking: Ex ia IIC T6...T3

Ex ia III C T80...T150°C Da

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)

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:

UL Solutions (US)
333 Pfingsten Road
Northbrook IL 60062-2096
United States of America

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Manufacturer: **Malema Engineering Corp.**
1060 S. Rogers Circle
Boca Raton, FL 33487
United States of America

Manufacturing locations:

Malema Engineering Corp.
1060 S. Rogers Circle
Boca Raton, FL 33487
United States of America

Malema Sensors (I) Private Limited
No. 1433, 3rd And 4th Floor Pipeline Road,
Mahalakshmi Puram
Bangalore 560 086, Karnataka
India

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

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/ExTR13.0068/00 US/UL/ExTR13.0068/01 US/UL/ExTR13.0068/02
US/UL/ExTR13.0068/03 US/UL/ExTR13.0068/04

Quality Assessment Reports:

US/UL/QAR13.0006/06 US/UL/QAR23.0017/00

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The M-50X, M-60X, M-100X and M-200X Series flow switches are used to monitor increasing and decreasing flow. They utilize a single moving part which responds to fluid (liquid or gas) flowing within a system.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- To ensure suitability for Group III, these switches shall be used with a cable fitting having an IECEx Certificate with a minimum IP5X rating.
- Warning - Enclosure contains alluminum. Care must be taken to avoid ignition due to impact or friction.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1: Manufacturer is adding an additional encapsulation epoxy. The rated temperature for the new epoxy is -40°C to +145°C. This only affects the "mb" installation/certificates associated with this product. Encapsulation is not relied upon for "i".

Issue 2: Documentation updates; removed the use of Epoxy Stycast 3050; and removed IEC 60079-26.

Issue 3: Minor revisions to the labels and documentation. Additionally, IEC 60079-0 was updated to the latest edition.

Issue 4: Addition of new manufacturing location.

Annex:

Annex to IECEx UL 13.0065X Issue 4.pdf

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Annex to Certificate No.: IECEx UL 13.0065X Issue No.: 4

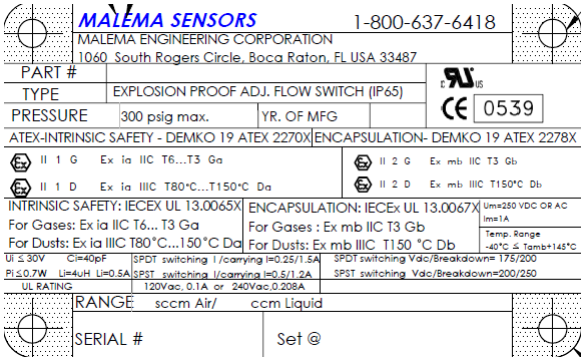
PARAMETERS RELATING TO THE SAFETY

U_i = 30 V, I_i = 0.5 A, C_i = 40 pF, L_i = 4 µH, P_i = 0.7 W

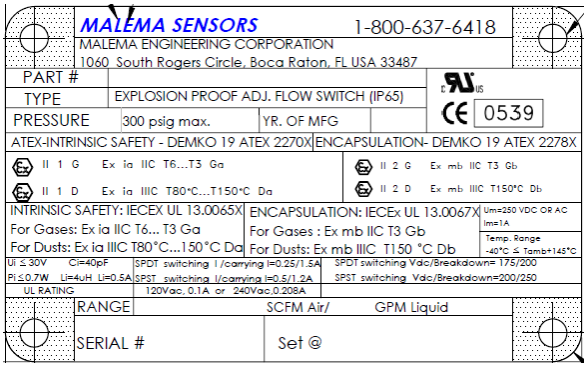
MARKING

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

Model M-100X:



Model M-200X:



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Model M-50X/60X: