



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 ETL 15.0038X** Page 1 of 4 [Certificate history:](#)
Issue 0 (2016-04-05)

Status: **Current** Issue No: 1

Date of Issue: 2019-08-01

Applicant: **Magnet-Schultz of America Inc**
401 Plaza Dr.
Westmont, IL 60559
United States of America

Equipment: **Series of Electric Solenoid Coils**

Optional accessory:

Type of Protection: **Explosion 'db' and Dust Protected 'tb'**

Marking: Ex db IIC T4..T6 Gb
Ex tb III C T135 Db
12VDC to 240VDC; 24VAC to 240VAC.
Tamb -40°C to +40°C..+90°C
(Refer additional document attached)

Approved for issue on behalf of the IECEx
Certification Body:

Kevin J. Wolf

Position:

Certification Officer

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



Certificate issued by:

Intertek
3933 US Route 11 South
Cortland NY 13045-2995
United States of America

intertek



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Manufacturer: **Magnet-Schultz of America Inc**
401 Plaza Dr., Westmont, IL 60559
United States of America

Additional
manufacturing
locations:

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 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

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 equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[US/ETL/ExTR15.0043/00](#)
[US/ETL/ExTR15.0043/03](#)

[US/ETL/ExTR15.0043/01](#)

[US/ETL/ExTR15.0043/02](#)

Quality Assessment Reports:

[US/ETL/QAR15.0016/00](#)

[US/ETL/QAR15.0016/01](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The series of HAZ-LOC® coils are electrical equipment with coil wound around the tubus. Assembly is present inside soft steel enclosure coated with zinc-nickel based layer. The equipment varies in length, diameter and power ratings (see annex for details). The equipment is type of electromagnet designed to generate a controlled magnetic field for switching/actuating purposes. The solenoid is designed to be used with Hydraulic Actuators.

The electrical unit is evaluated as explosion proof with two threaded entries for wire-tap and conductors. The Enclosure is divided into two sections by potting to create no volume around the coil. Range of Models present based on the different input voltages, tubus (actuator) size and the power rating.

See Annex for manufacturer's documents, equipment ratings and model number nomenclature.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Side-by-side mounting (stack assembly) of coils requires a minimum of 10 mm spacing, side-to-side, for proper heat exchange.
2. Do not expose the internal components (Please refer to the instruction manual for mentioned materials), to mediums (chemicals, gases, vapors, etc.) to which they are not compliant.
3. Minimum Thread Engagement for the M20 threaded cable entry for electrical connections should be "9 Threads".
4. Protection shall be made during installation to protect equipment from transient voltage spikes of more than 140% of rated voltage



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1 Changes:

- Amendments to marking labels to address revised coding requirements
- Standard EN 60079-1: 2007 updated to EN 60079-1: 2014
- Marking updated to include proper reference to T135C instead of T4 on all labels.
- Wandfluh marking labels updated to include dust ratings.

The product's design has not been updated, and there are no other technical changes.

Annex:

[Annex for IECEx ETL 15.0038X Issue 1.pdf](#)



Annex to IECEx Certificate of Conformity

| | | |
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| Technical Documents | | | |
|--|---------------------|--------------------|---------------|
| Title: | Drawing No.: | Rev. Level: | Date: |
| Potting | 960-0000-002 | D | 02/04/2016 |
| Drive Stud (Spiral) | 960-0000-004 | B | 03/07/2016 |
| Bobbin | 960-0007-000 | 2 | 06/26/2014 |
| Housing | 960-0008-XXX | C | FEB. 23, 2018 |
| Brass Tube | 960-0010-XXX | 2 | 04/02/2014 |
| Front Washer | 960-0011-000 | 4 | 12/09/2014 |
| Screw | 960-0012-000 | 2 | 07/09/2014 |
| Wire Tap Cover | 960-0013-000 | 5 | 12/09/2014 |
| Printed Circuit Board Assembly. | 960-0015-XXX | 2 | 07/11/2014 |
| O-ring | 960-0016-XXX | 3 | 11/06/2015 |
| Set Screw | 960-0017-XXX | 2 | 05/14/2014 |
| Insulated Lead Wire | 960-0018-XXX | 1 | 01/29/2014 |
| Bobbin | 960-0020-000 | 2 | 12/09/2014 |
| Housing | 960-0021-XXX | C | FEB. 23, 2018 |
| Front Washer | 960-0022-000 | 3 | 12/09/2014 |
| Bobbin | 960-0023-000 | 2 | 12/9/2014 |
| Housing | 960-0024-XXX | C | FEB. 23, 2018 |
| Bobbin | 960-0025-000 | 2 | 12/09/2014 |
| Housing | 960-0026-XXX | C | FEB. 23, 2018 |
| Front Washer | 960-0027-000 | 2 | 12/09/2014 |
| Polyimide Disc | 960-0028-000 | 1 | 01/29/2014 |
| Bobbin | 960-0029-000 | 2 | 12/09/2014 |
| Housing | 960-0030-XXX | C | FEB. 23, 2018 |
| Front Washer | 960-0031-000 | 2 | 12/09/2014 |
| Coil Windings and power ratings | 960-0032-000 | 3 | 02/05/2015 |
| HAZARDOUS LOCATION COIL GENERAL CONSTRUCTION | 960-0034-000 | 2 | 12/12/2014 |
| Safety Label | 960-0035-000 | 1 | 02/06/2014 |
| Front Washer | 960-0036-000 | 2 | 12/09/2014 |
| Hex Washer Head Slotted Machine Screw | 960-0037-000 | 1 | 04/11/2014 |
| Bracket, Ground | 960-0038-000 | 2 | 07/09/2014 |
| Name Plate (Label) | 960-0039-000 | C | FEB. 23, 2018 |
| Lead Wire Spacer | 960-0040-000 | 1 | 05/14/2014 |
| Silicone Lubricant | 960-0041-000 | 1 | 06/09/2014 |
| Lead Wire Routing in Haz-Loc Coils | 960-0042-000 | 1 | 06/23/2014 |
| Plating Specification | 960-0043-000 | 2 | 12/12/2014 |
| Name Plate (Label) | 960-0044-000 | C | 10/4/2018 |
| Haz-Loc Part Number Example | 960-0045-000 | C | FEB. 22, 2018 |
| NAME PLATE (LABEL) GAS ONLY | 960-0046-000 | C | FEB. 23, 2018 |
| Name Plate (Label) | 960-0047-000 | A | 10/4/2018 |
| Operating Manual | 972-0003-000 | A | 10/23/2018 |



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| Technical Documents | | | |
|---------------------|--------------|-------------|---------------|
| Title: | Drawing No.: | Rev. Level: | Date: |
| Operating Manual | 972-0003-100 | C | Oct. 25, 2018 |

| Solenoid Valve Coils | | | | |
|----------------------|-----------------------------|--------------------------------------|----------------|------------------|
| Tube Size | Maximum Ambient Temperature | Rated Wattage (Rated Voltage @ 20°C) | Gas/Dust Group | Temperature Code |
| 13 mm | 40°C | 22 | G | T4 |
| | 80°C | 9 | G | T4 |
| | 40°C | 19 | D | T135°C |
| | 80°C | 7 | D | T135°C |
| 16 mm | 40°C | 23 | G | T4 |
| | 80°C | 10 | G | T4 |
| | 40°C | 21 | D | T135°C |
| | 80°C | 7 | D | T135°C |
| 18 mm | 40°C | 21 | D | T135°C |
| | 50°C | 17 | D | T135°C |
| | 60°C | 21 | G | T4 |
| | 60°C | 12 | D | T135°C |
| | 70°C | 17 | G | T4 |
| | 70°C | 10 | D | T135°C |
| | 80°C | 12 | G | T4 |
| | 90°C | 10 | G | T4 |
| 19 mm | 40°C | 28 | G | T4 |
| | 80°C | 13 | G | T4 |
| | 40°C | 19 | D | T135°C |
| | 80°C | 7 | D | T135°C |
| 22 mm | 40°C | 27 | G | T4 |
| | 80°C | 13 | G | T4 |
| | 40°C | 22 | D | T135°C |
| | 80°C | 8 | D | T135°C |



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Model Nomenclature:

| -Part Number Example: | EX | M | 60X19 | 240 | AC | 80 | T4 | D |
|---|--------------------------|---------------------------|---|------------------------------|---|---|----------|-------------------|
| -Coil Type | EX - Hazardous Locations | | | | | | | |
| -Electrical Connection Opening See Note Below | | I- 1/2" NPT M- M20X1.5 | | | | | | |
| -Body Length X Tube Diameter (mm) | | | 40X13 50X16 60X18 60X19 60X22 | | | | | |
| -Rated Voltage | | | | 12...240 VDC 24...240 VAC | | | | |
| -PCB Configuration | | | | | AC DC TVS ¹ - DC with TVS Diode Protection | | | |
| -Ambient Temperature Range (°C) | | | | | | <div style="border: 1px dashed black; padding: 2px;">-40 to +40</div> <div style="border: 1px dashed black; padding: 2px;">-40 to +80</div> <div style="border: 1px dashed black; padding: 2px;">-40 to +50</div> <div style="border: 1px dashed black; padding: 2px;">-40 to +60</div> <div style="border: 1px dashed black; padding: 2px;">-40 to +70</div> <div style="border: 1px dashed black; padding: 2px;">-40 to +90</div> | | |
| -Temperature Code | | | | | | | T4-135°C | |
| -Gas/Dust Group ² | | | | | | | | D- Dust G- Gas |

ALL SIZES HAVE THESE TEMPERATURE RANGES

60X18 SIZES HAVE THESE ADDITIONAL TEMPERATURE RANGES

60X18 SIZE HAS T6 RATING AS WELL AS T4 RATING

- 1) ONLY 12 TO 48 VDC INPUT VOLTAGES CAN HAVE TVS PCB CONFIGURATION.
- 2) 60X18 SIZE DOES NOT CARRY AN ATMOSPHERE GROUP IN THE PART NUMBER.