

1 EU-TYPE EXAMINATION CERTIFICATE



2 **Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU**

3 **EU-Type Examination Certificate No:** FM12ATEX0096X

4 **Equipment or protective system:** Axiom Series AX Limit Switch
(Type Reference and Name)

5 **Name of Applicant:** StoneL

6 **Address of Applicant:** 26271 US Hwy 59
Fergus Falls MN 56537
United States

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Ltd, notified body number 1725 in accordance with Article 17 of Directive 2014/34/EU of 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number:

3046363 dated 17th January 2013

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN60079-0:2012+A11:2013, EN60079-1:2007, EN60529+A1:2000

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EU-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:



II 2 G Ex d IIC T4/T5/T6 Gb IP66/IP67



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Mick Gower
Certification Manager, FM Approvals Ltd.

Issue date: 15th September 2016

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

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SCHEDULE

to EU-Type Examination Certificate No. FM12ATEX0096X

13 Description of Equipment or Protective System:

The Axiom Series AX Limit Switch is a valve communication and control device for quarter-turn pneumatic valves. Internally mounted pilot valves control a main flow spool valve to operate the pneumatic valve to which this product is intended to be attached. The control modules and up to two pilot valves are housed inside a single flameproof compartment. All pneumatic lines are provided with flame arrestors and the enclosure is vented through additional flame arrestors.

The electrical ratings vary by function module, but are clearly specified on the product nameplate. The specific markings can be found on drawing 105306.

The specific models described by this Certificate are as follows:

AXabcSefgh-xxx. Axiom Limit Switch.

II 2 G Ex d IIC T5 Ta=-18°C to +50°C IP66 / IP67

II 2 G Ex d IIC T6 Ta=-18°C to +35°C IP66 / IP67

a = Function 33S, 44S, 92S, 93S, 94S, 95S, 96S, or 97S.

b = Solenoid 11, 1B, 1D, 1E, 1H, 2B, 2D, 2E, or 2H.

c = Override X, N, M, or L.

e = Enclosure V or T.

f = Conduit Entries 02 or 05.

g = Visual Indicator R, G, X, 1, or 2.

h = Branding A or M.

xxx = Options "Special Unit Digits" that do not affect the integrity of the housing, the electrical safety, or the title plate.

AXabcSefgh-xxx. Axiom Limit Switch.

II 2 G Ex d IIC T5 Ta=-10°C to +60°C IP66 / IP67

II 2 G Ex d IIC T6 Ta=-10°C to +45°C IP66 / IP67

a = Function 33S, 44S, 92S, 93S, 94S, 95S, 96S, or 97S.

b = Solenoid 1A or 2A.

c = Override X, N, M, or L.

e = Enclosure V or T.

f = Conduit Entries 02 or 05.

g = Visual Indicator R, G, X, 1, or 2.

h = Branding A or M.

xxx = Options "Special Unit Digits" that do not affect the integrity of the housing, the electrical safety, or the title plate.

AXabcTefgh-xxx. Axiom Limit Switch.

II 2 G Ex d IIC T5 Ta=-40°C to +80°C IP66 / IP67

II 2 G Ex d IIC T6 Ta=-40°C to +65°C IP66 / IP67

a = Function 33S, 44S, 93S, 94S, or 95S.

b = Solenoid 11, 1B, 1D, 1E, 1H, 2B, 2D, 2E, or 2H.

c = Override X, N, M, or L.

e = Enclosure V or T.

f = Conduit Entries 02 or 05.

g = Visual Indicator R, G, X, 1, or 2.

h = Branding A or M.

xxx = Options "Special Unit Digits" that do not affect the integrity of the housing, the electrical safety, or the title plate.

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AXabcTefgh-xxx. Axiom Limit Switch.

II 2 G Ex d IIC T4 Ta=-40°C to +80°C IP66 / IP67

II 2 G Ex d IIC T5 Ta=-40°C to +60°C IP66 / IP67

II 2 G Ex d IIC T6 Ta=-40°C to +40°C IP66 / IP67

a = Function 92S, 96S, or 97S.

b = Solenoid 11, 1B, 1D, 1E, 1H, 2B, 2D, 2E, or 2H.

c = Override X, N, M, or L.

e = Enclosure V or T.

f = Conduit Entries 02 or 05.

g = Visual Indicator R, G, X, 1, or 2.

h = Branding A or M.

xxx = Options "Special Unit Digits" that do not affect the integrity of the housing, the electrical safety, or the title plate.

14 **Specific Conditions of Use:**

1. To minimize the risk of electrostatic sparking, the equipment shall be cleaned only with a damp cloth.
2. Consult the manufacturer if dimensional information on the flameproof joints is necessary.
3. Application in atmospheres containing Carbon Disulphide (CS₂) is not permitted.

15 **Essential Health and Safety Requirements:**

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16 **Test and Assessment Procedure and Conditions:**

This EU-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

17 **Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

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18 Certificate History

Details of the supplements to this certificate are described below:

| Date | Description |
|---------------------------------|---|
| 23 rd January 2013 | Original Issue. |
| 15 th September 2016 | Supplement 1: Report Reference: RR203250 dated 14 th September 2016 Description of the Change: Update certificate to latest directive. Updated EN 60079-0 standard to latest edition. Component and minor documentation updates. |

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Blueprint Report

StoneL (1000001486)

Class No IEC

Original Project I.D. 3046362

Certificate I.D. FM12ATEX0096X

| <u>Drawing No.</u> | <u>Revision</u> <u>Level</u> | <u>Drawing Title</u> | <u>Last</u> <u>Report</u> | <u>Electronic</u> <u>Drawing</u> |
|--------------------|---------------------------------|--|------------------------------|-------------------------------------|
| 000167 | A | Model Description, Axiom AX Series, ATEX Ex d | 3046363 | Yes (pdf) |
| 000181 | B | Critical Documents, Axiom AX Series, ATEX Ex d | RR203250 | Yes (pdf) |
| 105305 | C | Enclosure Information, Axiom AX series | 3046363 | Yes (pdf) |
| 105306 | A | Electrical Information, Axiom AX series | 3046363 | Yes (pdf) |
| 105324 | B | Product Marking, Axiom AX Series, ATEX Ex d | RR203250 | Yes (pdf) |
| 105325 | B | Installation & Adjusting Instructions Addendum | RR203250 | Yes (pdf) |
| 105328 | B | AX33 series IMO | RR203250 | Yes (pdf) |
| 105329 | A | AX44 series IMO | 3046363 | Yes (pdf) |
| 105330 | B | AX92 series IMO | RR203250 | Yes (pdf) |
| 105331 | A | AX93 series IMO | 3046363 | Yes (pdf) |
| 105332 | A | AX94 series IMO | 3046363 | Yes (pdf) |
| 105333 | A | AX95 series IMO | 3046363 | Yes (pdf) |
| 105334 | A | AX96 series IMO | 3046363 | Yes (pdf) |
| 105335 | B | AX97 series IMO | RR203250 | Yes (pdf) |
| 105349 | A | Axiom AX Series, External Visual Indicator | 3046363 | Yes (pdf) |
| 110027 | A | Anodizing Specification, QX and AX | 3046363 | Yes (pdf) |
| 110032 | A | PAINT SPEC AX ENCLOSURE | 3046363 | Yes (pdf) |
| 200044 | F | Schematic, FF CPU/MAU Board | 3046363 | Yes (pdf) |
| 200049 | F | Schematic, Modbus (95) | 3046363 | Yes (pdf) |
| 200054 | D | Schematic, Foundation Fieldbus 94, Mother | 3046363 | Yes (pdf) |
| 200062 | C | Schematic, MAC36 Solenoid | 3046363 | Yes (pdf) |
| 200081 | C | Schematic, Axiom Asi | 3046363 | Yes (pdf) |
| 200082 | C | Schematic, Axiom, FF 93 Motherboard | 3046363 | Yes (pdf) |
| 200085 | E | Schematic, sensor board, axiom | 3046363 | Yes (pdf) |
| 200086 | H | Schematic, Axiom SST w/ uC, low cost | 3046363 | Yes (pdf) |
| 200093 | E | Schematic, Axiom Namur | 3046363 | Yes (pdf) |
| 200100 | C | Schematic, Axiom, Bus communications Interface | 3046363 | Yes (pdf) |
| 200103 | C | Schematic, Axiom dual solenoid SST | 3046363 | Yes (pdf) |
| 200104 | B | Schematic, Axiom dual solenoid, Universal driver | 3046363 | Yes (pdf) |
| 200186 | A | Schematic, Devicenet | 3046363 | Yes (pdf) |
| 409135 | D | FLAME ARRESTOR AX | RR203250 | Yes (pdf) |
| 414720 | B | Block, terminal, Beau, 10 pt. | 3046363 | Yes (pdf) |
| 414722 | A | Block, Terminal, 4 Point PBC Mount | 3046363 | Yes (pdf) |
| 414724 | B | Block, Terminal, Beau 8 Pt. | 3046363 | Yes (pdf) |
| 418074 | C | FF, CPU/MAU Board, Unpopulated | 3046363 | Yes (pdf) |
| 418075 | L | FF, CPU/MAU Board, Populated | RR203250 | Yes (pdf) |
| 418089 | F | Modbus, Unpopulated. | RR203250 | Yes (pdf) |
| 418090 | L | Modbus, Populated | RR203250 | Yes (pdf) |
| 418120 | F | Board, Foundation Fieldbus 94, Mother, Unpopulated | RR203250 | Yes (pdf) |
| 418121 | N | Board, Foundation Fieldbus 94, Mother, Populated | RR203250 | Yes (pdf) |
| 418198 | E | Board, Axiom, Asi, populated | RR203250 | Yes (pdf) |
| 418199 | C | Board, Axiom, FF 93 Motherboard, unpopulated | 3046363 | Yes (pdf) |
| 418200 | I | Board, Axiom, FF 93 Motherboard, populated | RR203250 | Yes (pdf) |

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| 418206 | E | Board, sensor board, axoim, unpopulated | 3046363 | Yes (pdf) |
| 418207 | E | Board, sensor board, axoim, populated | 3046363 | Yes (pdf) |
| 418208 | I | Board, Axiom SST, low cost, unpopulated | 3046363 | Yes (pdf) |
| 418209 | P | Board, Axiom SST, low cost, populated | 3046363 | Yes (pdf) |
| 418215 | F | Board, Axiom Namur, unpopulated | RR203250 | Yes (pdf) |
| 418216 | H | Board, Axiom Namur, populated | RR203250 | Yes (pdf) |
| 418219 | C | Board, Axiom, Bus Interface, unpopulated | 3046363 | Yes (pdf) |
| 418220 | E | Board, Axiom, Bus Interface, populated | 3046363 | Yes (pdf) |
| 418223 | E | Board, membrane switch pad, 2 Buttons, 3 LEDs, Axiom | 3046363 | Yes (pdf) |
| 418226 | D | Board, Axiom dual solenoid, SST, unpopulated | 3046363 | Yes (pdf) |
| 418227 | I | Board, Axiom dual solenoid, SST, populated | RR203250 | Yes (pdf) |
| 418228 | C | Board, Axiom dual solenoid, solenoid driver, unpopulated | 3046363 | Yes (pdf) |
| 418229 | F | Board, Axiom dual solenoid, solenoid driver, populated | 3046363 | Yes (pdf) |
| 418264 | D | Board, Membrane, Axiom, Expeditor | RR203250 | Yes (pdf) |
| 418299 | A | Board, Unpopulated, MAC36 Coil | 3046363 | Yes (pdf) |
| 418300 | B | Board, Populated, MAC35 Coil | 3046363 | Yes (pdf) |
| 418378 | B | Board, DeviceNet, Unpopulated | RR203250 | Yes (pdf) |
| 418379 | E | Board, DeviceNet, Populated, Dual Module | RR203250 | Yes (pdf) |
| 432029 | A | Urethane potting, Conathane EN-14 black, mixed (qty. in cc) | 3046363 | Yes (pdf) |
| 434092 | - | Component, Isolation Inductor,ASi | 3046363 | Yes (pdf) |
| 434218 | A | Inductor, Isolation AS-i Ext Addr | 3046363 | Yes (pdf) |
| 434219 | A | Resistor, 9.1 Ohm, 5%, 1210 | 3046363 | Yes (pdf) |
| 434253 | A | CONNECTOR, BOARD STACKER 0.705", 10PIN, 0.05" PITCH | 3046363 | Yes (pdf) |
| 434254 | A | CONNECTOR, BOARD STACKER 0.425", 10PIN, 0.05" PITCH | 3046363 | Yes (pdf) |
| 434272 | A | Fuse, 0.032A 5x20mm | 3046363 | Yes (pdf) |
| 443014 | B | Piezo Valve, Hoerbiger No PS11001-630A, Onyx Pilot | 3046363 | Yes (pdf) |
| 443022 | D | Solenoid Valve, MAC36, 12VDC, 1/2W, MOD 7628 | 3046363 | Yes (pdf) |
| 443023 | D | Solenoid Valve, MAC36, 24VDC, 1/2W, MOD 7627 | 3046363 | Yes (pdf) |
| 443025 | B | Solenoid Valve, I.S. MAC36, 12VDC, 1/2W, W/ (MOD 7615) | 3046363 | Yes (pdf) |
| 443026 | D | Solenoid Valve, MAC36, 12VDC, 1/2W, MOD 7630 (Wide Temp) | 3046363 | Yes (pdf) |
| 443027 | D | Solenoid Valve, MAC36, 24VDC, 1/2W, MOD 7629 (Wide Temp) | 3046363 | Yes (pdf) |
| 443029 | B | Solenoid Valve, I.S. MAC36, 12VDC, 1/2W, MOD 7616 (Wide Temp) | 3046363 | Yes (pdf) |
| 443030 | D | Solenoid Valve, MAC36, 24VDC, 1.8W (MOD. 7626) | 3046363 | Yes (pdf) |
| 443038 | B | Solenoid Valve, MAC36, 24VDC, 1.8W, Wide Temp, MOD 7635 | 3046363 | Yes (pdf) |