

1 EU-TYPE EXAMINATION CERTIFICATE



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

3 **EC-Type Examination Certificate No: FM07ATEX0047X**

4 **Equipment or protective system: Axiom AMI Series Valve Position Monitor
(Type Reference and Name)**

5 **Name of Applicant: StoneL**

6 **Address of Applicant: 26271 US Highway 59
Fergus falls, MN 56537
USA**

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:

3028891EC dated 16th January 2009

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, EN60079-11: 2012, EN60529: 1991+ A 1: 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 1 G Ex ia IIC T5 Ta = -40°C to 80°C; IP67

II 1 G Ex ia IIC T5 Ta = -18°C to 50°C; 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. FM07ATEX0047X

13 Description of Equipment or Protective System:

The Axiom Series AMI Valve Position Monitor is designed to monitor and control the position of a valve. The apparatus consists of a sensing and communication module, an optional solenoid or solenoids for pneumatic control, connection options to plant electrical and communication systems and a visual indicator to the fluid being processed.

All of the electronic components in the apparatus are encapsulated using type Conathane EN-14 Black urethane encapsulant manufactured by Cytec Industries.

The apparatus is enclosed in an aluminum housing with a GE 143R polycarbonate cover and is intended to be attached directly to various actuators/valves.

AMI44aVcSef-g. Valve Position Monitor.

II 1 G Ex ia IIC T5 Ta = -40°C to 80°C - 105157; IP67

Energy Limitation Parameters:

AMI44: $U_i = 16V$, $I_i = 25\text{ mA}$, $P_i = 1.0W$, $C_i = 4.4\text{ nF}$, $L_i = 0\text{ mH}$.

IS Coil: $U_i = 28V$, $I_i = 120\text{ mA}$, $P_i = 1.0W$, $C_i = 0\text{ nF}$, $L_i = 0\text{ mH}$.

a = Solenoid: 11 or (1E, 3E or 5E when g = T)

c = Junction: 02, 05, 10, 11, 13, 15, 17, 18, 19, 20 or 21

e = Visual Indication: X, G, R, 1 or 2

f = Branding: A, or M.

g = Options: 1 – 5 alpha or numeric digits including “T” for special and marketing identification.

AMI44aVcSef-g. Valve Position Monitor.

II 1 G Ex ia IIC T5 Ta = -18°C to 50°C - 105157; IP67

Energy Limitation Parameters:

AMI44: $U_i = 16V$, $I_i = 25\text{ mA}$, $P_i = 1.0W$, $C_i = 4.4\text{ nF}$, $L_i = 0\text{ mH}$.

IS Coil: $U_i = 28V$, $I_i = 120\text{ mA}$, $P_i = 1.0W$, $C_i = 0\text{ nF}$, $L_i = 0\text{ mH}$.

a = Solenoid: 1E, 3E or 5E

c = Junction: 02, 05, 10, 11, 13, 15, 17, 18, 19, 20 or 21

e = Visual Indication: X, G, R, 1 or 2

f = Branding: A, or M

g = Options: 1 – 5 alpha or numeric digits excluding “T” for special and marketing identification

14 Specific Conditions of Use:

1. When used within a Zone 0 location, the aluminum enclosure shall be installed in such a manner as to prevent the possibility of sparks resulting from friction or impact.
2. To prevent the risk of electrostatic sparking, the equipment enclosure shall be cleaned only with a damp cloth.

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.

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SCHEDULE

to EU-Type Examination Certificate No. FM07ATEX0047X

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.

18 Certificate History

Details of the supplements to this certificate are described below:

Date	Description
16 th January 2009	Original Issue 3028891EC dated 16 th January 2009.
21 st January 2013	<u>Supplement 1:</u> Report Reference: 3028891rev120427 dated 15 th January 2013 Description of the Change: The company name has changed to StoneL. Removed branding options N and L from all listings. Reviewed drawings for updating the Sensor PCB, SST PCB and associated drawings.
15 th September 2016	<u>Supplement 2:</u> Report Reference: RR203250 dated 14 th September 2016 Description of the Change: Update certificate to latest directive. Updated standards to latest editions and removal of standard EN60079-26:2004. CDL correction. Component updates. Documentation and labeling updates.

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Blueprint Report

StoneL (1000001486)

Class No 3610

Original Project I.D. 3028891

Certificate I.D. FM07ATEX0047X

<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>
000123	B	Model Description, Axiom AMI Ex ia	4/27/12	Yes (pdf)
000130	C	Critical Documents, Axiom AMI Ex ia	RR203250	Yes (pdf)
105157	D	Axiom installation and Adjusting Instructions	4/27/12	Yes (pdf)
105169	E	Electrical Info, Axiom AMI Series	RR203250	Yes (pdf)
105170	A	Enclosure, Axiom AMI Series	3028891	Yes (pdf)
105187	C	Axiom AMI Series Marking ATEX Ex ia	RR203250	Yes (pdf)
105188	B	Axiom installation manual addendum – ATEX specific	RR203250	Yes (pdf)
200062	C	Schematic, MAC36 Solenoid 12Vdc	3028891	Yes (pdf)
200085	E	Schematic, Sensor Board, Axiom	4/27/12	Yes (pdf)
200093	E	Schematic, Axiom, Namur	3028891	Yes (pdf)
414722	A	TERMINAL BLOCK , 4 pt	4/27/12	Yes (pdf)
414724	B	Terminal Block 8 Point PBC Mount	3028891	Yes (pdf)
418206	E	Unpopulated Axiom Sensor board	4/27/12	Yes (pdf)
418207	E	Populated Axiom Sensor board	4/27/12	Yes (pdf)
418215	F	Unpopulated Axiom Namur board	RR203250	Yes (pdf)
418216	H	Populated Axiom Namur board	RR203250	Yes (pdf)
418223	E	Membrane switch pad, Axiom	4/27/12	Yes (pdf)
418299	A	Unpopulated solenoid board, Axiom	3028891	Yes (pdf)
418300	B	Populated solenoid board, Axiom	3028891	Yes (pdf)
432029	A	Urethane Potting	3028891	Yes (pdf)
434253	A	CONNECTOR, 0.705", 10PIN, 0.05" PITCH	4/27/12	Yes (pdf)
443025	B	Solenoid valve, MAC36, IS Mod 7615	3028891	Yes (pdf)
443029	B	Solenoid valve, MAC36, IS Mod 7616	3028891	Yes (pdf)