

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:** Neles USA Inc. dba StoneL

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

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 Europe Ltd, notified body number 2809 in accordance with Article 17 of Directive 2014/34/EU of 26th 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:

EN 60079-0:2012+A11:2013, EN 60079-1:2014 and EN 60529:1991+A1:2000+A2:2013

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 db IIC T4/T5/T6 Gb

Ta see description

Damien McArdle

Damien Mc Ardle
Certification Manager, FM Approvals Europe Ltd.

Issue date: 06th November 2020

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

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SCHEDULE



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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 db IIC T5 Ta=-18°C to +50°C IP66 / IP67

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

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

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

c = Override X, N, M, L, E, Y, or G.

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 db IIC T5 Ta=-10°C to +60°C IP66 / IP67

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

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

b = Solenoid 1A or 2A.

c = Override X, N, M, L, E, Y, or G.

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 db IIC T5 Ta=-40°C to +80°C IP66 / IP67

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

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

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

c = Override X, N, M, L, E, Y, or G.

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 db IIC T4 Ta=-40°C to +80°C IP66 / IP67

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

II 2 G Ex db 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, L, E, Y, or G.

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.

18 **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
23 rd January 2013	Original Issue.

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to EU-Type Examination Certificate No. FM12ATEX0096X

15 th September 2016	<u>Supplement 1:</u> 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.
26 th June 2017	<u>Supplement 2:</u> Report Reference: 3061079 dated 22 nd June 2017. Description of the Change: Various documentation and labelling updates. Update to standards used for certification. Rationalise model options.
06 th November 2020	<u>Supplement 3:</u> Report Reference: RR225435 dated 06 th November 2020. Description of the Change: Certificate transferred from FM Approvals Ltd., Notified Body No. 1725, to FM Approvals Europe Ltd., Notified Body No. 2809. Update of company name.

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Blueprint Report

Neles USA Inc. dba StoneL (1000001486)

Class No IEC

Original Project I.D. 3046362

Certificate I.D. FM12ATEX0096X

<u>Drawing No.</u>	<u>Revision Level</u>	<u>Drawing Title</u>	<u>Last Report</u>	<u>Electronic Drawing</u>
000167	C	Model Description, Axiom AX Series, ATEX Ex d	RR225435	Yes (pdf)
105305	D	Enclosure Information, Axiom AX series	RR225435	Yes (pdf)
105306	B	Electrical Information, Axiom AX series	3061079	Yes (pdf)
105324	D	Product Marking, Axiom AX Series, ATEX Ex d	RR225435	Yes (pdf)
105349	A	Axiom AX Series, External Visual Indicator	3046363	Yes (pdf)
105407	B	Axiom AX Series, IMO Combined	RR225435	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)
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)
200153	B	Schematic, Axiom, Namur, Dual Coil	3061079	Yes (pdf)
200236	A	Schematic, Devicenet	3061079	Yes (pdf)
200243	A	Schematic, Axiom 97 Motherboard	3061079	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	D	FF, CPU/MAU Board, Unpopulated	3061079	Yes (pdf)
418075	N	FF, CPU/MAU Board, Populated	3061079	Yes (pdf)
418120	G	Board, Foundation Fieldbus 94, Mother, Unpopulated	3061079	Yes (pdf)
418121	O	Board, Foundation Fieldbus 94, Mother, Populated	3061079	Yes (pdf)
418197	E	Board, Axiom, Asi, unpopulated	3061079	Yes (pdf)
418198	G	Board, Axiom, Asi, populated	3061079	Yes (pdf)
418199	D	Board, Axiom, FF 93 Motherboard, unpopulated	3061079	Yes (pdf)
418200	L	Board, Axiom, FF 93 Motherboard, populated	3061079	Yes (pdf)
418206	G	Board, sensor board, axoim, unpopulated	3061079	Yes (pdf)
418207	G	Board, sensor board, axoim, populated	3061079	Yes (pdf)
418208	J	Board, Axiom SST, low cost, unpopulated	3061079	Yes (pdf)
418209	S	Board, Axiom SST, low cost, populated	3061079	Yes (pdf)
418215	F	Board, Axiom Namur, unpopulated	RR203250	Yes (pdf)
418216	I	Board, Axiom Namur, populated	3061079	Yes (pdf)
418219	D	Board, Axiom, Bus Interface, unpopulated	3061079	Yes (pdf)
418220	F	Board, Axiom, Bus Interface, populated	3061079	Yes (pdf)
418223	E	Board, membrane switch pad, 2 Buttons, 3 LEDs, Axiom	3046363	Yes (pdf)
418226	E	Board, Axiom dual solenoid, SST, unpopulated	3061079	Yes (pdf)
418227	J	Board, Axiom dual solenoid, SST, populated	3061079	Yes (pdf)
418228	D	Board, Axiom dual solenoid, solenoid driver, unpopulated	3061079	Yes (pdf)
418229	H	Board, Axiom dual solenoid, solenoid driver, populated	3061079	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)
418314	C	Board, Axiom, Namur, Dual Coil, Unpopulated	3061079	Yes (pdf)
418315	D	Board, Axiom, Namur, Dual Coil, Populated	3061079	Yes (pdf)
418422	C	Board, Assembly, 97 C-Module	3061079	Yes (pdf)
418445	A	Board, DeviceNet, Unpopulated	3061079	Yes (pdf)
418446	D	Board, DeviceNet, Populated, Dual Module	RR225435	Yes (pdf)
418454	A	PCB, Axiom, 97 Motherboard	3061079	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)
443044	A	Solenoid Valve, 12 Vdc 1/2 W, Wide Temp	3061079	Yes (pdf)
443045	A	Solenoid Valve, 24 Vdc 1/2 W, Wide Temp	3061079	Yes (pdf)
443046	A	Solenoid Valve, 12 Vdc IS 1/2 W, Wide Temp	3061079	Yes (pdf)
443047	A	Solenoid Valve, 12 Vdc 1/2 W, Std Temp	3061079	Yes (pdf)
443049	A	Solenoid Valve, 12 Vdc 1/2 W, Std Temp	3061079	Yes (pdf)
443051	A	Solenoid Valve, 24 Vdc 1/2 W, Std Temp	3061079	Yes (pdf)