



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx LCIE 15.0016X

Issue No: 3

Certificate history:

Status: **Current**

Issue No. 3 (2019-08-01)

Issue No. 2 (2017-02-24)

Date of Issue: **2019-08-01**

Page 1 of 4

Issue No. 1 (2015-11-09)

Issue No. 0 (2015-05-05)

Applicant: **PCB Piezotronics**
3425 Walden Avenue
Depew, New York 14043
United States of America

Equipment: **Vibration sensors - Type: EX(XX)622yzzz/aaa, EX(XX)623yzzz/aaa, EX(XX)625yzzz/aaa, EX(XX)628yzzz/aaa**

Optional accessory:

Type of Protection: **Ex ia, Ex nA**

Marking:

Ex ia IIC T4 Ga (for models without HT option)

Ex ia IIC T3 Ga (for models with HT option)

Ex ia I Ma (for model EX(XX)625yzzz/aaa without HT option)

Ex nA IIC T4 Gc (for models without HT option)

Ex nA IIC T3 Gc (for models with HT option)

(Refer to attachment for full marking)

Approved for issue on behalf of the IECEx
Certification Body:

Julien Gauthier

Position:

Certification Officer

Signature:
(for printed version)



Date:

2019-08-01

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

Laboratoire Central des Industries Electriques (LCIE)
33 Avenue du General Leclerc
FR-92260 Fontenay-aux-Roses
France





IECEX Certificate of Conformity

Certificate No: IECEX LCIE 15.0016X

Issue No: 3

Date of Issue: **2019-08-01**

Page 2 of 4

Manufacturer: **PCB Piezotronics**
3425 Walden Avenue
Depew, New York 14043
United States of America

Additional Manufacturing location(s):
PCB Piezotronics of North Carolina Inc.
10869 Hwy 903
Halifax, NC 27839
United States of America

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 apparatus 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 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2010 Edition:4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

*This Certificate **does not** indicate compliance with electrical 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 Report:

FR/LCIE/ExTR15.0017/00

FR/LCIE/ExTR15.0115/00

FR/LCIE/ExTR17.0008/00

FR/LCIE/ExTR19.0067/00

FR/LCIE/ExTR19.0071/00

Quality Assessment Report:

NL/DEK/QAR14.0004/03



IECEX Certificate of Conformity

Certificate No: IECEx LCIE 15.0016X

Issue No: 3

Date of Issue: 2019-08-01

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The equipment are vibration sensors using a quartz crystal to convert a mechanical vibration measurement into an electric signal.

The equipment consists of a sealed cylindrical metal body which houses a PCB board and a piezo-crystal element, and a connector or an integral cable for external connection.

SPECIFIC CONDITIONS OF USE: YES as shown below:

For intrinsic safety Ia:

- a) The equipment must only be connected to certified intrinsically safe equipment. These combinations must be compatible as regard intrinsic safety rules.
- b) The equipment shall be connected in accordance with the manufacturer's installation instructions (see drawing 65040).
- c) The equipment shall be earthed in accordance with IEC 60079-0.

For non sparking nA:

- a) The apparatus must be only connected to an equipment whose electrical parameters are compatible with the electrical parameters.
- b) The equipment shall be connected in accordance with the manufacturer's installation instructions (see drawing 65040).
- c) For final installation, the device shall be connected in compliance with IEC 60079-14 requirements, providing and maintaining degree of protection at least IP54 according to IEC 60079-0 requirements.
- d) Provision shall be made, external to the equipment, to provide the transient protection device to be set at a level not exceeding 119 V.
- e) The equipment shall be earthed in accordance with IEC 60079-0.
- f) WARNING – DO NOT SEPARATE WHEN ENERGIZED.



IECEx Certificate of Conformity

Certificate No: IECEx LCIE 15.0016X

Issue No: 3

Date of Issue: 2019-08-01

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 01:

- Modification of the QAR.
- Addition of a manufacturing site.

Issue 02:

- Addition of a new model (EX(XX)625xyyy/aaa).
- Addition of a new temperature output.
- Update of the nomenclature of the models.
- Distinction between the name of the manufacturer (PCB Piezotronics) and the name of the trademark (IMI sensors or IMI).

Issue 03:

- For High Temperature (HT) model: correction of temperature range and temperature class.
- Addition of Mine safety in intrinsically safe protection mode.

Annex

[LCIE 15.0016X - Issue03 - Annex 01.pdf](#)



Annex 01 to Certificate IECEX LCIE 15.0016X issue 03



FULL EQUIPMENT DESCRIPTION

The equipment are vibration sensors using a quartz crystal to convert a mechanical vibration measurement into an electric signal. The sensor consists of a sealed cylindrical metal body which houses a PCB board and a piezo-crystal element, and a connector or an integral cable for external connection.

Instruction manual: ref. 32241

MARKING

For intrinsic safety ia:

Complete marking:

PCB Piezotronics or IMI Sensors or IMI

Address: ...

Type: ... (1)

Serial number: ...

Year of construction: ...

IECEX LCIE 15.0016X

$U_i : \dots V, I_i : \dots mA, P_i : \dots W, C_i : \dots nF, L_i : \dots \mu F$ (1)

For EX(XX)625yzzz/aaa models without HT option:

For models with HT option:

For models without HT option:

Ex ia I Ma $(-54^{\circ}C \leq T_{amb} \leq +121^{\circ}C)$

Ex ia IIC T3 Ga $(-54^{\circ}C \leq T_{amb} \leq +163^{\circ}C)$

Ex ia IIC T4 Ga $(-54^{\circ}C \leq T_{amb} \leq +121^{\circ}C)$

Reduced marking:

PCB Piezotronics or IMI Sensors or IMI

Type: ... (1)

Serial number: ...

Year of construction: ...

IECEX LCIE 15.0016X

$U_i : \dots V, I_i : \dots mA, P_i : \dots W, C_i : \dots nF, L_i : \dots \mu F$ (1)

For EX(XX)625yzzz/aaa models without HT option:

For models with HT option:

For models without HT option:

Ex ia I Ma $(-54^{\circ}C \leq T_{amb} \leq +121^{\circ}C)$

Ex ia IIC T3 Ga $(-54^{\circ}C \leq T_{amb} \leq +163^{\circ}C)$

Ex ia IIC T4 Ga $(-54^{\circ}C \leq T_{amb} \leq +121^{\circ}C)$

(1) : to be completed following models

For non sparking nA:

Complete marking :

PCB Piezotronics or IMI sensors or IMI

Address: ...

Type: ... (1)

Serial number: ...

Year of construction: ...

Ex nA IIC T3 Gc $(-54^{\circ}C \leq T_{amb} \leq +163^{\circ}C)$ for models with HT option

Ex nA IIC T4 Gc $(-54^{\circ}C \leq T_{amb} \leq +121^{\circ}C)$ for models without HT option

IECEX LCIE 15.0016X

$U \leq 28V, I \leq 93mA, P \leq 1W$

WARNING - DO NOT SEPARATE WHEN ENERGIZED

Reduced marking:

PCB Piezotronics or IMI sensors or IMI

Type: ... (1)

Serial number: ...

Year of construction: ...

Ex nA IIC T3 Gc $(-54^{\circ}C \leq T_{amb} \leq +163^{\circ}C)$ for models with HT option

Ex nA IIC T4 Gc $(-54^{\circ}C \leq T_{amb} \leq +121^{\circ}C)$ for models without HT option

IECEX LCIE 15.0016X

$U \leq 28V, I \leq 93mA, P \leq 1W$

(1) : to be completed following models



Annex 01 to Certificate IECEX LCIE 15.0016X issue 03



RANGE DETAILS

Models are electrically identical, but mechanical different:

- EX(XX)622yzzz/aaa with top exit connector or integral cable
- EX(XX)623yzzz/aaa with top exit connector or integral cable
- EX(XX)625yzzz/aaa with side exit connector or integral cable
- EX(XX)628yzzz/aaa with top exit connector or integral cable

Nomenclature:

Symbol	Description
XX	HT High temperature accelerometer
	M Metric mounting hardware and cable
	TO Temperature output sensor
	VO Velocity output sensor
y	One letter A to Z depicts revision level
zzz	Two or three numbers 00 to 999 depicts sensitivity, filtering or bias etc.
aaa	Cable length and/or connector type

RATINGS

For intrinsic safety ia:

Series	Models	Length of cable max	Intrinsic safety parameters	
With connector	EX(VO)622yzzz/aaa EX(VO)623yzzz/aaa EX(VO)625yzzz/aaa	/	$C_i : 69.2nF, L_i : 0\mu H$	$U_i : 28V, I_i : 93mA, P_i : 1W$
	EX(XX)622yzzz/aaa EX(XX)623yzzz/aaa EX(XX)625yzzz/aaa EX(XX)628yzzz/aaa	/	$C_i : 6.5nF, L_i : 0\mu H$	
With cable	EX(VO)622yzzz/aaa EX(VO)623yzzz/aaa EX(VO)625yzzz/aaa	61 m (200 ft)	$C_i : 81.4nF, L_i : 61\mu H$	
	EX(XX)622yzzz/aaa EX(XX)623yzzz/aaa EX(XX)625yzzz/aaa EX(XX)628yzzz/aaa	305 m (1000 ft)	$C_i : 67.5nF, L_i : 305\mu H$	

For non sparking nA:

$U \leq 28 V, I \leq 93 mA, P \leq 1 W$

FULL CONDITIONS OF CERTIFICATION

For intrinsic safety ia:

- a) The equipment must only be connected to certified intrinsically safe equipment. These combinations must be compatible as regard intrinsic safety rules.
- b) The equipment shall be connected in accordance with the manufacturer's installation instructions (see drawing 65040).
- c) The equipment shall be earthed in accordance with EN/IEC 60079-0.

For non sparking nA:

- a) The apparatus must be only connected to an equipment whose electrical parameters are compatible with the electrical parameters.
- b) The equipment shall be connected in accordance with the manufacturer's installation instructions (see drawing 65040).
- c) For final installation, the device shall be connected in compliance with EN/IEC 60079-14 requirements, providing and maintaining degree of protection at least IP54 according to EN/IEC 60079-0 requirements.
- d) Provision shall be made, external to the equipment, to provide the transient protection device to be set at a level not exceeding 119 V.
- e) The equipment shall be earthed in accordance with EN/IEC 60079-0.
- f) **WARNING – DO NOT SEPARATE WHEN ENERGIZED.**

ROUTINE TESTS

For intrinsic safety ia:

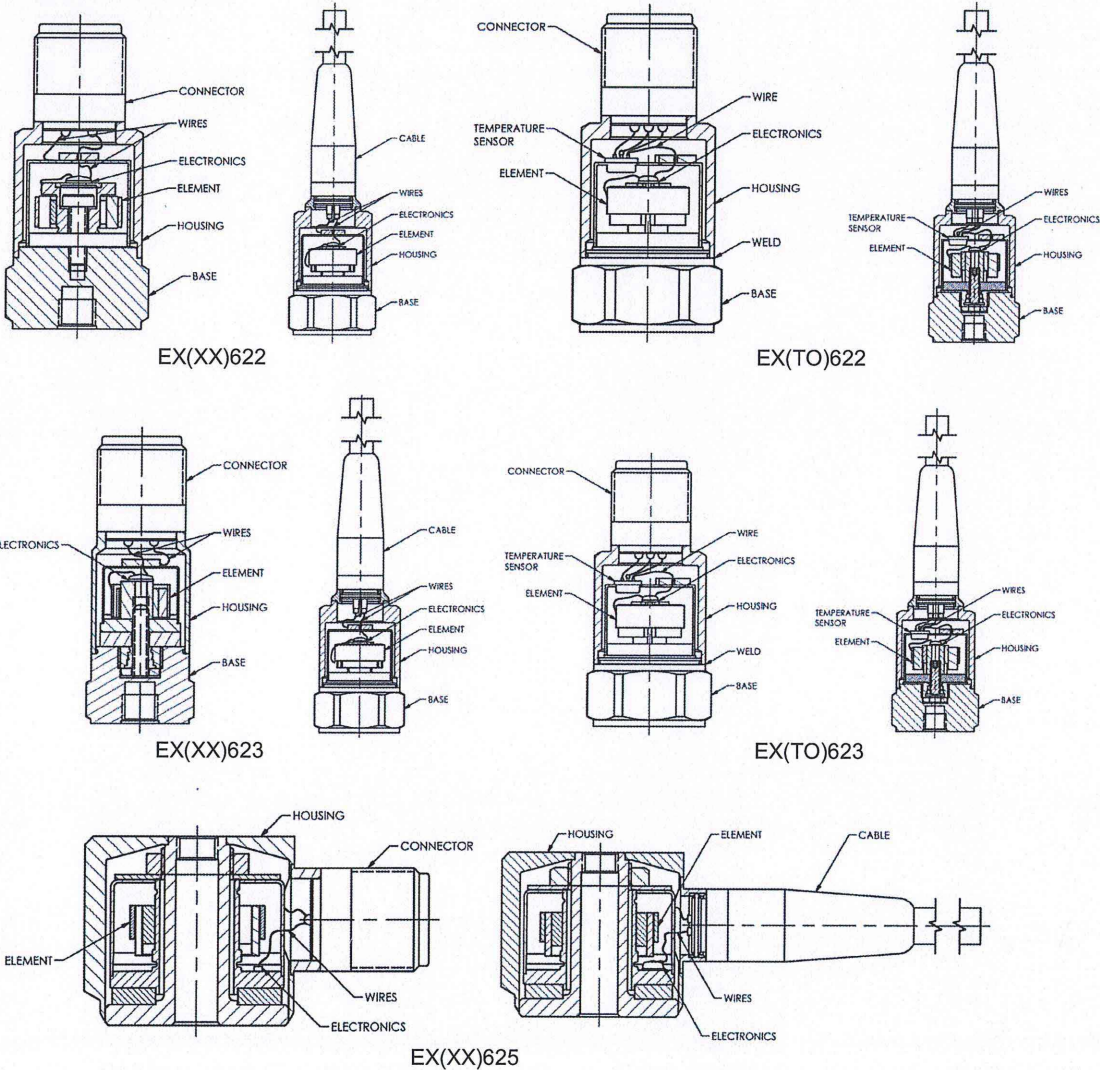
None

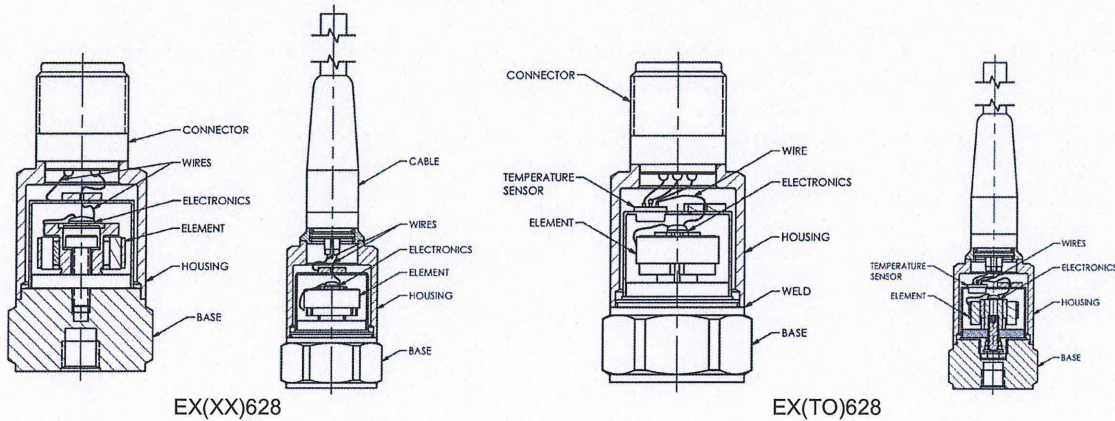
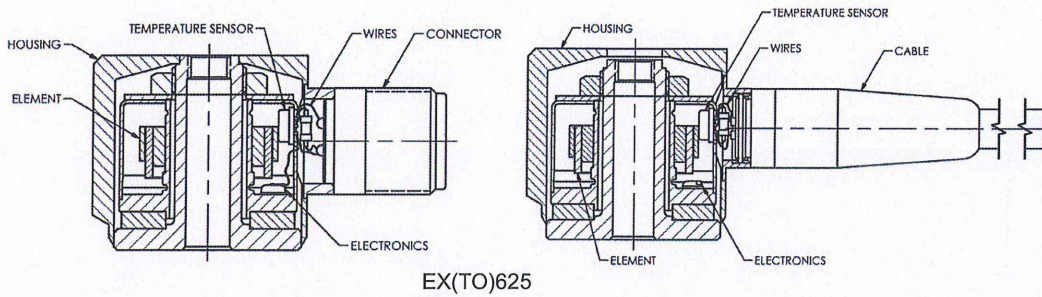
For non sparking nA:

Each apparatus must be submitted to a dielectric strength 600V 50Hz applied during 100ms between the terminals and the housing.

APPARATUS OVERVIEW

Approved models form :





TEST & ASSESSMENT REPORTS

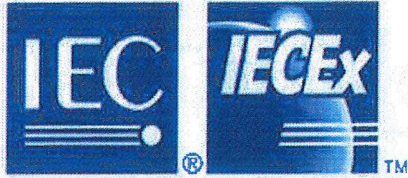
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

FR/LCI/ExTR19.0067/00
FR/LCI/ExTR19.0071/00

Quality Assessment Report:

NL/DEK/QAR14.0004/03



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX LCIE 15.0016X** issue No.: **2** Certificate history:
Issue No. 2 (2017-2-24)
Issue No. 1 (2015-11-9)
Issue No. 0 (2015-5-5)

Status: **Current**

Date of Issue: **2017-02-24** Page 1 of 4


Applicant: **PCB Piezotronics**
3425 Walden Avenue
Depew, New York 14043
United States of America

Equipment: **Vibration sensors - Type: EX(XX)622yzzz/aaa, EX(XX)623yzzz/aaa, EX(XX)625yzzz/aaa, EX(XX)628yzzz/aaa**
Optional accessory:

Type of Protection: **Ex ia, Ex nA**

Marking: **Ex ia IIC T4 Ga**
Ex nA IIC T4 Gc
(Refer to attachment for full marking)

Approved for issue on behalf of the IECEx Certification Body: **Didier BOURGES**
Position: **Manager of Certification Operations**

Signature: 
(for printed version)

Date: **24 FEB. 2017**

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Certificate issued by:
Laboratoire Central des Industries Electriques (LCIE)
33 Avenue du General Leclerc
FR-92260 Fontenay-aux-Roses
France

Documents relative to LCIE certification activities (Certificates, QARs, ExTRs) can be registered under the references "LCI" or "LCIE".





IECEX Certificate of Conformity

Certificate No.: IECEx LCIE 15.0016X

Date of Issue: 2017-02-24

Issue No.: 2

Page 2 of 4

Manufacturer: **PCB Piezotronics**
3425 Walden Avenue
Depew, New York 14043
United States of America

Additional Manufacturing location(s):

**PCB Piezotronics of
North Carolina Inc.**
10869 Hwy 903
Halifax, NC 27839
United States of America

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 electrical apparatus 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 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "I"
IEC 60079-15 : 2010 Edition: 4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

*This Certificate **does not** indicate compliance with electrical 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 Report:

FR/LCIE/ExTR15.0017/00

FR/LCIE/ExTR15.0115/00

FR/LCIE/ExTR17.0008/00

Quality Assessment Report:

NL/DEK/QAR14.0004/01



IECEX Certificate of Conformity

Certificate No.: IECEx LCIE 15.0016X

Date of Issue: 2017-02-24

Issue No.: 2

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The vibration sensors type EX(XX)622yzzz/aaa, EX(XX)623yzzz/aaa, EX(XX)625yzzz/aaa or EX(XX)628yzzz/aaa used a quartz crystal to convert a mechanical vibration measurement into an electric signal.

The sensor consists of a sealed cylindrical metal case, which houses a PCB substrate board and a piezo-crystal element, and a connector or an integral cable for external connection.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Version "ja":

- The apparatus must be only connected to a certified associated intrinsically safe equipment. This combination must be compatible regarding intrinsic safety rules (see electrical parameters).
- Operating ambient temperature: - 54°C to + 121°C.
- The apparatus must be connected according to instruction manual.

Version "nA":

- The apparatus must be only connected to an equipment whose electrical parameters are compatible with the electrical parameters.
- For final installation, the device shall be connected in compliance with IEC 60079-14 requirements, providing and maintaining degree of protection at least IP54.
- Operating ambient temperature: -54°C to +121°C.
- The apparatus must be connected according to instruction manual.
- WARNING - DO NOT SEPARATE WHEN ENERGIZED.



Annex 00 to Certificate IECEX LCIE 15.0016X issue 02



RANGE DETAILS

Models are electrically identical, but mechanically different :

- EX(XX)622yzzz/aaa: Sensor with top exit connector or integral cable
- EX(XX)623yzzz/aaa: Sensor with top exit connector or integral cable
- EX(XX)625yzzz/aaa: Sensor with side exit connector or integral cable
- EX(XX)628yzzz/aaa: Sensor with top exit connector or integral cable

Nomenclature:

Symbol	Detail	
XX	HT	High temperature accelerometer
	M	Metric mounting hardware and cable
	TO	Temperature output sensor
	VO	Velocity output sensor
y	One letter A to Z depicts revision level	
zzz	Two or three numbers 00 to 999 depicts sensitivity, filtering or bias etc.	
aaa	Cable length and/or connector type	

RATINGS

Version "ia":

Series	Models	IS parameters		
With connector	EX(XX)622yzzz/aaa EX(XX)623yzzz/aaa EX(XX)628yzzz/aaa	$C_i : 6.5nF, L_i : 0\mu H$	$U_i : 28V,$ $I_i : 93mA,$ $P_i : 1W$	
	EX(XX)625yzzz/aaa	$C_i : 9nF, L_i : 0\mu H$		
	EX(VO)622yzzz/aaa EX(VO)623yzzz/aaa	$C_i : 69.2nF, L_i : 0\mu H$		
	EX(VO)625yzzz/aaa	$C_i : 71.7nF, L_i : 0\mu H$		
	With cable	EX(XX)622yzzz/aaa EX(XX)623yzzz/aaa		$C_i : 67.5nF, L_i : 305\mu H^*$
		EX(XX)628yzzz/aaa		$C_i : 61nF, L_i : 305\mu H^*$
EX(XX)625yzzz/aaa		$C_i : 70nF, L_i : 305\mu H^*$		
EX(VO)622yzzz/aaa EX(VO)623yzzz/aaa		$C_i : 81.4nF, L_i : 61\mu H^{**}$		

* Cable length: 305 m (1000ft)

** Cable length: 61m (200ft)

Version "nA":

$U \leq 28V, I \leq 93mA, P \leq 1W$

ROUTINE TESTS

Version "ia": None.

Version "nA": Each apparatus must be submitted to a dielectric strength 600V 50Hz during 100ms between the terminals and the housing.



IECEX Certificate of Conformity

Certificate No.: IECEx LCIE 15.0016X

Date of Issue: 2017-02-24

Issue No.: 2

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 01:

- Modification of the QAR.
- Addition of a manufacturing site

Issue 02:

- Addition of a new model EX(XX)625xyyy/aaa.
- Addition of a new option of temperature output.
- Update of the nomenclature of the models.
- Distinction between the name of the manufacturer (PCB Piezotronics) and the name of the trademark (IMI sensors or IMI).

Annex: LCIE 15.0016x issue02-Annex00.pdf



Annex 00 to Certificate IECEX LCIE 15.0016X issue 02



FULL EQUIPMENT DESCRIPTION

The vibration sensors type EX(XX)622yzzz/aaa, EX(XX)623yzzz/aaa, EX(XX)625yzzz/aaa or EX(XX)628yzzz/aaa utilise a quartz crystal to convert a mechanical vibration measurement into an electric signal.

The sensor consists of a sealed cylindrical metal case, which houses a PCB substrate board and a piezo-crystal element, and a connector or an integral cable for external connection.

Instruction manual:

N°	Description	Reference	Rev.	Date	Page(s)
1.	Instructions for use	32241	C	2016/09/11	3

MARKING

Version "ia":

PCB Piezotronic or IMI Sensors or IMI

Address: ...

Type: ...

Serial number: ...

Year of construction: ...

Ex ia IIC T4 Ga

IECEX LCIE 15.0016X

-54°C ≤ T_{amb} ≤ +121°C

U_i: ...V, I_i: ...mA, P: ...W, C_i: ...nF, L_i: ...µF (completed with electrical parameters)

Equipment has a reduced marking:

PCB Piezotronic or IMI Sensors or IMI

Type: ...

Serial number: ...

Year of construction: ...

Ex ia IIC T4 Ga

IECEX LCIE 15.0016X

-54°C ≤ T_{amb} ≤ +121°C

U_i: ...V, I_i: ...mA, P: ...W, C_i: ...nF, L_i: ...µF (completed with electrical parameters)

Version "nA":

PCB Piezotronic or IMI Sensors or IMI

Address: ...

Type: ...

Serial number: ...

Year of construction: ...

Ex nA IIC T4 Gc

IECEX LCIE 15.0016X

-54°C ≤ T_{amb} ≤ +121°C

WARNING - DO NOT SEPARATE WHEN ENERGIZED

Equipment has a reduced marking:

PCB Piezotronic or IMI Sensors or IMI

Type: ...

Serial number: ...

Year of construction: ...

Ex nA IIC T4 Gc

IECEX LCIE 15.0016X

-54°C ≤ T_{amb} ≤ +121°C



IECEX Certificate of Conformity

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Certificate No.: **IECEX LCIE 15.0016X** issue No.: **1** Certificate history:
Issue No. 1 (2015-11-9)
Issue No. 0 (2015-5-5)

Status: **Current**

Date of Issue: **2015-11-09** Page 1 of 4

Applicant: **IMI Sensors, a PCB Piezotronics Div.**
3425 Walden Avenue
Depew, New York 14043
United States of America

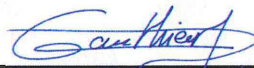
Electrical Apparatus: **Vibration sensors**
Optional accessory: Types EX622 series, EX623 series, EX628 series, EXVO622 series

Type of Protection: **Ex ia, Ex nA**

Marking: **Ex ia IIC T4 Ga**
Ex nA IIC T4 Gc
IECEX LCIE 15.0016 X
(see annex for more informations)

Approved for issue on behalf of the IECEx Certification Body: **Julien GAUTHIER**

Position: **Certification Officer**

Signature: *(for printed version)* 

Date: **2015-11-09**

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3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:
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33 Avenue du General Leclerc
FR-92260 Fontenay-aux-Roses
France

Documents relative to LCIE certification activities (Certificates, QARs, ExTRs) can be registered under the references "LCI" or "LCIE".



LCIE



IECEX Certificate of Conformity

Certificate No.: IECEx LCIE 15.0016X

Date of Issue: 2015-11-09

Issue No.: 1

Page 2 of 4

Manufacturer: **PCB Piezotronics**
3425 Walden Avenue
Depew, New York 14043
United States of America

Additional Manufacturing location
(s):

**PCB Piezotronics of
North Carolina Inc.**
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IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2010 Edition: 4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

*This Certificate **does not** indicate compliance with electrical 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 Report:
FR/LCIE/ExTR15.0017/00

FR/LCIE/ExTR15.0115/00

Quality Assessment Report:

NL/DEK/QAR14.0004/01



IECEx Certificate of Conformity

Certificate No.: IECEx LCIE 15.0016X

Date of Issue: 2015-11-09

Issue No.: 1

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The model EX622, EX623 and EX628 series piezoelectric vibration sensors utilize a quartz crystal to convert a mechanical vibration measurement into an electric signal. The sensor consists of a sealed cylindrical metal case, which houses a pcb substrate board and a piezo crystal element. The circuitry is connected to a connector or an integral cable.

(See annex for more informations)

Marking : *see annex*

Electrical parameter : *see annex*

Routine test : *see annex*

CONDITIONS OF CERTIFICATION: YES as shown below:

Version "ia" :The apparatus must be only connected to a certified associated intrinsically safe equipment. This combination must be compatible regarding intrinsic safety rules (see electrical parameters).

Operating ambient temperature : - 54°C to + 121°C.

The apparatus shall be connected according to drawing n°8072 (page 1/2).

Version "nA" :The apparatus must be only connected to an equipment whose electrical parameters are compatible with the electrical parameters.

Operating ambient temperature : -54°C to +121°C.

The apparatus shall be connected according to drawing n°8072 (page 2/2).



IECEX Certificate of Conformity

Certificate No.: IECEx LCIE 15.0016X

Date of Issue: 2015-11-09

Issue No.: 1

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 01 :

Modification of the QAR
Addition of a manufacturing site

Annex: IECEx LCIE 15.0016 X - issue 01 - Annex 01.pdf



Annex 01 to Certificate IECEX LCIE 15.0016 X issue 01



Description of the equipment :

The model EX622,EX623,EX628 and EXVO622 series piezoelectric vibration sensors utilize a quartz crystal to convert a mechanical vibration measurement into an electric signal.

The sensor consists of a sealed cylindrical metal case, which houses a pcb substrate board and a piezo crystal element. The circuitry is connected to a connector or an integral cable.

Models are electrical identical, but mechanical different :

- EX628F0X with top 2-pin connector
- EX628F1X with integral molded cable
- EX622B0X with top 2-pin connector
- EX622B1X with integral molded cable
- EX622A0X with top 2-pin connector
- EX622A1X with integral molded cable
- EXVO622A0X with top 2-pin connector
- EXVO622A1X with integral molded cable
- EXVO622B0X with top 2-pin connector
- EXVO622B1X with integral molded cable
- EX623C0X with top 2-pin connector
- EX622C1X with integral molded cable
- EX623C1X with integral molded cable

X is a number from 0-9 that signifies changes to filtering, gain, frequency response etc. The changes pertain to values of resistors and/or capacitors and are within the limits specified in the component listing.

The sensors have stainless steel housings and quartz sensing element with capacitance value of 6pF for the piezoelectric sensing element for each of the EX628F0X and EX628F1X sensors. The sensors have stainless steel housings and ceramic sensing elements with capacitance value of 2000pF for the piezoelectric sensing element for each of the EX622B0X, EX622B1X, EXVO622B0X, EXVO622B1X, EX622A0X, EX622A1X, EXVO622A0X, EXVO622A1X and EX623C0X.

Marking :

IMI Sensors

Address : ...

Type : EX6... or EXVO6... (completed with the model)

Serial number : ...

Year of construction : ...

Ex ia IIC T4 Ga

Ex nA IIC T4 Gc

IECEX LCIE 14.0016 X

-54°C ≤ Ta ≤ +121°C

Version "ia" only :

$U_i \leq \dots V, I_i \leq \dots mA, P_i \leq \dots W,$

$C_i \leq \dots nF, L_i \leq \dots \mu H$ (completed according to the model)

Electrical parameters :

Version "ia":

Type	U_i (V)	I_i (mA)	P_i (W)	C_i (nF)	L_i (μH)
EX622A0X,EX622B0X,EX623C0X,EX628F0X	28	93	1	6,5	0
EXVO622B0X,EXVO622A0X	28	93	1	69,2	0
EX622A1X,EX622B1X,EX623C1X	28	93	1	67,5	305 ⁽¹⁾
EXVO622A1X,EXVO622B1X	28	93	1	81,4	61 ⁽²⁾
EX628F1X	28	93	1	61	305

⁽¹⁾ cable length 1000 FT

⁽²⁾ cable length 200FT

Version "nA":

$U \leq 28V, I \leq 93mA, P \leq 1W$



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEX Scheme visit www.iecex.com

Certificate No.: **IECEX LCIE 15.0016X** issue No.: **0** Certificate history: _____

Status: **Current**

Date of Issue: **2015-05-05** Page 1 of 3

Applicant: **IMI Sensors**
A PCB Piezotronics Div.
3425 Walden Avenue
Depew, New York 14043
United States of America

Electrical Apparatus: **Vibration sensors types EX622 series, EX623 series, EX628 series, EXVO622 series**
Optional accessory:

Type of Protection: **Ex ia and Ex nA**

Marking: **Ex ia IIC T4 Ga**
Ex nA IIC T4 Gc
IECEX LCIE 15.0016 X
(see attachment for more informations)

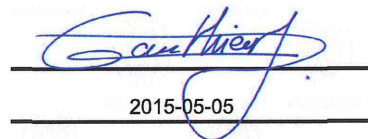
Approved for issue on behalf of the IECEX
Certification Body:

Julien Gauthier

Position:

Certification Officer

Signature:
(for printed version)



Date:

2015-05-05

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 the [Official IECEX Website](http://www.iecex.com).

Certificate issued by:

Laboratoire Central des Industries Electriques (LCIE)
33 Avenue du General Leclerc
FR-92260 Fontenay-aux-Roses
France

Documents relative to LCIE certification activities (Certificates, QARs, ExTRs) can be registered under the references "LCI" or "LCIE".





IECEX Certificate of Conformity

Certificate No.: IECEx LCIE 15.0016X

Date of Issue: 2015-05-05

Issue No.: 0

Page 2 of 3

Manufacturer: **IMI Sensors**
A PCB Piezotronics Div.
3425 Walden Avenue
Depew, New York 14043
United States of America

Additional Manufacturing location
(s):

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 electrical apparatus 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 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2010 Edition: 4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

*This Certificate **does not** indicate compliance with electrical 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 Report:

[FR/LCIE/ExTR15.0017/00](#)

Quality Assessment Report:

[CA/CSA/QAR09.0018/02](#)



IECEX Certificate of Conformity

Certificate No.: IECEx LCIE 15.0016X

Date of Issue: 2015-05-05

Issue No.: 0

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The model EX622, EX623 and EX628 series piezoelectric vibration sensors utilize a quartz crystal to convert a mechanical vibration measurement into an electric signal. The sensor consists of a sealed cylindrical metal case, which houses a pcb substrate board and a piezo crystal element. The circuitry is connected to a connector or an integral cable.

(See annex for more informations)

Marking : see annex

Electrical parameter : see annex

Routine test : see annex

CONDITIONS OF CERTIFICATION: YES as shown below:

Version "ia" :The apparatus must be only connected to a certified associated intrinsically safe equipment. This combination must be compatible regarding intrinsic safety rules (see electrical parameters).

Operating ambient temperature : - 54°C to + 121°C.

The apparatus shall be connected according to drawing n°8072 (page 1/2).

Version "nA" :The apparatus must be only connected to an equipment whose electrical parameters are compatible with the electrical parameters.

Operating ambient temperature : -54°C to +121°C.

The apparatus shall be connected according to drawing n°8072 (page 2/2).



Annex 01 to Certificate IECEx LCIE 15.0016 X issue 00



Description of the equipment :

The model EX622, EX623, EX628 and EXVO622 series piezoelectric vibration sensors utilize a quartz crystal to convert a mechanical vibration measurement into an electric signal.

The sensor consists of a sealed cylindrical metal case, which houses a pcb substrate board and a piezo crystal element. The circuitry is connected to a connector or an integral cable.

Models are electrical identical, but mechanical different :

- EX628FOX with top 2-pin connector
- EX628F1X with integral molded cable
- EX622B0X with top 2-pin connector
- EX622B1X with integral molded cable
- EX622A0X with top 2-pin connector
- EX622A1X with integral molded cable
- EXVO622A0X with top 2-pin connector
- EXVO622A1X with integral molded cable
- EXVO622B0X with top 2-pin connector
- EXVO622B1X with integral molded cable
- EX623C0X with top 2-pin connector
- EX623C1X with integral molded cable

X is a number from 0-9 that signifies changes to filtering, gain, frequency response etc. The changes pertain to values of resistors and/or capacitors and are within the limits specified in the component listing.

The sensors have stainless steel housings and quartz sensing element with capacitance value of 6pF for the piezoelectric sensing element for each of the EX628FOX and EX628F1X sensors. The sensors have stainless steel housings and ceramic sensing elements with capacitance value of 2000pF for the piezoelectric sensing element for each of the EX622B0X, EX622B1X, EXVO622B0X, EXVO622B1X, EX622A0X, EX622A1X, EXVO622A0X, EXVO622A1X, EX623C0X and EX623C1X.

Marking :

IMI Sensors Address :

Type : EX6... or EXVO6... (completed with the model)

Serial number : ...

Year of construction : ...

Ex ia IIC T4 Ga

Ex nA IIC T4 Gc

IECEx LCIE 15.0016 X

-54°C ≤ Ta ≤ +121°C

Version "ia" only :

Ui ≤ ... V, Ii ≤ ... mA, Pi ≤ ... W, Ci ≤ ... nF, Li ≤ ... μH (completed according to the model)

Electrical parameters :

Version "ia":

Type	Ui (V)	Ii (mA)	Pi (W)	Ci (nF)	Li (μH)
EX622A0X, EX622B0X, EX623C0X, EX628F0X	28	93	1	6,5	0
EXVO622B0X, EXVO622A0X	28	93	1	69,2	0
EX622A1X, EX622B1X, EX623C1X	28	93	1	67,5	305 (1)
EXVO622A1X, EXVO622B1X	28	93	1	81,4	61 (2)
EX628F1X	28	93	1	61	305

(1) cable length 1000 FT

(2) cable length 200FT

Version "nA":

U ≤ 28V, I ≤ 93mA, P ≤ 1W