



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 LCIE 13.0045X** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 3 Issue 2 (2017-03-27)
Date of Issue: 2020-03-27 Issue 1 (2015-11-09)
Issue 0 (2013-08-20)
Applicant: **IMI Sensors, a PCB Piezotronics Division**
3425 Waiden Avenue
Depew, New-York 14043
United States of America
Equipment: **Vibration Sensors - Type: EX(XX)602yzzz/aaa, EX(XX)603yzzz/aaa, EX(XX)606yzzz/aaa, EX(XX)607yzzz/aaa, EX(XX)608yzzz/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.

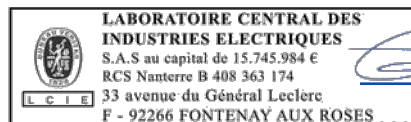
Approved for issue on behalf of the IECEx
Certification Body:

Julien GAUTHIER

Position:

Certification Officer

Signature:
(for printed version)



Julien Gauthier
2020-03-27

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:

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 13.0045X**

Page 2 of 4

Date of issue: 2020-03-27

Issue No: 3

Manufacturer: **IMI Sensors, a PCB Piezotronics Division**
3425 Waiden Avenue
Depew, New-York 14043
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 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:4

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:

[FR/LCIE/ExTR13.0040/00](#)
[FR/LCIE/ExTR20.0015/00](#)

[FR/LCIE/ExTR15.0110/00](#)
[FR/LCIE/ExTR20.0021/00](#)

[FR/LCIE/ExTR17.0015/00](#)

Quality Assessment Report:

[NL/DEK/QAR14.0004/04](#)



IECEx Certificate of Conformity

Certificate No.: **IECEx LCIE 13.0045X**

Page 3 of 4

Date of issue: 2020-03-27

Issue No: 3

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The EX(XX)602yzzz/aaa, EX(XX)603yzzz/aaa, EX(XX)606yzzz/aaa, EX(XX)607yzzz/aaa and EX(XX)608yzzz/aaa 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 circuit is connected to a connector or an integral cable.

See attachment for more details.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Version Ex ia:

- The intrinsically safe apparatus shall only be connected to associated intrinsically safe apparatus certified for the intended use. This association shall comply with the requirements of the IEC 60079-25 standard .
- Operating ambient temperature: -54°C to + 121°C.
- The apparatus shall be connected according to instruction manual.
- The mounting of the apparatus into an installation must be carried out in such a way that metallic body of the sensor is reliably connected to the system earth.

Version Ex nA:

- The apparatus must be only connected to an external source with $U \leq 28V$, $I \leq 200mA$, $P \leq 1W$.
- For final installation, the user shall take all necessary precautions to maintain the minimum degree of protection IP54 of the sensor connection according to IEC 60079-0 when connected according to the requirements of IEC 60079-14 standard.
- Operating ambient temperature: -54°C to +121°C.
- The apparatus must be connected according to instruction manual.
- WARNING – DO NOT SEPARATE WHEN ENERGIZED.



IECEx Certificate of Conformity

Certificate No.: **IECEx LCIE 13.0045X**

Page 4 of 4

Date of issue: 2020-03-27

Issue No: 3

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 00:

- Conformity assessment according to IEC 60079-0:2011, IEC 60079-11:2011 and IEC 60079-15:2010 standards.

Issue 01:

- Modification of the QAR.
- Modification of the manufacturing site.
- Modification of the applicant name.

Issue 02:

- Addition of a new option of temperature output.
- Update of the nomenclature of the models.
- Distinction between the name of the manufacturer (PCB Piezotronics Inc.) and the name of the trademark (IMI sensors or IMI).
- Change of the low ambient temperature from -40°C to -54°C.

Issue 03:

- Addition of 3 capacitors.
- Reduction of the connection cable length.
- Update of the intrinsic safe electrical parameters.

Annex:

[Annex to Certificate IECEx LCIE 13.0045X issue 03.pdf](#)



Annex to Certificate IECEX LCIE 13.0045X issue 03



MARKING

Full marking:

PCB Piezotronic Inc. or IMI Sensors or IMI
 Address: ...
 Type: ...
 Serial number: ...
 Year of construction: ...
 Ex ia IIC T4 Ga
 Ex nA IIC T4 Gc
 $-54^{\circ}\text{C} \leq T_{\text{amb}} \leq +121^{\circ}\text{C}$
 IECEX LCIE 13.0045 X
 $U_i : \dots \text{V}, I_i : \dots \text{mA}, P_i : \dots \text{W}, C_i : \dots \text{nF}, L_i : \dots \mu\text{H}$ (completed with electrical parameters)
 WARNING – DO NOT SEPARATE WHEN ENERGIZED.

Reduced marking:

PCB Piezotronic Inc. or IMI Sensors or IMI
 Type: ...
 Serial number: ...
 Year of construction: ...
 Ex ia IIC T4 Ga
 Ex nA IIC T4 Gc
 $T_a = 121^{\circ}\text{C}$
 IECEX LCIE 13.0045X

RANGE DETAILS

Models are electrically identical, but mechanically different:

EX(XX)602yzzz/aaa EX(XX)607yzzz/aaa EX(XX)606yzzz/aaa	Sensor with side exit connector or integral cable
EX(XX)603yzzz/aaa EX(XX)608yzzz/aaa	Sensor with top exit connector or integral cable Sensor with top exit integral cable

Symbol	Detail
XX	M: Metric mounting fastener option TO: Temperature Output Sensor option
y	One letter A to Z for model revision level
z	Special order
z	Sensitivity range (for example: 1 = 100mV/g)
z	0 = 2-pin Military Connector
	1 = Integral polyurethane jacketed cable
	2 = Integral FEP jacketed cable
	3 = Bayonet Military Connector
	4 = 10-32 top exit
	5 = 10-32 side exit
	6 = Integral armored polyurethane jacketed cable
	7 = Terminal block
	8 = Mini Military Connector
	9 = To be determined
aaa	Cable length (for example: 010 = 10 feet)

RATINGS

Version "ia"	Models equipped with	Intrinsic safety parameters
	Connector	$U_i : 28\text{V}, I_i : 120\text{mA}, P_i : 0.84\text{W}, C_i : 46.5\text{nF}, L_i : 0\mu\text{H}$
	Integral armored cable and Integral jacketed cable	$U_i : 28\text{V}, I_i : 120\text{mA}, P_i : 0.84\text{W}, C_i : 77\text{nF}, L_i : 152.5\mu\text{H}^*$
* cable length max 152.5m (500ft)		
Version "nA"	$U \leq 28\text{V}, I \leq 200\text{mA}, P \leq 1\text{W}$	

ROUTINE TESTS

Version "ia"	None.
Version "nA"	Each apparatus shall be submitted to a dielectric strength test under 600 Volts during 100ms according to clause 23.2.1 of IEC 60079-15 standard.

APPARATUS OVERVIEW



EX(XX)602yzzz/aaa



EX(XX)603yzzz/aaa



EX(XX)607yzzz/aaa



EX(XX)608yzzz/aaa



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 13.0045X	Issue No: 2	<u>Certificate history:</u>
Status:	Current		Issue No. 2 (2017-03-27)
Date of Issue:	2017-03-27	Page 1 of 4	Issue No. 1 (2015-11-09)
			Issue No. 0 (2013-08-20)
Applicant:	PCB Piezotronics Inc. 3425 Walden Avenue Depew, New York 14043 United States of America		
Equipment:	Vibration Sensors - Type: EX(XX)602yzzz/aaa, EX(XX)603yzzz/aaa, EX(XX)606yzzz/aaa, EX(XX)607yzzz/aaa, EX(XX)608yzzz/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:

Julien GAUTHIER

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 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 13.0045X

Issue No: 2

Date of Issue: **2017-03-27**

Page 2 of 4

Manufacturer: **PCB Piezotronics Inc.**
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/ExTR13.0040/00

FR/LCIE/ExTR15.0110/00

FR/LCIE/ExTR17.0015/00

Quality Assessment Report:

NL/DEK/QAR14.0004/02



IECEx Certificate of Conformity

Certificate No: IECEx LCIE 13.0045X

Issue No: 2

Date of Issue: **2017-03-27**

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The EX(XX)602yzzz/aaa, EX(XX)603yzzz/aaa, EX(XX)606yzzz/aaa, EX(XX)607yzzz/aaa and EX(XX)608yzzz/aaa 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 circuit is connected to a connector or an integral cable.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Version Ex 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 instruction manual.
- The mounting of the apparatus into an installation must be carried out in such a way that metallic body of the sensor is reliably connected to the system earth.

Version Ex nA:

- The apparatus must be only connected to an external source with $U \leq 28V$, $I \leq 200mA$, $P \leq 1W$.

- For final installation, the user shall take all necessary precautions to maintain the minimum degree of protection IP54 of the sensor connection when connected according to the requirements of EN 60079-14 standard.

- Operating ambient temperature: -54°C to +121°C.
- The apparatus must be connected according to instruction manual.
- WARNING – DO NOT SEPARATE WHEN ENERGIZED.



IECEX Certificate of Conformity

Certificate No: IECEx LCIE 13.0045X

Issue No: 2

Date of Issue: 2017-03-27

Page 4 of 4

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

Issue 01:

- Modification of QAR
- Addition of a manufacturing site
- Modification of the Applicant name

Issue 02:

- Addition of a new option of temperature output.
- Update of the nomenclature of the models.
- Distinction between the name of the manufacturer (PCB Piezotronics Inc.) and the name of the trademark (IMI sensors or IMI).
- Change of the low temperature ambient from -40°C to -54°C.

Annex:

LCIE 13.0045x issue02-Annex00.pdf



Annex 00 to Certificate IECEx LCIE 13.0045X issue 02



FULL EQUIPMENT DESCRIPTION

The EX(XX)602yzzz/aaa, EX603(XX)yzzz/aaa, EX(XX)606yzzz/aaa, EX607(XX)yzzz/aaa et EX(XX)608yzzz/aaa 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 circuit is connected to a connector or an integral cable.

Title:	Drawing No.:	Rev. Level:	Date:
Technical file "Ex ia" and "Ex nA" (IECEx)	56178	A	2016/07/01
Installation manual	41721	A	2017/01/18

MARKING

Full marking:

PCB PIEZOTRONICS INC. or IMI sensors or IMI
 Address: ...
 Type: ...
 Serial number: ...
 Year of construction: ...
 Ex ia IIC T4 Ga
 Ex nA IIC T4 Gc
 $-54^{\circ}\text{C} \leq T_{\text{amb}} \leq +121^{\circ}\text{C}$
 IECEx LCIE 13.0045X
 $U_i: \dots \text{V}, I_i: \dots \text{mA}, P_i: \dots \text{W}, C_i: \dots \text{nF}, L_i: \dots \mu\text{H}$ (completed with electrical parameters)
 WARNING – DO NOT SEPARATE WHEN ENERGIZED.

Reduced marking:

PCB Piezotronic Inc. or IMI Sensors or IMI
 Type: ...
 Serial number: ...
 Year of construction: ...
 Ex ia IIC T4 Ga
 Ex nA IIC T4 Gc
 $T_a = 121^{\circ}\text{C}$
 IECEx LCIE 13.0045X

RANGE DETAILS

Models are electrically identical, but mechanically different :
 EX(XX)602yzzz/aaa, EX(XX)607yzzz/aaa and EX(XX)606yzzz/aaa: Sensor with side exit connector or integral cable,
 EX(XX)603yzzz/aaa Sensor with top exit connector or integral cable,
 EX(XX)608yzzz/aaa Sensor with top exit integral cable.

Symbol	Detail	
XX	M	Metric mounting hardware and cable
	TO	Temperature Output Sensor
y	One letter A to Z	
zzz	Two or three numbers 00 to 999	
aaa	Cable length and/or connector type	



Annex 00 to Certificate IECEx LCIE 13.0045X issue 02



RATINGS

Version "ia":

Models equipped with	Intrinsic safety parameters
Connector	$U_i : 28V, I_i : 200mA, P_i : 1W, C_i : 16.2nF, L_i : 0\mu H$
Armor jacketed cable	$U_i : 28V, I_i : 200mA, P_i : 1W, C_i : 16.2nF, L_i : 305\mu H^*$
Integral cable	$U_i : 28V, I_i : 200mA, P_i : 1W, C_i : 77.2nF, L_i : 305\mu H^*$

* cable length max 305m (1000ft)

Version "nA":

$U \leq 28V, I \leq 200mA, P \leq 1W$

ROUTINE TESTS

Version "ia": None.

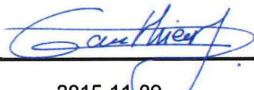
Version "nA": Each apparatus shall be submitted to a dielectric strength test under 600 Volts during 100ms according to clause 23.2.1 of IEC 60079-15 standard.



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 13.0045X	issue No.:1	Certificate history: Issue No. 1 (2015-11-9) Issue No. 0 (2013-8-20)
Status:	Current		
Date of Issue:	2015-11-09	Page 1 of 4	
Applicant:	IMI Sensor, a PCB Piezotronics Div. 3425 Walden Avenue Depew, New York United States of America		
Electrical Apparatus: Optional accessory:	Vibration Sensors Type : EX602Dxx, EX603Cxx, EX607Axx, EX608Axx, EX606Bxx		
Type of Protection:	Ex ia, Ex nA		
Marking:	IMI Sensors Address : Type : EX602Dxx, EX603Cxx, EX606Bxx, EX607Axx, EX608Axx (1) Serial number : ... Year of construction : ... Ex ia IIC T4 Ga or Ex nA IIC T4 Gc IECEX LCIE 13.0045 X -40°C ≤ Ta ≤ +121°C Version "ia" only : Ui = ... V, li = ... mA, Pi = ...W, Ci = ...nF, Li = ...µH (1) (1) completed according to the model		
Approved for issue on behalf of the IECEx Certification Body:	Julien GAUTHIER		
Position:	Certification Officer		
Signature: (for printed version)			
Date:	2015-11-09		

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".



L C I E



IECEx Certificate of Conformity

Certificate No.: IECEx LCIE 13.0045X

Date of Issue: 2015-11-09

Issue No.: 1

Page 2 of 4

Manufacturer: **PCB Piezotronics**
3425 Walden Avenue
Depew, New York
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/ExTR13.0040/00

FR/LCIE/ExTR15.0110/00

Quality Assessment Report:

NL/DEK/QAR14.0004/01



IECEx Certificate of Conformity

Certificate No.: IECEx LCIE 13.0045X

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 EX602, EX603, EX606, EX607 and EX608 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 (304SST), which houses a pcb substrate board and a piezo crystal element. The circuitry is connected to a two-pin "military" style connector at the end of the metal case. The EX603 and EX608 models have top exit connectors, while the EX602, EX606 and EX607 series have side exit connection facilities. The models with suffixes "0x" utilize a 2-conductor military type mating connector. Models with suffixes "1x" and "6x" are provided with an integral gland/boot and up to 305m of cable for field wire connections. The models with suffix "1x" differ from the models with suffix "6x" in that the integral cable for the models with suffix "6x" is an armored type cable. All models utilize the same electronics and piezoelectric crystal assemblies.

Models concerned :

EX602D01, EX603C01, EX606B01, EX607A01, EX602D11, EX603C11, EX606B11, EX607A11, EX608A11, EX602D61, EX603C61, EX606B61, EX607A61

CONDITIONS OF CERTIFICATION: YES as shown below:

The apparatus must be only connected to a certified associated intrinsically safe equipment and this combination must be compatible as regard intrinsic safety rules.

Operating ambient temperature : $-40^{\circ}\text{C} \leq T_a \leq +121^{\circ}\text{C}$

Electrical parameters :

All models : $U_i = 28\text{V}$, $I_i = 200\text{mA}$, $P_i = 1\text{W}$

EX60xx01 models : $C_i = 16,2\text{nF}$, $L_i = 0$

EX60xx11 models : $C_i = 77,2\text{nF}$, $L_i = 305\mu\text{F}$

EX60xx61 models : $C_i = 16,2\text{nF}$, $L_i = 305\mu\text{F}$



IECEx Certificate of Conformity

Certificate No.: IECEx LCIE 13.0045X

Date of Issue: 2015-11-09

Issue No.: 1

Page 4 of 4

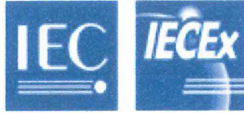
DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 01 :

Modification of QAR

Addition of a manufacturing site

Modification of the Applicant name



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.: issue No.: Certificate history:

Status:

Date of Issue: **2013-08-20** Page 1 of 3

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

Electrical Apparatus: **vibration sensors**
Optional accessory:

Type of Protection: **ia and nA**

Marking: IMI Sensors Address :
Type : EX602Dxx, EX603Cxx, EX606Bxx, EX607Axx, EX608Axx (1)
Serial number : ... Year of construction : ...
Ex ia IIC T4 Ga Ex nA IIC T4 Gc
IECEX LCIE 13.0045 X
-40°C ≤ Ta ≤ +121°C
Version "ia" only : Ui = ... V, li = ... mA, Pi = ...W, Ci = ...nF, Li = ...µH (1)
(1)completed according to the model

Approved for issue on behalf of the IECEx Certification Body: Jean Lanzo

Position: Certification Officer

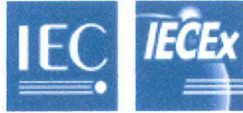
Signature: (for printed version)

Date: 20 AOUT 2013

- 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 13.0045X

Date of Issue: 2013-08-20

Issue No.: 0

Page 2 of 3

Manufacturer: **IMI Sensors**
A PCB Piezoelectric Div.
3425 Walden Avenue
Depew, New York
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/ExTR13.0040/00](#)

Quality Assessment Report:
[CA/CSA/QAR09.0018/02](#)



IECEx Certificate of Conformity

Certificate No.: IECEx LCIE 13.0045X

Date of Issue: 2013-08-20

Issue No.: 0

Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The model EX602, EX603, EX606, EX607 and EX608 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 (304SST), which houses a pcb substrate board and a piezo crystal element. The circuitry is connected to a two-pin "military" style connector at the end of the metal case. The EX603 and EX608 models have top exit connectors, while the EX602, EX606 and EX807 series have side exit connection facilities. The models with suffixes "0x" utilize a 2-conductor military type mating connector. Models with suffixes "1x" and "6x" are provided with an integral gland/boot and up to 305m of cable for field wire connections. The models with suffix "1x" differ from the models with suffix "6x" in that the integral cable for the models with suffix "6x" is an armored type cable. All models utilize the same electronics and piezo-electric crystal assemblies.

Models concerned :

EX602D01, EX603C01, EX606B01, EX607A01, EX602D11, EX603C11, EX606B11, EX607A11, EX608A11, EX602D61, EX603C61, EX606B61, EX607A61

CONDITIONS OF CERTIFICATION: YES as shown below:

The apparatus must be only connected to a certified associated intrinsically safe equipment and this combination must be compatible as regard intrinsic safety rules.

Operating ambient temperature : $-40^{\circ}\text{C} \leq T_a \leq +121^{\circ}\text{C}$

Electrical parameters :

All models : $U_i = 28\text{V}$, $I_i = 200\text{mA}$, $P_i = 1\text{W}$

EX60xx01 models : $C_i = 16,2\text{nF}$, $L_i = 0$

EX60xx11 models : $C_i = 77,2\text{nF}$, $L_i = 305\mu\text{F}$

EX60xx61 models : $C_i = 16,2\text{nF}$, $L_i = 305\mu\text{F}$