



# 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](http://www.iecex.com)

Certificate No.: **IECEX LCIE 14.0050X** issue No.: **1** Certificate history:  
Issue No. 1 (2015-11-9)  
Issue No. 0 (2015-3-13)

Status: **Current**

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

Applicant: **PCB Piezotronics**  
3425 Walden Avenue  
Depew, New York 14086  
**United States of America**

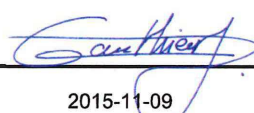
Electrical Apparatus: **Pressure sensor**  
Optional accessory: Types EX121XYYY and EX171XYYY

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

Marking: Type EX121XYYY : Ex ia IIC T4 to T3 Ga, Ex nA IIC T4 Gc  
Type EX171XYYY : Ex ia IIC T6 to T2 Ga, Ex nA IIC T4 Gc  
IECEX LCIE 14.0050X  
(see Annex for full marking)

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**.

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".



**LCIE**



# IECEx Certificate of Conformity

Certificate No.: IECEx LCIE 14.0050X

Date of Issue: 2015-11-09

Issue No.: 1

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Manufacturer: **PCB Piezotronics**  
3425 Walden Avenue  
Depew, New York 14086  
**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:

<b>IEC 60079-0 : 2011</b> Edition: 6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-11 : 2011</b> Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-15 : 2010</b> 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/ExTR14.0055/00

FR/LCIE/ExTR15.0113/00

Quality Assessment Report:

NL/DEK/QAR14.0004/01



# IECEx Certificate of Conformity

Certificate No.: IECEx LCIE 14.0050X

Date of Issue: 2015-11-09

Issue No.: 1

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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

Type EX121XYYY : the sensor consists of a sealed cylindrical metal case, which houses a pcb substrate board and a quartz sensing element. The circuitry is connected to a connector.  
Type EX171XYYY : the sensor consists of a sealed cylindrical metal case which houses a quartz sensing element.

**Marking :** *see annex*

**Electrical parameters :** *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 :

- type EX121XYYY: - 54°C to + 121°C.

- type EX171XYYY : - 54°C to + 260°C

Type EX121XYYY : the apparatus shall be connected according to drawing n°57258 (page 1/2).

Type EX171XYYY : the apparatus shall be connected according to drawing n°60674 (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 :

- type EX121XYYY :- 54°C à +121°C.

- type EX171XYYY :- 54°C à +260°C.

Type EX121XYYY : the apparatus shall be connected according to drawing n°57258 (page 2/2).

Type EX171XYYY : the apparatus shall be connected according to drawing n°60674 (page 2/2).



# IECEX Certificate of Conformity

Certificate No.: IECEx LCIE 14.0050X

Date of Issue: 2015-11-09

Issue No.: 1

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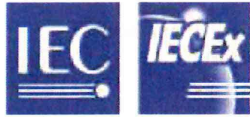
## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

### Issue 01 :

Modification of QAR

Addition of a manufacturing site

**Annex: IECEx LCIE 14.0050 X - issue 01 - Annex 01.pdf**



## Annex 01 to Certificate IECEX LCIE 14.0050 X issue 01



### **Marking :**

PCB Piezotronics

Address : ...

Type : EX121XYYY <sup>(1)</sup>

Serial number : ...

Year of construction : ...

Ex ia IIC T4 Ga (Tamb ≤ +72°C)

Ex ia IIC T3 Ga (Tamb ≤ +121°C)

Ex nA IIC T4 Gc (Tamb ≤ +121°C)

IECEX LCIE 14.0050 X

-54°C ≤ Tamb ≤ +121°C

#### Model ia :

U<sub>i</sub> : 30V, I<sub>i</sub> : 100mA, P<sub>i</sub> : 0.7W, C<sub>i</sub> : 0, L<sub>i</sub> : 0

PCB Piezotronics

Address : ...

Type : EX171XYYY <sup>(1)</sup>

Serial number : ...

Year of construction : ...

Ex ia IIC T6 Ga (Tamb ≤ +80°C)

Ex ia IIC T5 Ga (Tamb ≤ +95°C)

Ex ia IIC T4 Ga (Tamb ≤ +130°C)

Ex ia IIC T3 Ga (Tamb ≤ +190°C)

Ex ia IIC T2 Ga (Tamb ≤ +260°C)

Ex nA IIC T6 Gc (Tamb ≤ +80°C)

Ex nA IIC T5 Gc (Tamb ≤ +95°C)

Ex nA IIC T4 Gc (Tamb ≤ +130°C)

Ex nA IIC T3 Gc (Tamb ≤ +190°C)

Ex nA IIC T2 Gc (Tamb ≤ +260°C)

IECEX LCIE 14.0050 X

-54°C ≤ Tamb ≤ +260°C

#### Model ia

U<sub>i</sub> : 30V, I<sub>i</sub> : 100mA, P<sub>i</sub> : 0.7W, C<sub>i</sub> : 12nF, L<sub>i</sub> : 0

<sup>(1)</sup> *completed by the model*

### **Electrical parameters :**

#### Model ia :

Type EX121XYYY : U<sub>i</sub> : 30V, I<sub>i</sub> : 100mA, P<sub>i</sub> : 0.7W, C<sub>i</sub> : 0, L<sub>i</sub> : 0

Type EX171XYYY : U<sub>i</sub> : 30V, I<sub>i</sub> : 100mA, P<sub>i</sub> : 0.7W, C<sub>i</sub> : 12nF, L<sub>i</sub> : 0

#### Model nA :

Type EX121XYYY : U : 30V, I : 100mA, P : 0.7W

Type EX171XYYY : U : 30V, I : 100mA, P : 0.7W





# 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](http://www.iecex.com)

Certificate No.: IECEx LCIE 14.0050X

Issue No: 0

Certificate history:

Status: **Current**

Issue No. 1 (2015-11-09)

Issue No. 0 (2015-03-13)

Date of Issue: **2015-03-13**

Page 1 of 3

Applicant: **PCB Piezotronics**  
3425 Walden Avenue  
Depew, New York 14086  
**United States of America**

Equipment: **Pressure sensor types EX121XYYY and EX171XYYY**

Optional accessory:

Type of Protection: **ia and nA**

Marking:

Type EX121XYYY : Ex ia IIC T4 to T3 Ga, Ex nA IIC T4 Gc

Type EX171XYYY : Ex ia IIC T6 to T2 Ga, Ex nA IIC T4 Gc

IECEX LCIE 14.0050X

(see attachment for more informations)

Approved for issue on behalf of the IECEx  
Certification Body:

Rémi HANOT

Position:

Certification Officer

Signature:  
(for printed version)

Date:

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Certificate issued by:

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33 Avenue du General Leclerc  
FR-92260 Fontenay-aux-Roses  
France





# IECEX Certificate of Conformity

Certificate No: IECEX LCIE 14.0050X

Issue No: 0

Date of Issue: **2015-03-13**

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Manufacturer: **PCB Piezotronics**  
3425 Walden Avenue  
Depew, New York 14086  
**United States of America**

Additional Manufacturing location(s):

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#### 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:

<b>IEC 60079-0 : 2011</b> Edition:6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-11 : 2011</b> Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "I"
<b>IEC 60079-15 : 2010</b> 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/ExTR14.0055/00](#)

Quality Assessment Report:

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



# IECEX Certificate of Conformity

Certificate No: IECEx LCIE 14.0050X

Issue No: 0

Date of Issue: 2015-03-13

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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

Type EX121XYYY : the sensor consists of a sealed cylindrical metal case, which houses a pcb substrate board and a quartz sensing element. The circuitry is connected to a connector.

Type EX171XYYY : the sensor consists of a sealed cylindrical metal case which houses a quartz sensing element.

**Marking :** see attachment

**Electrical parameters :** see attachment

### SPECIFIC CONDITIONS OF USE: 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 :

- type EX121XYYY: - 54°C to + 121°C.

- type EX171XYYY : - 54°C to + 260°C

Type EX121XYYY : the apparatus shall be connected according to drawing n°57258 (page 1/2).

Type EX171XYYY : the apparatus shall be connected according to drawing n°60674 (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 :

- type EX121XYYY :- 54°C à +121°C.

- type EX171XYYY :- 54°C à +260°C.

Type EX121XYYY : the apparatus shall be connected according to drawing n°57258 (page 2/2).

Type EX171XYYY : the apparatus shall be connected according to drawing n°60674 (page 2/2).

### Annex:

LCIE 14.0050X - attchment 01 - version 1.pdf





# IECEX LCIE 14.0050 X issue 00 Attachment n°01



## Marking :

PCB Piezotronics Address :  
Type : EX121XYYY (completed with the model)  
Serial number : ... Year of construction : ...  
Ex ia IIC T4 Ga (Tamb ≤ 72°C)  
Ex ia IIC T3 Ga (Tamb ≤ 121°C)  
Ex nA IIC T4 Gc (Tamb ≤ 121°C)  
IECEX LCIE 14.0050 X  
-54°C ≤ Ta ≤ +121°C  
Version « ia » only :  $U_i$  :30 V,  $I_i$  :100 mA,  $P_i$  :0,7W,  $C_i$  :0,  $L_i$  :0

PCB Piezotronics Address :  
Type : EX171XYYY (completed with the model)  
Serial number : ... Year of construction : ...  
Ex ia IIC T6 Ga (Tamb ≤ 80°C)  
Ex ia IIC T5 Ga (Tamb ≤ 95°C)  
Ex ia IIC T4 Ga (Tamb ≤ 130°C)  
Ex ia IIC T3 Ga (Tamb ≤ 190°C)  
Ex ia IIC T2 Ga (Tamb ≤ 260°C)  
Ex nA IIC T6 Gc (Tamb ≤ 80°C)  
Ex nA IIC T5 Gc (Tamb ≤ 95°C)  
Ex nA IIC T4 Gc (Tamb ≤ 130°C)  
Ex nA IIC T3 Gc (Tamb ≤ 190°C)  
Ex nA IIC T2 Gc (Tamb ≤ 260°C)  
IECEX LCIE 14.0050X  
-54°C ≤ Ta ≤ +260°C  
Version « ia » only :  $U_i$  :30 V,  $I_i$  :100 mA,  $P_i$  :0,7W,  $C_i$  :12nF,  $L_i$  :0

## Electrical parameters :

Version "ia" :  
Type EX121XYYY :  $U_i$  :30 V,  $I_i$  :100 mA,  $P_i$  :0,7W,  $C_i$  :0,  $L_i$  :0  
Type EX171XYYY :  $U_i$  :30 V,  $I_i$  :100 mA,  $P_i$  :0,7W,  $C_i$  :12nF,  $L_i$  :0

Version « nA » :  
Type EX121XYYY :  $U$  :30 V,  $I$  :100 mA,  $P$  :0,7W  
Type EX171XYYY :  $U$  :30 V,  $I$  :100 mA,  $P$  :0,7W