



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

Ex COMPONENT CERTIFICATE

Certificate No.: IECEx BAS 07.0030U

Issue No: 10

Certificate history:

Status: **Current**

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Issue No. 10 (2019-03-07)

Date of Issue: **2019-03-07**

Issue No. 9 (2018-03-22)

Issue No. 8 (2017-08-01)

Issue No. 7 (2015-12-16)

Issue No. 6 (2013-02-08)

Issue No. 5 (2011-10-20)

Issue No. 4 (2010-05-28)

Issue No. 3 (2008-09-29)

Issue No. 2 (2007-12-05)

Issue No. 1 (2007-11-09)

Applicant: **Ion Science Limited**
The Hive
Butts Lane
Fowlmere
Royston
SG8 7SL
United Kingdom

Ex Component: **MiniPID or IonPID Range**

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

Type of Protection: **Intrinsic Safety**

Marking:

Ex ia IIC T4 Ga For ambient temperature limits see Schedule

Approved for issue on behalf of the IECEx
Certification Body:

R S Sinclair

D BREARLEY
Certification
Manager


Position:

Technical Manager

Signature:

(for printed version)

Date:


7/3/19

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:

SGS Baseefa Limited
Rockhead Business Park
Staden Lane
Buxton, Derbyshire, SK17 9RZ
United Kingdom





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Manufacturer: **Ion Science Ltd**

The Hive
Butts Lane
Fowlmere
Royston
SG8 7SL
United Kingdom

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 Component 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 Ex Component 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 : 2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

*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 Ex Component listed has successfully met the examination and test requirements as recorded in

Test Report:

[GB/BAS/ExTR07.0056/01](#)

[GB/BAS/ExTR07.0146/00](#)

[GB/BAS/ExTR07.0181/00](#)

[GB/BAS/ExTR08.0135/01](#)

[GB/BAS/ExTR09.0195/00](#)

[GB/BAS/ExTR11.0231/00](#)

[GB/BAS/ExTR12.0273/00](#)

[GB/BAS/ExTR15.0368/00](#)

[GB/BAS/ExTR18.0064/00](#)

[GB/BAS/ExTR18.0329/00](#)

Quality Assessment Report:

[GB/BAS/QAR07.0023/07](#)



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Schedule

Ex Component(s) covered by this certificate is described below:

The **MiniPID STD** or **IonPID STD** is designed to detect trace gases in a sample by detection of photo ionisation currents. It comprises electronic circuits on PCBs and a small cold discharge lamp, all contained in a cylindrical plastic enclosure with a removable grid assembly at one end (to enable replacement of the lamp when required), and three pins for electrical connection at the opposite end.

The parameters and code for this Component are:

Supply: $U_i = 5V, I_i = 3.3A$ peak or 272mA long term, $P_i = 1.1W, C_i = 7\mu F, L_i = 0$
Signals: $U_i = 10V, I_i = 10mA, P_i = 50mW, C_i = 0.12\mu F, L_i = 0$

or

All Lines: $U_i = 5V, I_i = 3.3A$ peak or 272mA long term, $P_i = 1.1W, C_i = 7.12\mu F, L_i = 0$

Ex ia IIC T4 Ga in a temperature range of -40°C to +55°C

If Supply P_i is limited to 1W, the temperature range becomes -40°C to +60°C

If Supply P_i is limited to 0.9W, the temperature range becomes -40°C to +65°C

The **MiniPID REG** or **IonPID REG** is the same as MiniPID STD or IonPID STD except that it has an internal voltage regulator to allow higher Supply voltage and the parameters and code are:

Supply: $U_i = 10V, I_i = 3.3A$ peak or 272mA long term, $P_i = 1.1W, C_i = 1.1\mu F, L_i = 0$
Signal: $U_i = 10V, I_i = 10mA, P_i = 50mW, C_i = 0.12\mu F, L_i = 0$

or

All Lines: $U_i = 10V, I_i = 3.3A$ peak or 272mA long term, $P_i = 1.1W, C_i = 1.22\mu F, L_i = 0$

Ex ia IIC T4 Ga in a temperature range of -40°C to +55°C

If Supply P_i is limited to 1W, the temperature range becomes -40°C to +60°C

If Supply P_i is limited to 0.9W, the temperature range becomes -40°C to +65°C

The **MiniPID PLUS** or **IonPID PLUS** is similar to the MiniPID STD or IonPID STD except that it is fitted with a 6 pin connector and has extra signal connections available for other circuit functions.

For this version the parameters and code are:

Supply: $U_i = 5V, I_i = 3.3A$ peak or 272mA long term, $P_i = 1.1W, C_i = 6\mu F, L_i = 0$
Signals: $U_i = 10V, I_i = 10mA, P_i = 50mW, C_i = 0.36\mu F, L_i = 0$

or

All Lines: $U_i = 5V, I_i = 3.3A$ peak or 272mA long term, $P_i = 1.1W, C_i = 6.36\mu F, L_i = 0$

Ex ia IIC T4 Ga in a temperature range of -40°C to +60°C

SCHEDULE OF LIMITATIONS:

1. The Component must be mounted within apparatus which provides ingress protection of at least IP20, protection against impact, and protection against possible electrostatic charging of the plastic enclosure.
2. No conductive surfaces or items to be mounted within 10mm creepage distance or 6mm clearance distance of the end cap (sensor face) unless either separated by 1mm of solid insulation or connected to the 0V of the supply to the Component.



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

Variation 10.1

To permit the use of alternative input parameters, to allow an alternative component change, to modify the schedule of limitations and to confirm the design conforms to the requirements of IEC60079-0: 2017.

ExTR: **GB/BAS/ExTR18.0329/00**

File Reference: **18/0825**