



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

### Ex COMPONENT CERTIFICATE

Certificate No.: **IECEX CSAE 23.0038U** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2023-11-09

Applicant: **SemeaTech (Shanghai) Co., Ltd.**  
1355 Chengbei Road  
Bldg#1-416,805  
Jiading, Shanghai  
China

Ex Component: 4-Series PID sensor, Model number: 4PID-50C, 4PID-200C, 4PID-2000C and 4PID-10000C.

*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: **Intrinsically Safe "ia"**

Marking: Ex ia IIC Ga

Approved for issue on behalf of the IECEx  
Certification Body:

**Michelle Halliwell**

Position:

**Director Operations, UK & Industrial Europe**

Signature:  
(for printed version)

Date:  
(for printed version)

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](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

**CSA Group Testing UK Ltd**  
Unit 6, Hawarden Industrial Park  
Hawarden, Deeside CH5 3US  
United Kingdom





# IECEX Certificate of Conformity

Certificate No.: **IECEX CSAE 23.0038U**

Page 2 of 3

Date of issue: 2023-11-09

Issue No: 0

Manufacturer: **SemeaTech (Shanghai) Co., Ltd.**  
1355 Chengbei Road  
Bldg#1-416,805  
Jiading, Shanghai  
**China**

Manufacturing locations: **SemeaTech (Shanghai) Co., Ltd.**  
1355 Chengbei Road  
Bldg#1-416,805  
Jiading, Shanghai  
**China**

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 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 safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

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

Test Report:

[GB/CSAE/ExTR23.0084/00](#)

Quality Assessment Report:

[GB/CSAE/QAR23.0015/00](#)



# IECEX Certificate of Conformity

Certificate No.: **IECEX CSAE 23.0038U**

Page 3 of 3

Date of issue: 2023-11-09

Issue No: 0

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

The 4-Series PID Sensor is a cylindrically shaped sensor that has a physical size of  $\varnothing 20.2\text{mm} \times 22.15\text{mm}$ . Its electrical interface port is a three poled connector at the bottom of the sensor module. The sensor is a photo-ionization detection type. The PID sensor consists of an ultraviolet (UV) lamp and one pair of electrodes positioned in front of the UV lamp, with a built-in high voltage module. The UV lamp emits photons to ionize gases, and the measurement electrodes collect the ionization current resulting from charged molecules. The electrical amplifier circuit amplifies the sensor signal and the sensor module output signal. It is powered by nominal source voltage of 5Vdc.

The 4-Series PID sensor can be connected to a standard 3-pin sensor connector on a PCB mounted within a measurement system that requires the PID input. The pinouts of the sensor are defined as follows:

Pins	Description
Pin 1	VCC
Pin 2	GND
Pin 3	Vout

The sensor has the following entity parameters:

Input Parameter	
Ui	5.89Vdc
Ii	2.0A
Pi	1.2W
Ci	10.0 $\mu\text{F}$
Li	1 $\mu\text{H}$

## SCHEDULE OF LIMITATIONS:

1. The sensor shall be supplied by an intrinsically safe supply coded Ex ia considering entity parameters in the product description.
2. The component meets the temperature class T4 if the permitted range of the service temperature at the location of installation is  $-20^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$ .
3. The sensor shall be installed in an additional enclosure that provides a minimum degree of ingress protection of IP20 or greater, according to the intended use and environmental conditions. The sensor is not intended to form part of the external enclosure for the complete equipment in which it is installed.
4. When the sensor is installed in an enclosure containing other devices, care should be taken to ensure that the segregation between the circuit associated with the sensor and other circuits complies with IEC 60079-11.