



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 EPS 22.0074X** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: **2023-08-30**
Applicant: **pi safety components GmbH & Co. KG**
Muehlenweg 2
Teuschnitz 96358
Germany
Equipment: **Controller type AC.Ex**
Optional accessory: **Sensors type IY.Ex-...**
Type of Protection: **Encapsulation "m", Increased safety "e", intrinsic safety "i", protection by enclosure "t"**
Marking: **Ex eb mb ib [ia Ga] IIC T4 Gb** Controller
Ex tb [ia Da] IIIC T130°C Db
Ex ia IIC T6...T1 Ga/Gb Sensor
Ex ia IIIC T75°C...T145°C Db

Approved for issue on behalf of the IECEx
Certification Body:

Position:

Signature:
(for printed version)

Date:
(for printed version)



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2. This certificate is not transferable and remains the property of the issuing body.
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Certificate issued by:

Bureau Veritas Consumer Products Services Germany GmbH
Businesspark A96
86842 Türkheim
Germany





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Page 2 of 3

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Manufacturer: **pi safety components GmbH & Co. KG**
Muehlenweg 2
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Germany

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 60079-0:2017 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

IEC 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

IEC 60079-26:2014 Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
Edition:3.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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 Report:

DE/EPS/ExTR22.0070/00

Quality Assessment Report:

DE/EPS/QAR14.0005/10



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Page 3 of 3

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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The controller type AC.Ex is used for the connection and evaluation of intrinsically safe sensors of various measured variables such as temperature, humidity and differential pressure. The integrated terminal box in type of protection "e" ensures a direct electrical connection in hazardous areas.

The controller type AC.Ex may only be installed and operated in zones 1/21 and 2/22. The sensors are protected by type of protection Ex ia and may be installed and operated in zone 0 or 21/22 as well as at the border of areas requiring Ga/Gb or Db.

Electrical data:

Controller type AC.Ex

Permissible ambient temperature range: $-40\text{ }^{\circ}\text{C}$ to $+58\text{ }^{\circ}\text{C}$.

Supply: UN = 24 VAC/C $\pm 20\%$, 3.5 W, 50...60 Hz

Terminals 1 and 2 Safety-related maximum voltage $U_m = 30\text{ V}$

Alarm contact: IN = 5 to 100 mA

Terminals 1 and 3 Maximum safety voltage $U_m = 30\text{ V}$

Actuator supply: UN = 24 VAC/C $\pm 20\%$, 50...60 Hz

Terminals 4 and 5 Safety-related maximum voltage $U_m = 30\text{ V}$

Actuator output: UN = 0 (2) to 10 V, IN = 0 (4) to 20 mA

Terminals 6 and 7 Safety-related maximum voltage $U_m = 30\text{ V}$

Actuator - input UN = 0 (2) to 10 V, IN = 0 (4) to 20 mA

Terminals 7 and 8 Safety-related maximum voltage $U_m = 30\text{ V}$

PLC connection: UN = 0 (2) to 10 V, IN = 0 (4) to 20 mA

Terminals 9, 10 and 11 Safety-related maximum voltage $U_m = 30\text{ V}$

Sensor circuit in protection type intrinsic safety Ex ia IIC

5-pole connector Maximum values: $U_o = 5\text{ V}$, $I_o = 1055\text{ mA}$, $P_o = 492\text{ mW}$ (output characteristic linear)

maximum permissible external capacitance: $C_o = 3.7\text{ }\mu\text{F}$

maximum permissible external inductance: $L_o = 91\text{ }\mu\text{H}$

Sensor types IY.Ex-... in type of protection intrinsic safety Ex ia IIC resp. Ex ia IIIC

only for connection to the sensor circuit of this device or a correspondingly certified intrinsically safe circuit with the following

maximum values: $U_i = 5\text{ V}$, $I_i = 1055\text{ mA}$, $P_i = 492\text{ mW}$

or to the sensor circuit of this device.

Maximum ambient temperature range sensors:

T6 or T75 $^{\circ}\text{C}$ = $-40\text{ }^{\circ}\text{C}$ to $+55\text{ }^{\circ}\text{C}$

T5 or T90 $^{\circ}\text{C}$ = $-40\text{ }^{\circ}\text{C}$ to $+70\text{ }^{\circ}\text{C}$

T4 or T120 $^{\circ}\text{C}$ = $-40\text{ }^{\circ}\text{C}$ to $+100\text{ }^{\circ}\text{C}$

T3-T1 or T145 $^{\circ}\text{C}$ = $-40\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$

Maximum effective internal capacitance: $C_i = 440\text{ nF}$

The effective internal inductance is negligibly small

SPECIFIC CONDITIONS OF USE: YES as shown below:

The housing of the controller type AC.Ex is not resistant to UV irradiation and must therefore be protected accordingly.

The housing of the controller type AC.Ex has been subjected only to tests corresponding to a low degree of mechanical danger and must therefore be installed with appropriate protection.

The housing of the controller type AC.Ex must not be opened under voltage.

To ensure zone separation, the plant operator must verify the tightness of the plant after installation of the sensors.