



EU - Type Examination Certificate

(1)

(2) Equipment and protective systems intended for use in potentially explosive atmospheres – **Directive 2014/34/EU**

(3) EU - Type Examination Certificate Number

EPS 22 ATEX 1 338 X

Revision 0

(4) Equipment: Controller type AC.Ex and Sensors type IY.Ex-...

(5) Manufacturer: pi safety components GmbH & Co. KG

(6) Address: Muehlenweg 2
96358 Teuschnitz
Germany

(7) This equipment and any acceptable variation thereto are specified in the annex to this certificate and the documentation therein referred to.

(8) Bureau Veritas Consumer Products Services Germany GmbH, notified body No. 2004 in accordance with Article 21 given in the Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014, certifies that this equipment has been found to comply with the essential health and safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II of the Directive. The examination and test results are recorded in the confidential documentation under the reference number 22TH0487.

(9) Compliance with the essential health and safety requirements has been assured by compliance with:

EN IEC 60079-0:2018

**EN 60079-7:2015,
EN IEC 60079-7:2015/A1:2018**

EN 60079-11:2012

**EN 60079-18:2015,
EN 60079-18:2015/A1:2017**

EN 60079-26:2015

EN 60079-31:2014

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the annex to this certificate.

(11) This EU - Type Examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture of this equipment and its placing on the market. Those requirements are not covered by this certificate.

(12) The marking of the equipment shall include the following:



II 2(1)G Ex eb mb ib [ia Ga] IIC T4 Gb

Controller

II 2(1)D Ex tb [ia Da] IIIC T130 °C Db



II 1/2G Ex ia IIC T6...T1 Ga/Gb

Sensor

II 2D Ex ia IIIC T75 °C...T145 °C Db

Certification department of explosion protection

Tuerkheim, 2023-08-30



Certificates without signature and seal are void. No part of this certificate is allowed to be distributed only if not modified. Extracts or modifications must be authorized by Bureau Veritas Consumer Products Services Germany GmbH.

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Certificate number EPS 22 ATEX 1 338 X, Revision 0

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**BUREAU
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(13)

Annex

(14) **EU - Type Examination Certificate EPS 22 ATEX 1 338 X**

Revision 0

(15) Description of equipment:

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 °C to +58 °C

Supply: $U_N = 24 \text{ VAC/C} \pm 20 \%$, 3.5 W, 50...60 Hz

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

Alarm contact: $I_N = 5 \text{ to } 100 \text{ mA}$

Terminals 1 and 3 Safety-related maximum voltage $U_m = 30 \text{ V}$

Actuator supply: $U_N = 24 \text{ VAC/C} \pm 20\%$, 50...60 Hz

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

Actuator output: $U_N = 0 \text{ (2) to } 10 \text{ V}$, $I_N = 0 \text{ (4) to } 20 \text{ mA}$

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

Actuator – input: $U_N = 0 \text{ (2) to } 10 \text{ V}$, $I_N = 0 \text{ (4) to } 20 \text{ mA}$

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

PLC connection: $U_N = 0 \text{ (2) to } 10 \text{ V}$, $I_N = 0 \text{ (4) to } 20 \text{ mA}$

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 protection type 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:

$U_i = 5 \text{ V}$

$I_i = 1055 \text{ mA}$

$P_i = 492 \text{ mW}$

Maximum ambient temperature range sensors:

T6 or T75 °C	-40 °C to +55 °C
T5 or T90 °C	-40 °C to +70 °C
T4 or T120 °C	-40 °C to +100 °C
T3-T1 or T145 °C	-40 °C to +125 °C

maximum permissible internal capacitance: $C_i = 440 \text{ nF}$

The effective internal inductance is negligibly small

Annex to EU - Type Examination Certificate EPS 22 ATEX 1 338 X

Revision 0

(16) Reference number: 22TH0487

(17) Special conditions for safe use:

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.

(18) Essential health and safety requirements:

Met by compliance with standards.



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