



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 KDB 18.0005X** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 1 Issue 0 (2018-07-30)
Date of Issue: 2021-10-29
Applicant: **APLISENS S. A.**
ul. Morelowa 7, 03-192 Warszawa
Poland
Equipment: **Pressure transmitters type:PC-28, PC-28.Smart, PC-29A, PC-29B, PC-28.Modbus, PC-28 Ex Safety, PCE-28, PCE-28.Smart, PCE-28.Modbus, PCE-28 Ex Safety. Differential pressure transmitters type:PR-28, PR-28.Smart, PR-29A, PR-29B, PR-28.Modbus, PR-28 Ex Safety, PRE-28, PRE-28.Smart, PRE-28.Modbus, PRE-28 Ex Safety**
Optional accessory:
Type of Protection: **Flameproof enclosure "d", Dust protection by enclosure "t"**
Marking:

- transmitters with PZ2 electrical connection:
Ex db I Mb
Ex db IIC T6/T5/T4 Gb
Ex tb IIIC T85°C/T100°C/T120°C Db
- transmitters with SGM or FL electrical connection:
Ex db IIC T6/T5/T4 Gb
Ex tb IIIC T85°C/T100°C/T120°C Db

Approved for issue on behalf of the IECEX
Certification Body:

mgr inż. Piotr Madej

Position:

Head of ExCB

Signature:
(for printed version)

Date:

madej
29.10.2021

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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 or use of this QR Code.



Certificate issued by:

Główny Instytut Górnictwa, Kopalnia Doświadczalna "BARBARA"
(Central Mining Institute Experimental Mine "Barbara")
ul. Podleska 72
43-190 Mikołów
Poland





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Issue No: 1

Manufacturer: **APLISENS S. A.**
ul. Morelowa 7, 03-192 Warszawa
Poland

Additional
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 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

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

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 Reports:

PL/KDB/ExTR18.0006/00

PL/KDB/ExTR18.0006/01

Quality Assessment Report:

PL/KDB/QAR12.0001/05



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The pressure transmitters type PC-28, PC-28.Smart, PC-29A, PC-29B, PC-28.Modbus, PC-28 Ex Safety, PCE-28, PCE-28.Smart, PCE-28.Modbus, PCE-28 Ex Safety are designed to measure gauge pressure, vacuum pressure and absolute pressure of gases, vapours and liquids (including corrosive).

The differential pressure transmitters type PR-28, PR-28.Smart, PR-29A, PR-29B, PR-28.Modbus, PR-28 Ex Safety, PRE-28, PRE-28.Smart, PRE-28.Modbus, PRE-28 Ex Safety are used to measure liquid levels in closed tanks and to measure differential pressure at filters, orifices and others. The differential pressure transmitters with P-type connectors are designed to work with static pressure of up to 4MPa only.

The pressure transmitters and differential pressure transmitters can be fitted with a range of additional process connectors, enabling them to be used in a conditions variety, such as dense media, reactive media, high and low temperature.

The basic elements of the transmitters construction are:

- measuring head in which a pressure signal is converted into an electric signal;
- electronic unit that converts the measuring head signal into a unified transmission signal;
- housing;
- SGM, FL or PZ2 type electrical connection, where:
 - SGM - the electrical connection of the transmitter with a hermetically sealed power cord in a polyurethane sheath, with external metric thread M20x1,5 or tapered thread 1/2 "NPT,
 - FL - the electrical connection of the transmitter with hermetically sealed power wires with PVC insulation, with external metric thread M20x1,5 or tapered thread 1/2 "NPT,
 - PZ2 - electrical connection of the transmitter with the terminal box closed with a threaded cover, welded to the upper part of the housing.

The transducer housing is made of Ø27mm pipe. The external thread in the SGM and FL electrical connection enables it to be screwed into the socket:

a) Ex d flameproof enclosure, for the execution of:

Ex db IIC T6/T5/T4 Gb;

b) Ex d flameproof enclosure, Ex e increased safety, or Ex t protection by enclosure, for the execution of:

Ex tb IIIC T85°C/T100°C/T120°C Db while maintaining the required degree of protection IP66.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- Transmitters with LiYwC11Y (1) 4x0,35c type cable, (SGM electrical connection), used at an ambient temperature of $T_a = 65^\circ\text{C}$ and process temperature 105°C , must be installed in a horizontal position in such a way that the temperature above the process connection does not exceed 100°C .
- If transmitters for Group III contain:
 - the nameplate made of plastic,
 - diaphragm seals covered by PTFE,they should be installed in a way that prevents electrostatic charging, according to the instruction manual.
- If the elements made of titanium are used in the construction of the device, during installation and operation of the transmitter these elements should be protected against direct access.
- External parts made of plastic should be cleaned with a damp cloth, with the addition of antistatic fluids.
- The diaphragm should not be subject on damage during installation and exploitation of the transmitter. The transmitter diaphragm is made of stainless steel or Hastelloy alloy and must not be exposed to medium that could cause its damage.
- Flameproof joints are not intended to be repaired.
- The cable glands inlets used must meet the explosion-proof requirements and have the Ex marking, in accordance with the Ex marking of the device.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

New versions have been introduced with connection PZ2.

Annex:

[CoC_KDB_18_0005X_001_Attachment.pdf](#)

Data Sheet

Manufacturer: APLISENS S.A.
ul. Morelowa 7, 03-192 Warszawa, POLAND

Equipment:

Pressure transmitters type:
PC-28, PC-28.Smart, PC-29A, PC-29B, PC-28.Modbus,
PC-28 Ex Safety, PCE-28, PCE-28.Smart, PCE-28.Modbus, PCE-28 Ex Safety

Differential pressure transmitters type:
PR-28, PR-28.Smart, PR-29A, PR-29B, PR-28.Modbus,
PR-28 Ex Safety, PRE-28, PRE-28.Smart, PRE-28.Modbus, PRE-28 Ex Safety

Marking:

- transmitters with PZ2 electrical connection:
Ex db I Mb
Ex db IIC T6/T5/T4 Gb
Ex tb IIIC T85°C/T100°C/T120°C Db

- transmitters with SGM or FL electrical connection:
Ex db IIC T6/T5/T4 Gb
Ex tb IIIC T85°C/T100°C/T120°C Db

Technical safe parameters:

For transmitters with FL connection (with wires LgYc type with PVC insulation) or with PZ2 connection:

Variant I:

Maximum ambient temperature: $T_a \leq +70^\circ\text{C}$
Maximum process temperature: 70°C

Marking:

Temperature class: T6
Maximum surface temperature: $T85^\circ\text{C}$

Variant II:

Maximum ambient temperature: $T_a \leq +80^\circ\text{C}$
Maximum process temperature: 85°C

Marking:

Temperature class: T5
Maximum surface temperature: $T100^\circ\text{C}$

Variant III:

Maximum ambient temperature: $T_a \leq +80^\circ\text{C}$
Maximum process temperature: 115°C

Marking:

Temperature class: T4
Maximum surface temperature: $T120^\circ\text{C}$

For transmitters with SGM connection (with cable LiYwC11Y (1) 4x0,35c type in a polyurethane sheath):

Variant I:

Maximum ambient temperature: $T_a \leq +65^\circ\text{C}$
Maximum process temperature: 75°C

Marking:

Temperature class: T6
Maximum surface temperature: $T85^\circ\text{C}$

Variant II:

Maximum ambient temperature: $T_a \leq +65^\circ\text{C}$
Maximum process temperature: 105°C

Marking:

Temperature class: T5
Maximum surface temperature: $T100^\circ\text{C}$

Note! See specific conditions of use.

For all variants of implementation:

Minimum ambient temperature:

For differential pressure transmitters: $-25^\circ\text{C} \leq T_a$
For pressure transmitters: $-40^\circ\text{C} \leq T_a$
For special version transmitters: $-50^\circ\text{C} \leq T_a$

Transmitter type	Maximum power supply voltage	Output signal
PC-28 PCE-28 PR-28 PRE-28	30V DC	4+20mA
PC-28 Ex Safety PCE-28 Ex Safety PR-28 Ex Safety PRE-28 Ex Safety	30V DC	4+20mA

PC-28.Smart PCE-28.Smart PR-28.Smart PRE-28.Smart	30V DC	4÷20mA + Hart
PC-28.Modbus PCE-28.Modbus PR-28.Modbus PRE-28.Modbus	28V DC	MODBUS RTU
PC-29A PR-29A	16V DC	0,5÷4,5V
	16V DC	1÷5V 0÷5V
	16V DC	0÷10V
PC-29B PR-29B	5,6V DC	0÷2V
	5,6V DC	0÷2,5V
	5,6V DC	0÷3V
	5,6V DC	0÷3,3V
	5,6V DC	0,4÷2V
	5,6V DC	1÷2,5V

Maximum power supply of the transmitter:
Ingress protection:

1W
≥ IP 66