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## EU TYPE EXAMINATION CERTIFICATE

- [1] Protective equipment and systems intended for use in potentially explosive atmospheres. Directive 2014/34/EU (the Regulation of the Minister of Development of June 6, 2016 Item 817)
- [2] EU type examination certificate (module B):  
**KDB 12ATEX0071X** **2nd edition**
- [3] Equipment:  
Smart pressure transmitters type PC-28.SMART, PCE-28.SMART  
Smart differential pressure transmitters type PR-28.SMART, PRE-28.SMART  
Smart hydrostatic level probes type PC-28P.SMART, PCE-28P.SMART
- [4] Manufacturer:  
**APLISENS S.A.**
- [5] Address:  
**ul. Morelowa 7, 03-192 Warszawa, POLAND**
- [6] The protective equipment or system and any acceptable variations thereto are specified in the schedule to this certificate.
- [7] Central Mining Institute, Notified Body no 1453 according to Directive 2014/34/EU of February 26, 2014, approves that the protective equipment or system specified in this certificate has been found to comply with the essential health and safety requirements for the design and construction of protective equipment and systems intended for use in potentially explosive atmosphere given in Annex II to Directive 2014/34 /EU (Annex No. 2 to the Regulation of the Minister of Development of June 6, 2016. Journal of Laws of June 9, 2016 Item 817). The results of the assessment and examinations as well as the list of agreed documentation are recorded in the confidential Report **KDB No 12.091-2 [T-6895-1]**
- [8] The essential health and safety requirements have been met by compliance with the requirements of the following standards:  
**EN 60079-0: 2012 + A11:2013; EN 60079-11:2012; EN 50303:2000**
- [9] If sign "X" is placed after the certificate number, this means the specific conditions of use set out in the schedule to this certificate.
- [10] This EU type examination certificate relates only to the construction, assessment and testing of the specified product in accordance with Directive 2014/34 /EU (the Regulation of the Minister of Development of June 6, 2016. Journal of Laws of June 9, 2016 Item 817). The certificate shall not cover the remaining requirements of the Directive regarding the manufacturing process and placing the protective equipment or system on the market.
- [11] The marking of the equipment shall include the following:

 I M1 Ex ia I Ma  
II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb  
II 1D Ex ia IIIC T105°C Da  
or  
 II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb  
or  
 II 1/2G Ex ia IIC T4 Ga/Gb  
or  
 II 1/2G Ex ia IIC T4 Ga/Gb  
II 1D Ex ia IIIC T105°C Da

mgr inż. Piotr Madej

ATEX Certification  
Expert

GLÓWNY INSTYTUT GÓRNICWA  
KIEROWNIK  
Jednostki Certyfikującej  
dr inż. Dariusz Stefaniak

Date of issue: **31.08.2018**

Page 1 of 4

Central Mining Institute, 40-166 Katowice, Plac Gwarków 1, Poland, [www.gig.eu](http://www.gig.eu)  
(Certification Body-Product Certification Team-Experimental Mine "Barbara" Mikołów)  
Certification Body accredited by PCA [Polish Centre for Accreditation], No AC038.

This certificate may only be reproduced in its entirety together with schedules. The document without signatures and stamps shall be not valid.

PC/CM-ATEX-01/ExXpl ed. 02.2018



KDBEX.eu



**[15] Description:**

The PC-28.SMART, PCE-28.SMART smart pressure transmitters are designed to measure gauge pressure, vacuum pressure and absolute pressure of gases, vapours and liquids (including corrosive).

The PR-28.SMART, PRE-28.SMART differential pressure transmitters are used to measure liquid levels in closed tanks, static pressure up to 25 MPa or 32 MPa for special versions, and to measure differential pressure and flow measurement at filters, orifices and others. The transmitters with P-type connectors are designed to work with static pressure of up to 4MPa or 7MPa only.

The PCE-28P.SMART smart hydrostatic level probes are used to measure liquid levels in open tanks.


The active sensing element is a enclosed silicon diaphragm with piezoresistors, separated from the medium by a sealing diaphragm and manometric fluid. The electronic system digitally processes the measurement signal and generates output signals an analogue 4÷20 mA signal, and a digital Hart communication signal. The main electronic assembly is identical for all versions.

The main components of the smart pressure transmitter are the sensing module, in which the pressure signal is converted into an electrical signal, and the electronic system, which converts the signal from the sensing module into an unified output signal.


The casing of the transmitter made from ø27 or ø25 pipe (for SG or SGM cable connector) is permanently mounted on the sensing module. On the other side is an electrical connector. The ALW and ALM type electrical connectors are made of an aluminum alloy housing with an electronic display inside.

Marking:


- transmitters with PD, PZ, PK, PKM, SG, SGM electric connector:

 I M1 Ex ia I Ma  
II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb  
II 1D Ex ia IIIC T105°C Da


- transmitters with PM12 or PKD connector:

 II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb

- transmitters with ALW or ALM and PM12 connector:

 II 1/2G Ex ia IIC T4 Ga/Gb

- transmitters with ALW or ALM and PD connector:

 II 1/2G Ex ia IIC T4 Ga/Gb  
II 1D Ex ia IIIC T105°C Da

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**SCHEDULE**  
EU type examination certificate  
**KDB 12ATEX0071X 2nd edition**



**Technical parameters:**

Supply voltage	7,5 V ÷ 30 V DC 10,5 V ÷ 30 V DC (with ALW and ALM connector)	
Measurement range	max. 100 MPa for PC-28.SMART, PCE-28.SMART max 7 MPa for PR-28.SMART, PRE-28.SMART max 3000 mmH <sub>2</sub> O for PC-28P.SMART, PCE-28P.SMART,	
Output signal	4 ÷ 20 mA + HART	
Ingress protection	IP65 transmitters with PD electrical connector, and transmitters with ALW or ALM connector with electrical output PD IP66 transmitters with PZ connector IP67 transmitters with PK, PKM, PKD, PM12 and transmitters with ALW or ALM connector and PM12 electrical output IP68 transmitters with SG, SGM cable connector	
Ambient temperature - maximum:		
Pi	Ta	Temperature class
0,75W	+50°C	T6
	+70°C	T5
	+75°C*      +80°C	T4, Group I
1,2W	+40°C	T6
	+65°C	T5
	+75°C*      +80°C	T4, Group I
Ambient temperature - minimum:		
	Ta	
	-40°C	
	-50°C (special version)	

\* Ambient temperature of transmitters with ALW or ALM connector

Intrinsic safety parameters:

Supply from a power source with linear output characteristic:

Ui=30V      Ii=0,1A      Pi=0,75W or Pi=1,2W

Supply from a power source with rectangular or trapezoidal output characteristic:

Ui=24V      Ii=0,1A      Pi=0,75W or Pi=1,2W

Ci=11nF      Li = 0,61 mH

Ci=25nF      Li = 0,61 mH (transmitter with ALW or ALM connector)

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**SCHEDULE**  
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**[16] Test Report:**

"ATEX assessment report" KDB No 12.091-2

**[17] Special conditions of use:**

- Version of transmitter with surge arrester, marked on the plate "Version SA", does not meet the requirements of Section 10.3 of the EN 60079-11 (500 Vrms). The relevant information for the user is included in the manual.
- Transmitters with display, (with electrical connection ALW or ALM) and transmitters with a plastic rating plate and transmitters with teflon coated diaphragm seals for Group III, should be installed in a place and in a way that prevents electrostatic charging - see user's 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.

**[18] Essential health and safety requirements:**

Met by fulfilling the requirements of the following standards:  
EN 60079-0:2012 + A11:2013 (PN-EN 60079-0:2013-03 + A11:2014-03);  
EN 60079-11:2012 (PN-EN 60079-11:2012);  
EN 50303:2000 (PN-EN 50303:2004);

**Document history:**

- EC type examination certificate KDB 12ATEX0071X, 0 edition of 16.05.2012, initial certification.
- EU type examination certificate KDB 12ATEX0071X, 1st edition of 24.04.2017, supersedes the certificate KDB 12ATEX0071X, 0 edition of 16.05.2012.  
New measurement module and main PCB assembly have been introduced. The new electrical connectors have been introduced. The new alternative casting compound has been introduced.
- EU type examination certificate KDB 12ATEX0071X, 2nd edition of 31.08.2018, supersedes the certificate KDB 12ATEX0071X, 1st edition of 24.04.2017.  
The new design has been introduced with an adapter with a flange for flow measurement, a new type of process connection and a new type of electrical connection. An additional sealing method has been introduced in the SG cable connection. A transducer equipped with a separator made of titanium parts has been added. Special conditions of use have changed.