CERTIFICATE

[1] **EC-TYPE EXAMINATION CERTIFICATE**

[2] Equipment, protective systems and components intended for use in potentially explosive atmospheres - Directive 94/9/EC

[3] EC – type examination certificate:

KDB 04ATEX010X

[4] Equipment or protective system:

Pressure transmitters type PC-28, PC-28P and Differential pressure transmitters type PR-28

[5] Manufacturer:

APLISENS-Manufacture Of Pressure Transmitters And Control Instruments

[6] Address:

ul. Morelowa 7 , 03-192 Warszawa

[7] This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] Central Mining Institute, Notified Body number 1453 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment and protective system 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 to the Directive.

The examination and test results are recorded in confidential report number KDB No. 04.121 [T-5006]

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50303:2000; EN 50284: 1999; EN 50014:1997 + A1:1999 + A2:1999; EN 50020:2002

[10] If the sign „X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EC-type examination certificate relates only to the design and construction of the specified equipment and protective system in accordance with Directive 94/9/EC.
Further requirements of the Directive may apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

II 1/2G EEx ia IIC T4/T5/T6
I M1 EEx ia I

KDB ATEX

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dr inż. Krzysztof Cybulski

Główny Instytut Górnictwa w Katowicach
Jednostka Certyfikująca

GŁÓWNY INSTYTUT GÓRNICTWA
K I E R O W N I K
Jednostki Certyfikującej
dr inż. Dariusz Stefaniak

[13] # SCHEDULE

[14] **EC-Type Examination Certificate KDB 04ATEX010X**

[15] **Description:**

Pressure transmitters **PC-28**, **PC-28P** are designed to measure positive gauge pressure, vacuum pressure and absolute pressure of gases, vapors and liquids.
Differential pressure transmitters **PR-28** are designed to measure liquid levels in closed tanks and to measure differential pressure across constrictions.
The electronic part is identical in all versions.
The active sensing element is a silicon diaphragm with in-diffused piezoresistors located in sensing module.
The electronic part amplifies and standardizes the output signal of measuring bridge.
The casing of the transmitters, made from stainless steel pipe, is stable mounted on the sensing module.
On the other side can be mounted the following electrical connections:
- PD(angular connector produced by Hirschmann)
- PZ(terminal box with packing gland PG-11)
- PK(cable connector - stable interval of cable.)

Technical data

Nominal data

Measurement range	4kPa ÷ 60MPa for PC-28, PC-28P 4kPa ÷ 2,5MPa for PR-28
Output signal	4 ÷ 20mA two-wire transmission
Accuracy	0,25% up to 0,4% (dependent on measurement range)
Ambient temperature limit	-40°C ÷ +40°C, -40°C ÷ +60°C, -40°C ÷ +80°C
Supply	Intrinsic safety power line with power supply max 28V
Degree of protection	IP65 for PD and PZ connectors IP67 for PK

Permitted input parameters

- for power supply with a linear characteristic

-Ui = 28V for Ta ≤ 60°C and T6 and Ta ≤ 80°C and T5

-Ii = 0,1A

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[13] # SCHEDULE

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-Ui = 28V
-Ii = 0,1A for Ta = 80°C and T6
-Pi = 0,25W
-for power supply with a "trapezoidal" characteristic
-Ui = 8,2V
-Ii = 0,1A
-Pi = 2W for Ta = 60°C and T5
-Pi = 1W for Ta = 80°C and T5
-Pi = 2,24W for Ta = 40°C and T6
-Pi = 1,24W for Ta = 60°C and T6
-Pi = 0,25W for Ta = 80°C and T6
-for power supply with "rectangular" characteristic
-Ui = 28V
-Ii = 0,082A
-Pi = 2W for Ta = 60°C and T5
-Pi = 1W for Ta = 80°C and T5
-Pi = 2,24W for Ta = 40°C and T6
-Pi = 1,24W for Ta = 60°C and T6
-Pi = 0,25W for Ta = 80°C and T6
-Input inductance and capacity:
- Li = 0,94mH
- Ci ≤ 40nF

The level of protection:

- the pressure transmitter is an intrinsic safety device with level of protection "ia", when supply circuit have level of protection "ia"
- the pressure transmitter is an intrinsic safety device with level of protection "ib", when supply circuit have level of protection "ib"

[16] **Test report:**

Report no. KDB Nr 04.121

[17] **Special condition for safe use:**

- the sign "X" in the certificate number relating to the version

[13] # SCHEDULE

[14] **EC-Type Examination Certificate KDB 04ATEX010X**

with the permanently connected lead.

[18] **Essential health and safety requirements:**
Met by compliance with standards listed in section 9. of this Certificate.

[19] **Descriptive documents:**

Figure PC28-A000-01	Technical characteristics (2 sheets)	04.2004
Figure PC28-C001-TA	Rating plate (2 sheets)	04.2004
Figure PC28-S032-00	PC-28- Circuit diagram	04.2004
Figure PC28-B032-00	Electronics board (2 sheets)	04.2004
Figure PC28-B016-00	Electronics board of filter (2 sheets)	04.2004
Figure ZA-008-TA	Terminal electronics board (2 sheets)	04.2004
Figure PC28-A200-TA	Technological advice	04.2004
Figure PC28-A104-TA	PC-28, PC-28P - type pressure transmitter (3 sheets)	04.2004
Figure PR28-A104-TA	PR-28-type differential pressure transmitter (2 sheets)	04.2004
Figure APC2000-B014-TA	Electronics board with protective resistors	04.2004
Figure GC1-001-TA	Sensor module - very low pressure (3 sheets)	04.2004
Figure GC3-001-TA	Sensor module - low, middle, absolute pressure (2 sheets)	04.2004
Figure GC4-001-TA	Sensor module - middle, high, absolute pressure (2 sheets)	04.2004
Figure GR50-001-TA	Differential pressure sensor module (2 sheets)	04.2004

"Analysis of conformity with standard for PC-28, PC-28P - type pressure transmitters
and PR-28-type differential pressure transmitters"
"Measurement and calculation relating to the non-damageable elements and supply conditions for transmitters
PC-28, PC-28P, PR-28"

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