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 04ATEX059

[4] Equipment or protective system:

Smart pressure transmitters type APC-2000EEx and Smart differential pressure transmitters type APR-2000EEx, APR-2200EEx

[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. 04.124 [T-5009]

[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

Date of issuance: 17.06.2004

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ZESPOŁU CERTYFIKACJI WYROBÓW
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Główny Instytut Górnictwa w Katowicach
Jednostka Certyfikująca

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KDB ATEX

[13] # SCHEDULE

[14] **EC-Type Examination Certificate KDB 04ATEX059**

[15] **Description:**

Smart pressure transmitters APC-2000EEx are designed to measure positive gauge pressure, vacuum pressure and absolute pressure of gases, vapours and liquids. Differential pressure transmitters APR-2000EEx, APR-2200EEx are designed to measure liquid levels in closed tanks and to measure differential pressure across constrictions.
The electronic part is identical for 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.
Mounted and sealed on the other side is electrical connector:

- PD(angular connector produced by Hirschmann)
- PZ(terminal box with packing gland M20x1,5)

Technical data

Nominal data

Measurement range	0.7Pa up 40MPa for APC-2000EEx 4kPa up 2.5MPa for APR-2000EEx, APR-2200EEx 250Pa up 10kPa for APR-2000EExG 1.6mH_2O up 10mH_2O for APR-2000EExY
Output signal	4 ÷ 20mA two-wire transmission
Accuracy	0,07% up to 0,5% (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

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
  - Pi = 0,53W for Ta = 70°C and T6
  - Pi = 0,18W for Ta = 80°C and T6
- for power supply with a "trapezoidal" characteristic
  - Ui = 22,5V for Ta ≤ 60°C and T6 and Ta ≤ 80°C and T5
  - Ii = 0,1A
  - Pi = 0,53W for Ta = 70°C and T6
  - Pi = 0,18W for Ta = 80°C and T6

Główny Instytut Górnictwa w Katowicach ☆ Jednostka Certyfikująca ☆

[13] # SCHEDULE

[14] **EC-Type Examination Certificate KDB 04ATEX059**

- for power supply with "rectangular" characteristic
  - Ui = 28V
  - Ii = 0,03A
  - Pi = 0,67W for Ta ≤ 60°C and T6 and Ta ≤ 80°C and T5
  - Pi = 0,53W for Ta = 70°C and T6
  - Pi = 0,18W for Ta = 80°C and T6

Input inductance and capacity:

Li = 0,94mH for version with PZ
Li = 2mH for version with PD.
Ci ≤ 40nF

The level of protection:

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

[16] **Test report:**
Report no. KDB Nr **Błąd! Nie można odnaleźć źródła odwołania.**

[17] **Special condition for safe use:**
- None

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

[19] **Descriptive documents:**

Figure APC2000-A000-01	Technical characteristics (2 sheets)	04.2004
Figure APC2000-C001-TA	Rating plate (2 sheets)	04.2004
Figure APC2000-S002-00	APC-2000EEx- Input circuit diagram (1 sheet)	04.2004
Figure APC2000-S002-00	APC-2000EEx- diagram of analog-to-digital electronics board, ver. 2 (2 sheets)	04.2004
Figure APC2000-S003-00	Diagram of electronics board APC2000-B015-00	04.2004
Figure APC2000-B011-00	Electronics board of filter (2 sheets)	04.2004
Figure ZA-008-TA	Terminal electronics board (2 sheets)	04.2004
Figure APC2000-A200-TA	Technological advices	04.2004
Figure APC2000-B004-TA	APC-2000EEx- analog-to-digital electronics board, ver. 2 (3 sheets)	04.2004
Figure APC2000-B014-TA	Electronics board with protective resistors	04.2004
Figure APC2000-B015-TA	Electronics board with protective resistors and thermal compensation resistors	04.2004

[13] # SCHEDULE

[14] ## EC-Type Examination Certificate KDB 04ATEX059

Figure APC2000-A103-TA	APC-2000EEx-type pressure transmitter (2 sheets)	04.2004
Figure APR2000-A001-TA	APR-2000EEx-type differential pressure transmitter (2 sheets)	04.2004
Figure APC2000-B001-TA	Sensor module	04.2004
Figure APC2000-B005-TA	Assembly of resistor	03.2004
Figure ZG-002-TA	Header Ø15	04.2004
Figure ZG-006-TA	Transistorized header. Assembly	04.2004

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