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 04ATEX089

[4] Equipment or protective system:

Smart level probes type:
SG-25.SMART and SG-25S.SMART

[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. 04.206 [T-5095]

[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 1G 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
KIEROWNIK
Jednostki Certyfikacji
dr inż. Dariusz Stefaniak

[13] # SCHEDULE

[14] **EC-Type Examination Certificate KDB 04ATEX089**

[15] **Description:**

Smart level probes SG-25.SMART, SG-25S.SMART are designed to measure the level of liquid in wells, swimming pools, watercourses, boreholes and level of liquid waste and of dense or viscous.

The standard signal 4 - 20mA is the output signal of probes using two-wire transmission.

The cable is stable mounted on the probe.

The cables of special version probes can be covered an additional teflon shield.

The electronic circuit is identical for both versions and is hermetically flooded harden able silicone encapsulated in the steel casing.
The active sensing element is a silicon diaphragm with in-diffused piezoresistors located in sensing module.
The output signal of measuring bridge enter into a electronic part which amplifies and standardizes the output signal.

Technical data

Nominal data

Measurement range	**SG-25.SMART** 0 ÷ 100 mH2O with minimum set range up to 8 mH2O 0 ÷ 10 mH2O with minimum set range up to 0,8 mH2O **SG-25.SMART** 0 ÷ 10 mH2O with minimum set range up to 0,8 mH2O 0 ÷ 3 mH2O with minimum set range up to 0,25 mH2O
Output signal	4 ÷ 20mA two-wire transmission
Accuracy	**SG-25.SMART** ≤± 0,1% for basic range ≤± 0,3% for minimum range **SG-25.SMART** ≤± 0,16% for basic range ≤± 0,4% for minimum range

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Ambient temperature limit	-25°C ÷ +60°C
Supply	Intrinsic safety power line with power supply max 28V
Degree of protection	IP68

Permitted input parameters

- for power supply with a linear characteristic

  -Ui = 28V for Ta ≤ 70°C and T6 and Ta ≤ 80°C and T5
  -Ii = 0,1A
  -Ui = 28V
  -Ii = 0,1A for Ta = 80°C and T6
  -Pi = 0,31W

- for power supply with a "trapezoidal" characteristic

  -Ui = 28V
  -Ii = 0,1A
  -Pi = 0,8W for Ta ≤ 70°C and T6 and Ta ≤ 80°C and T5
  -Pi = 0,31W for Ta = 80°C and T6

- for power supply with "rectangular" characteristic

  -Ui = 28V
  -Ii = 0,03A
  -Pi = 0,31W for Ta = 80°C and T6

Input inductance and capacity:

Li = 1,83mH

Ci ≤ 30nF

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The level of protection:

- the hydrostatic level probes is an intrinsic safety device with level of protection "ia", when supply circuit have level of protection "ia"

- the hydrostatic level probes 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 04.206

[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 SG25-A000-11	Technical characteristics (2 sheets)	05.2004
Figure SG25-C002-TA	Rating plate (2 sheets)	05.2004
Figure SG25-S003-00	Circuit diagram of SG-25.SMART, SG-25S.SMART Hydrostatic level probes	05.2004
Figure SG25-S004-00	Circuit diagram of SG-25.SMART, SG-25S.SMART Hydrostatic level probes	05.2004
Figure SG25-B003-00	Electronics board MPC3-rev.3 (Level probe - SMART) (4 sheets)	05.2004
Figure SG25-B004-00	Electronics board MPC3-rev.4 (Level probe - SMART) (4 sheets)	05.2004
Figure SG25-A201-TA	Technological advices	06.2004
Figure SG25-A003-TA	SG-25.SMART and SG-25S.SMART Level probe (2 sheets)	05.2004

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[13] # SCHEDULE

[14] **EC-Type Examination Certificate KDB 04ATEX089**

Figure GC3-006-TA	Sensor module of probe SG-25, SG-25S SG-25.SMART, SG-25S.SMART(2 sheets)	05.2004
Figure GC4-006-TA	Sensor module of probe SG-25, SG-25S SG-25.SMART, SG-25S.SMART(2 sheets)	05.2004
Figure ZA-002-TA	Cable assembly	11.2003
Figure ZG-002-TA	Header Ø15	04.2004
Figure ZG-006-TA	Transistorized header. Assembly	04.2004