



AC 149



EU-TYPE EXAMINATION CERTIFICATE

- (1)
- (2) Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU
- (3) EU-Type Examination Certificate Number: **JSHP 24 ATEX 0040X** *issue 0*
- (4) Product: **Smart pressure transmitters type APC-2000ALM**
Smart differential pressure transmitters type APR-2000ALM, APR-2000ALM/G,
Smart level probe type APR-2000YALM
- (5) Manufacturer: **APLISENS S.A.**
- (6) Address: **03-192 Warszawa, ul. Morelowa 7, Poland**
- (7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- (8) J.S. Hamilton Poland Sp. z o.o., Notified Body no. 2057, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in confidential Report No. JSHP/RW/11/24/RM.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- | | | |
|---|---|---|
| EN IEC 60079-0:2018
(PN-EN IEC 60079-0:2018-09) | EN 60079-1:2014
(PN-EN 60079-1:2014-12) | EN 60079-11:2012
(PN-EN 60079-11:2012) |
| EN 60079-26:2015
(PN-EN 60079-26:2015-04) | | EN 60079-31:2014
(PN-EN 60079-31:2014-10) |
- (10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the specific conditions of use specified in the schedule to this certificate.
- (11) This EU-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
This certificate is valid in its entirety, schedule(s) included.
- (12) The marking of the product shall include the following:



I M2 Ex db ia I Mb



II 1/2G Ex ia/db IIC T5 Ga/Gb



II 2D Ex ia tb IIIC T100°C Db



II 2G Ex db ia IIC T5 Gb



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Kierownik
Jednostki Certyfikującej



HAMILTON

Siemianowice Śl., 31th October 2024



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(13)

SCHEDULE

(14)

CERTIFICATE No. JSHP 24 ATEX 0040X

(15) Description of product:

APC-2000ALM pressure transmitters are designed to measure overpressure, underpressure and absolute pressure of gases, vapours and liquids (also with corrosive properties). APR-2000ALM differential pressure transmitters are used to measure levels in closed tanks and to measure pressure differences across accumulating elements such as filters, orifices, etc. APR-2000YALM level probes are used to measure liquid levels in closed tanks. APR-2000ALM/G transmitters are used to measure the pressure of non-aggressive gases. APC-2000ALM, APR-2000ALM transmitters can be additionally equipped with a number of types of separator process connections, which allows them to be used in various conditions such as: dense, aggressive, high and low temperature media, etc.

The basic unit of the transmitter and the probe is a measuring head with a silicon diaphragm sensor, working in the intrinsically safe circuit (Ex ia), mounted in transmitter enclosures. Measuring heads can be equipped with different pressure connections. Inside the head there is the "pressure chamber" filled with manometer liquid. It is limited by a diaphragm welded tightly to the head's body, on the side of measured medium.

Differential pressure transmitters have two separated diaphragms for the inputs: "+" and "-". Inside the head there is a bushing in which a measuring silicon diaphragm with piezoresistors is installed. The parts of the diaphragm seals can be coated with teflon.

Enclosures of transmitters are made of die-cast aluminium alloy or stainless steel. Enclosure consists of a body and two screwed covers (display cover and electrical connection cover). The cable enters into the enclosure by cable gland with thread M20x1,5 or 1/2NPT depending on the version of the enclosure body. In the non-used opening there is mounted plug.

The device version including the flameproof enclosure requires use of flameproof cable gland and plug. The device in the Ex d and Ex t version includes plug produced by Aplisens S.A.

The measuring head working in the intrinsically safe circuit (Ex ia), in the version of the device including the flameproof enclosure, is separated from the rest of the equipment by the bushing.

The transmitter enclosure also includes a terminal strip for connecting the power supply and Modbus RTU transmission.

The pressure transmitters in aluminum housings are designed for groups II and III, and pressure transmitters in steel housings for groups I, II and III.

Technical characteristics:

Ambient temperature

- 40°C + +75°C (pressure transmitter)

- 25°C + +75°C (differential pressure)

Special version:

from -50°C

Ingress protection

IP66 / IP67

Output signals

MODBUS RTU

Power supply voltage

12 ÷ 30 V DC



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(16)

Report number:

- JSHP/RW/11/24/RM
- The measured reference pressure is: chamber K1 – 4.75 bar,
chamber K2 – 3.64 bar.

(17)

Specific conditions of use:

- In dust explosion hazardous areas, transmitters in varnished aluminum enclosures, as well as transmitters equipped with plastic rating plates and with parts of diaphragm separators covered with a PTFE layer, should be installed in a way that prevents electrostatic charging, in accordance with the operating instructions
- The diaphragm separator containing titanium elements must be protected against mechanical impacts.
- The diaphragm in contact with the medium must not be exposed to an environment that could damage it.
- The transmitter power supply should comply with overvoltage category II (or better) according to EN 60664-1.
- Flameproof joints are not intended for repair.

(18)

Essential Health and Safety Requirements:

These requirements (EHSRs) are covered by the standards listed at item 9.

(19)

Drawings and documents:

- Technical documentation APC-2000ALM Smart pressure transmitters, APR-2000ALM Smart differential pressure transmitters, APR-2000ALM/G Smart differential pressure transmitters for gases, APR-2000YALM Smart level probes. Exd version. September 2023. C_DT.APC-2000ALM.Exd.01_EN.
- Explosion-proof device manual APC-2000ALM Smart pressure transmitters, APR-2000ALM Smart differential pressure transmitters, APR-2000ALM/G Smart differential pressure transmitters for gases, APR-2000YALM Smart level probes. October 2023. Edition 01.A.001.

Detailed list of documents required for certified type identification is included in Report mentioned in Clause (16).

(20)

Document history:

- EU type examination certificate No. JSHP 24 ATEX 0040X of 31.10.2024 - issue 0



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