IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx KDB 15.0005X**	Page 1 of 6	Certificate history:
Status:	**Current**	Issue No: 1	Issue 0 (2015-06-19)
Date of Issue:	2021-06-30		
Applicant:	**APLISENS S.A.** ul. Morelowa 7, 03-192 Warszawa **Poland**		
Equipment:	**Smart temperature transmitter type LI-24ALW, LI-24ALW Safety version Ex „d" and LI-24ALW Safety version Ex „i"**		
Optional accessory:			
Type of Protection:	**Flameproof enclosure "d", Dust protection by enclosure "t", Intrinsic safety "i"**		
Marking:	Marking of the equipment is described on Page 4.		

Approved for issue on behalf of the IECEx Certification Body: **mgr inż. Piotr Madej**

Position: **Head of ExCB**

Signature: (for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

Główny Instytut Górnictwa, Kopalnia Doświadczalna "BARBARA"
(Central Mining Institute Experimental Mine "Barbara")
ul. Podleska 72
43-190 Mikołów
Poland

IECEx Certificate of Conformity

Manufacturer: **APLISENS S.A.**
ul. Morelowa 7, 03-192 Warszawa
Poland

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

PL/KDB/ExTR15.0006/01

Quality Assessment Report:

PL/KDB/QAR12.0001/05

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Smart temperature transmitter type LI-24ALW, LI-24ALW Safety version Ex “d” and LI-24ALW Safety version Ex „i” are designed for temperature measurement in various industrial applications related to measuring, control and regulation. The transmitter basic components are enclosure and logic unit converting signal form the measuring sensor to output signal. The transmitters can be provided with temperature sensors installed directly to the transmitter enclosure or temperature sensors installed with the connection cable. Enclosure of the transmitter is made of high pressure die-cast aluminium alloy or stainless steel. The housing consists of a main enclosure and two screwed access covers (for the display and electrical connection terminal) Cover for the display has a window. The enclosure is provided with openings with thread M20x1,5 or ½” NPT.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- Temperature class of transmitter with temperature sensor installed directly (T** for gas) or the maximum surface temperature (T* for dust) depends on the process temperature (temperature of controlled medium) and methods of installation on site. For the temperature of the medium higher than declared maximum ambient temprature the temperature class T** and the maximum surface temperature T* should be determined in accordance with the manufacturer’s manual.
- Some of the permitted gaps in flameproof joints are smaller and width of the flameproof joints are greater than the one specified in Table 3 EN 60079-1. The relevant information for the user are included in the manual.
- In hazardous zones of dust explosion, transmitters with painted aluminum enclosures, as well as transmitters equipped with plastic marking plates should be installed in a way that prevents electrostatic charging, in accordance with the instructions.

IECEx Certificate of Conformity

Equipment (continued):

Marking:

Smart temperature transmitter type LI-24ALW, version Ex „d" designed to work with an independent distance sensor:

- version with aluminium alloy enclosure:

Ex db [ia Ga] IIC T5/T6 Gb
Ex tb [ia Da] IIIC T100°C/T85°C Db

- version with steel (316) enclosure:

Ex db [ia Ga] IIC T5/T6 Gb
Ex tb [ia Da] IIIC T100°C/T85°C Db
Ex db [ia Ma] I Mb

Smart temperature transmitter version Ex „d":

- **type LI-24ALW, designed to work with a direct sensor;**
- **type LI-24ALW, with an installed direct sensor;**
- **type LI-24ALW Safety, designed to work with an independent distance sensor or direct sensor;**

- version with aluminium alloy enclosure:

Ex db IIC T**/T5/T6 Gb
Ex tb IIIC T*/T100°C/T85°C Db

- version with steel (316) enclosure:

Ex db IIC T**/T5/T6 Gb
Ex tb IIIC T*/T100°C/T85°C Db
Ex db I Mb

Smart temperature transmitter type LI-24ALW Safety, version Ex „i" designed to work with an independent distance sensor or direct sensor:

- version with aluminium alloy enclosure:

Ex ia [ia Ga] IIC T4 Gb
Ex ia IIIC T105°C Da

- version with steel (316) enclosure:

Ex ia [ia Ga] IIC T4 Gb
Ex ia IIIC T105°C Da
Ex ia I Ma

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Construction of the device was changed.
- A new versions of the device was added.

IECEx Certificate of Conformity

Additional information:

Technical parameters

Smart temperature transmitter type LI-24ALW, LI-24ALW Safety version Ex „d”

Power supply: 13,5 ÷ 45V DC for type LI-24ALW
12,5 ÷ 36V DC for type LI-24ALW Safety

Output Signal: 4 ÷ 20mA

Ambient temperature: -40°C < Ta < +40°C Temperature class T6 / Maximum surface temperature 85°C
-40°C < Ta < +75°C Temperature class T5 / Maximum surface temperature 100°C

(special version: from -50°C)

Degree of protection: IP66/IP67

Intrinsic safety parameters for temperature transmitter type LI-24ALW:

Transmitters designed to work with an independent distance sensor

Uo = 6,6V	Lo = 400mH	
Io = 9,8mA	Co = 480µF	(for IIB)
Po = 14,5mW;	Co = 3,5µF	(for IIC)
	Co = 1000µF	(for IIA and I)

Smart temperature transmitter type LI-24ALW Safety version Ex „i”

Ambient temperature: -40°C < Ta < +75°C Temperature class T4 / Maximum surface temperature 105°C

(special version: from -50°C)

Degree of protection: IP66/IP67

Intrinsic safety parameters:

Transmitters designed to work with an independent distance sensor or direct sensor

Supply from a power source with linear output characteristic (terminals +/-):

Ui = 30V	Li = 910µH
Ii = 100mA	Ci = 25nF
Pi = 0,75W	

Supply from a power source with rectangular output characteristic (terminals +/-):

Ui = 24V	Li = 910µH
Ii = 25mA	Ci = 25nF
Pi = 0,6W	

Supply from a power source with trapezoidal output characteristic (terminals +/-):

Ui = 24V	Li = 910µH
Ii = 50mA	Ci = 25nF
Pi = 0,6W	

Output parameters (between any combination of terminals: 1…5):

Uo = 6V	Lo = 2mH	
Io = 3,3mA	Co = 2,5µF	(for IIC)
Po = 19,8mW	Co = 480µF	(for IIB)
	Co = 1000µF	(for IIA and I)