



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.: IECEx FTZU 13.0028X Issue No: 0 Certificate history:
Issue No. 0 (2014-06-24)

Status: **Current** Page 1 of 3

Date of Issue: **2014-06-24**

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

Electrical Apparatus: **Smart Temperature Transmitter type LI-24ALW**
Optional accessory:

Type of Protection: **Intrinsic safety**

Marking: Ex ia IIC T4-T6 Ga/Gb
Ex ia I Ma (version with enclosure ss316)
Ex ia IIIC T105°C Da

*Approved for issue on behalf of the IECEx
Certification Body:*

Dipl. Ing. Lukáš Martinák

Position:

Head of the Certification Body

*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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**Fyzikálně technický zkusební ústav
(Physical -Technical Testing Institute)
Pikartská 7
71607 Ostrava - Radvanice
Czech Republic**





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Manufacturer: **APLISENS S.A.**
ul. Morelowa 7, 03-192 Warszawa
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Additional Manufacturing
location(s):

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 electrical apparatus 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2006 Edition:2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*This Certificate **does not** indicate compliance with electrical 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:

[CZ/FTZU/ExTR13.0028/00](#)

Quality Assessment Report:

[PL/KDB/QAR12.0001/00](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Temperature Transmitter type LI-24ALW is designed to convert temperature signal into an electrical signal. The apparatus comprises several printed circuit boards and LCD, all housed in a metal enclosure which can be made of light alloy for group II and III applications but only of stainless steel for mine (group I) application. One of the housing cover contains a window.

External connections are made via integral terminals and cable glands which must be of certified type if they are mounted on the version for combustible dust hazard application.

The transmitters intended as EPL Ga/Gb equipment shall be installed into the partition between the hazardous areas of EPL Ga and Gb.

Temperature classes T4, T5 or T6 depend on the input power and maximum ambient temperature – see below.

Input parameters:

a) supply from a power source with linear output characteristic:

$U_i = 30 \text{ V}$; $I_i = 0,1 \text{ A}$; $C_i = 2,5 \text{ nF}$; $L_i = 18 \text{ }\mu\text{H}$; $P_i = 0,75 \text{ W}$; $T_a = 80^\circ\text{C}$ & T4; $T_a = 70^\circ\text{C}$ & T5;
 $P_i = 0,5 \text{ W}$; $T_a = 45^\circ\text{C}$ & T6, $T_m > 80^\circ\text{C}$ & T* according to DTR.LI24.ALW.01

b) supply from a power source with trapezoidal output characteristic:

$U_i = 24 \text{ V}$; $U_Q = 48 \text{ V}$; $I_i = 50 \text{ mA}$; $C_i = 2,5 \text{ nF}$; $L_i = 18 \text{ }\mu\text{H}$; $P_i = 0,6 \text{ W}$; $T_a = 80^\circ\text{C}$ & T5
 $P_i = 0,5 \text{ W}$; $T_a = 45^\circ\text{C}$ & T6, $T_m > 80^\circ\text{C}$ & T* according to DTR.LI24.ALW.01

c) supply from a power source with rectangular output characteristic:

$U_i = 24 \text{ V}$; $I_i = 25 \text{ mA}$; $C_i = 2,5 \text{ nF}$; $L_i = 18 \text{ }\mu\text{H}$; $P_i = 0,6 \text{ W}$; $T_a = 80^\circ\text{C}$ & T5,
 $T_m > 80^\circ\text{C}$ & T* according to DTR.LI24.ALW.01

T_m - medium temperature

Output parameters:

$U_o = 6,6 \text{ V}$; $I_o = 9,8 \text{ mA}$; $P_o = 14,5 \text{ mW}$; $L_o = 400 \text{ mH}$

$C_o = 1000 \text{ }\mu\text{F}$ for IIA; $C_o = 480 \text{ }\mu\text{F}$ for IIB; $C_o = 3,5 \text{ }\mu\text{F}$ for IIC

Degree of protection: IP65, IP66/IP67

Minimum ambient temperature: $T_a \text{ min} = -40^\circ\text{C}$

CONDITIONS OF CERTIFICATION: YES as shown below:

The operating instructions must be taken into account during installation.

The ambient temperature range is reduced to $T_a = -20^\circ\text{C}$ to $+60^\circ\text{C}$ if the device is installed as Ma equipment.

For the medium temperature $T_m > 80^\circ\text{C}$ temperature class T* and the maximum surface temperature T* should be set according to the current manual.

Version of device with surge arrester does not meet the 500V rms test required by IEC 60079 11:2011. This must be taken into account when installing the device.