



CERTIFICATE

No. 1023/CW/001

Office of Technical Inspection
Product Certification Body UDT-CERT

certifies that

temperature transmitter

LI-24ALW Safety ID: 0027 0001 0001 XXXX XXXX XXXX XXXX XX¹⁾

¹⁾ X manufacturer's designation in the ID code, not related to the certificate
manufactured by

**APLISENS S.A.
ul. Morelowa 7
03-192 Warszawa**

satisfy the requirements of the standards:

**PN-EN 61508:2010 parts 1 ÷ 7
PN-EN 61511-1:2017-07 + PN-EN 61511-1:2017-07/A1:2018-03
PN-EN 62061:2008 + PN-EN 62061:2008/A1:2013-06
+ PN-EN 62061:2008/A2:2016-01**
for safety integrity level

**up to and including SIL 3, with a tolerance of hardware HFT=1 according to Route 1_H
up to and including SIL 2, with a tolerance of hardware HFT=0 according to Route 1_H**

and satisfy the requirements of systematic integrity

up to and including SC3 according to Route 1_S

**Reliability parameters of certified product are presented in the Annex
to the Certificate.**

**The product can be used in safety-related systems that meet the requirements up to and
including SIL 3. SIL verification of a safety-related system is the responsibility of the
system integrator.**

The conditions for issue and validity of the Certificate are specified in the Annex.

Date of issue: **12.07.2021**

Director of Certification and Conformity
Assessment Department

Jacek Niemczyk



OFFICE OF TECHNICAL INSPECTION
Product Certification Body UDT-CERT
Annex, edition I dated 12.07.2021
to the Certificate No. 1023/CW/001

1. Information on the certified product:

1.1. Category, type, brand or trade name:

temperature transmitter

LI-24ALW Safety ID: 0027 0001 0001 XXXX XXXX XXXX XXXX XX

1.2. Basic technical data:

Power supply	LI-24ALW Safety	12,5 V DC ÷ 36 V DC
Ambient temperature		- 40°C ÷ 85°C
Input signal	Resistance sensor, thermocouple, resistance, voltage	
Output signal	4÷20 mA + HART rev.5.1	

1.3. Reliability parameters – probability of dangerous random failures.

Reliability data of the temperature transmitter LI-24ALW Safety.

Sensor configuration	λ_{total} FIT	λ_{NE} FIT	λ_{SD} FIT	λ_{SU} FIT	λ_{DD} FIT	λ_{DU} FIT	SFF %	DC %	MTBF years
1 RTD 2p	745,402	251,035	38,550	11,643	417,752	26,422	94,655	94,051	153
1 RTD 3p	745,402	250,215	38,550	11,643	418,572	26,422	94,664	94,062	153
1 RTD 4p	745,402	249,395	38,550	11,643	419,392	26,422	94,673	94,073	153
2 RTD 2p	745,402	249,395	38,550	11,643	419,392	26,422	94,673	94,073	153
2 RTD 3p	745,402	247,755	38,550	11,643	421,032	26,422	94,691	94,095	153
1 TC no CJC	745,402	252,275	38,550	11,643	416,512	26,422	94,642	94,035	153
1 TC int CJC	745,402	249,915	38,550	11,643	418,662	26,632	94,625	94,019	153
1 TC ext CJC	745,402	249,395	38,550	11,643	419,392	26,422	94,673	94,073	153
2 TC no CJC	745,402	251,055	38,550	11,643	417,732	26,422	94,655	94,051	153
2 TC int CJC	745,402	248,695	38,550	11,643	419,882	26,632	94,638	94,036	153
2 TC ext CJC	745,402	248,175	38,550	11,643	420,612	26,422	94,686	94,089	153

Explanation to the table:

X RTD – X resistance sensors;

Xp – X-wire sensors;

X TC – X thermocouples;

CJC – cold junction compensation (int – with internal / ext – with external temperature sensor).

1.4 Intended use of the product:

Temperature transmitter LI-24ALW Safety is designed for temperature measurements using an external measuring element (resistance sensor or thermocouple) and converting value of temperature to standard current signal 4÷20 mA.

2. The certification process of the above mentioned product within range of conformity with the requirements of reference documents specified by the manufacturer has been performed according to the Products conformity certification scheme SIL - type of scheme 5 according to the PN-EN ISO/IEC 17067.
3. The results of the certification process have been recorded in the following documents:
 - Report of verification of the technical documentation of the product to the application No. 1023/CW/2021-001 dated 02.07.2021,
 - Report on checking manufacturer's organizational and technical conditions and functional safety management system to the application No. 1023/CW/2021-001 dated 02.07.2021,
 - Report of the assessment to the application No. 1023/CW/2021-001 version 01 dated 02.07.2021,
 - Review of the documentation collected during the certification process and certification decision to the application No. 1023/CW/2021-001 dated 05.07.2021.
4. The provisions concerning the supervision of the issued certificate are contained in the Agreement No. 82149/CW/2021 of 15.04.2021 on the certification products.
5. The certificate becomes invalid when the commitments contained in the Agreement No. 82149/CW/2021 of 15.04.2021 on the certification products are not fulfilled.
6. The manufacturer has the right to mark certified products with conformity mark "UDT-CERT SIL". The pattern of the conformity mark and the rules of using the conformity mark are attached to this certificate.
7. The manufacturer receives the Certificate and labelled documentation necessary for identification of the certified products.

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