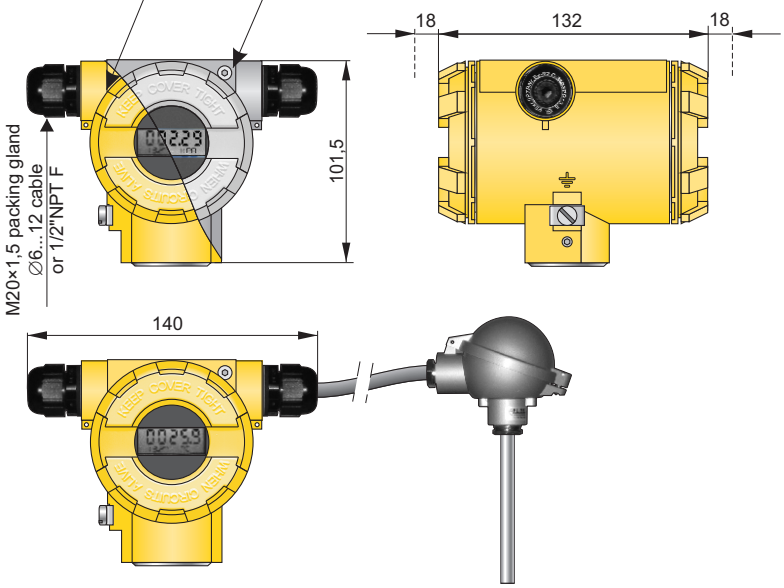
Smart temperature transmitter
LI-24ALW

- ✓ **Output signal 4…20mA with Hart protocol**
- ✓ **Galvanic insulation (In, Out)**
- ✓ **Programmable sensor type**
- ✓ **Programmable measuring range**
- ✓ **Resistant thermoresistance line compensation**
- ✓ **Compensation of thermocouple cold junction**
- ✓ **Autodiagnostic system**
- ✓ **Intrinsic safety certificate (ATEX, IECEx)**
- ✓ **Explosion proof certificate (ATEX, IECEx)**

LI-24ALW - Aluminum epoxy painted casing

LI-24ALW/SS - Stainless steel casing



LI-24ALW with remote mounted temperature sensor

II 1/2G Ex ia IIC T4-T6 Ga/Gb
I M1 Ex ia I Ma (with SS316 enclosure only)
II 1D Ex ia IIIC T105°C Da

LI-24ALW with direct mounted temperature sensor

Application and function

The temperature transmitter LI-24ALW is applicable to converting resistance of temperature or voltage of thermocouple sensor to standard current signal 4-20mA. The transmitter has two separate chanels enabling measurement of difference temperature, averange, averange with redundancy, max. or min. temperature. Transmitter has compensation of ambient temparature influence and compensation of thermocouple cold junction using internal/external (Pt100) sensor or constant temperature. Most of parameters such as: sensor type, measuring range, current alarm signal when electric circuit is broken, output characteristic correction, user characteristic (60 points) are programmed using PC with Hart/USB/Bluetooth converter and Aplisens RAPORT 2 configuration software or KAP-03 communicator. For request Aplisens can set temperature transmitter parameters like measuringrange, type of sensor. Their values are printed on label. Transmitter LI-24/ALW is designed for filed use. LI-24ALW can be used with tepmerature sensors mounted directly in transmitter's casing or with external sensors connected with cable.

Ordering code

LI-24ALW /___/___/__÷__°C/___

Special version:
Exia, Exd, IP67, SS, US
Type of measuring element
Set measuring range
Alarm signal

Special version:

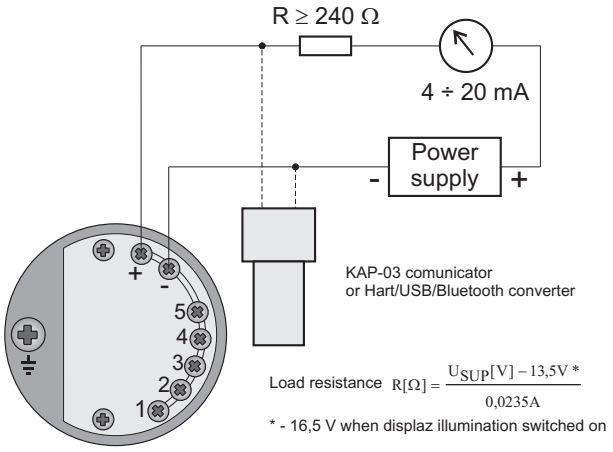
Exia	– Intrinsic safety certificate (ATEX, IECEx)
Exd	– Explosion proof certificate (ATEX, IECEx)
IP67	– protection class IP67
SS	– housing material SS316
US	– electrical connection 1/2"NPT F

Technical data

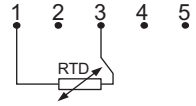
Input signal	K, J,S,B,N,T, R, E, voltage Pt100,Ni100 resistance
Limit process	-10mV< E<100mV or -100mV< E<1000mV 0Ω<R<400Ω or 0Ω<R<2000Ω
Min. measuring range	10mV or 10Ω or 10K
Output signal	4 - 20 mA + Hart
Power supply	13,5…55 VDC (Ex 13,5..30 VDC) when display illumination switched on 16,5…55 VDC (Ex 16,5..30 VDC)
Max. wires resistance	500Ω
Alarm signal	3,75mA / 21,5mA (NORMAL) or 3,6 mA / 21 mA (NAMUR NE89)or setting by user
Sensor current	0,42mA
Galvanic insulation	Optoelectrical
Accuracy	± 0,1%
Time constant	0,3s
Additional electronic damping	0..30s
Ambient temperature	-40…+80°C (Ex -40…+75°C)

Input type	Range	Input type	Range
Pt10	-200÷850^{0}C	B	250 ÷ 1820^{0}C
Pt50	-200÷850^{0}C	E	-200 ÷ 1000^{0}C
Pt100	-200÷850^{0}C	J	-210 ÷ 1200^{0}C
Pt200	-200÷850^{0}C	K	-200 ÷ 1372^{0}C
Pt500	-200÷850^{0}C	N	-200 ÷ 1300^{0}C
Pt1000	-200÷266^{0}C	R	-20 ÷ 1768,1^{0}C
Pt 98	-200÷650^{0}C	S	-30 ÷ 1768,1^{0}C
Ni100	-60 ÷ 180^{0}C	T	-200 ÷ 400^{0}C
Cu100	-50 ÷ 180^{0}C	L	-200 ÷ 800^{0}C
Resistance 1	0…400 Ω	Voltage 1	-10…100mV
Resistance 2	0…2000 Ω	Voltage 2	-100…1000mV

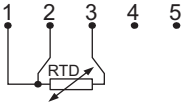
Electrical diagrams



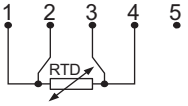
Electrical diagrams



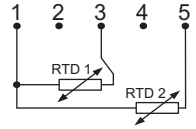
RTD
2-wires connection



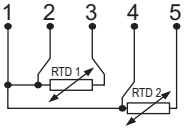
RTD
3-wires connection



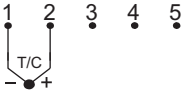
RTD
4-wires connection



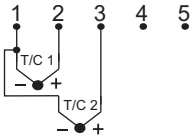
2 × RTD
2-wires connection



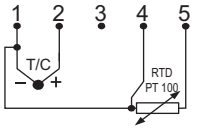
2 × RTD
3-wires connection



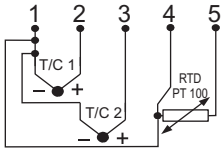
Thermocouple



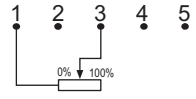
2 x Thermocouple



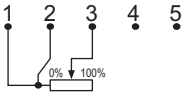
Thermocouple
with external
CJC



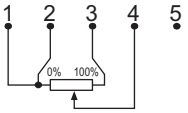
2 x Thermocouple
with external
CJC



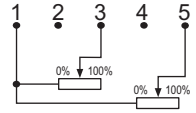
Potentiometer
2-wires connection



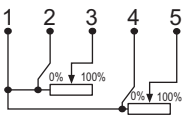
Potentiometer
3-wires connection



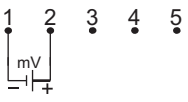
Potentiometer
4-wires connection



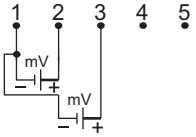
2 × Potentiometer
2-wires connection



2 × Potentiometer
3-wires connection



Voltage source



2 x Voltage source