APLISENS®

Rail-mounted smart temperature transmitters type LI-24L

HART COMMUNICATION PROTOCOL

SIL2/SIL3 *Safety version*

✓ **Galvanic insulation (In, out)**
✓ **Programmable sensor type**
✓ **Programmable measuring range**
✓ **Thermoresistance line compensation**
✓ **Compensation of thermocouple cold junction**
✓ **Output signal 4…20mA + Hart protocol**
✓ **Ambient temperature from -25 to +75 °C**
✓ **Hart protocol**
✓ **Autodiagnostic system**
✓ **Safety version SIL2/SIL3**
✓ **Intrinsic safe version**

⟨Ex⟩ I M1 Ex ia I Ma
II 1G Ex ia IIC T4/T5 Ga

IECEx Ex ia I Ma
Ex ia IIC T4/T5 Ga

Technical data

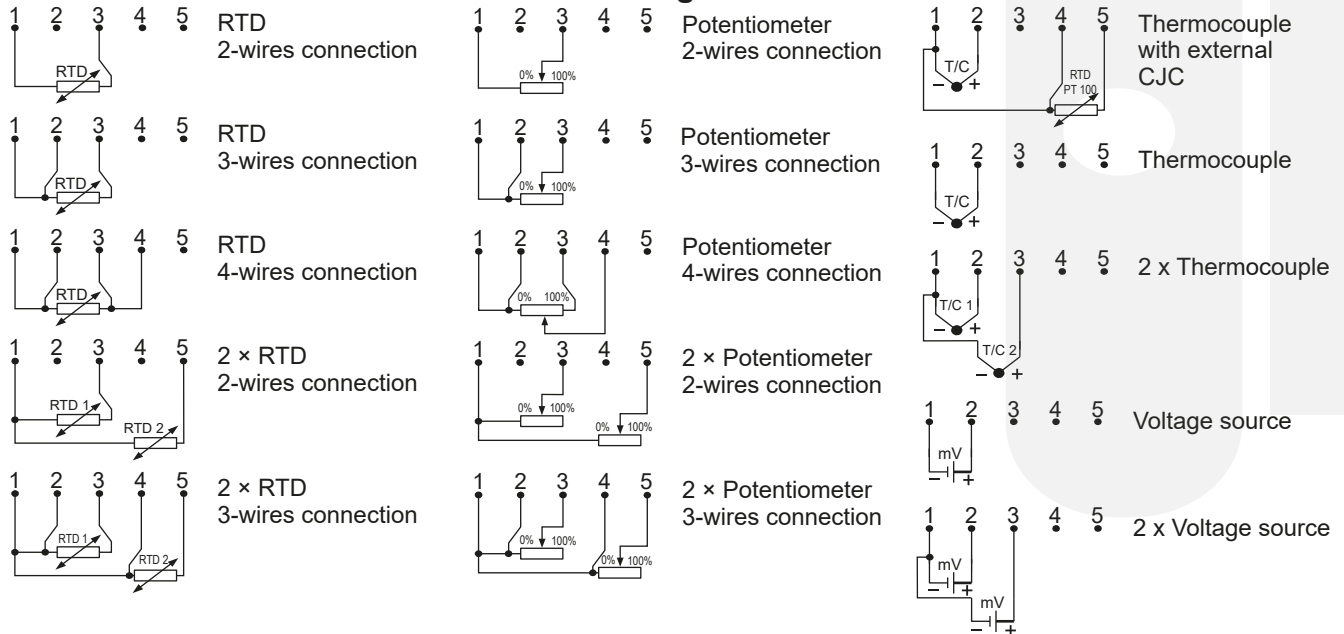|	
Input signal	K, J, S, B, N, T, R, E voltage Pt10, Pt50, Pt100, Pt200, Pt500, Pt1000, Ni100, Cu100, resistance
Limit process	- 10mV< E<100mV or -100mV< E<1000mV 0Ω<R<400Ω or 0Ω<R<2000Ω
Min. measuring range	10mV or 10Ω
Output signal	4...20mA + HART
Power supply	10…36V DC Safety: 10...36V DC Ex, Safety Ex: 10...30V DC
Max. Wires resistance	500Ω
Alarm signal	21,6mA or 3,75 mA or setting by user
Sensor current	0,25mA
Accuracy	± 0,1%
Time constant	0,2...1s
Additional electronic damping	0...30s
Ambient temperature	-40…+85°C
Dimensions (WxHxD)	12,5mmx99mmx114,5mm

Application and function

The temperature transmitter LI-24L is applicable to converting resistance of temperature or voltage of thermocouple sensor to standard current signal 4-20mA. The transmitters have two separate measuring channels enabling measurement of temperature difference, 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 converter and Raport 2 configuration software.

For request Aplisens can set temperature transmitter parameters like measuring range, type of sensor. Their values are printed on label. Transmitter for rail mounting (TS-35).

Electrical diagrams

RTD 2-wires connection
RTD 3-wires connection
RTD 4-wires connection
2 × RTD 2-wires connection
2 × RTD 3-wires connection

Potentiometer 2-wires connection
Potentiometer 3-wires connection
Potentiometer 4-wires connection
2 × Potentiometer 2-wires connection
2 × Potentiometer 3-wires connection

Thermocouple with external CJC
Thermocouple
2 x Thermocouple
Voltage source
2 x Voltage source

LI-24L/___/___/___/___

Version: **Ex**, **Safety**, none

Sensor type

Measuring range

Alarm signal