

# UST50-0

## Two Wire Rail Mounting Signal Converter USER'S GUIDE



### DESCRIPTION of the DEVICE

UST50 Model devices are electronic devices designed to convert the measured temperature value to 4-20mA standard analog signal by connecting to industrial temperature sensors.

These devices are configured via computer with SBA100 USB / UART Converter and DCS01 program.

Since the supply voltage and the 4-20mA analog output signal are transmitted over the same conductors, they can be transported over long distances with a cable with only two conductors.

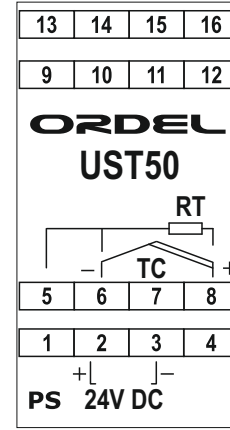
These devices are produced in two different ways as insulated and non-insulated.

### SAFETY PRECAUTIONS

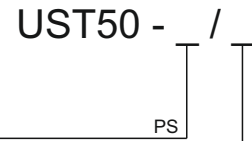
- Before using the device, please read the warnings below and this guide carefully. The accidents or damages resulting from not following the warnings included in this guide are under user's responsibility.
- This device is intended to be used by qualified personnel in industrial environments, do not use in houselike environments.
- Do not use the device at places where corrosive, flammable and explosive gases exist. Contact points may create electrical discharge and this may cause explosion or fire.
- Do not allow metal fragments or lead wire scraps or liquid matters to fall inside this device. Otherwise fire or electrical shock may happen.
- Take the necessary precautions in order to prevent accidents and damages that may result in case the device gets faulty.
- There is no fuse or switch that brings the device in power down state, these should be added to the system by the user.
- Sensor and signalling cables should not be routed close to the power cables or inductive load cables.
- Before connecting the device, supply voltage must be checked if it is suitable according to the product code.
- Do not power up the device before the connections related with the device are performed in accordance with the connection diagram. While the device is powered, do not touch on the terminals.
- Configuration settings at factory out should be changed according to the user's preferences. The accidents and damages resulting from incorrect configuration settings are under users' responsibility.
- Lifetime of the device is 10 years.
- Never disassemble, repair and modify the device. These should be carried out by authorized service.

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### CONNECTION DIAGRAM



### PRODUCT CODE



Isolation : \_\_\_\_\_  
0 = N/A  
1 = 1500 VDC

Sensor Input Types : \_\_\_\_\_  
0 = TC ( B,E,J,K,L,N,R,S,T,U ) - RT ( Pt-100 )  
1 = TC ( B,E,J,K,L,N,R,S,T,U ) - RT ( Pt-1000 )

**NOTE :** Do not use a non-insulated converter for grounded thermocouples or a high temperature sensor.

### TECHNICAL SPECIFICATIONS

Power Supply ( PS )	8...36VDC	10...36VDC
Analog Input	Thermocouple : B,E,J,K,L,N,R,S,T,U Resistance Thermometer : Pt-100, Pt-1000	
Analog Input Impedance	Thermocouple : 10MΩ	
Analog Output	4-20mA	
Measurement Accuracy(+/-)	Thermocouple : 16uV+1°C	Resistance Thermometer : 0,3 °C
Output Accuracy (+/-)	0,2 %	
Resolution	16 Bit	
Galvanic Isolation	UST50-0 : N/A	UST50-1 : 1500VDC
Memory	100 year, 100.000 renovation	
Sampling Time	200ms	
Response Time	0,2 ...120,0s ( Programmable )	
Operating Temperature	-40...+85°C	
Protection Class	IP20	
Dimensions	Diameter : 45mm	Height : 20mm
Weight	40gr	

### Input Types

Sensor Type	Standard	Min.	Max.
Type-T ( Cu-Const )	IEC60584	-200 °C	300 °C
Type-U ( Cu-Const )	IEC60584	-200 °C	600 °C
Type-J ( Fe-Const )	IEC60584	-200 °C	800 °C
Type-L ( Fe-Const )	IEC60584	-200 °C	900 °C
Type-K ( NiCr-Ni )	IEC60584	-200 °C	1200 °C
Type-E ( Cr-Const )	IEC60584	-200 °C	1200 °C
Type-N ( Nicrosil-Nisil )	IEC60584	0 °C	1200 °C
Type-S ( Pt%10Rh-Pt )	IEC60584	0 °C	1500 °C
Type-R ( Pt%13Rh-Pt )	IEC60584	0 °C	1600 °C
Type-B ( Pt%18Rh-Pt )	IEC60584	0 °C	1800 °C
Pt-100	DIN 43760	-200 °C	850 °C
Pt-1000	DIN 43760	-70 °C	500 °C

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