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KELD KLT11IB Temperature Digital Controller

Description

The KLT11IB is designed for heating and cooling applications. The probe temperature is displayed on the bright 3-digit display. The user is able to program different parameters including set point, hysteresis, alarms and probe adjustment using the silicone front keypad. The unit features error or alarm warning, internal buzzer (optional), configurable digital input and password protection. The KLKey input allows an easy programming of the parameters. Select between temperature display in ºC or ºF, display color and 230Vac, 115Vac, 24Vac/dc or 12Vac/dc power supplies.

Model references

The model reference is given by: KLT11IBXYZ Where each sufix can take the following values:

- X Display Color R=Red, G=Green, B=Blue
- Y Supply Voltage 230=230Vac, 110=115Vac 24=24Vac/dc 12=12Vac/dc
- Z Units C=ºC, F=ºF

Installation

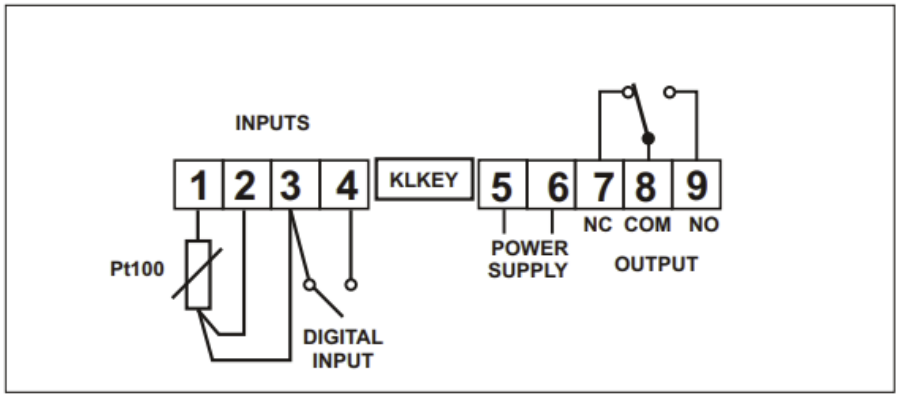
- NOTE: Unit must be mounted away from vibration, impacts, waterand corrosive gases.
- Cut hole in panel 71 x 29 mm (2.80 x 1.14 inches)
- Apply silicone (or rubber gasket) around the perimeter of the hole to prevent leakage.
- Insert unit into hole of panel.
- Slide removable fitting clips onto unit from the back until secure to panel.
- Wiring diagram is displayed on the top of the unit

- NOTE: DO NOT INSTALL PROBE CABLE NEAR POWER CABLES.

Maintenance, cleaning and repair

After final installation of the unit, no routine maintenance is required Clean the surface of the display controller with a soft and damp cloth. Never use abrasive detergents, petrol, alcohol or solvents.
All repairs must be made by authorised personnel.

Wiring Diagram



Technical Data

- **Supply voltages**
  230Vac±10%,115Vac±10%, 24Vac/dc±10%, 12Vac/dc±10%
- **Supply powers**
  4VA (230V/115V) 1,5VA(24V /12V)
- **Storage temperature**
  -20ºC to 80ºC (-4 to 176ºF)
- **Operating temperature**
  0ºC to 60ºC (32 to 140ºF)
- **Probe range**
  -200ºC to 600ºC (-328 to 999ºF)
- **Probe Input**
  Pt100 (0ºC – 100 Ohm)
- **Accuracy**
  Better than ±0,5% of full scale
- **Resolution**

0.1º from -99.9ºC to 99.9ºC

1º out of this range

- **Display**

  3-digit and sign (red, green or blue)

- **Digital Input**

  Voltage free contact

- **Output**

  SPDT Relay Resistive load 16A

  1HP 240Vac — 10FLA, 60LRA 240Vac

- **KLKey Input**

  For an quick programming of all parameters

- **Dimensions**

  Front 77 x 36 mm Depth 62 mm (3.03 x 1.42 x 2.44 inch)

- **Front Protection**

  IP64

List Of Parameters

	Description	Units	Range	Factory
SP	Set Point	Degrees	r1 to r2	0
r0	Differential or hysteresis	Degrees	0.1 to 99.9	0.1
r1	Lower value for SP	Degrees	-200 to r2	-200
r2	Higher value for SP	Degrees	r1 to 600	600
r4	Set Point variation (energy saving)	Degrees	0.1 to 200	3
d0	Cooling or heating control	Option	Co/Ht	Co
c0	Minimum stopping time	Seconds	0 to 999	0
c2	Output status with probe error	Option	On/OFF	On
P1	Ambient probe adjustment	Degrees	-99.9 to 99.9	0
P4	Decimal point	Option	no/yes	yes
P5	3 wires Pt100	Option	no/yes	yes
E0	Digital input configuration	Option	OFF/AI/ES/HC	OFF
H5	Access code to parameters	Numeric	0 to 255	0
A0	Alarm 1 hysteresis	Degrees	0.1 to 99.9	1.0
A1	Alarm 1 threshold	Degrees	0.0 to 999	0
A2	Alarm 1 exclusion time	Seconds	0 to 999	0
A3	Alarm 1 type	Option	OFF/HI/LO	OFF
A4	Alarm 2 hysteresis	Degrees	0.1 to 99.9	1.0
A5	Alarm 2 threshold	Degrees	0.0 to 999	0
A6	Alarm 2 exclusion time	Seconds	0 to 999	0
A7	Alarm 2 type	Option	OFF/HI/LO	OFF
A8	Alarm verification time	Seconds	0 to 999	0

Parameter Descriptions

- SP = Set point. Temperature we wish to regulate the machine (variable from r1 to r2)
- r0 = Differential or hysteresis
- r1 = Lower value for SP
- r2 = Higher value for SP
- r4 = Set point variation for energy saving. If digital input configuration EO = ES this value modify the set point as follows:
  - If do = Ht new SP = SP – r4
  - If do = Co new SP = SP + r4
- do Cooling or heating control
- If do = Ht and TS is the temperature of ambient probe:
  - If TS >= SP the load is disconnected
  - If TS <= SP – rO the load is connected
- If dO = Co then:
  - If TS <= SP the load is disconnected
  - If TS >= SP + r0 the load is connected
- c0 = Minimum stopping time of the load
- c2 = Output status with probe error
- P1 = Ambient probe adjustment
- P4 = Decimal point
- P5 = 3 wires Pt100. no = 2 wires, yes = 3 wires
- E0 = Digital input configuration
- OFF = Digital input disabled
- Al = External alarm (if input is short-circuited)
- ES = Energy Saving. Set Point value is modified in r4.
- HC = if input is short-circuited, it changes to Heat or Cold depending of the dO value.
  - if dO = Heat it changes to Cold mode.
  - if do = Cold it changes to Heat mode.
- H5 = Access code to parameters (it is set to 00 from factory)
- A0, A1, A2, A3 = Alarm 1 parameters
- If A3=OFF alarm 1 disabled
- If A3=HI then a high-temperature alarm is set:
  - if TS >= SP+A1 the alarm 1 is activated

    - if TS <= SP+A1-A0 the alarm 1 is deactivated
- If A3=LO then a low-temperature alarm is set:
    - if TS <= SP-A1 the alarm 1 is activated
    - if TS >= SP-A1+A0 the alarm 1 is deactivated
- The alarm 1 is not activated until the time since the instrument is turn on is higher than A2
- A4, A5, A6, A7 = Alarm 2 parameters (similar to alarm 1)
- A8 = Alarm verification time. Time since the alarm situation occurs until its signalling. (It affects to Alarm 1, Alarm 2 and External alarm)

Parameter programming

Set Point (SP) is the only parameter the user can access without code protection.

- Press SET. SP text will appear on the display.
- Press SET again. The real value is shown on the display.
- The value can be modified with the UP and DOWN arrows.
- Press SET to enter any new values.
- Press SET and DOWN at the same time to quit programming or wait one minute and the display will automatically exit programming mode.

Access to all code-protected parameters.

- Press SET for 8 seconds. The access code value 00 is shown on the display (unit comes with code set at 00 from factory).
- With the UP and DOWN arrows, code can be set to user needs.
- Press SET to enter the code. If the code is correct, the first parameter label is shown on the display (SP).
- Move to the desired parameter with the UP and DOWN Keys.
- Press SET to view the value on the display.
- The value can be modified with the UP and DOWN arrows.
- Press SET to enter the value and exit.
- Repeat until all necessary parameters are modified.
- Press SET and DOWN at the same time to quit programming or wait one minute and the display will automatically exit programming mode.

- *The keyboard code can be reset to ZERO by turning off the controller and turning it on again while keeping the SET key depressed.

Led indication, buzzer and display messages

- The led OUT indicates if the load is connected or not.
- In normal operation, the probe temperature will be shown on the display.
- In case of alarm or error, the following messages can be shown (the alarm led is ON and buzzer sounds):
  - Err = Memory Error.
  - ooo = Open Probe Error.
  - — = Short-circuit Probe Error.
  - A1H = High temperature alarm 1.
  - A1L = Low temperature alarm 1.
  - A2H= High temperature alarm 2.
  - A2L = Low temperature alarm 2.
  - ALE = External alarm.

Alarm validation

In case of alarm the internal buzzer and alarm led is activated. The display shown the corresponding message. The buzzer and display message can be silenced pressing the SET and DOWN arrows at the same time. If alarm continues after A8 it is signalling again.

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FAQ

- **Q: Is routine maintenance required for the KLT11IB Temperature Digital**

Controller?

A: No, after the final installation, no routine maintenance is needed.

- **Q: What should I do for cleaning the controller's surface?**

  A: Clean the surface with a soft and damp cloth. Avoid abrasive detergents, petrol, alcohol, or solvents.
- **Q: What is the output capacity of the controller?**

  A: The output is a SPDT relay for resistive loads up to 16A 1HP 240Vac.

Documents / Resources

	KELD KLT11IB Temperature Digital Controller [pdf] Instruction Manual KLT11IBXYZ X Display Color, Y Supply Voltage, Z Units, KLT11IB Temperature Digital Controller, KLT11IB, Temperature Digital Controller, Digital Controller, Controller

References

- User Manual

KELD

controller, Digital Controller, KELD, KLT11IB, KLT11IB Temperature Digital Controller, KLT11IBXYZ X Display Color, Temperature Digital Controller, Y Supply Voltage, Z Units

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