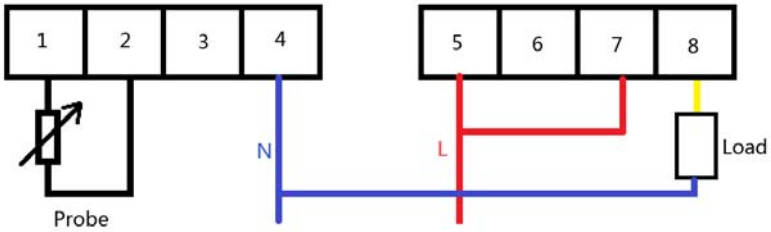
KHT11-IB Temperature Digital Controller

Specification and Operating Instructions



Description

The KHT11-IB is designed for many cooling applications. It has an input for temperature probe type PT .The probe temperature is displayed on the bright 3-digit display. The user is able to program 13 different parameters including shutdown temperature,

The unit features error warning and password protection. Select between red, green or blue display color, and 115Vac, 230Vac, 24Vac/dc or 12Vac/dc power supplies.

Installation

NOTE: *Unit must be mounted away from vibration, impacts, water and 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.

Technical Data

Supply voltages

115Vac±10%, 230Vac±10%, 24Vac/dc±10%, 12Vac/dc±10%

Supply powers

1,5VA(24V /12V)

Storage temperature

-20℃ to 80℃

Operating temperature

0℃ to 70℃

Accuracy

Better than 1% of full scale

Resolution

0.1℃

Display

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

Probe Input

PT1000 probes (0℃ - 1000 Ohm)

Output

1HP Model SPDT Relay Resistive load 16A

1HP 240Vac -- 10FLA, 60LRA 240Vac

2HP Model SPST Relay Resistive load 20A

2HP 240Vac -- 12FLA, 72LRA 240Vac

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	Default
SP	Shutdown temperature	Degrees	r1 to r2	-65.0
r0	Temperature difference	Degrees	0.1 to 20.0	3.0
r1	Minimum value for SP	Degrees	-200.0 to r2	-120
r2	Maximum value for SP	Degrees	r1 to 50.0	-25.0
P1	Temperature adjustment	Degrees	-20.0 to 20.0	0.0
A0	Alarm canceled	Degrees	0 to 99.9	2.0
A1	Alarm value	Degrees	0 to 99.9	0.0
A2	alarm disabled	Minutes	0 to 250	0
A8	Alarm delay	Minutes	0 to 250	0
H5	Password	Numeric	0 to 999	0
c0	Minimum downtime	Minutes	0 to 59	0
c2	Error status	Option	on/off	on
P4	Decimal display	Option	yes/no	Yes

Parameter descriptions

SP = The compressor stops when this temperature is reached (variable from r1 to r2)

r0 = The compressor starts when this temperature is reached to [SP + r0]

r1 = Minimum value for SP

r2 = Maximum value for SP

P1= Temperature adjustment. If the probe is not placed in the exact point to control use a standard thermometer to offset the measured temperature.

A0 = Alarm canceled. When the temperature is lower than [The High temperature alarm value - A0] or higher than [The Low temperature alarm value + A0], the alarm is canceled.

A1 = Alarm value.

The high temperature alarm value = [SP+r0+A1]

The low temperature alarm value = [SP-A1]

A2 = alarm disabled. The temperature alarm is disabled within A2 of the thermostat power-on.

A8 = Alarm delay. If the temperature is higher than the high temperature alarm value or lower than the low temperature alarm value, the timer will start. After reaching the A8 time, the over temperature alarm will start.

H5 = Access code to parameters

c0 = Minimum stopping time of the compressor.

c2 =Compressor on / off status when probe rod fails

P4= Decimal point only in visualization of the probe. The parameters are always decimal.

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 0 is shown on the display (unit comes with code set at 0 from factory).

•With the UP and DOWN arrows, code can be set to user needs.

•Press SET to enter the code. If code 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 pressed.*

Default working

In case of probe error, the control performs start or stop according to C2

Led indication and display messages

The led OUT indicates if the load is connected or not. If the control is waiting the Minimum stopping time c0 to start a cool cycle the led flashes(50% ON 50% OFF).

- ooo = Open Probe Error
- --- = Short Circuit Probe Error
- ALH = The high temperature alarm
- ALL = The low temperature alarm

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.