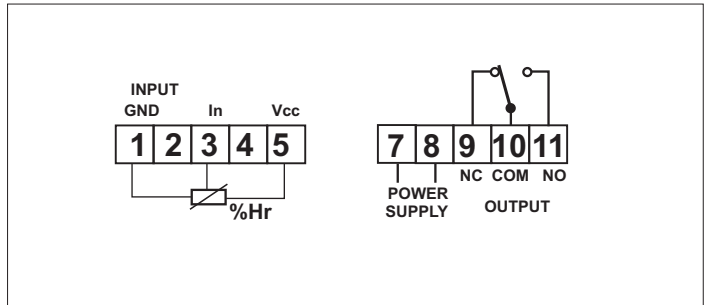




### Wiring Diagram



### Description

The KLH11 is a microprocessor based humidity control with one input probe and one SPDT relay output. It handles three probe types (0-1V, 0-3V and 4-20mA). The humidity probe is displayed on the bright 3-digit display. The user is able to program 12 different parameters including set point, hysteresis, cycle time and ambient probe adjustment using the silicone front keypad. The system detects the most common failures. If the control detects broken probe or memory error it works following a fixed cycle.

### Model references

The model reference is given by: KLH11XY  
Where each suffix can take the following values:

X	Display Color	R=Red, G=Green, B=Blue
Y	Supply Voltage	110 = 115Vac, 230 = 230Vac 12= 12Vac/dc, 24= 24Vac/dc

### 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.
- Remove back cover to wire unit
- Wiring diagram is displayed on the top of the unit
- *Note: DO NOT INSTALL PROBE CABLE NEAR POWER CABLES.*
- Replace cover once wiring is completed.

### Technical Data

#### Supply voltages

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

#### Supply powers

4VA (230V/115V) 1,5VA(24V /12V)

#### Storage temperature

-20°C to 80°C (-4 to 176°F)

#### Operating temperature

0°C to 70°C (32 to 158°F)

#### Relative Humidity Range

10% to 90% for 0-3V probe  
0 to 100% RH. for 0-1V and 4-20mA probe.

#### Accuracy

+/- 1% HR

#### Resolution

1% (3 digits)

#### Display

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

#### Input

0-1V, 0-3V (KLSH03), 4-20mA

#### Output

SPDT Relay Resistive load 16A  
1HP 240Vac -- 10FLA, 60LRA 240Vac

#### Dimensions

76 x 34 x 60 mm (3 x 1.34 x 2.36 inch)

#### Front Protection

IP64



## List of parameters

	Description	Units	Range
SP	Set Point		r1 to r2
r0	Differential or hysteresis	%	1 to 20
r1	Lower value for SP	%	0 to r2
r2	Higher value for SP	%	r1 to 100
d0	Humidifying/Dehumidifying	Option	Hu/dH
c0	Minimum stopping time	Minutes	0 to 59
c1	Continuous Cycle Time	Hours	0 to 24
Lc	HR value for 4mA input	%	0 to 100
Hc	HR value for 20mA input	%	50 to 100
P1	Probe adjustment (shifting)	%	0 to 10
P2	Probe type	Range	01/03/42
H5	Access code to parameters	Numeric	0 to 99

## Parameter descriptions

SP = Set point. Relative humidity we wish to set (variable from r1 to r2)

r0 = Differential or hysteresis

if d0=Hu

if relative humidity  $\geq$  SP the load is disconnected

if relative humidity  $<$  SP-r0 the load is connected

if d0=dH

if relative humidity  $\leq$  SP the load is disconnected

if relative humidity  $>$  SP+r0 the load is connected

r1 = Lower value for SP

r2 = Higher value for SP

d0 = Humidifying or dehumidifying control

Hu = Humidifying control

dH = Dehumidifying control

c0 = Minimum time since load is disconnected until it is connected again

c1 = Time of connection of the load when a continuous cycle is activated.

Lc = HR value for 4mA input

Hc = HR value for 20mA input

P1 = Offset degrees to adjust the ambient probe

P2 = Ambient probe type

P2=01 for 0-1V probe type

P2=03 for 0-3V probe type

P2=42 for 4-20mA probe type

H5 = Access code to parameters

## 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 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:

- Er = Memory Error
- oo = Open Probe Error
- -- = Short-circuited Probe Error

If no working cycle occurs during 48 hours the display blinks as a warning. You can reset this warning by pressing the set key.

## 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.



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