

OKY3420-4

Product Name: New Capacitive Touch Dimmer LED Dimmer Precise PWM Control Switch Module

Product Module: OKY3420-4

Product Description:

- 1.The lamp brightness can be adjusted by requirement,it is very to operate.
- 2.It can touch in medium protection,such glass,acrylic,plastic,ceramics and so on,which is very safe.
- 3.Wide application of voltage range,you can choose arbitrarily between 2.4V to 4.5V.
- 4.Simple applied circuit,less peripheral devices, easy processing, low cost.
- 5.Anti power and phone interference,the EFT can reach above +/-2KV;the touch response sensitivity and reliability will not affected by the close distance or multi-angle mobile phone interference.
- 6.Install:Needn' t to touch copper foil directly,the dimming can be processed across acrylic glass(above 3mm) or plastic.
- 7.Application:It can control LED module,light and so on.It is available for indoor LED,lighting lamp,DIY automotive lights dimming refit.
- 8.Function:Single touch,using the principle of capacitance touch .The default function is switch,dimming,with brightness memories LED touch dimming.It will light slowly when turn on the lights,and become dark slowly when turn off,which effectively avoid the stimulation to eyes.
- 9.Dimming mode:Non-polar PWM dimming.
- 10.Wiring method:PCB board(VCC,GND) is power input,(LED+, LED-) is connected with the LED lamps of positive and negative level (fingerprint) touch area, also can wire to lead out (the wiring should not be too long), copper skin area should be 2x3cm.With copper foil copper foil board module will side to the shell side.
- 11.Using method
 - a.Click touch(touch duration time is less than 550ms) can control the lamp.Click once, the lamp lights;click again,the lamp off.The initial brightness of lights lit the fixed for the whole brightness of 90%.
 - b.Press the touch at long time (touch duration time is more than 550ms), you can achieve stepless dimming the lights. Press long time once, light levels gradually increase light levels when released after the release time parked in the corresponding brightness, long time if more than three seconds, the light levels to achieve maximum brightness does not change; again long press touch, light levels gradually decreased to stop when you release the light levels in the corresponding brightness release time, if a long time more than three seconds, the light levels after reaching the minimum brightness does not change.
- 12.Debugging Tips:If false triggering or not triggered when debugging , may caused by the following reasons:
 - a.The touch line is too thick
 - b.The touch line is too long

- c. The Copper is not big enough
- d. Near the terminal of switch power supply interference
- e. Touch parameter C1 is not reasonable

Technical characteristics:

- TI touch input corresponds to the LED lighting control output. There are four optional functions, decided by the T1 and T2 pins input state before power. The details are as follows:

1. T1=1, T2=1: Without brightness memory, suddenly light and off LED touch Stepless dimming function.

2. T1=0, T2=1: Without brightness memory, gradually light and off LED touch Stepless dimming function.

3. T1=1, T2=0: With brightness memory, gradually light and off LED touch Stepless dimming function.

4. T1=0, T2=0: LED three sections touch dimmer function.

- Without brightness memory, gradually light and off LED touch Stepless dimming function are as follows:

Initial power, lamp is in off state.

- Click the touch (touch duration less than 550ms), can control the lamp. One click touch, light; click again, off. When the lamp is light or off, there is no brightness buffer. And the initial brightness of light is 50% of the whole brightness.

Long press the touch (touch duration more than 550ms), and can realize stepless brightness adjustment of the light. A long press the touch, the brightness of the light gradually increased, when loosening the brightness of the light brightness corresponding to stop in loosen the moment, if long in time for more than 3 seconds, then the brightness of the light to reach the maximum brightness and then don't change; again, long in the touch, the brightness of the light gradually decreased, when loosening the brightness of the light brightness corresponding to stop in release time, if the long according to the time for more than 3 seconds, then the brightness of the light to reach the minimum brightness after no change.

- Click on the touch and long press the touch can be used at any time, between each other without interference and restriction function.

Without brightness memories dimmed LED touch stepless dimming function is based on the without memory without brightness memory, gradually light and off LED touch Stepless dimming function. click on touch lights going on and off, by making the light by a lower brightness slow smooth transition to turn on the lights in the initial brightness, when click off touch, make the light by the current brightness slowly and smoothly reduced until off, so as to achieve the visual buffer effect of brightness changes slowly, to protect the eyes and vision.

- LED three sections touch dimmer function

- Initial power, lamp is in off state.

- Each time you click the touch, the brightness of the light is changing circulatory according to the order of low brightness, middle brightness and high brightness.

- PCB size: L23MM *W20MM
- Hole distance: 16MM
- Aperture: 2.5MM
- Voltage range: 2.4-5V
- Maximum output current: 500MA

Sensitivity adjustment

The larger the capacitance value, the higher the sensitivity; the smaller the capacitance value, the lower the sensitivity.

Adjust the touch sensitivity is as follows:

Media Type Parameters	Capacitor type	Capacitance
Directly touch the metal shell 0.033uF/25V	Polyester capacitor	333
Within 3mm acrylic glass 0.01uF/25V	Polyester capacitor	103
3-6mm acrylic glass 0.02uF/25V	Polyester capacitor	203
6-10mm acrylic glass 0.047uF/25V	Polyester capacitor	473

Note: the constant voltage dimmer output connect with LED, the upper limit must be cascade current-limiting resistance.

Calculation Method of cascade current-limiting resistance:

$$R = (V_i - V_{led}) / I_o$$

V_i is the input voltage, V_{led} is the total pressure drop of all the LED lamps, I_o is the total current light strings. Should consider the floating range V_i , V_{led} the calculation. Generally, when the battery is fully charged V_i will be too large. After the LED heat up, V_{led} will drop! Prevent excessive current from damaging modules or lights.

Package Included

1PCS X PWM Control Board Dimming Switch Module

