CON-18 Photocontrol LED Lamp DIY Kit

1.Introduction:

CON-18 is a DC 4.5V-5V Photocontrol LED Lamp DIY Kit. It can not only adjust the brightness of the light through the built-in photoresistor sensor, but also adjust the brightness through the buttons, which is very suitable for different needs and scenarios.

It is a very interesting DIY electronic product which enables users to understand the circuit more clearly and learn welding skills.

2.Feature:

1>.18pcs highlight LED
2>.Perfect simple circuit
3>.Two position brightness control
4>.DIY hand soldering
5>.Infrared Remote Control

3.Parameter:

1>.Product Name:CON-18 Photocontrol LED Lamp DIY Kit
2>.Product Number:CON-18
3>.Work Voltage:DC 4.5V-5V
4>.Work Current:45mA
5>.Power Type:3.5mm Power Socket or AA*3 Battery Box
6>.Work Mode:Switch or Photoresistor Sensor
7>.Color:White LED
8>.Work Temperature:-40℃~85℃
9>.Work Humidity:5%~85%RH
10>.Size(Installed):65*65*35mm

4.Function:

1>.S1 self-locking button is used to turn ON or OFF lamp.
2>.S2 self-locking switch is used to change led brightness. 12pcs LED turn ON or 18pcs LED turn ON.
3>.VR1 potentiometer is used to adjust the sensitivity of the photosensitive sensor.

5.Component Listing:

NO.	Component Name	PCB Marker	Parameter	QTY
1	Metal Film Resistor	R2	2.2ohm	1
2	Metal Film Resistor	R3-R8	100ohm	6
3	Potentiometer	VR1	10Kohm 103	1
4	GL5528 Photoresistor	R9		1
5	Electrolytic Capacitor	C2	47uF 16V	1
6	1N4007 Diode	D1	DO-41	1
7	White LED	L1-L18	5mm	18
8	S8550 Transistor	Q1	TO-92	1
9	Self-locking switch	S1,S2	5.8*5.8mm	2
10	DC Socket	J1	3.5mm	1
11	Battery Box		AA*3	1
12	USB to 3.5mm Power Wire		80cm	1
13	Transparent Box		65*65*35mm	1
14	Nylon Column Hollow		M3*10mm	4
15	Nylon Column		M3*20mm	4
16	Nylon Column Hollow	R9	F4*H6	1
17	Screw		M3*18mm	4
18	Screw		M2*6mm	2
19	Nut		M2	2
20	PCB		74*74*1.6mm	1

Note:Users can complete the installation according to the PCB silk screen and component list.

6.Installation Tips:

1>.User needs to prepare the welding tool at first.
2>.Please be patient until the installation is complete.
3>.The package is DIY kit.It need finish install by user.
4>.The soldering iron can't touch the components for a long time(1.0 second), otherwise it will damage the components.
5>.Pay attention to the positive and negative of the components.
6>.Strictly prohibit short circuit.
7>.User must install the LED according to the specified rules.Otherwise some LED will not light.
8>.Install complex components preferentially.
9>.Make sure all components are in right direction and right place.
10>.Check that all of the LED can be illuminated.
11>.It is strongly recommended to read the installation manual before starting installation!!!
12>.Please wear anti-static gloves or anti-static wristbands when installing electronic components.

7.Installation Steps(Please be patient):

1>.Step 1: Install 1pcs 2.2ohm Metal Film Resistor at R2.
2>.Step 2: Install 6pcs 100ohm Metal Film Resistor at R3-R8.

3>.Step 3: Install 1pcs DO-41 1N4007 Diode at D1. Pay attention to distinguish between positive and negative pole. White mark is negative pole.
4>.Step 4: Install 18pcs LED at D1-D18.The longer pin is inserted into the rectangular pad(positive pole). The shorter pins are inserted into the round pads.

5>.Step 5: Install 1pcs 3.5mm DC Socket at J1. It is recommended to use metal wire to fix the black seat.
6>.Step 6: Pass GL5528 photoresistor sensor through the Nylon Column Hollow F4*H6.

7>.Step 7: Install GL5528 photoresistor sensor at R9 on PCB another side.
8>.Step 8: Install 1pcs TO-92 S8550 Transistor at Q1.

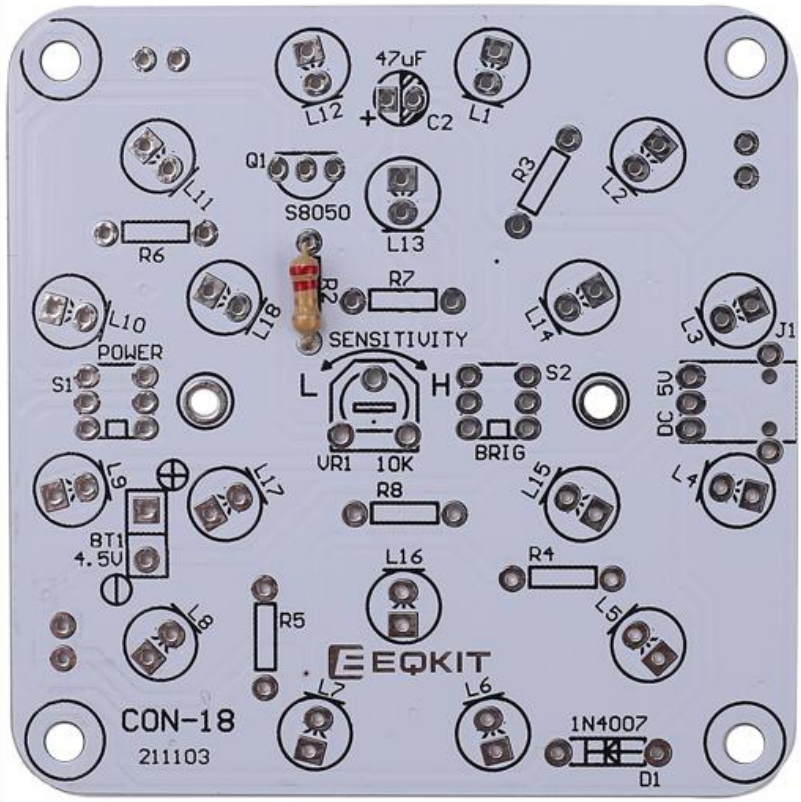
9>.Step 9: Install 2pcs 5.8*5.8mm Self-locking switch at S1,S2.
10>.Step 10: Install 1pcs 47uF 16V Electrolytic Capacitor at C2.Pay attention to distinguish between positive and negative.The Longer pin is positive pole.The longer pin is inserted into the rectangular pad.

11>.Step 11: Install 1pcs AA*3 Battery Box at BT1. Note: Red wire connect to ‘ + ’ .
12>.Step 12: Fix Battery Box by 2pcs M2*6mm screw and 2pcs M2 nuts.

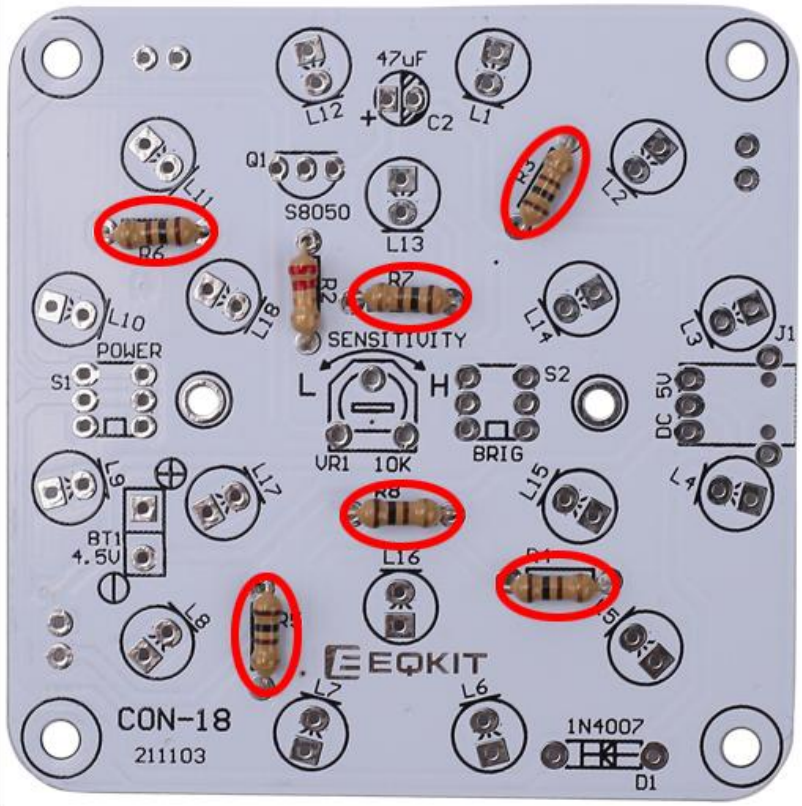
13>.Step 13: Install 4pcs M3*10mm and 4pcs M3*20mm Nylon Column on PCB.
14>.Step 14: Place lamp on plastic shell.Then press button to switch lamp.

8.Install shown steps:

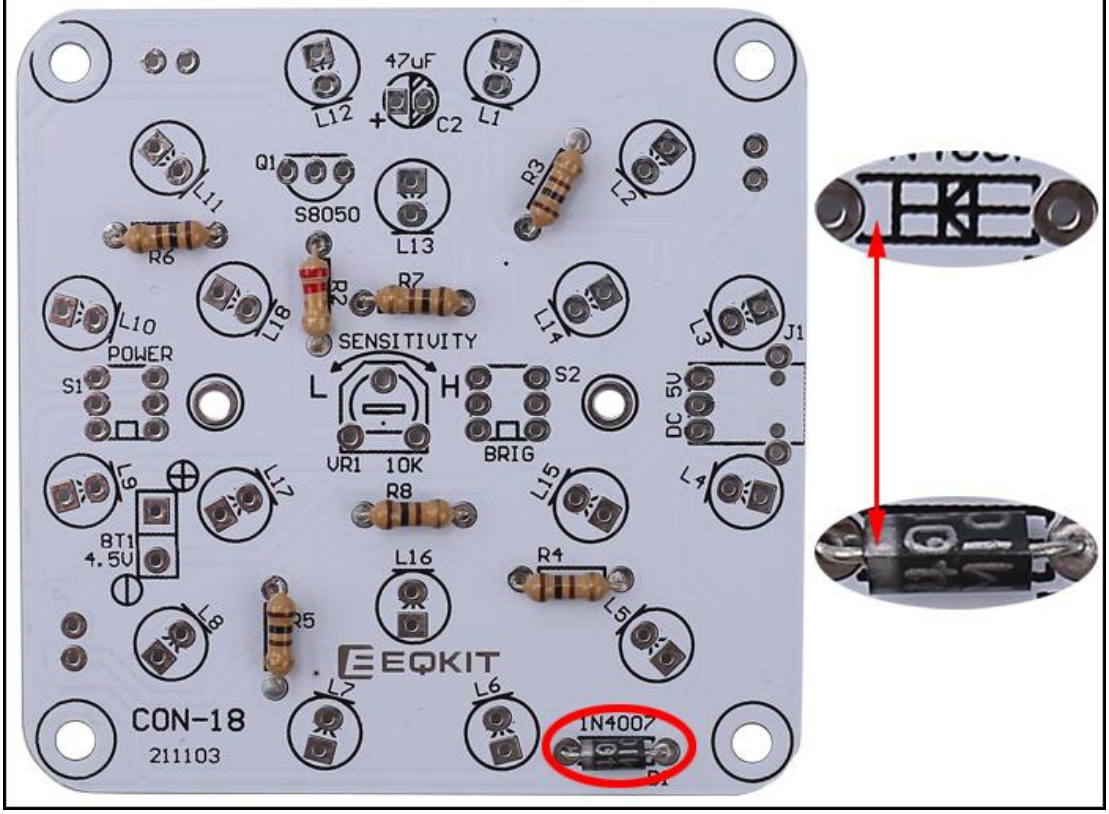
Step 1: Install 1pcs 2.2ohm Metal Film Resistor at R2.



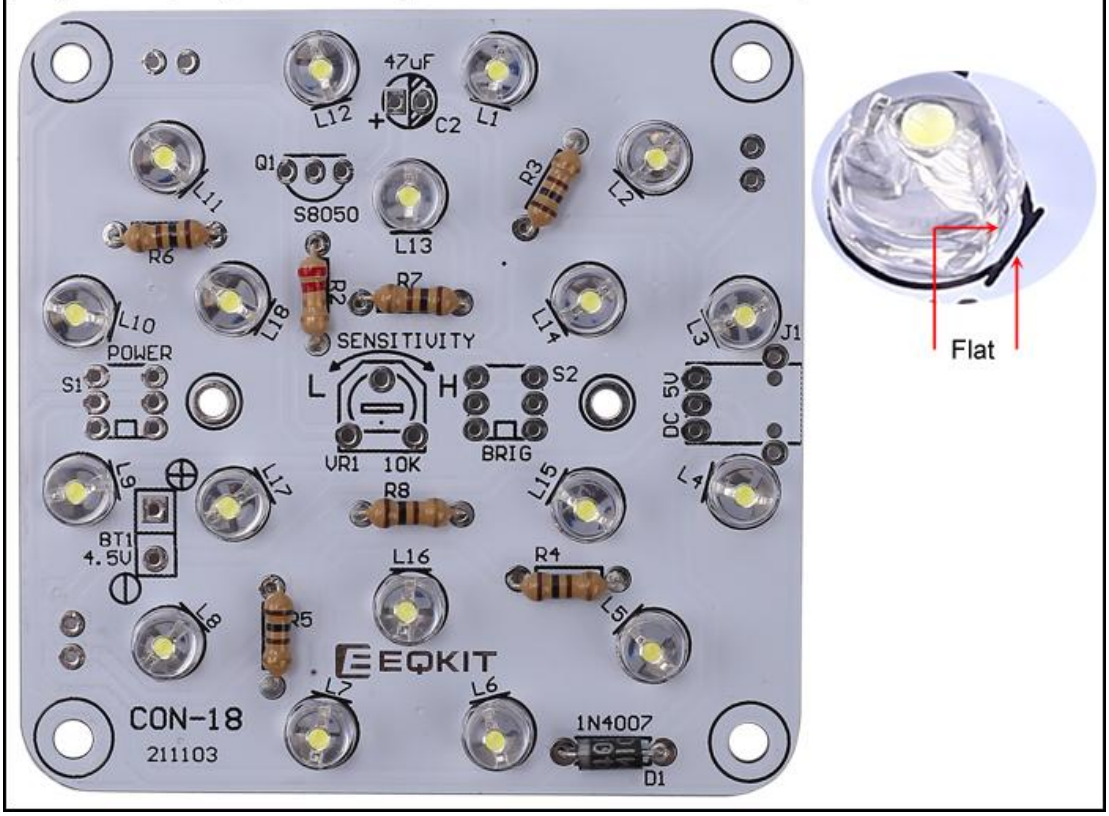
Step 2: Install 6pcs 100ohm Metal Film Resistor at R3-R8.



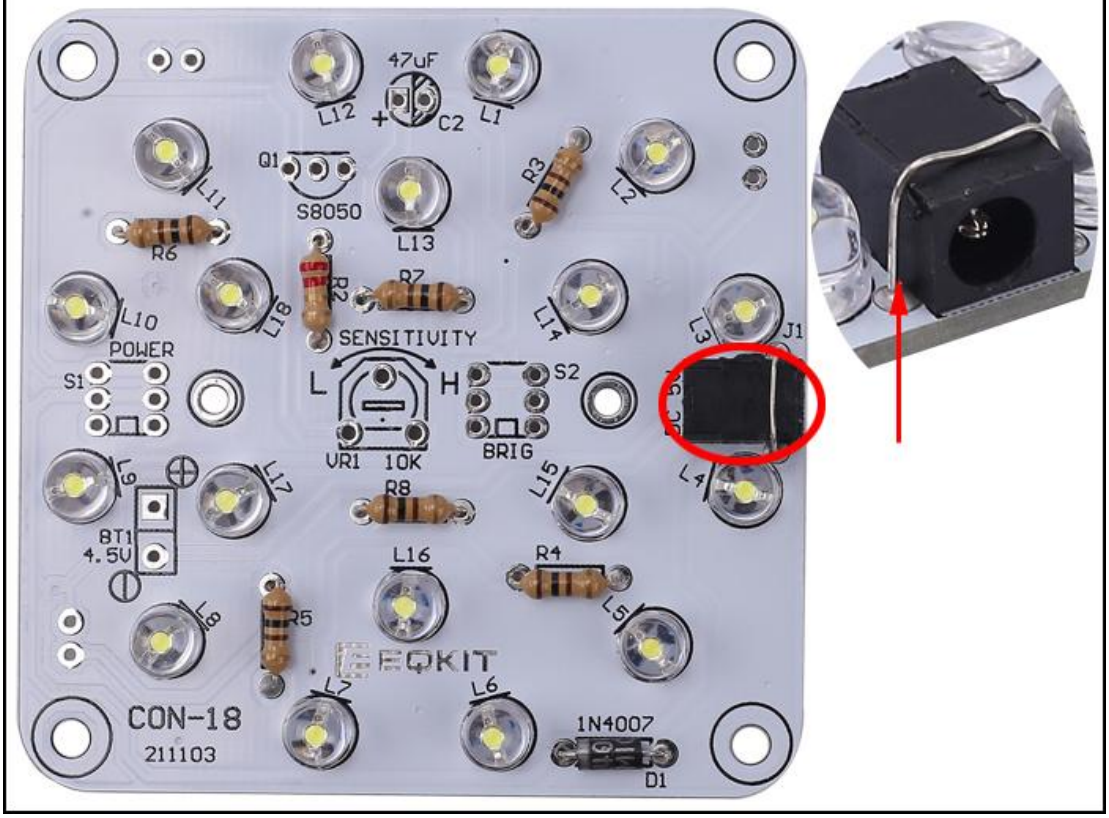
Step 3: Install 1pcs DO-41 1N4007 Diode at D1. Pay attention to distinguish between positive and negative pole. White mark is negative pole.



Step 4: Install 18pcs LED at D1-D18.The longer pin is inserted into the rectangular pad(positive pole). The shorter pins are inserted into the round pads.



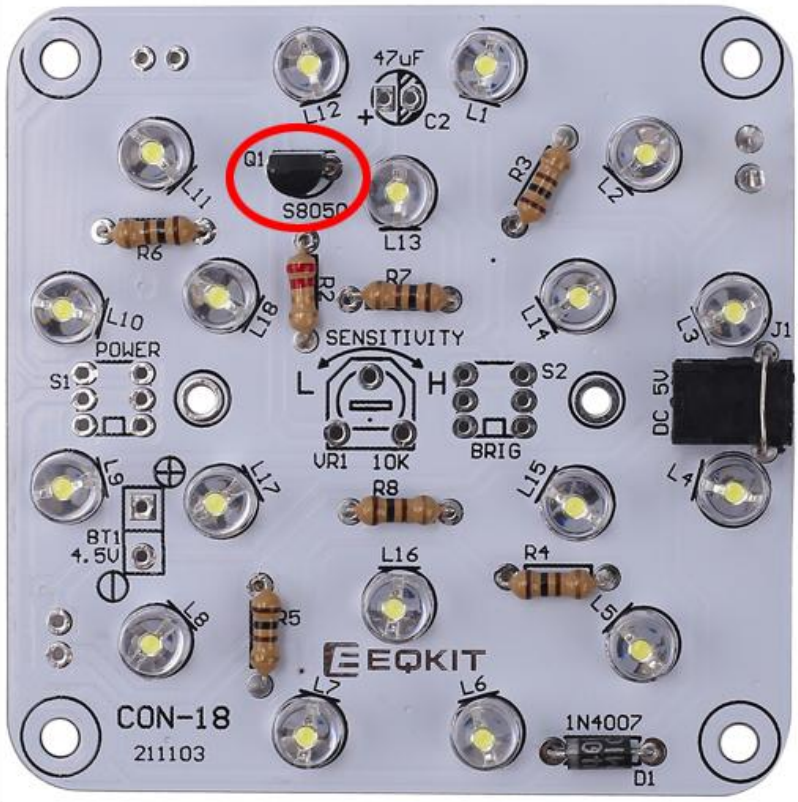
Step 5: Install 1pcs 3.5mm DC Socket at J1. It is recommended to use metal wire to fix the black seat.



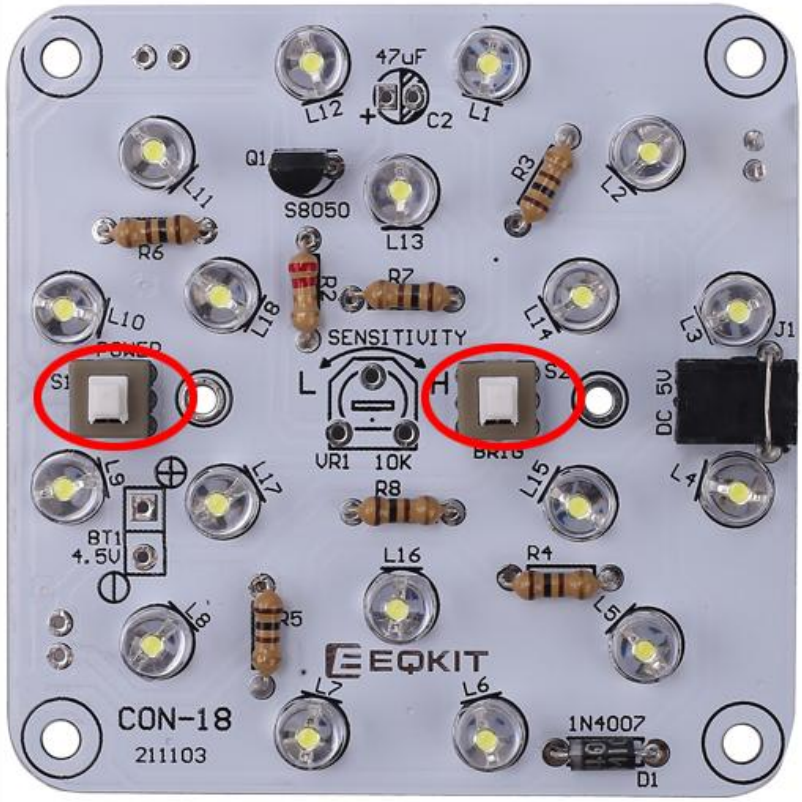
Step 6: Pass GL5528 photoresistor sensor through the Nylon Column Hollow F4*H6.

Step 7: Install GL5528 photoresistor sensor at R9 on PCB another side.

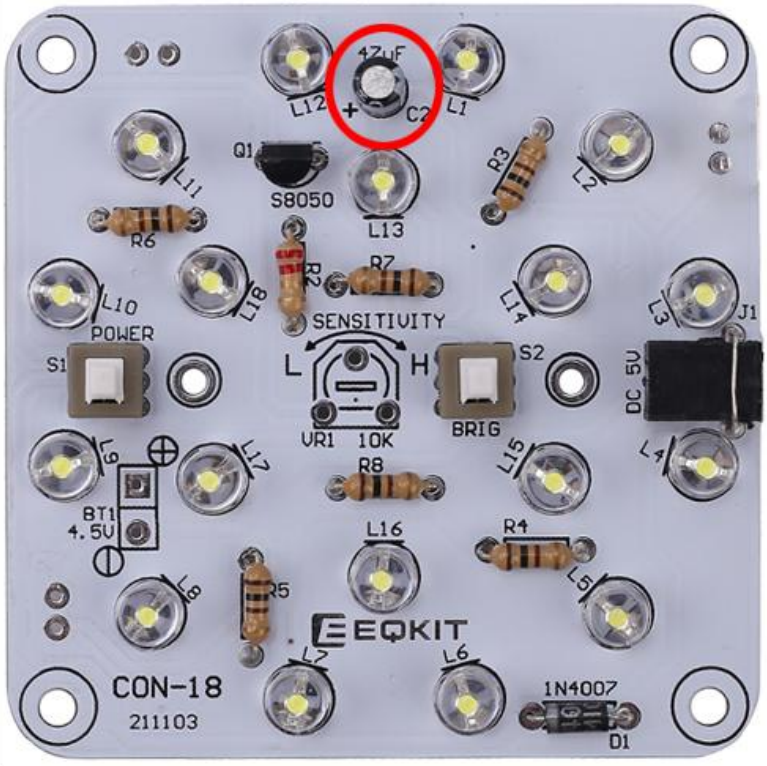
Step 8: Install 1pcs TO-92 S8550 Transistor at Q1.



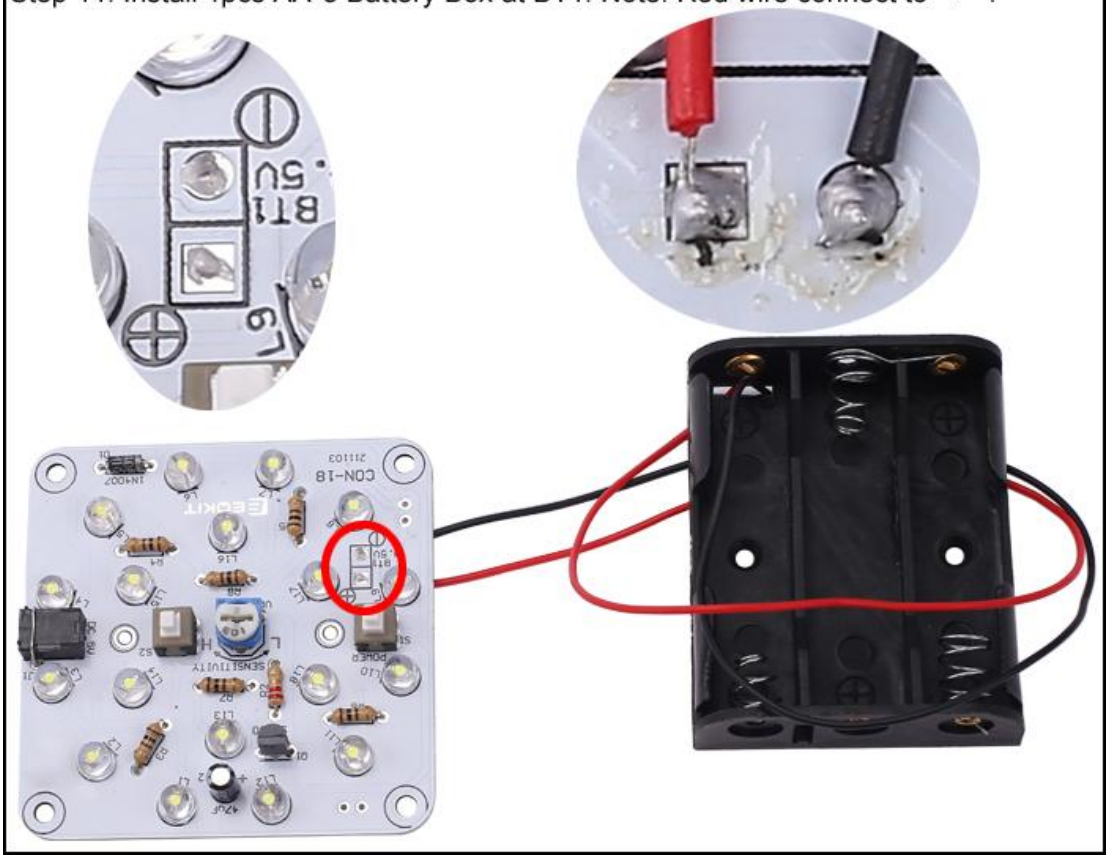
Step 9: Install 2pcs 5.8*5.8mm Self-locking switch at S1,S2.



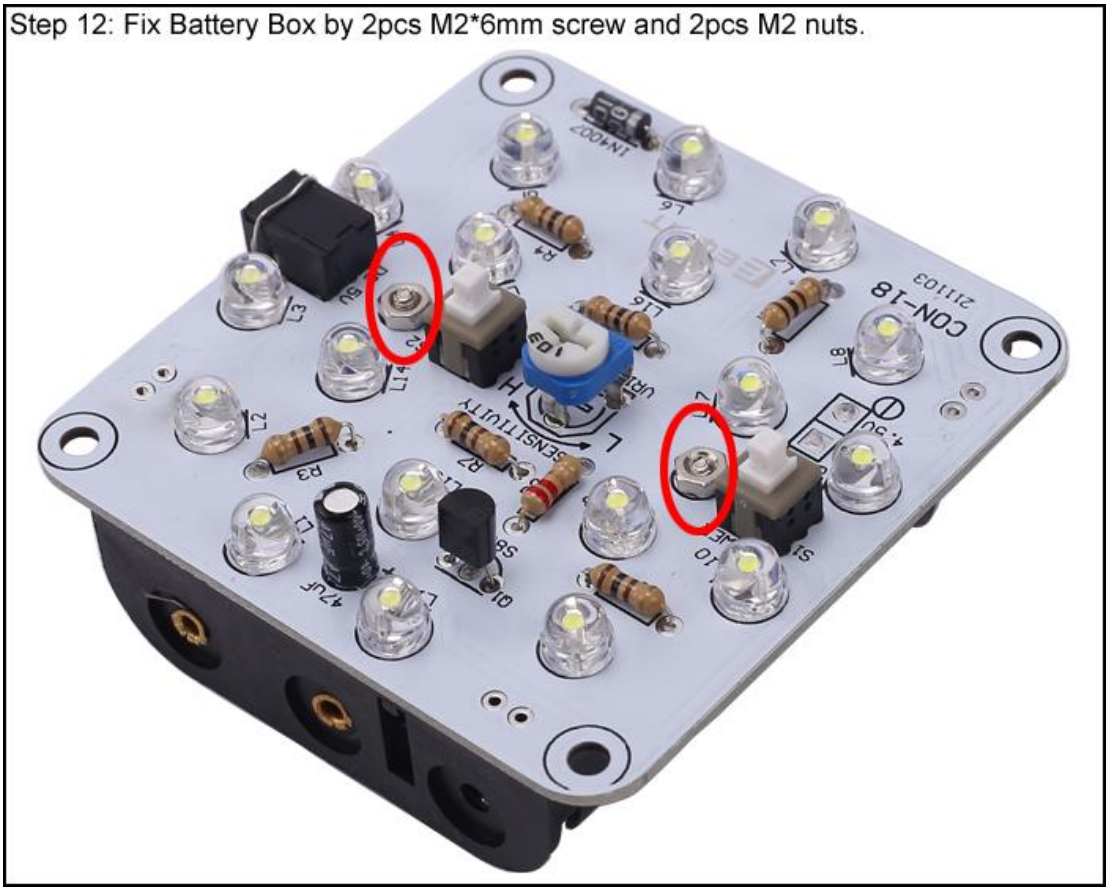
Step 10: Install 1pcs 47uF 16V Electrolytic Capacitor at C2.Pay attention to distinguish between positive and negative.The Longer pin is positive pole.The longer pin is inserted into the rectangular pad.



Step 11: Install 1pcs AA*3 Battery Box at BT1. Note: Red wire connect to ‘ + ’ .



Step 12: Fix Battery Box by 2pcs M2*6mm screw and 2pcs M2 nuts.



Step 13: Install 4pcs M3*10mm and 4pcs M3*20mm Nylon Column on PCB.

Step 14: Place lamp on plastic shell.Then press button to switch lamp.