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ICs & Robot Gadgets
Easy Deal Easy Fun

Digital Electronic Clock Temperature Display DIY Kit

1.Introduction:

It is a Digital Electronic Clock Temperature Display DIY Kit with 4Bit Red 0.56inch display screen.

It will display current time and temperature in the real time. User can set alarm as per your needs.

It is a very interesting DIY electronic soldering kit, which enables us to understand the circuit more clearly and learn welding skills.

2.Feature:

Time and Temperature display in turns
Enable/disable alarm
Automatic brightness adjustment
Time memory function
Perfect simple circuit
DIY soldering kits

3.Parameter:

Product Name:Digital Electronic Clock Temperature Display DIY Kit
Work Voltage:DC 5V
Display Screen:4Bit 0.56" Red
Display Mode:Time and Temperature display in turns
Light control:Enable/disable
Alarm:Enable/disable
Work Temperature:-40℃~85℃
Work Humidity:5%~85%RH
Size(Installed):100*42*24mm

4.Set Method:

Set minutes: Press right S2 button at the 1st time and then right 2Bit flashing which means can set minutes. Then press left S1 button to change value.

Set hours: Press right S2 button at the 2nd time and then left 2Bit flashing which means can set hours. Then press left S1 button to change value.

Adjust Alarm: Press right S2 button at the 3rd time and then right 2Bit flashing which means can set minutes for alarm. Then press left S1 button to change value.

Adjust Alarm: Press right S2 button at the 4th time and then left 2Bit flashing which means can set hours for alarm. Then press left S1 button to change value.

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Adjust Brightness: Press right S2 button at the 5th time to turn ON or OFF automatic brightness adjustment. Then press left S1 button to change value. Enable light control if display '1111' and disable light control if display '0000'.

Turn On/Off Alarm: Press right S2 button at the 6th time to turn ON or OFF alarm function. Then press left S1 button to change value. Enable alarm function if display '1111' and disable alarm function if display '0000'.

Turn On/Off temperature: Press right S2 button at the 7th time to turn ON or OFF temperature function. Then press left S1 button to change value. It only display time if display '1111' and display time and temperature in turns if display '0000'.

Return to normal display: Press right S2 button at the 8th time to save parameters and return to normal display mode.

Stop alarm: Press S1 button to stop alarm when alarm is working.

5.Components List:

NO.	Component Name	PCB Marker	Parameter	QTY
1	Metal Film Resistor	R1-R8,R11	1Kohm	9
2	Metal Film Resistor	R9,R10	10Kohm	2
3	Ceramic Capacitor	C1,C2	10pF	2
4	STC15F204EA Controller	U1	DIP-14	1
5	IC Socket	U1	DIP-14	1
6	DS1302 RTC Chip	U2	DIP-8	1
7	IC Socket	U2	DIP-8	1
8	4Bit 0.56" Display Screen	SM	Green	1
9	S9012 Transistor	Q1	TO-92	1
10	Photoresistor	GM		1
11	Thermistor	RM		1
12	Crystal Oscillator	Y2	32.768KHz	1
13	Black Button	S1,S2		2
14	Active Buzzer	F	5V	1
15	DC3.5mm Power Socket	P1		1
16	CR1220 Battery		3V	1
17	CR1220 Battery Socket	B	SMD	1
18	USB-3.5mm Power Wire		100cm	1
19	Screw		M2+10mm	8

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20	Nut		M2	8
21	Acrylic shell		100*40*2mm	6
22	PCB		85*29*1.6mm	1
Note:Users can complete the installation according to the PCB silk screen and component list.				

6.Installation Steps (Please be patient):

Step 1: Install 9pcs 1Kohm Metal Film Resistor at R1-R8,R11.
Step 2: Install 2pcs 10Kohm Metal Film Resistor at R9,R10.
Step 3: Install 1pcs 32.768KHz Crystal Oscillator at Y2.

Step 4: Install 1pcs DIP-14 IC Socket at U1.There is a mark on one end of the IC Socket and there is a mark on PCB where the IC can place on.These two marks are corresponding to each other and are used to specify the installation direction of the IC Socket.
Step 5: Install 1pcs DIP-8 IC Socket at U2.There is a mark on one end of the IC Socket and there is a mark on PCB where the IC can place on.These two marks are corresponding to each other and are used to specify the installation direction of the IC Socket.
Step 6: Install 1pcs SMD CR1220 Battery Socket at B.

Step 7: Install 1pcs Photoresistor at GM and be careful to bend the photoresistor.
Step 8: Install 1pcs Thermistor at RM and be careful to bend the thermistor.
Step 9: Install 2pcs 10pF Ceramic Capacitor at C1,C2.

Step 10: Install 1pcs TO-92 S9012 Transistor at Q1.
Step 11: Install 1pcs DC3.5mm Power Socket at P1.
Step 12: Install 2pcs Black Button at S1,S2.

Step 13: Install 1pcs Active Buzzer at F.Pay attention to distinguish between positive and negative.
Step 14: Install 1pcs Green 4Bit 0.56" Display Screen at SM on PCB another side. Pay attention to the installation direction.
Step 15: Install IC STC15F204EA and DS1302 on IC Socket. Pay attention to the installation direction.

Step 16: Tear off the acrylic surface protective film.
Step 17: Install 6pcs acrylic panels by Screw and Nut.
Step 18: Connect to power supply and set parameters according to set method.

7.Install shown steps:

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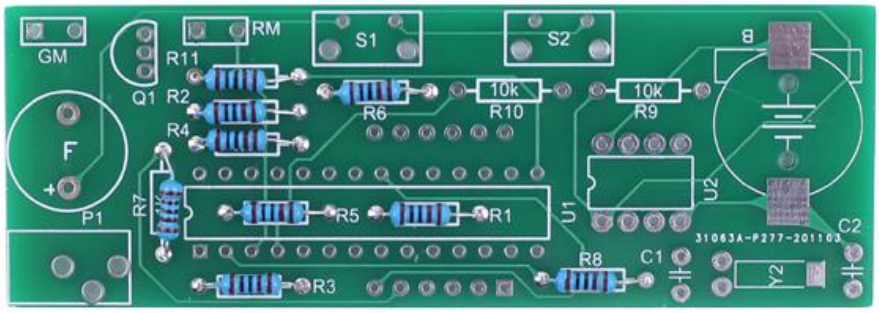
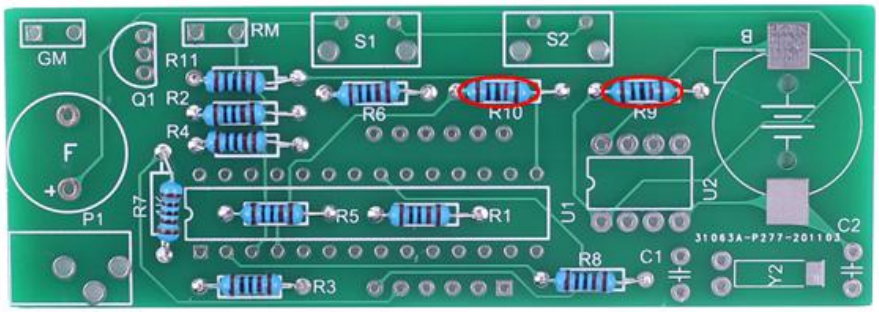
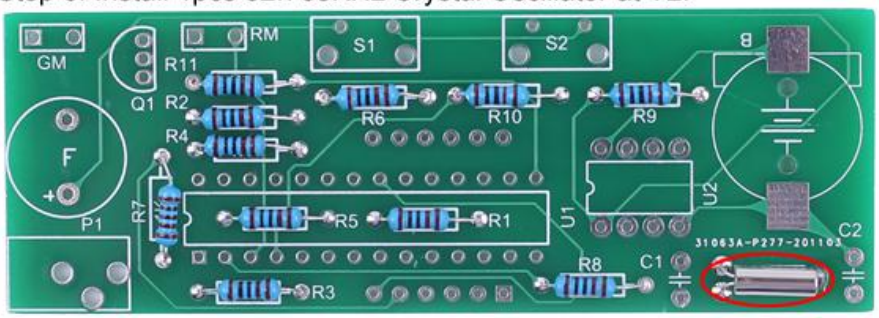
Step 1: Install 9pcs 1Kohm Metal Film Resistor at R1-R8,R11.



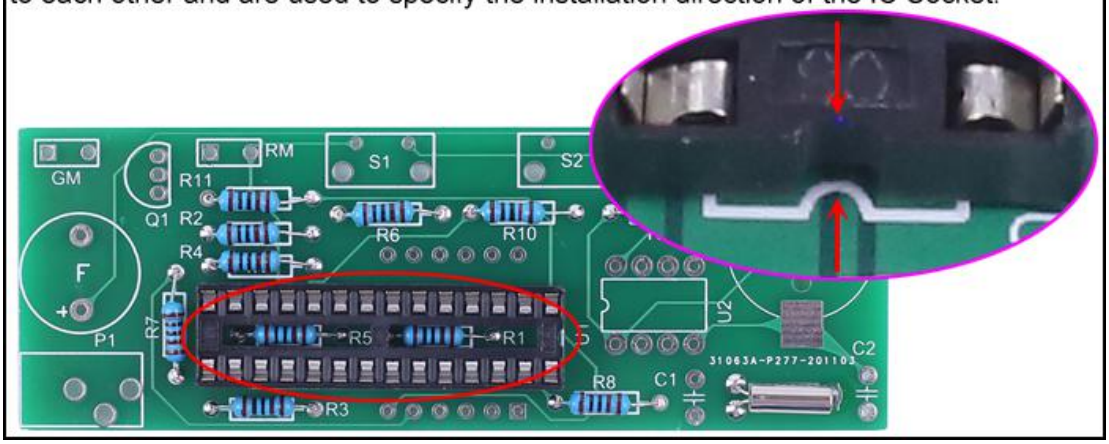
Step 2: Install 2pcs 10Kohm Metal Film Resistor at R9,R10.



Step 3: Install 1pcs 32.768KHz Crystal Oscillator at Y2.



Step 4: Install 1pcs DIP-14 IC Socket at U1.There is a mark on one end of IC Socket and there is a mark on PCB where IC can place on.These two mark are corresponding to each other and are used to specify the installation direction of the IC Socket.



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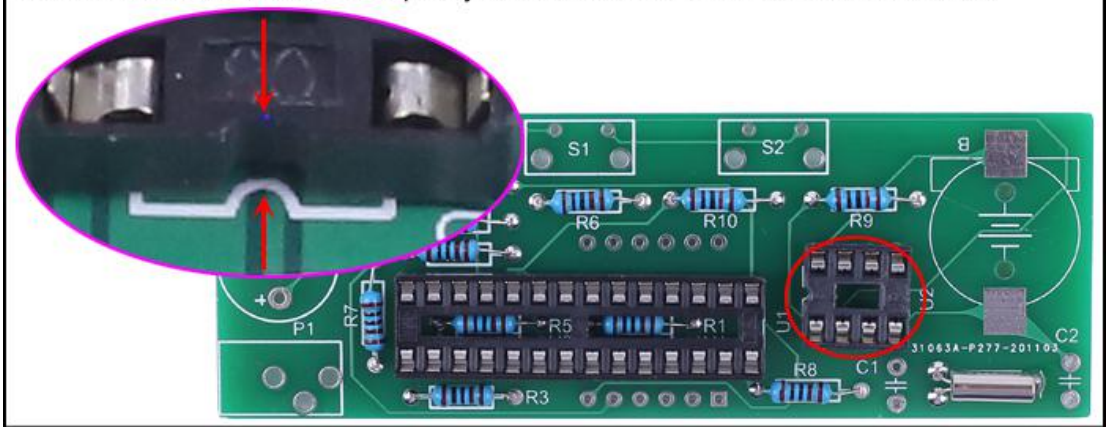
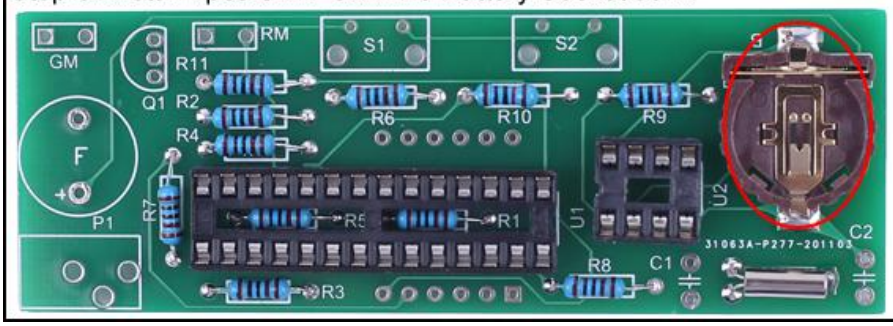
Step 5: Install 1pcs DIP-8 IC Socket at U2.There is a mark on one end of IC Socket and there is a mark on PCB where IC can place on.These two mark are corresponding to each other and are used to specify the installation direction of the IC Socket.



Step 6: Install 1pcs SMD CR1220 Battery Socket at B.



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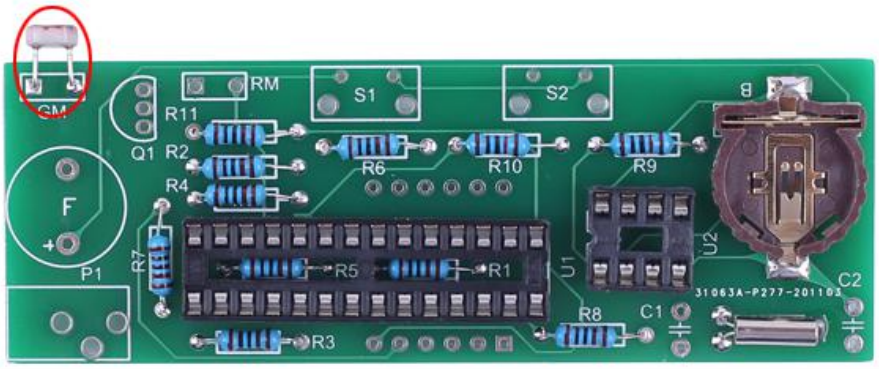
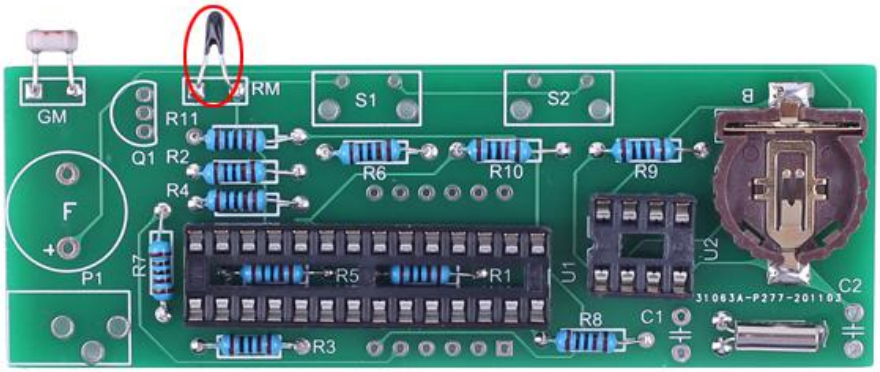
Step 7: Install 1pcs Photoresistor at GM and be careful to bend the photoresistor.



Step 8: Install 1pcs Thermistor at RM and be careful to bend the thermistor.



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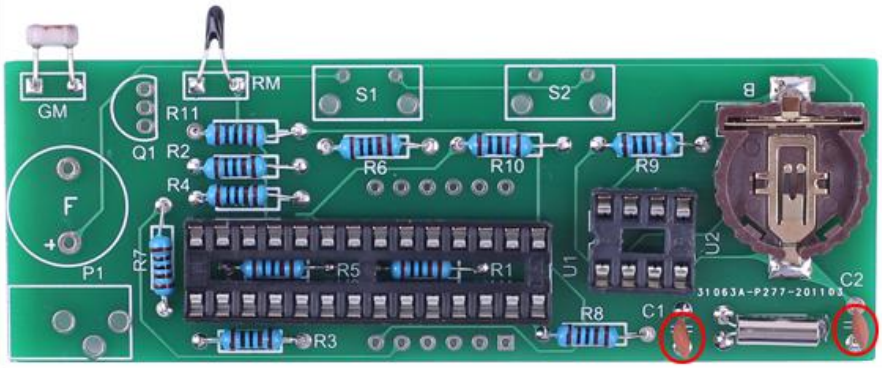
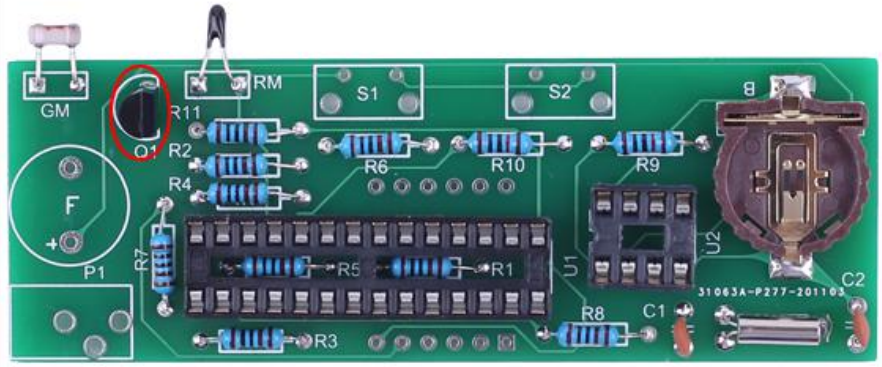
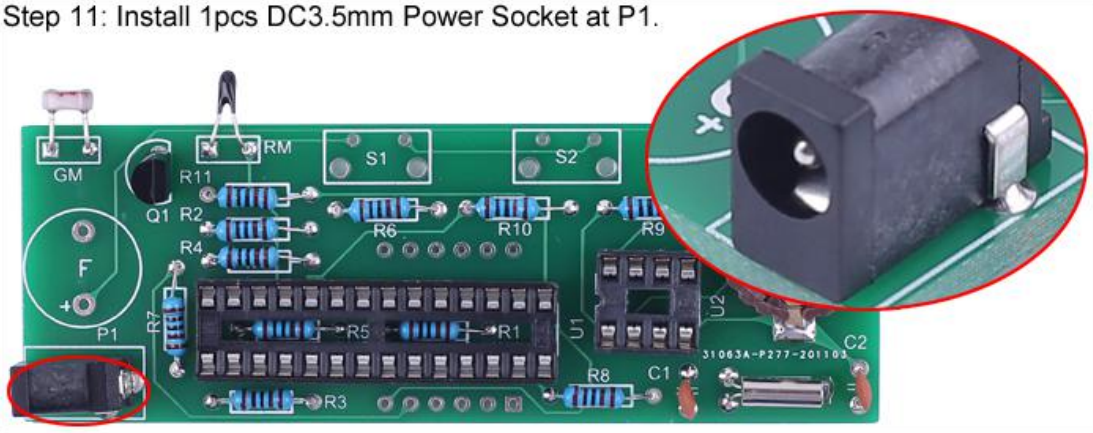
Step 9: Install 2pcs 10pF Ceramic Capacitor at C1,C2.



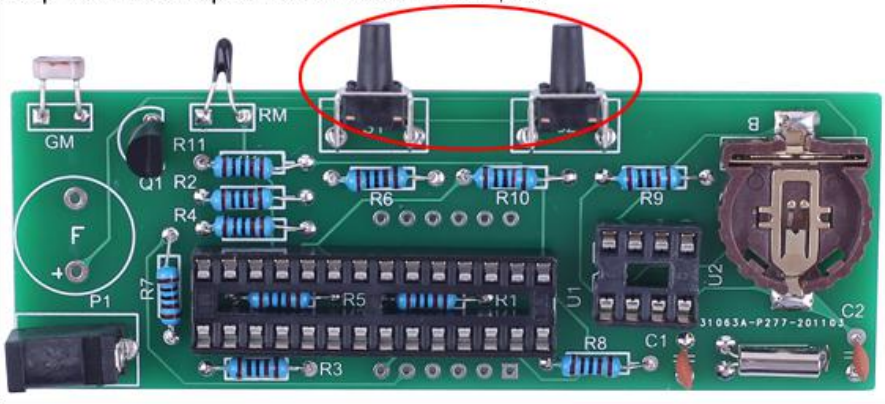
Step 10: Install 1pcs TO-92 S9012 Transistor at Q1.



Step 11: Install 1pcs DC3.5mm Power Socket at P1.



Step 12: Install 2pcs Black Button at S1,S2.



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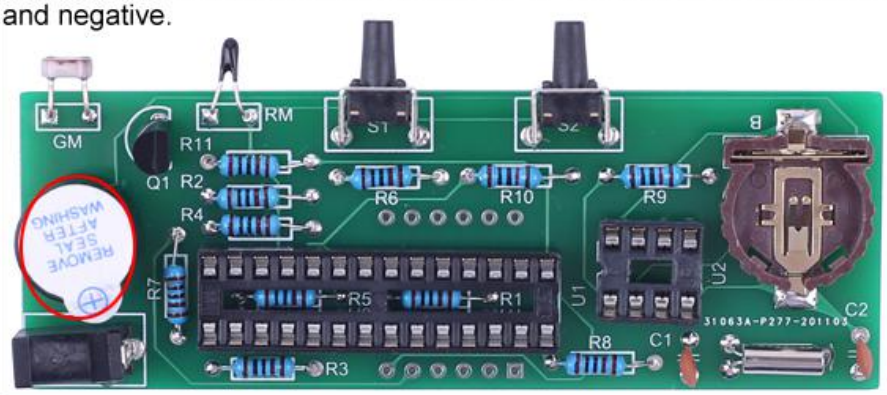
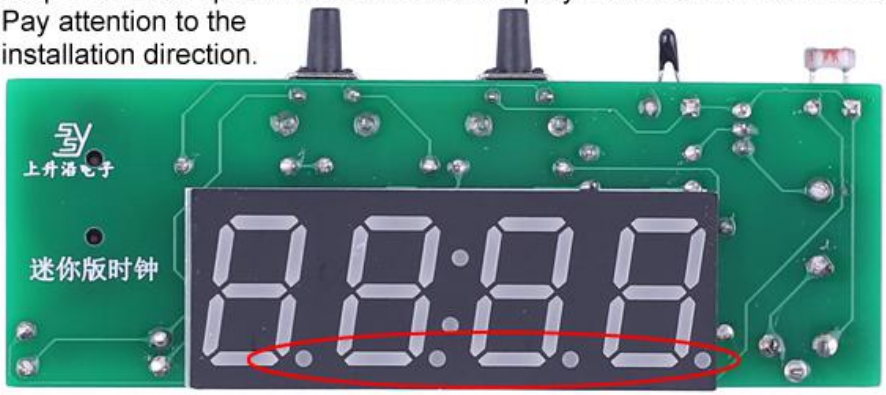
Step 13: Install 1pcs Active Buzzer at F.Pay attention to distinguish between positive and negative.



Step 14: Install 1pcs Green 4Bit 0.56" Display Screen at SM on PCB another side. Pay attention to the installation direction.



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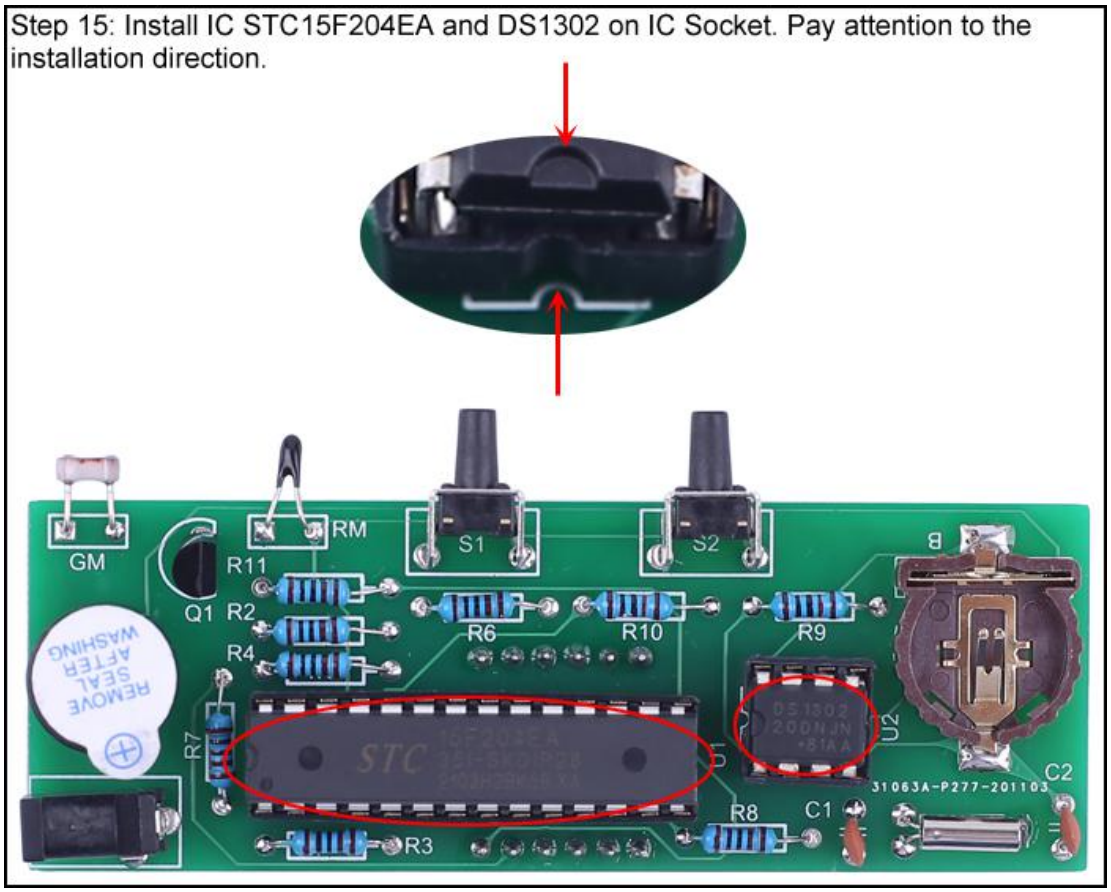
Step 15: Install IC STC15F204EA and DS1302 on IC Socket. Pay attention to the installation direction.



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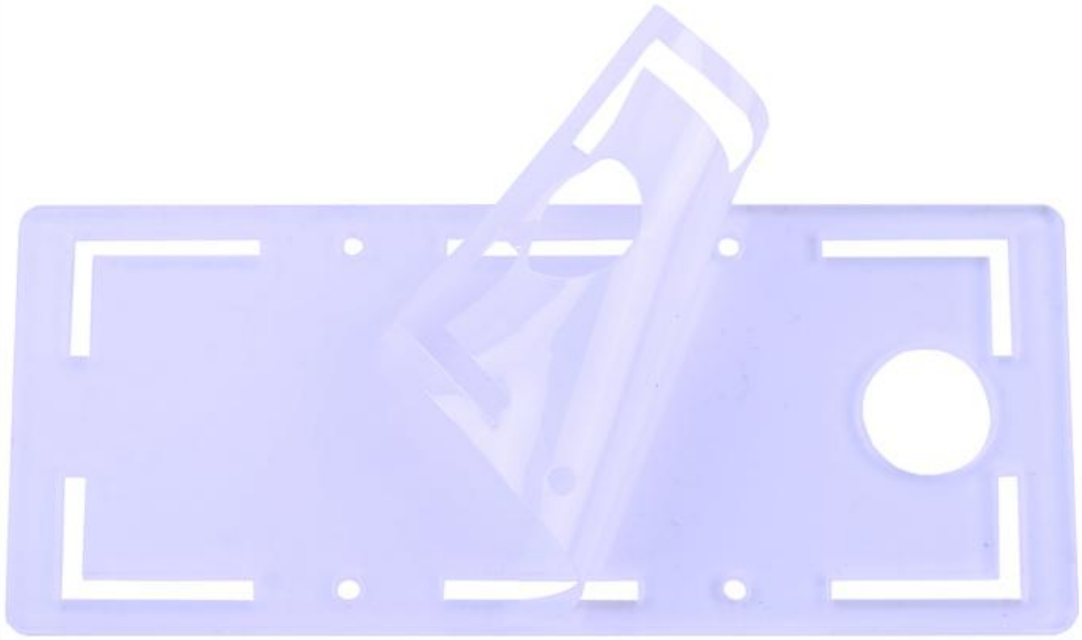
Step 16: Tear off the acrylic surface protective film.



Step 17: Install 6pcs acrylic panels by Screw and Nut.

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Step 18: Connect to power supply and set parameters according to set method.