

# TC421 WIFI Time Led Controller

## Product Specification



## 1.Product description

There is an upper computer in the programmable time controller to make the load output change over time, the customer may customize schedule mode they want through the upper PC or APP client. Then through the USB port or wifi to download required schedule to the controller. The upper PC and Mobile phone APP to the client in addition to the function of editing schedule mode, it also can be setup time for the controller because of synchronous clock function of upper host. If user want to see the schedule mode effect after editing, they can use fast sowing function of upper. Because there is no delete function of the upper host, so the mode name display space will come into blank as long as you execute delete. This controller can control load of led changing effect no more than five channels. And it can be used in the occasion of the plant lights, light box advertising, the stage, home decoration, etc.

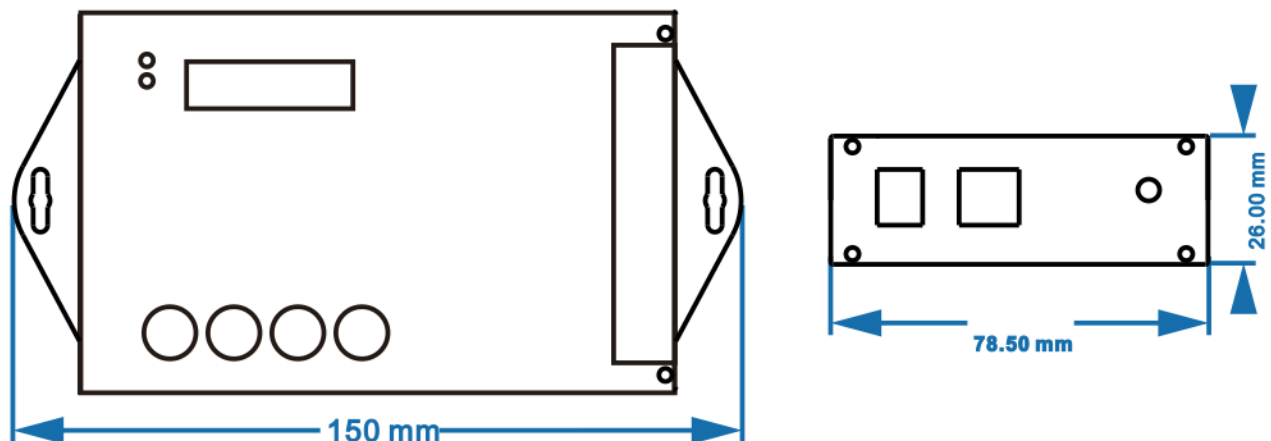
## 2.Product Feature

The customer may customize schedule mode they want through the upper PC or APP Client. You can set the mode effect for a certain period of time, can edit multiple mode and delete redundant mode, can be directly preview mode.

## 3. technical parameters

- 3.1 Working temperature : -20-60°C
- 3.2 Supply voltage : DC12-24V
- 3.3 static power : < 1W
- 3.4 net weight : 220g
- 3.5 gross Weight : 360g
- 3.6 External dimension : 150MM\*78.5MM\*26MM
- 3.7 Packing dimension : 185MM\*180MM\*54.8MM
- 3.8 Output: 5 channels
- 3.9 Max load current : 20A
- 3.10 Output: Five CMOS drain- open output
- 3.11 Connecting Mode: Common anode
- 3.12 The controller output frequency: 600 Hz

## 4.External dimension



## 5.Interface instruction

### 5.1 Input interface



- ① **RESET:** For the reset key, when the controller is dead, it can touch the key to the reposition, only for the chip reset, not the initialization reset.
- ② **USB:** It is USB signal joint entrance, when epistatic machine model after editing, can through the USB line to download to the controller.
- ③ **POWER:** It is DC plug, when the load power is small, can choose this port to input voltage.

**5.2 Output interface**



- ① **CH1:** It is the load output first channel negative pole;
- ② **CH2:** It is the load output second channel negative pole;
- ③ **CH3:** It is the load output third channel negative pole;
- ④ **CH4:** It is the load output 4th channel negative pole;
- ⑤ **CH5:** It is the load output 5th channel negative pole;
- ⑥ **V+:** It is the load output positive pole;
- ⑦⑧ **V+.V-:** It is power supply input positive and negative pole, when the load power is too large, you can choose this 2 port. (Remark: you only need to choose one between power supply input DC port and this 2 port )

**6.Function instructions**

There are two kinds of modes like energy saving mode and setup mode in this controller , and also there are four buttons such as "Menu", "Enter", "+", "-" in it.

**6.1 Wifi Settings**

Wifi has two modes:

**AP mode:** Mobile phone connected to the controller to control, the wifi name for time controller is (SmartTime xxx); Long press the Menu key can change wifi mode to AP mode, The Settings screen shows “Set:softAP...” , After the completion of the set will enter the normal mode.

**STA mode:** Mobile phone is connected to the router, and then through a router to control the time

controller, through the phone APP Settings and add network; When switched on, controller will initialize the wifi, display shows "Init: wifi..." Initialization is completed, will enter the normal mode, wifi model for last time setting state (AP or STA mode).

**Mobile phone software instruction(for android、IOS )**

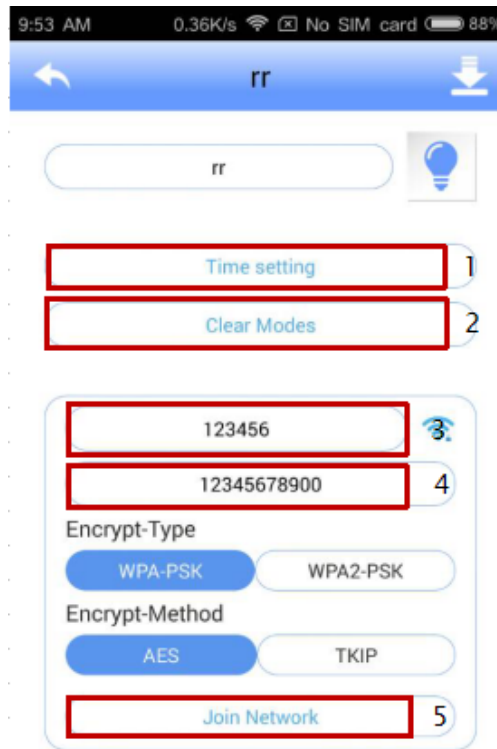
Android mobile phone to download the APK in CD, iPhone in APP store search Smart download time control or the scan qr code to download CD, after software installation done, the operation is as follows (the two phones are consistent):



1) After connecting the TC421 network, the software will refresh the TC421 device automatically. You also can search for TC421 devices through the "1" device search button.



2) After the device is searched, click the "1" device edit button to set the device.

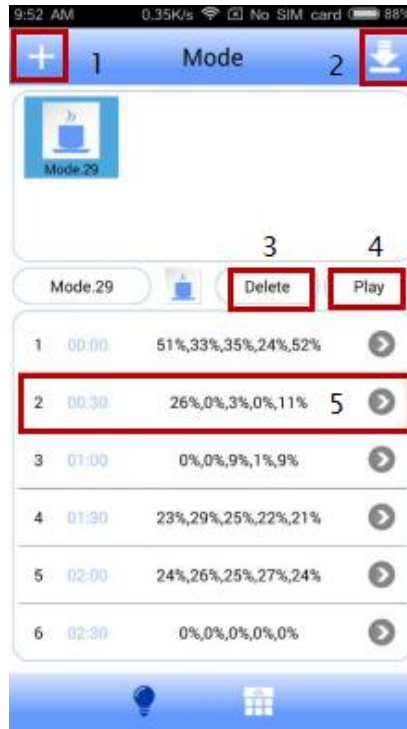


3) After entering the device editing interface, you can click "1" to synchronize the time, click "2" to clear all the patterns inside the device. Add a router to enter the name of the router in "3", enter the password of the router in "4", and click "5" to join the router. (You can not add the router, the phone directly control the TC421 device), join the router after the success of the software, Wait a few seconds, then add a list of mobile phones inside the phone should not find TC421 equipment issued by the wireless signal, and join the router , Select the TC421 editor set the router, and then enter the software. The software will automatically refresh the TC421 device, you can also search the button to search TC421 device.



4) After connecting the device to the router and searching for the device, click the "1" mode edit button to

edit the mode.



5) Click "1" to create a new mode, click "5" to set the color of the mode, set the mode, click "4" to preview the set mode, if you want to delete the new model, click "3" delete button To delete the mode, click Mode: 2 to download the mode to the TC421 device(controller will be overwritten with the name of the pattern already on the model).

**6.2 Power saving mode**

When the controller in the situation of setup mode without any key press in 30 seconds , the screen background light will be closed, and if within 30 seconds there is still no any key press, the controller will go into the energy saving mode .

When the controller is in the energy saving mode, the first line of the screen shows that the current date and mode; the second line displays the current time.

Energy saving mode is as shown in figure 1:

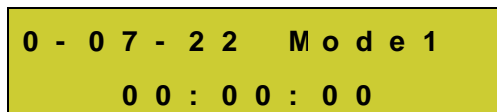


Figure 1

**6.3 Setup mode**

① Press "Menu" button in the main menu, it will enter into the time display interface.

The first line of the time display interface shows the current time or date and mode, it will automatically switch every two seconds .

The second line shows that "[Menu]", press "Enter" button to access the main menu interface.

Time display interface is as shown in figure 2:

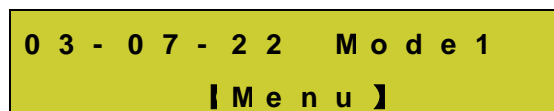


Figure 2

- ② When press "Enter" button in the time display interface , or "Menu" button in the submenu of the main Menu , it will go into the main Menu .  
The first line shows the location of " [Menu] "in the main Menu of the display .  
The second line of the display shows "1. Mode", "2. Setup" or "3, Run", that you can switch each mode by pressing the key "+" and "-" .  
Press "Enter" button,it will access the corresponding setting mode ; and press the "Menu" button to return to the time display interface .

The main menu display is as shown in figure 3:



Figure 3

- ③ Select "1. Mode" in the main menu and press "Enter" button to go into the mode choice options .  
The first line of the display shows the location of " 【Mode】 " in mode selection status .  
The second line shows that the name of mode choice such as: "Mode11" .  
Press the "+" or "-" key to choose mode , and save the selection mode ; Press the "Menu" button to return to the main menu.

The mode choice of display is as shown in figure 4:



Figure 4

- ④ Select "2. Setup" in the main menu and press "Enter" button to go into the Setting menu ;  
The first line of the screen shows the location of " 【Setup】 " in the setting menu status .  
The second line of the display shows "1. Time" and "2. Date" or "3. Sound", you can select setting object through the key "+" or "-" .  
Press "Enter" button to access the corresponding Settings, and click "Menu" button to return to the main Menu.

Setting menu is as shown in figure 5:



Figure 5

- I. In the status of setting menu , choose "1. Time" and press "Enter" button, it will enter into time setting mode;

The first line of the screen shows the location of " 【Time】 " in the time setting status .

The second line of display shows the setting time ": hour: minute : second", for instance , "11:16:56" is the current setting time .

Press "Enter" button to choose every setting number ( hour / minute /second ), as you seen ,in editing state , the selected area will be flashing .

Press the key "+" to add 1 , when the number reach maximum , it will return around to the minimum value ;

Press the key "-" to reduce 1 ,when the number reach minimum , it will be back to the maximum value .

Press the "Menu" button to save and return to the setting menu .

Setting mode displays as shown in figure 6:

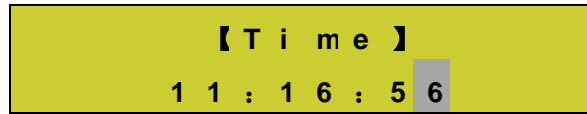


Figure 6

II. In the status of setting menu , choose "2.Date" and press "Enter" button, it will enter into date setting mode;

The first line of the screen shows the location of " 【Date】 " in the date setting status .

The second line of display shows the setting date " year - month - day " , for instance "13-01-01" is the current setting date .

Press "Enter" button to choose every setting number ( year / month / day), as you seen ,in editing state , the selected area will be flashing .

Press the key "+" to add 1 , when the number reach maximum , it will return around to the minimum value ;

Press the key "-" to reduce 1 ,when the number reach minimum , it will be back to the maximum value .

Press the "Menu" button to save and return to the setting menu .

Setting mode displays as shown in figure 7:

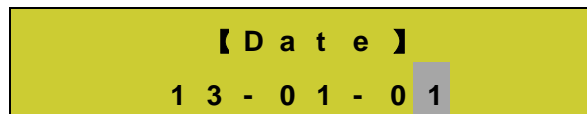


Figure 7

III. In the status of setting menu , choose " 3 .Sound " and press "Enter" button, it will enter into sound setting mode ;

The first line of the screen shows the location of " 【sound】 " in the sound setting status .

The second line of the display shows "OPEN" or "CLOSE" which means the situation of sound setting .

Press the key "+" or "-" to switch voice close or open ;

Press "Menu" button to return to the setting menu .

Sound Setting is as shown in figure 8:



Figure 8

⑤ In the status of main menu , choose " 3.Run " and press "Enter" button, it will enter into run menu;

The first line of the screen shows the location of " 【Run】 " in the run menu .

The second line of the display shows "Start " or " Stop " which means the on/off situation of the controller .

Press the key "+" or "-" to start or shut down .

Press "Enter" button to execute user's option; and press the "Menu" button to return to the main Menu .

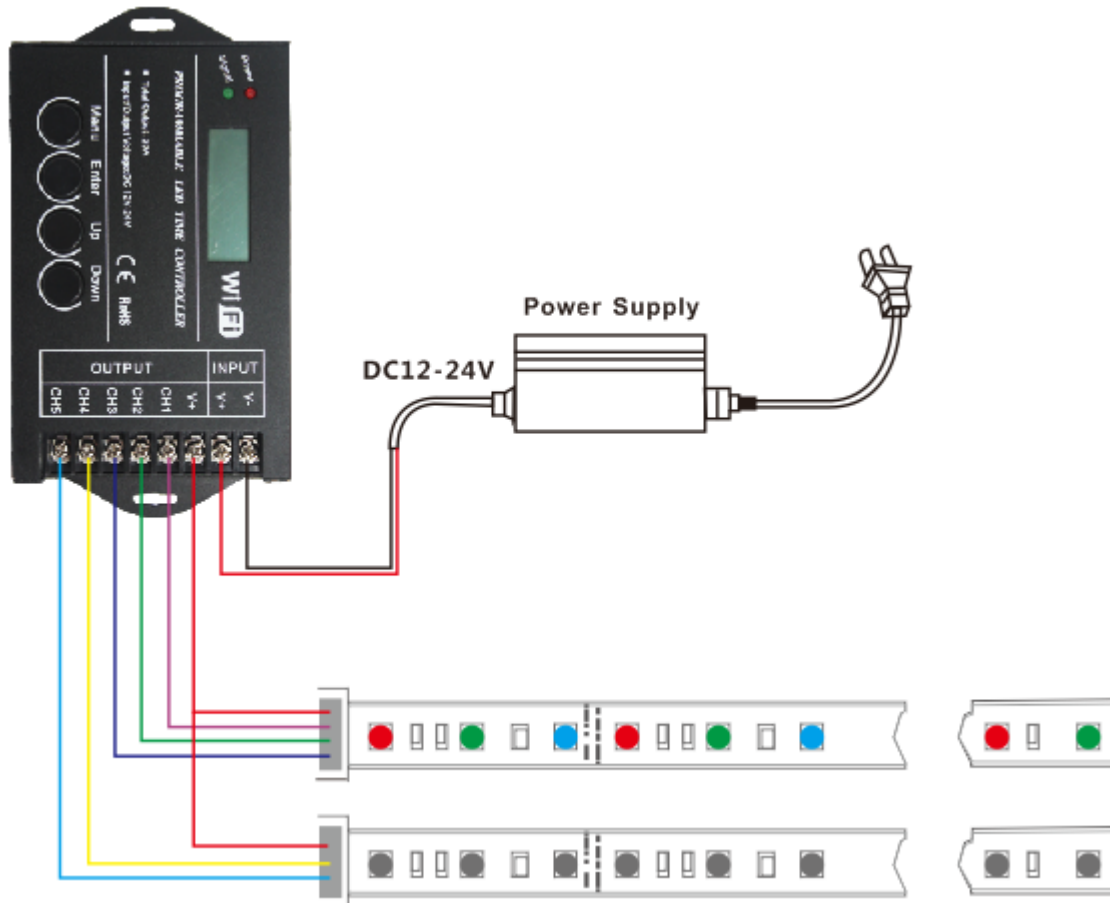


Run menu displays as shown in figure 9:



Figure 9

**7. Typical application**



**8.Warning**

8.1 Power supply voltage of this product is from DC12V to 24 V, and other high voltage power supply is unacceptable ;

8.2 When it is downloading mode , you should firstly power on the controller , and then connect usb line to the controller and computer ;

8.3 The power cord shall not be mutual attached in order to avoid short circuit .