

USER MANUAL

BX-6 series PIN Selecting Programs

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1. Summary

The program selection function of external pins is suitable for selecting programs through external pins to display different programs with different signals scene. For the external signal that is uncharged, the controller's pins can be directly connected. For the charged interface, we use the following two type of relay:

- 220 V voltage, [click to view](#)
- For voltage below 24 V, [click to view](#)

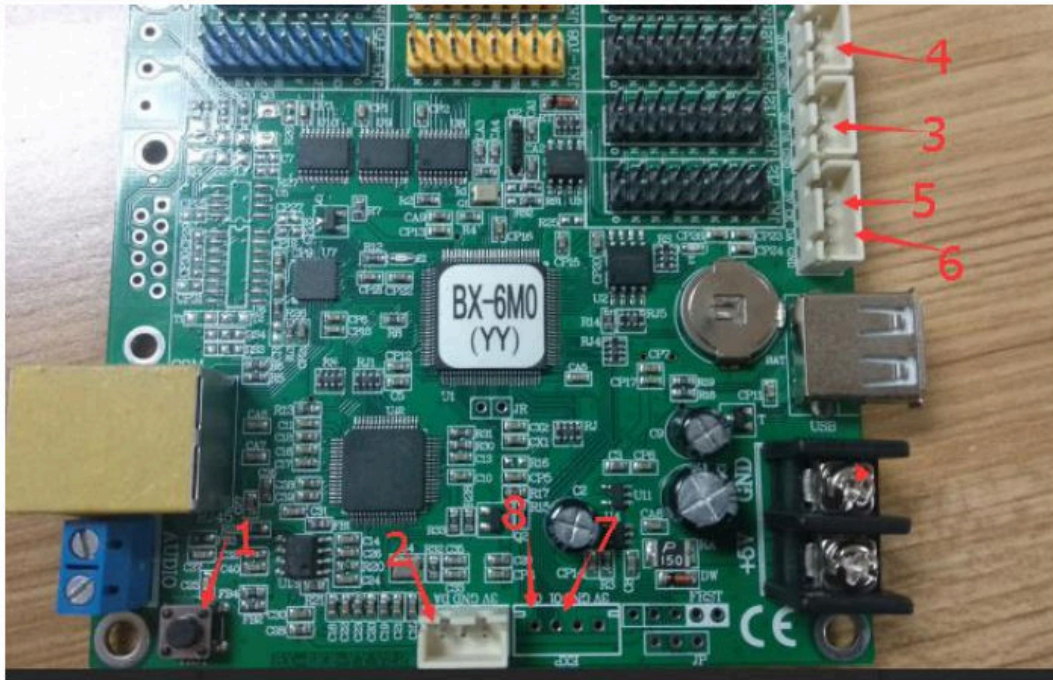
See the appendix for the instructions of relay.

2. Introduction to external pin logic

The external pin trigger mode is divided into level trigger and edge trigger. Among them, the level trigger is effective for all pins, and the Edge Trigger is only valid for EXP1 and EXP2..

2.1 introduction to pin interface

The following figure takes BX-6M0-YY as an example, and the silk printing of other controllers is the same.



1. TEST (Called Test bellow)
2. REMOTE DA (Called REMOTE bellow)
3. HUMI DA (called HUMI bellow)
4. TEMP DA (called TEMP bellow)
5. LIGHT CK (called LIGHT CK bellow)
6. LIGHT DA (called LIGHT DT bellow)
- 7.EXP 01 (calledEXP1 bellow)
- 8.EXP 02 (calledEXP2 bellow)

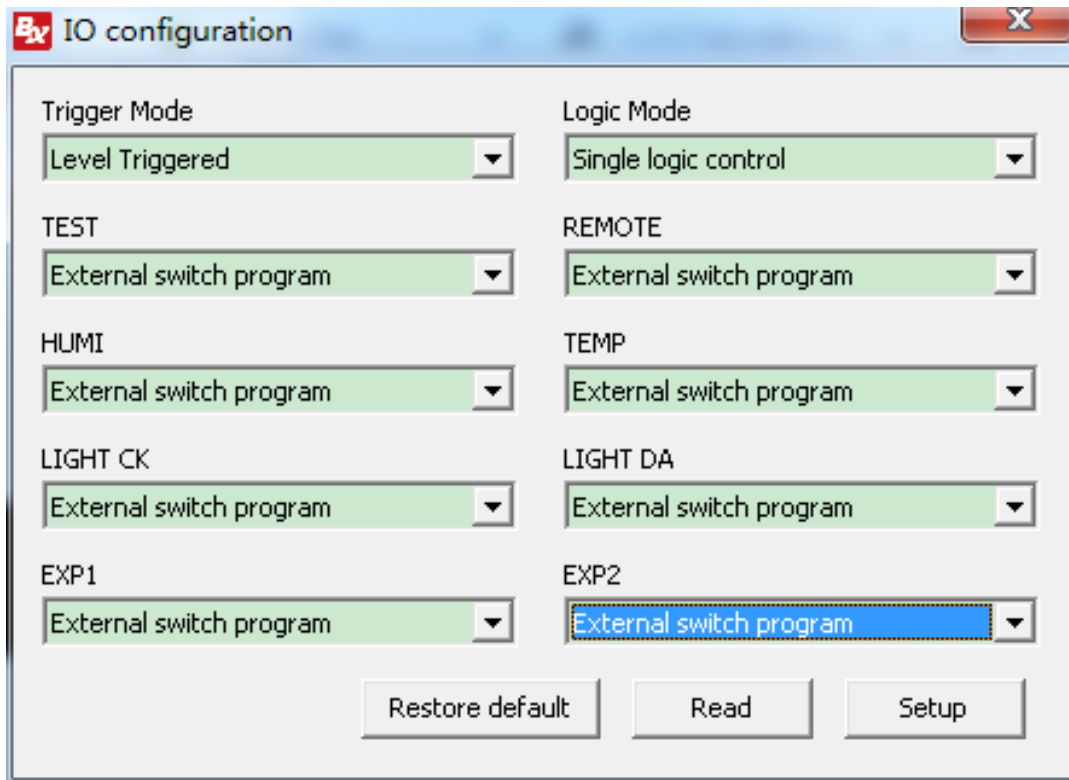
Only when the corresponding pin is set to external switch program , this pin can be used in external pin selection program.and the pin is a closed signal, indicating that the pin is selected. In the pin coding, the test pins are in the highest position, and the rest are arranged downward Column.

2.2 Level trigger

2.2.1 single logic control

In single logic control, only one pin level is allowed to be closed

If all pins are configured as external switches to select programs, as shown in the figure below.



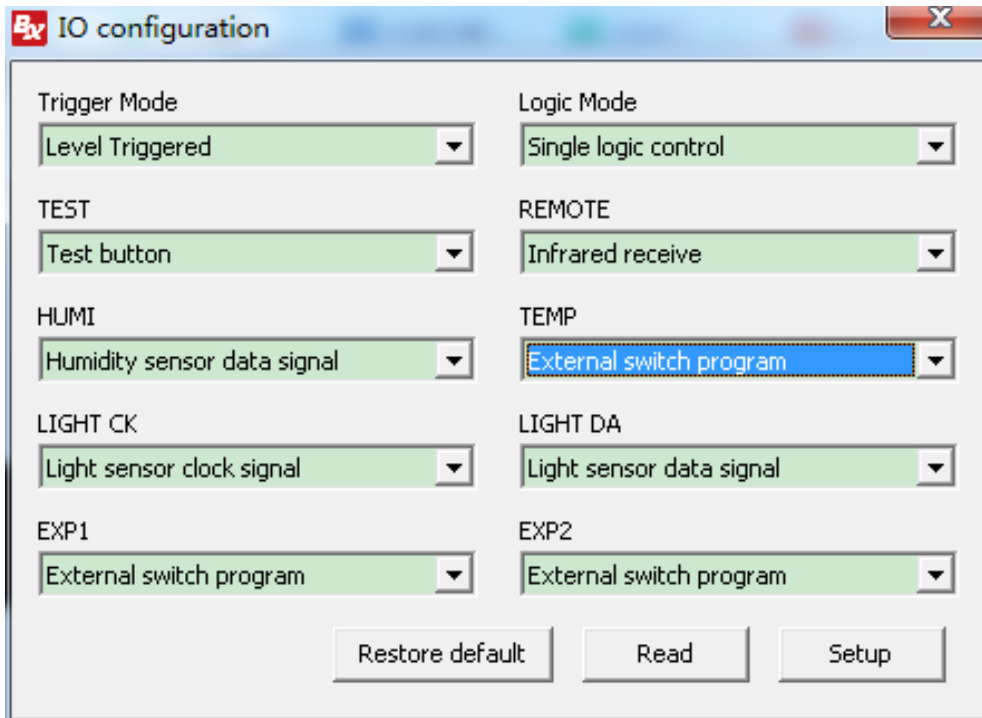
Then the control logic as follows :

TEST	REMOTE	HUMI	TEMP	LIGHT	CK	LIGHT DT	EXP1	EXP2	Select program number
0	0	0	0	0	0	0	0	0	Carousel other programs
0	0	0	0	0	0	0	0	1	1
0	0	0	0	0	0	0	1	0	2
0	0	0	0	0	0	1	0	0	3
0	0	0	0	0	1	0	0	0	4

And so on

In the above table, 1 represents the closed signal and 0 represents the open signal.

If we only use TEMP EXP1 and EXP2, as shown in the figure below.



Then the control logic as follows :

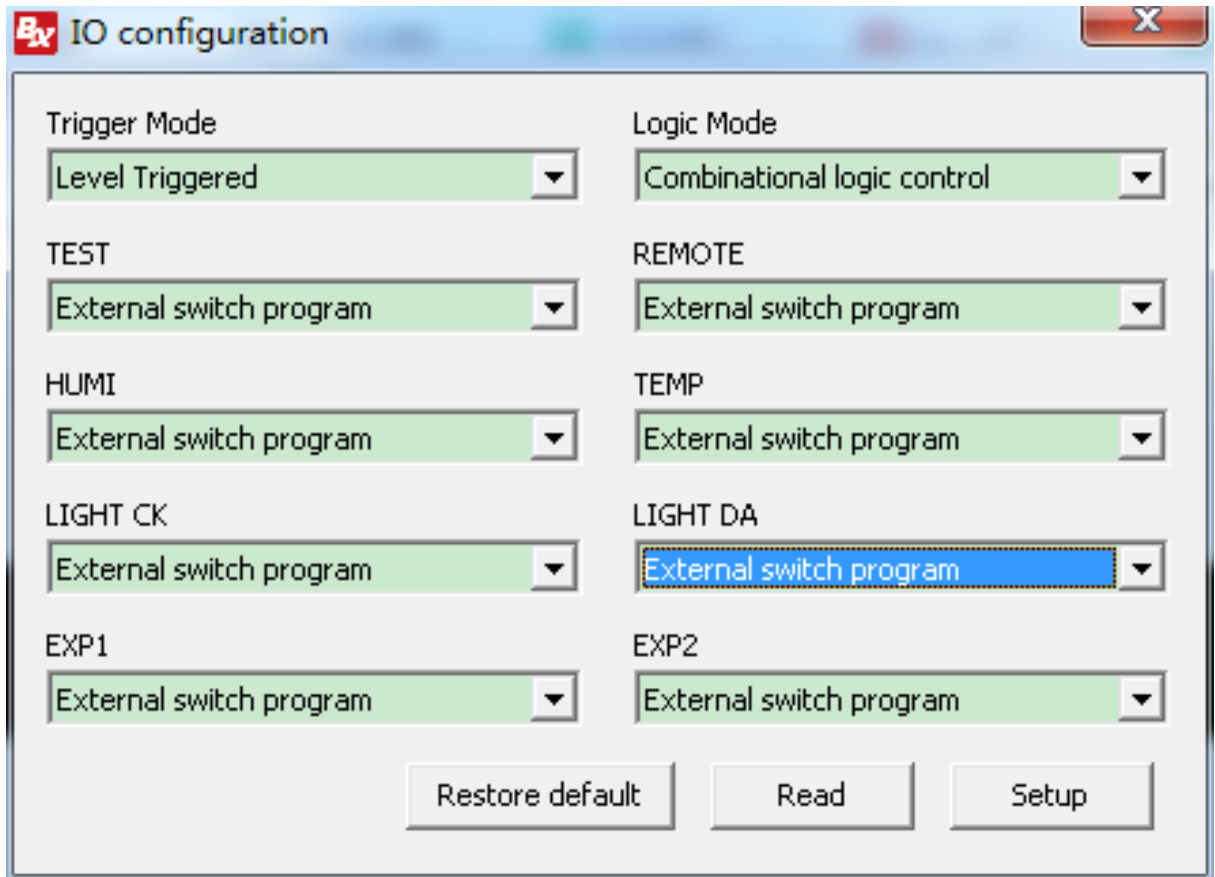
TEMP	EXP1	EXP2	Select program number
0	0	0	Carousel other programs
0	0	1	1
0	1	0	2
1	0	0	3

1 represents the closed signal and 0 represents the open signal.

If there is no pin selected, the old firmware version will show black screen, and the new firmware version will be changed to rotate other programs.

2.2.2. Combined logic control

In combinational logic control, multiple pin levels are allowed to be closed signals. If all pins are configured as external switches to select programs, as shown in the figure below.



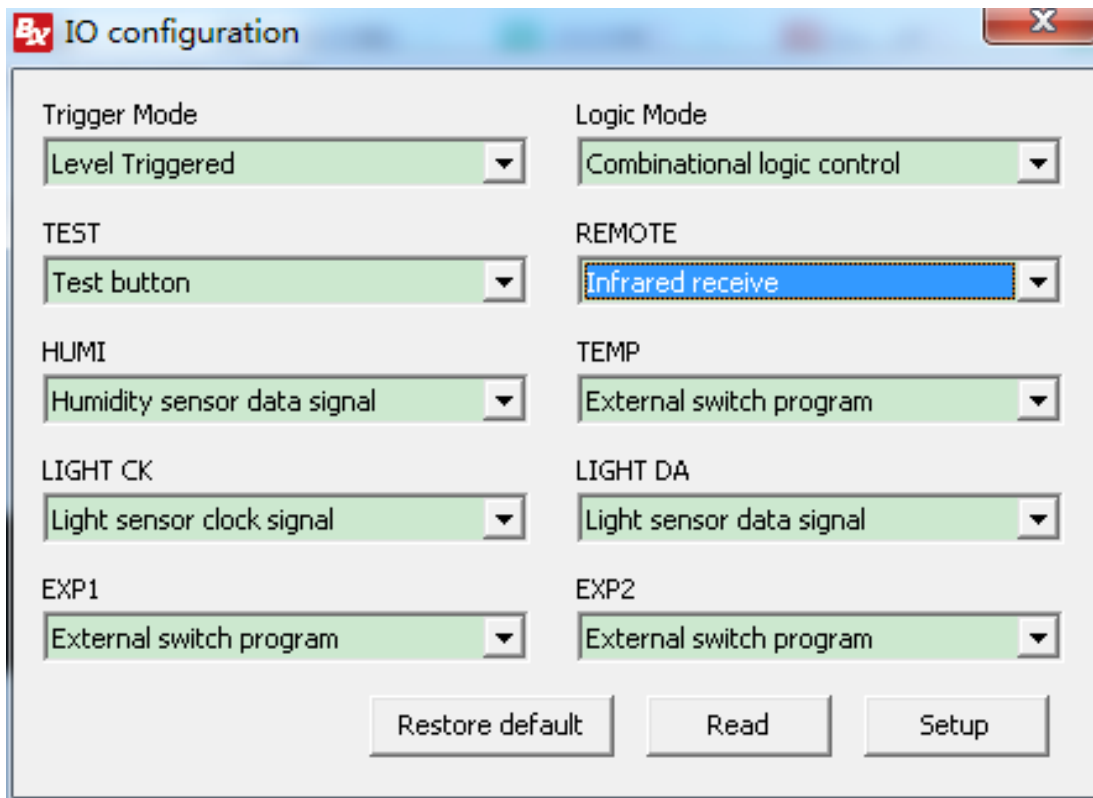
Then the control logic as follows :

TEST	REMOTE	HUMI	TEMP	LIGHT	CK	LIGHT DT	EXP1	EXP2	Select program number
0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	1	2
0	0	0	0	0	0	0	1	0	3
0	0	0	0	0	0	0	1	1	4
0	0	0	0	0	0	1	0	0	5
0	0	0	0	0	0	1	0	1	6
0	0	0	0	0	0	1	1	0	7

And so on

In the above table, 1 represents the closed signal and 0 represents the open signal.

If we only use TEMP EXP1 and EXP2, as shown in the figure below.

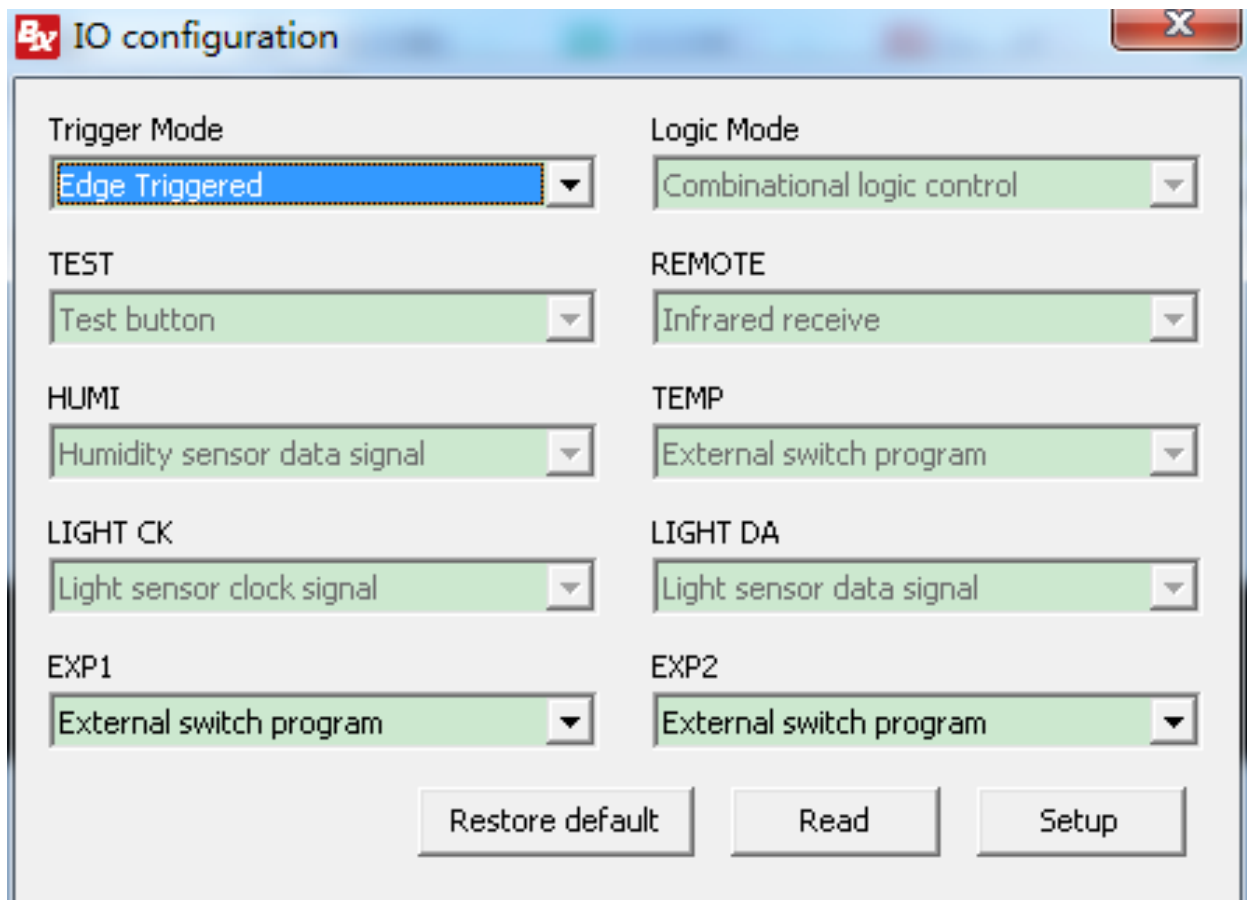


Then the control logic as follows :

TEMP	EXP1	EXP2	Select program number
0	0	0	1
0	0	1	2
0	1	0	3
0	1	1	4
1	0	0	5
1	0	1	6
1	1	0	7
1	1	1	8

1 represents the closed signal and 0 represents the open signal.

2.3 Edge trigger



Edge trigger is only valid for EXP1 and EXP2, where EXP1 is the previous program and EXP2 is the next program. (different type of controller might be different :EXP1 show the next program and EXP2 show the previous program). The rising edge is effective, that is, The same pin has a close signal first, and the open signal is maintained for 20ms after the interval time is more than 20ms. Above means that it is selected once.

IF playing the largest program number currently , and then switching to the next program will switch to the smallest program number. Currently playing the smallest program .If switch to the previous program, it will switch to the largest program number .

For example, program 6 is currently playing.

The EXP1 pin has a closed signal first, and then it is an open signal after the interval time is more than 20ms. Hold more than 20ms, the control card switches to

program 7.

The EXP2 pin has a close signal at first, and then it is an open signal after the interval time is more than 20ms. Holding more than 20ms, the control card switches to program 5

3. Case application

3.1 traffic light project

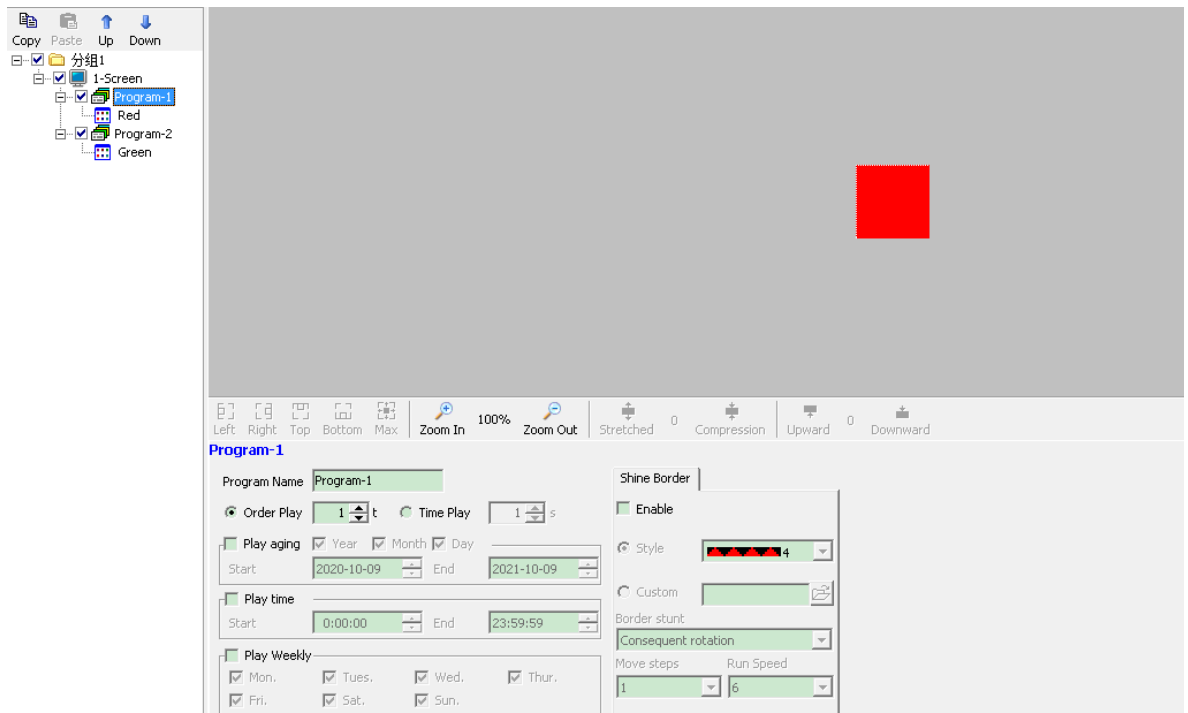
Requirement analysis

The upper controller outputs two signals, A and B, which are converted into no electrical signal through relay, and signal A outputs closed signal

Signal B outputs a closed signal, indicating that the green light is on. A and B will not give a closing signal at the same time.

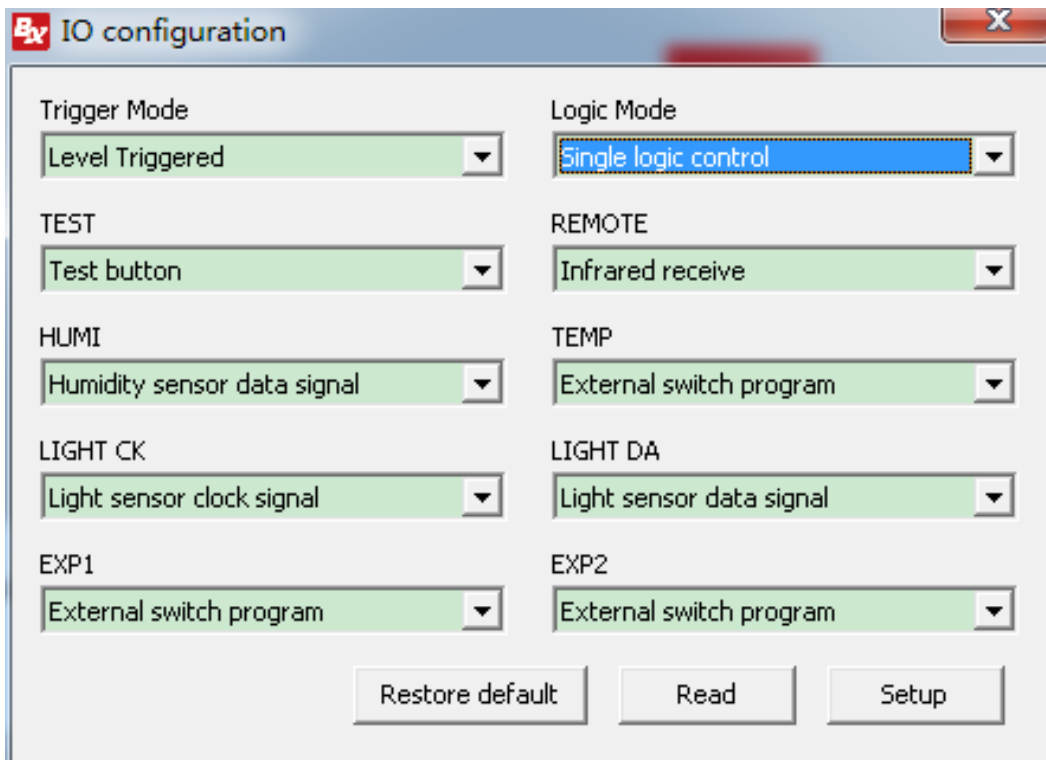
Project processing

Create two programs in LedshowTW. Program one add a red photo , program two add a green photo .then send programs .



Configure external pins

Using single logic, using Exp1 and exp2 pin control.



.Connect A signal to EXP 1 pin and B signal to EXP pin. The system can work normally, corresponding to the control logic

EXP1	EXP2	Traffic light status
0	0	Red
1	1	Green

1 represents the closed signal and 0 represents the open signal.

3.2 Metro double screen project

Project requirements

The upper controller outputs two signals A and B, which are converted into no electrical signal by relay 64 * 32 double sided screen.

There are two patterns on both sides: arrow and fork. Four conditions are controlled by pins

1. The arrow is shown on the a side and the fork is shown on the B side
2. A side shows fork, B side shows arrow
3. Arrows are shown on both a and B sides
4. Both sides a and b show forks

Project processing

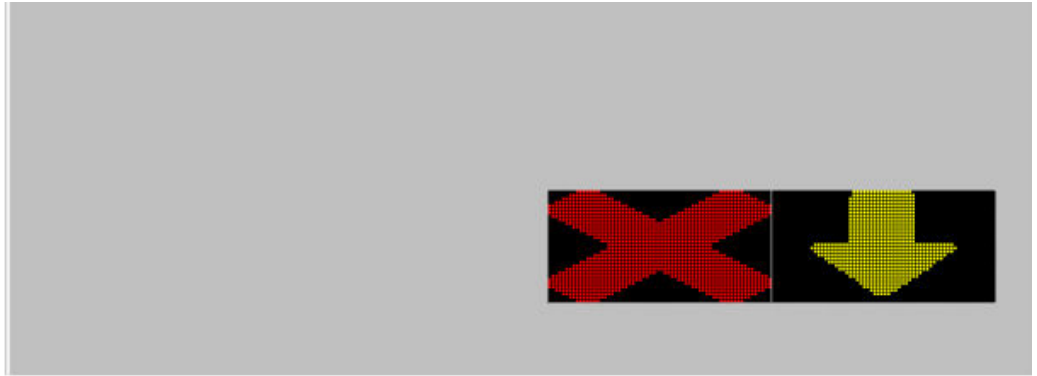
First of all, the display screen is a 128 * 32 display, in which the starting coordinate (0.0) width is 64

The area of height 32 is a side, the starting coordinate (64.0) width is 64, and the area of height 32 is B side 1 and TW editing 4 programs. Program 1: a side shows arrow, B side shows fork, program 2: a side shows cross, B side shows cross arrow, program 3: arrow on side a and side B, 4: cross on side a and side B.

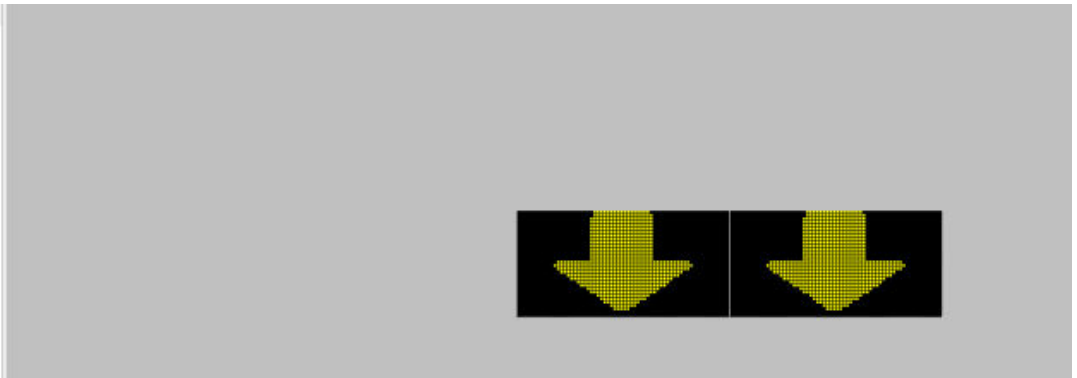
Program 1



Program 2



Program 3

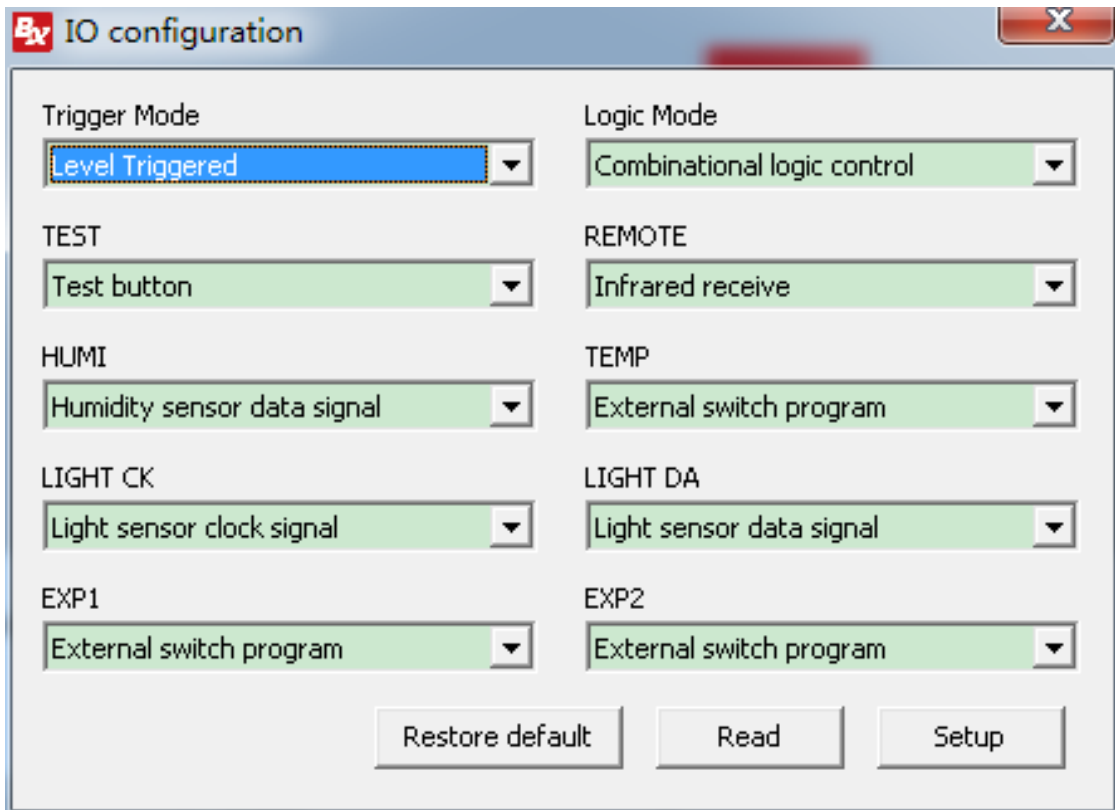


Program 4



Configure pins

Combined logic is used and EXP1 and EXP2 pins are used to control



Connect a signal to EXP1 pin and B signal to EXP2 pin. The system can work normally, corresponding to the control logic.

A signal	B signal	Traffic light status
0	0	A side show arrow.B side show X
0	1	A side show X.B side show arrow
0	0	A &B side both show arrow
1	1	A &B side both show X

1 represents the closed signal and 0 represents the open signal.

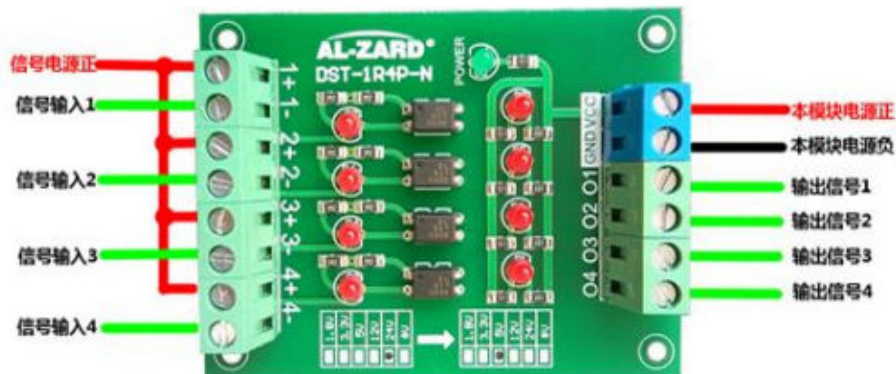
Appendix:

1. Instructions for use of relays with voltage below 24 V

Recommended link: [Click to view](#)

Take "24 V to 3.3 V" as an example (the pin of control card only accepts 3.3 V voltage, and if the pin level is 0, it means it is selected)

Common anode signal input:

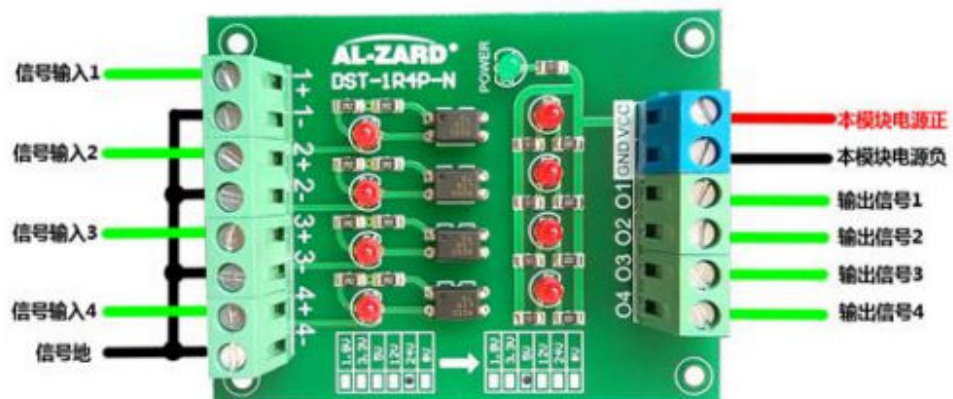


Input output truth table

Signal In	Signal Out
H (High level) (+24V)	H (High level) (+3.3V)
L (Low level) (0V)	L (Low level) (0V)

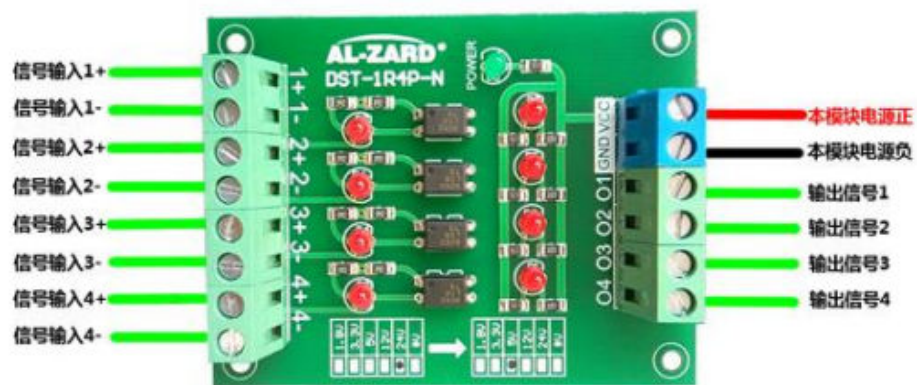
Note: the signal power supply is DC + 24 V, and the module power supply is DC + 3.3 v

Common cathode signal input:



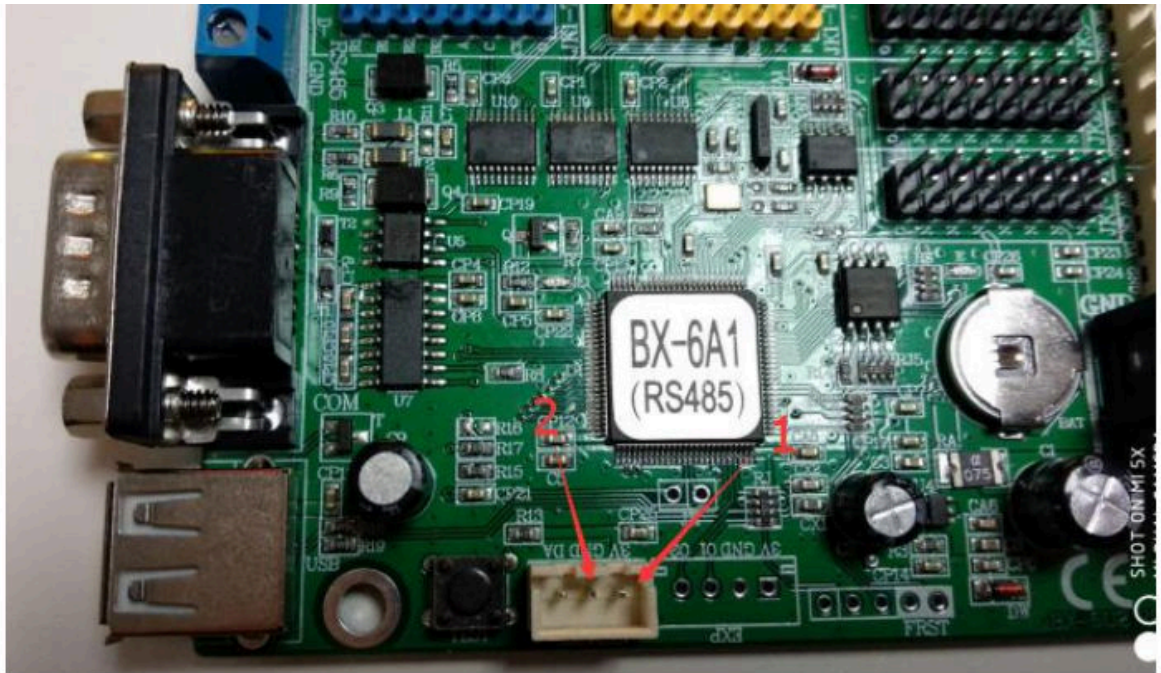
Input output truth table	
Signal In	Signal Out
H (High level) (+24V)	H (High level) (0V)
L (Low level) (0V)	L (Low level) (+3.3V)
Note: tthe module power supply is DC + 3.3 v	

Differential signal input



Input output truth table	
Signal In	Signal Out
H (High level) (+24V)	H (High level) (0V)
L (Low level) (0V)	L (Low level) (+3.3V)
Note: tthe module power supply is DC + 3.3 v	

The connection method of module power supply positive and module power negative is as follows: take BX-6A1 controller as an example, as shown in the figure below, 1 is connected with the above "module power positive", and 2 is connected with the above "local mode" Block power supply negative ".



2. Operating instructions of 220 V voltage relay

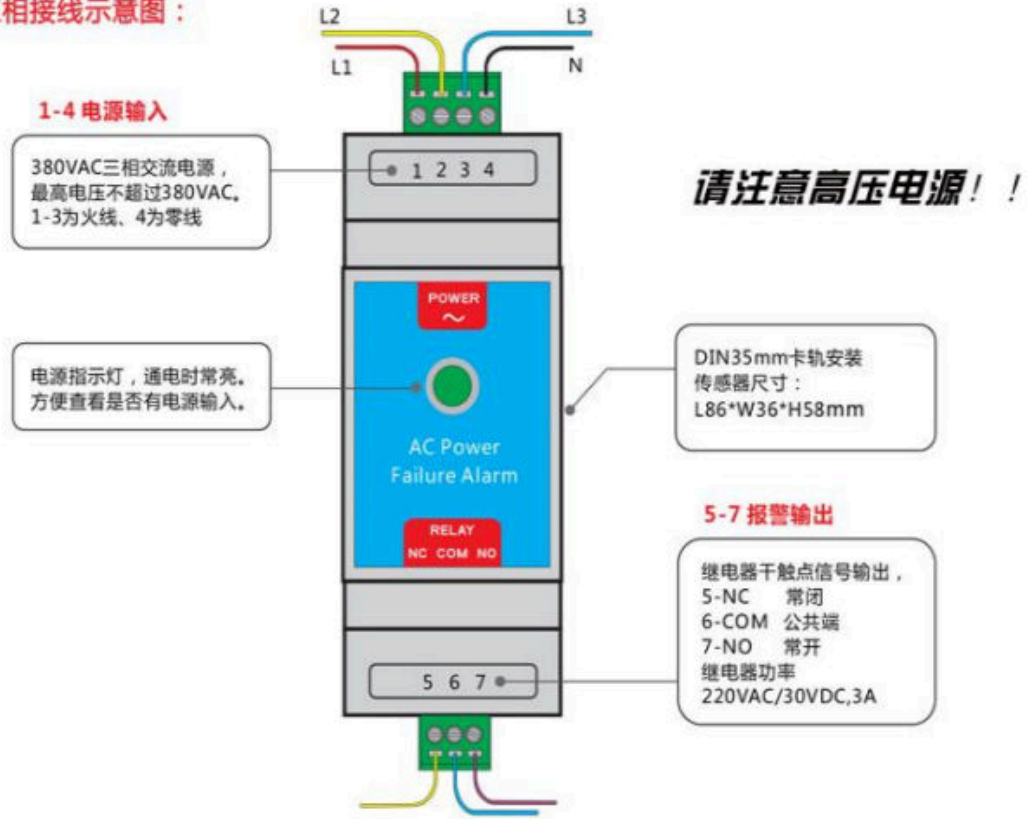
Please pay attention to the high voltage power supply, 220 V dangerous power supply, and pay attention to the safety of electricity use.

Recommendation 1

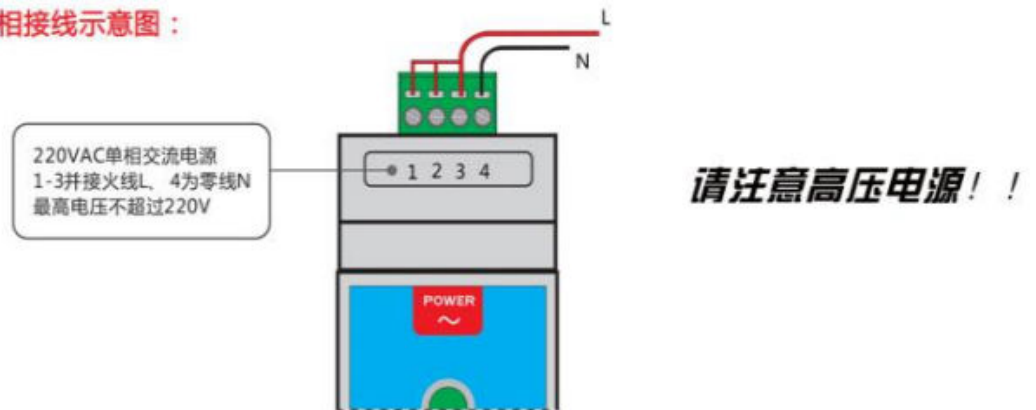
Recommended link: [Click to view](#) (accessories, such as sockets, etc., it is recommended to use regular accessories, in accordance with the operating specifications)

Wiring diagram is as follows

380V三相接线示意图：



220V单相接线示意图：



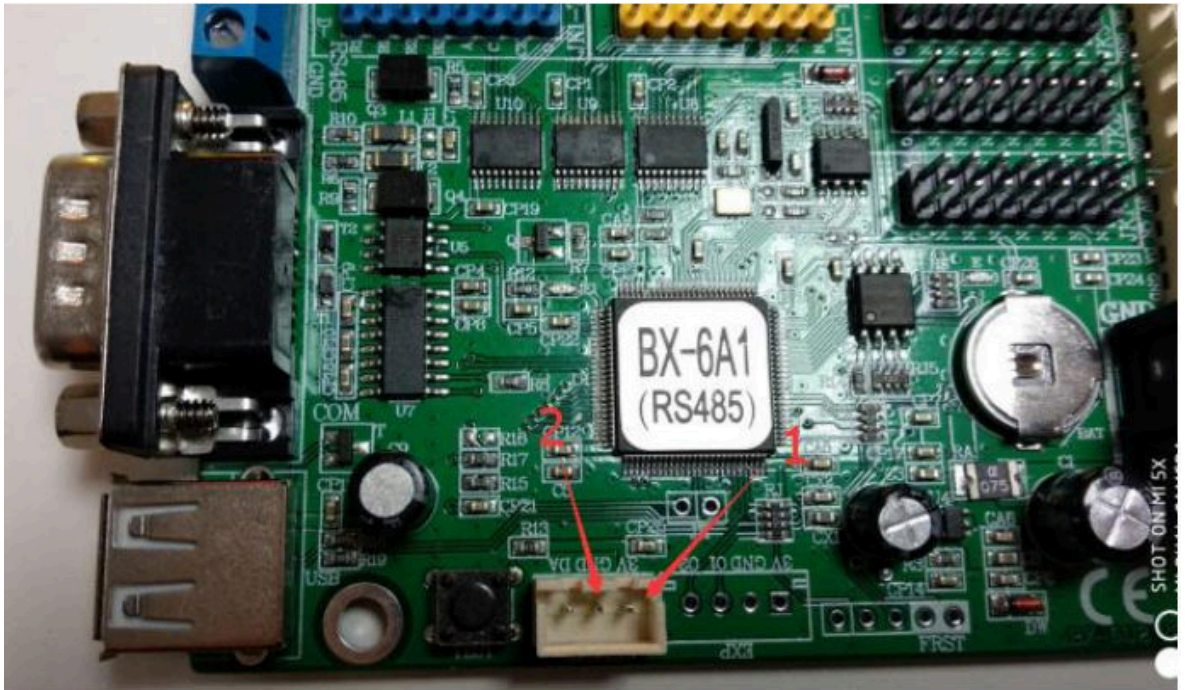
Here take BX-6A1-YY as example to explain the connection mode

1. The alternating current is connected according to the figure above

2. The No.6 relay in the above figure is connected to the GND signal of the control card (i.e.

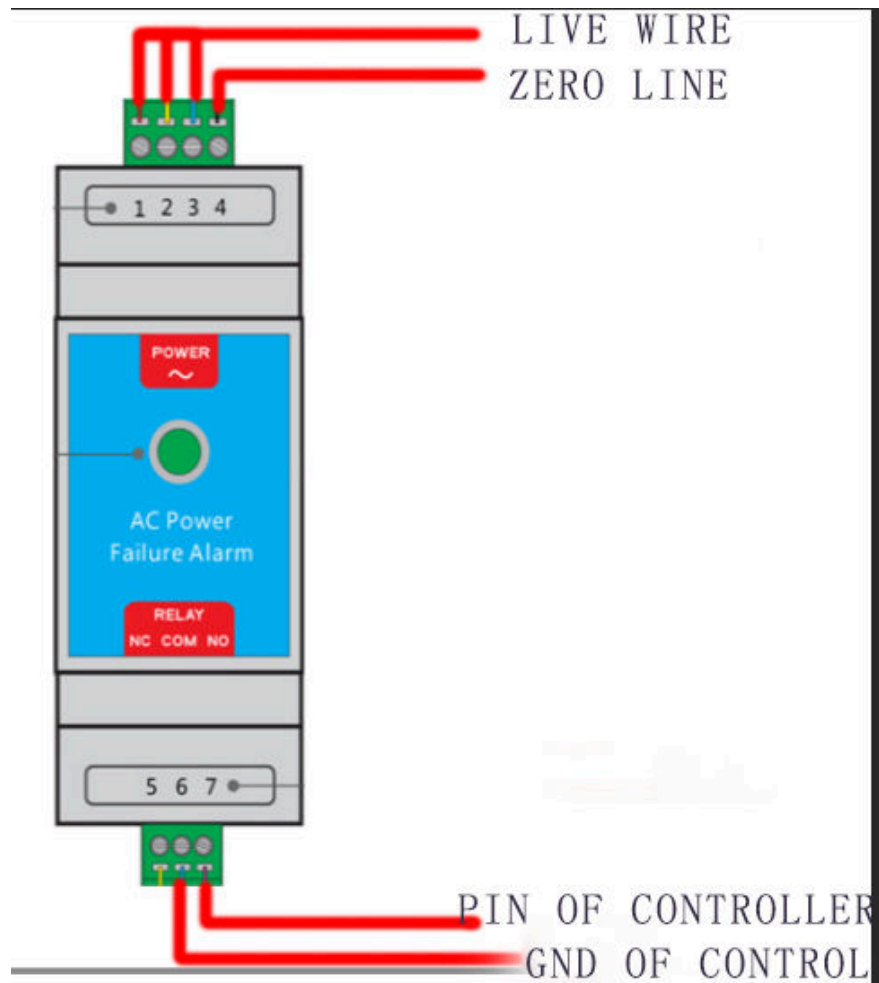
at No. 2 in the figure below), and the relay No. 7 in the figure above

Connect the control pin of the controller.



Connection diagram: 220 V AC wiring diagram.

When the live line and zero line have 220 V AC, the controller pin is selected.



Recommendation 2

Recommended link: [Click to view](#) (accessories, such as sockets, etc., it is recommended to use regular accessories, in accordance with the operating specifications)

Wiring diagram is as follows



8脚-AC220V

正泰中间继电器220v交流电磁继电器JZX-22F 5A 24V 220V hh52p
多规格可选 如有疑问欢迎咨询

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促销价 **¥15.00** 立即购买

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运费 浙江温州 至 苏州 快递 0.00

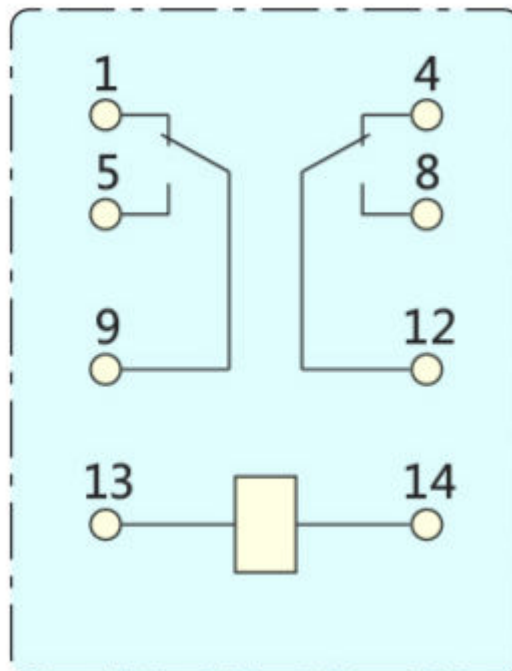
月销量 5434 累计评价 570 当天积分 7

颜色分装

数量 1 件 库存9833件

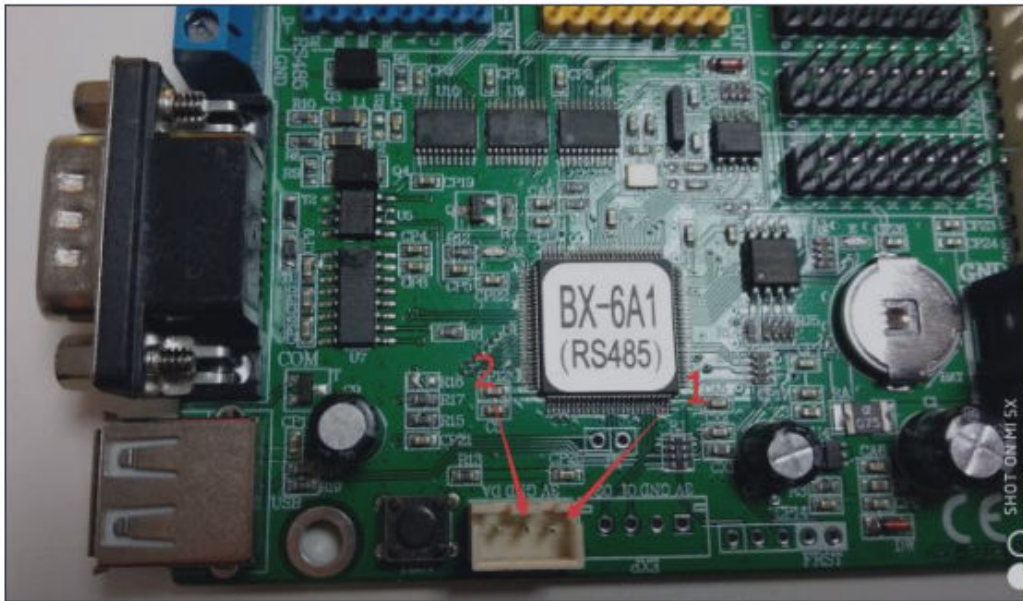
立即购买 加入购物车

The circuit diagram is as follows:

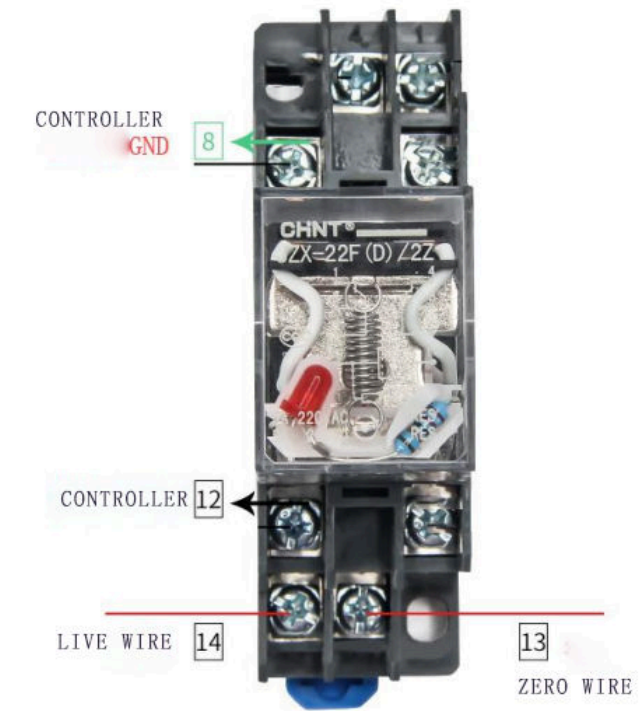


The following will take BX-6A1-YY as example to show the connection mode

1. AC is connected to GND signal of control card according to pin 13 and pin 14,
2. The 8-pin of the relay is connected with the GND signal of the control card (i.e. at No. 2 in the figure below), and the 12 pin of the relay is connected with the control pin of the control card.



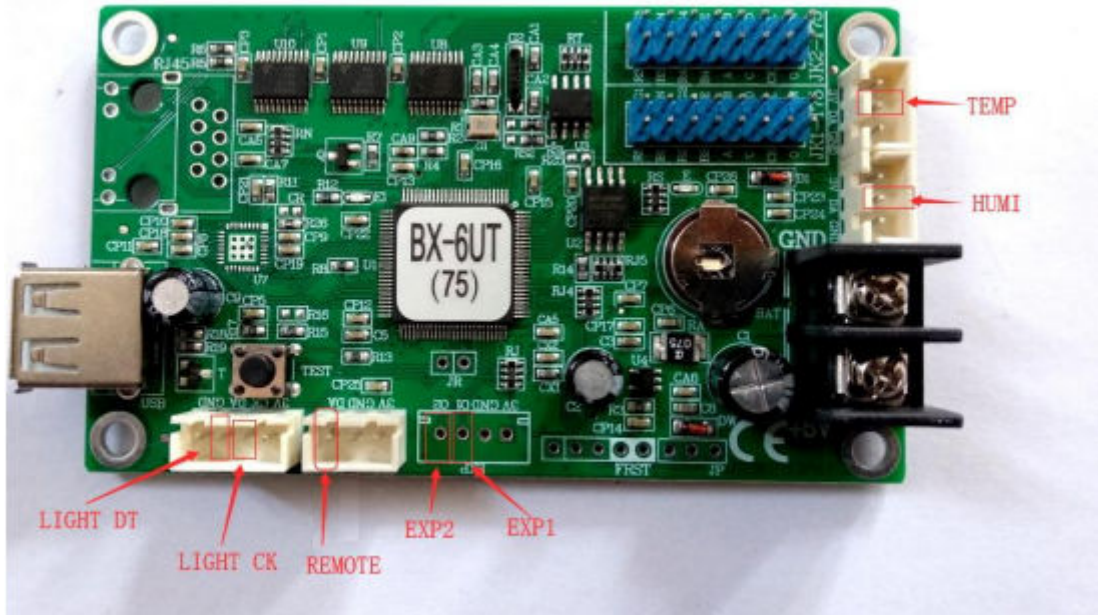
Connection diagram: 220 V AC wiring diagram. When the live line and zero line have 220 V AC, the control card pin is selected.



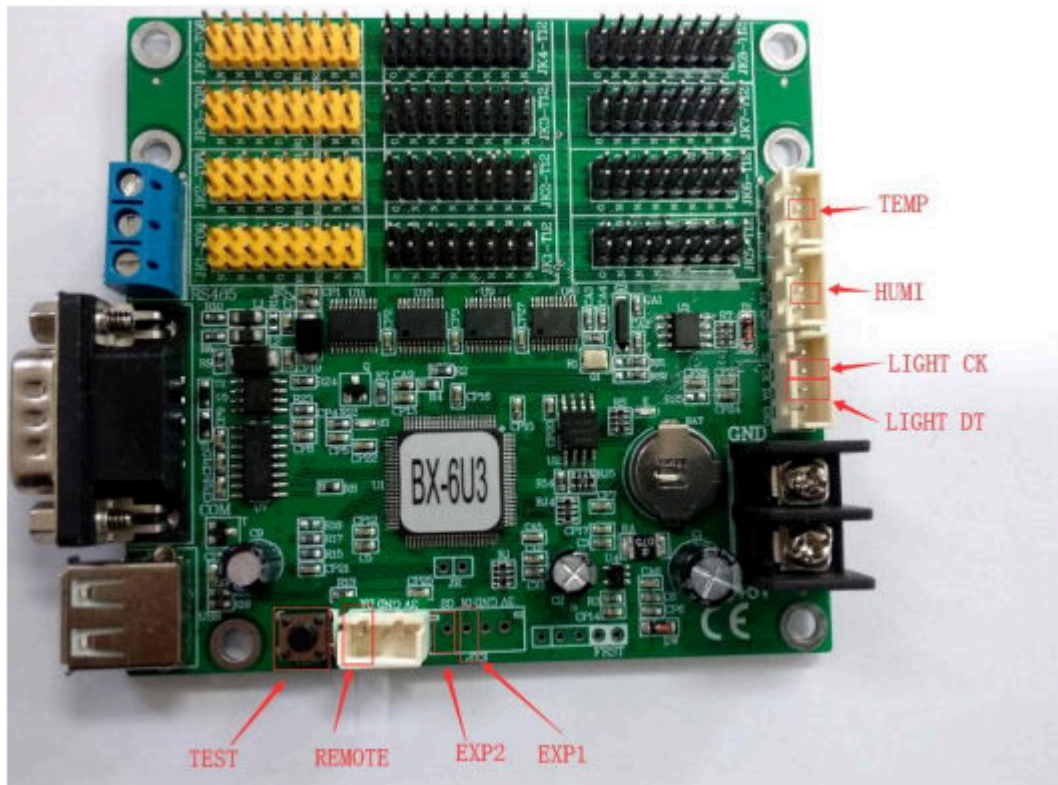
3. Pin description of six generation three primary color controller

There are two pin layouts in six generation three primary color controllers

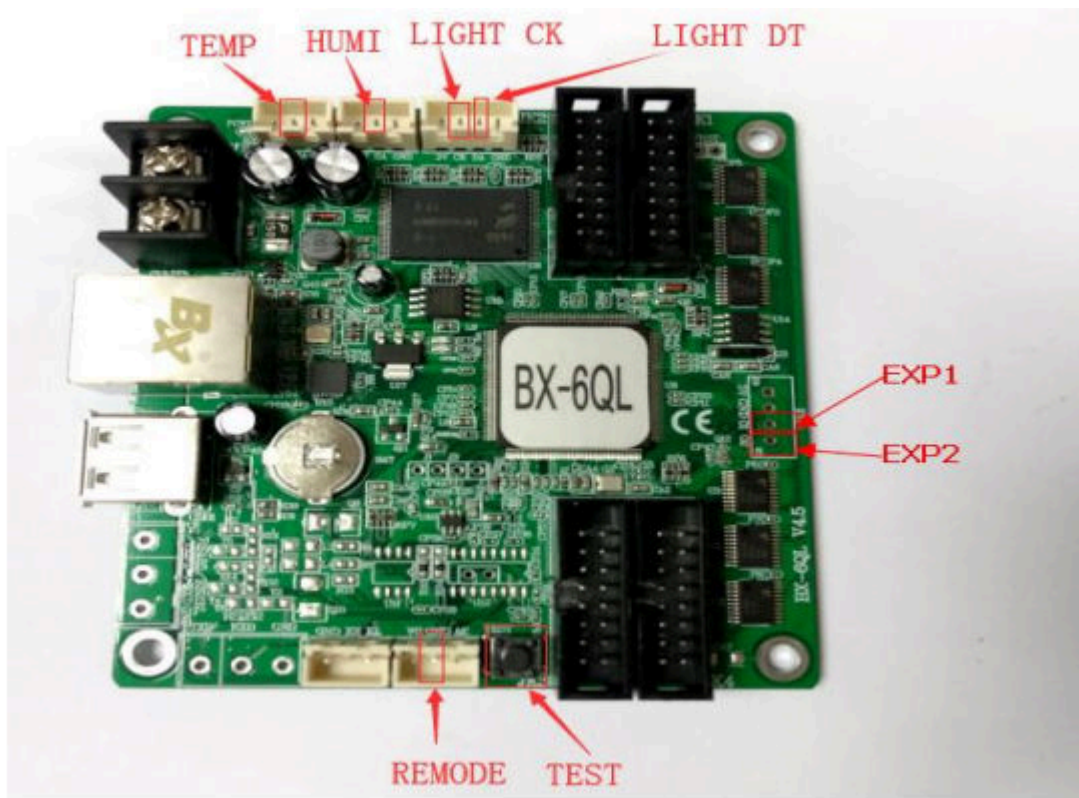
The layout of BX-6MT, BX-6UT and BX-6WT is the same. Take BX-6UT as an example.



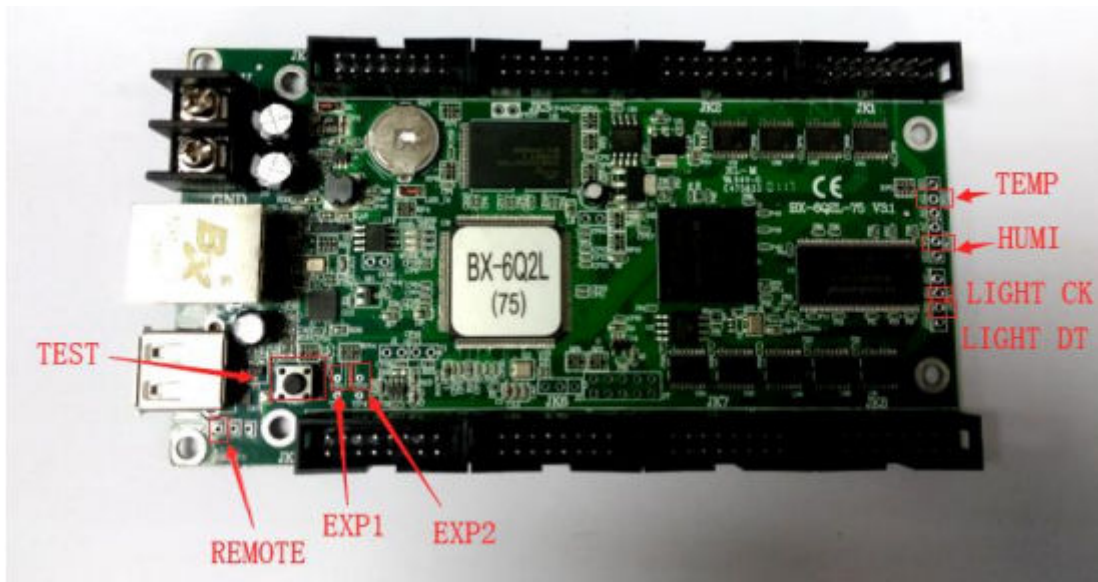
Beside the above models, other layouts are the same. Take BX-6U3 as an example



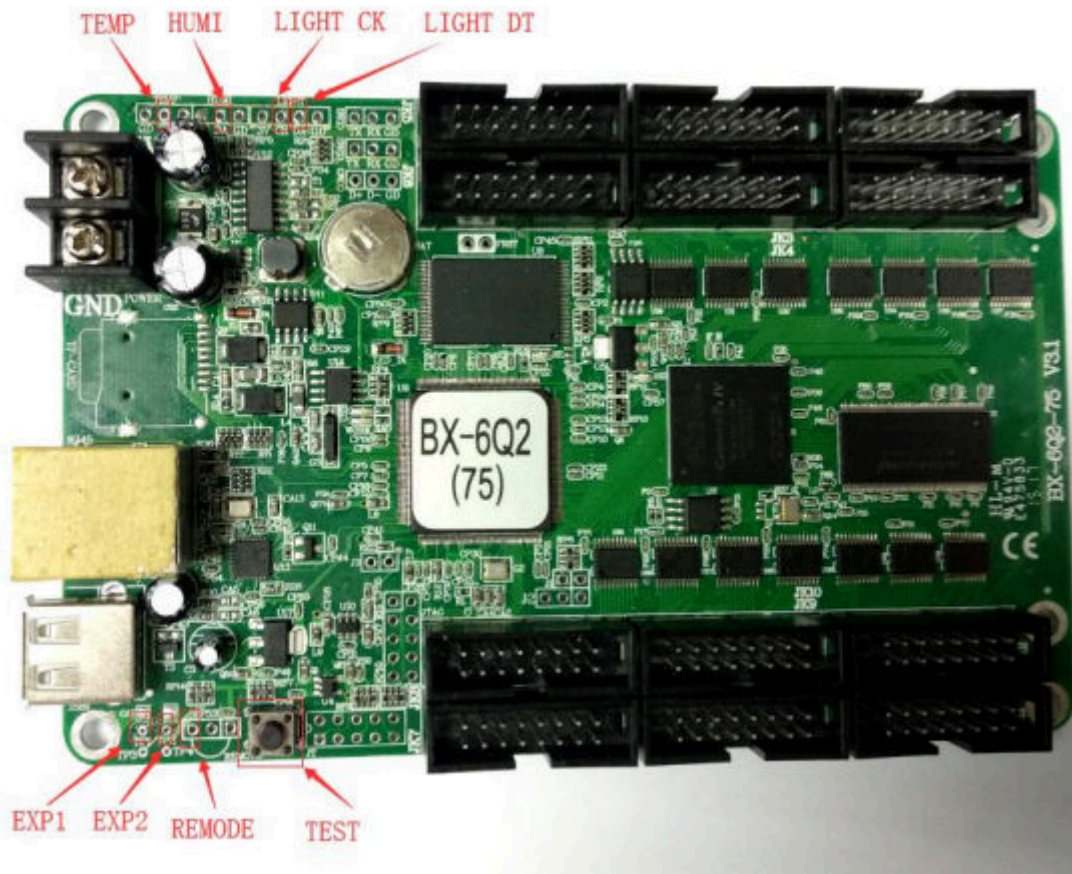
BX-6QL and BX-6Q0



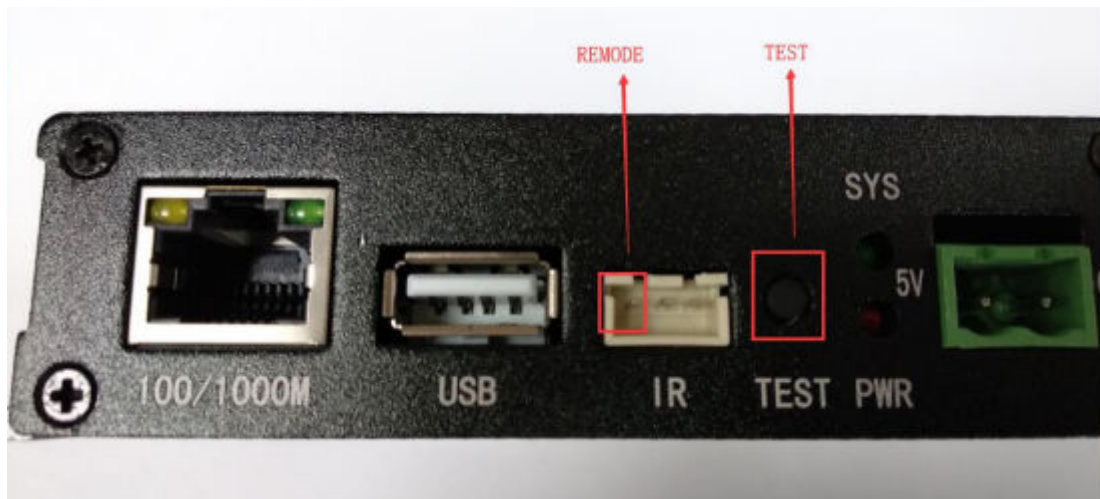
BX-6Q1-75 and BX-6Q2L

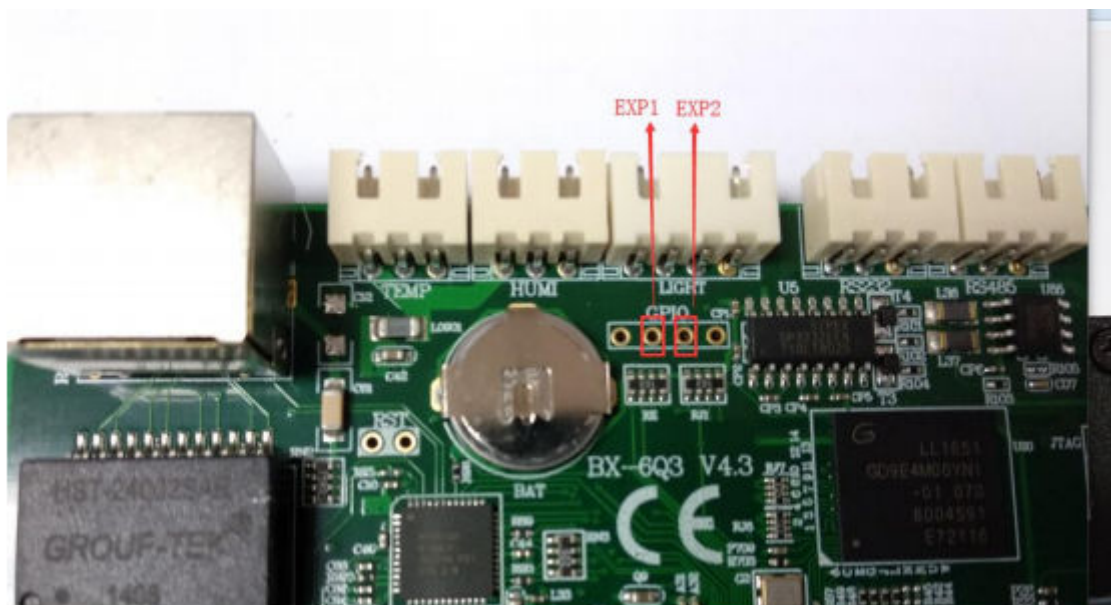
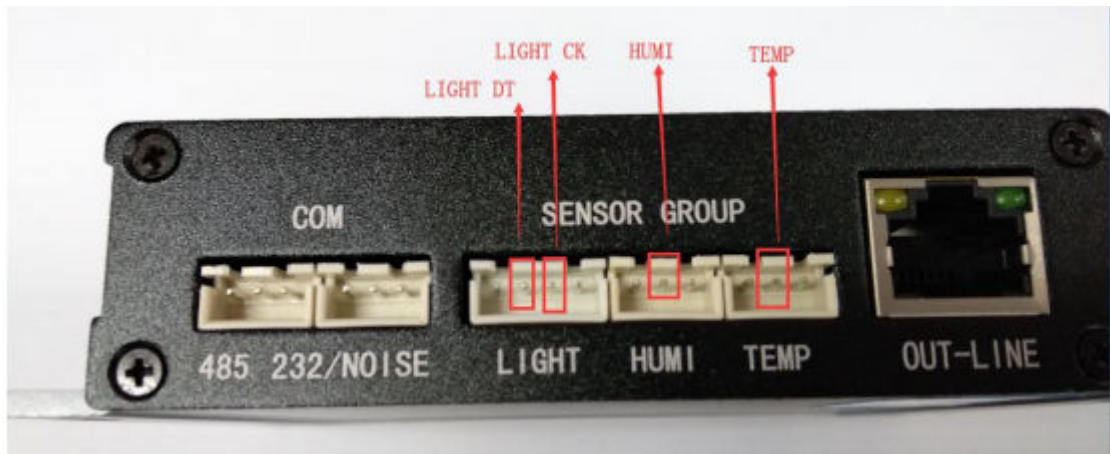


BX-6Q2-75



BX-6Q3 AND BX-6Q3L





BX-6EX series

Note: 6ex series does not support light CK and light DT, and does not support configuration.

