Four channel wireless switch controller SK108

Description

SK108 is a industrial four channel wireless switch controller, it provides maximum four channel signal input and maximum four channel control output. The parameters can be modified by PC software / UART command / remote controller (SK108-S). It features simple interface and reliable performance.   Using this module, user can replace wired device with the wireless connection, which significantly reduce the cost and save much time.

Feature

- 16 predefined channel

- Frequency Band :
  433 ,470,868,915MHz(Optional)

- Parameters configurable by PC software/
  Remote controller/ UART Command

- GFSK modulation

- Bi-directional wireless switch control

- Sensitivity up to 121 dBm

- Maximum output power: 1 W

- indicater and alarm when battery low

- indicator and alarm when wireless loss link

- Working voltage 9 ~ 18 V

- Working temperature range: - 40 ~ + 85 °C

Application

- Remote control switch control

- Home automation remote sensing

- Building automation and security

- Security system

- Wireless remote telemetry

- Entrance guard system

Electrical Specifications

Parameter	Min	Typ	Max	Unit	Condition
Condition					
Working voltage	9	12	18	V	
Working temperature	-40	25	+85	℃	
Current consumption					
Rx current		<20		mA	
Tx current		<200		mA	
Standby current		<7		mA	
RF parameters					
Output power		30		dBm	
Sensitivity		-121		dBm	@1200

Pin Configuration
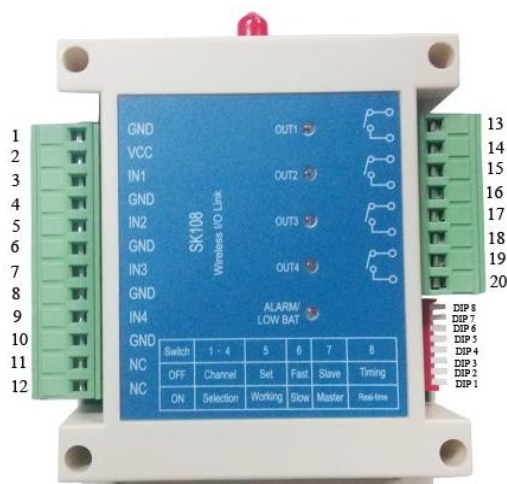
Pin NO.	Pin	Description
1	GND	Power Ground
2	VCC	Connect positive power

3	IN1	Ch1 switch input, internal pull up
4	GND	
5	IN2	Ch2 switch input, internal pull up
6	GND	
7	IN3	Ch3 switch input, internal pull up
8	GND	
9	IN4	Ch4 switch input, internal pull up
10	GND	
11	NC	Vacant, not connected
12	NC	Vacant, not connected
13	OUT1	Ch1 relay control output, closed : low level in Tx Open : high level in Tx
14		
15	OUT2	Ch2 relay control output, closed : low level in Tx Open : high level in Tx
16		
17	OUT3	Ch3 relay control output, closed : low level in Tx Open : high level in Tx
18		
19	OUT4	Ch4 relay control output, closed : low level in Tx Open : high level in Tx

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Pin Description

1) Four-Channel input

This module has a total of four channel signal input (IN1 ~ IN4).

2) Four Channel Relay Output

This module has a total of four channel relay output (OUT1 ~ OUT4). The state of channel output in the Rx side will be synchronized with the Tx in the same channel. The LED will light on when the relay is closed

3) Dip switch Settings (valid when power on again)

DIP8 – normal working mode selection

ON – real-time mode (In this mode, when state changes in input port , it transmit signal immediately)

OFF - timing mode (Signal transmitted at the predefined time interval)

DIP7 - master/slave selection

ON - the master

OFF - the slave

DIP6 – time interval selection of timing mode

ON - slow time

OFF – fast time

DIP5 - mode selection

ON - normal working mode

OFF - setting mode

DIP4 ~ 1 - working frequency channel selection, total 16 channel, user can freely configure the actually frequency through PC software / UART Command/ Remote controller SK108-S

Relationship between Dip switch state and working frequency channel:

DIP NO.	Channel No.	DIP NO.	Channel No.	DIP NO.	Channel No.	DIP NO.	Channel No.
	1		5		9		13
	2		6		10		14
	3		7		11		15
	4		8		12		16

Function Description:

Module can work in the following two modes:

A) real-time working mode

In real-time mode, the module will monitor the four input port status, after status changes, wireless signals will be sent immediately, then in Rx side the corresponding relay status will be synchronized after receiving the signal. Show as below:
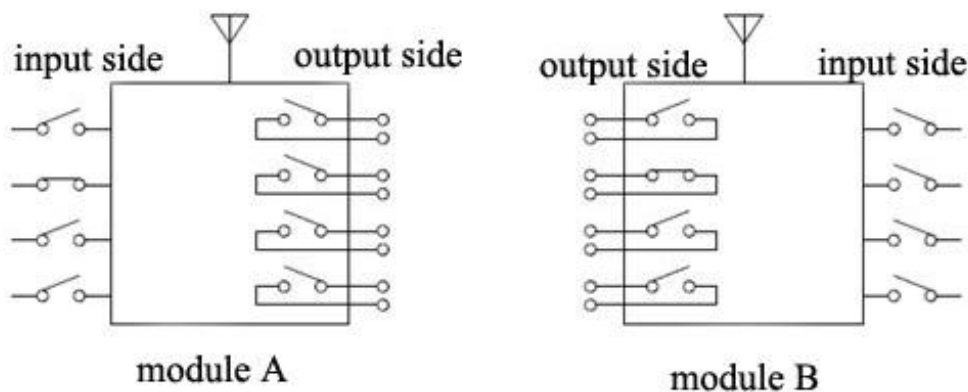
Also in this mode, the slave will regularly send inquiries to the master for link status. If no acknowledged signal come to the master, the alarm LED will light on, after the inquiry time is over and all the output relays will be resumed open.

B) Timing mode

In timing mode, the master regularly transmits the signal of the input state. If the slave has not received the master's signal 5 times interval (fast/slow time) , the LED will light on, and all the output relays will be resumed open..

C) Configuration mode:

In configuration mode, user can configure the parameters by PC software/UART command /remote controller SK108-S. The diagram of PC software is shown below:

Machanism Dimension
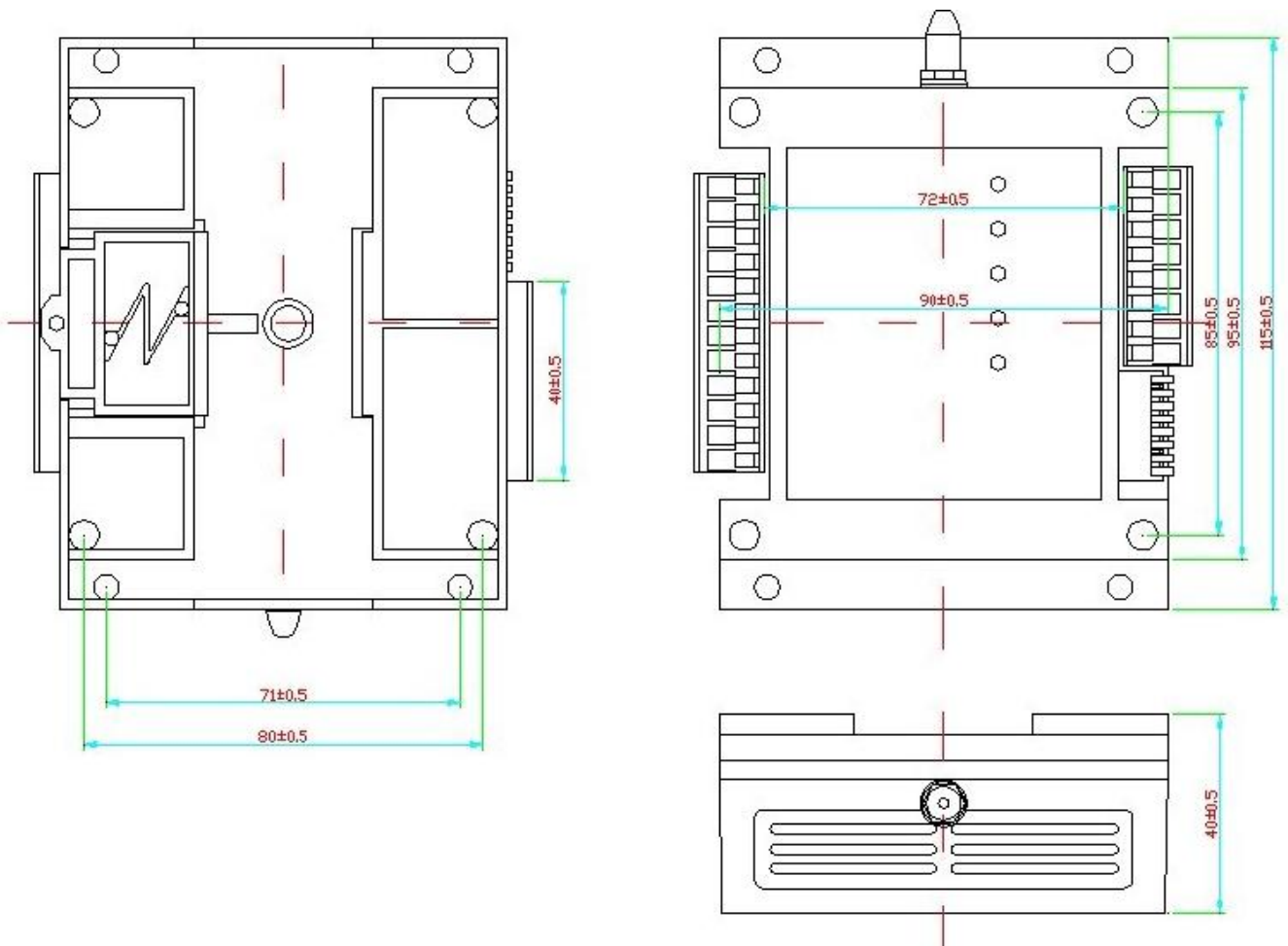
Q & A:

A) Why can't communicate ?

1) Check if the frequency is same;

2) Check if power supply is connected correctly

3) Check if antenna is connected correctly;

4) Check if module is damaged.

B) Communication distance is not so far as expected?

1) Check if the Power supply is stable ;

2) Check if the antenna well matched and install properly;

3) Check if the surrounding environment is good, if strong interference exist;