



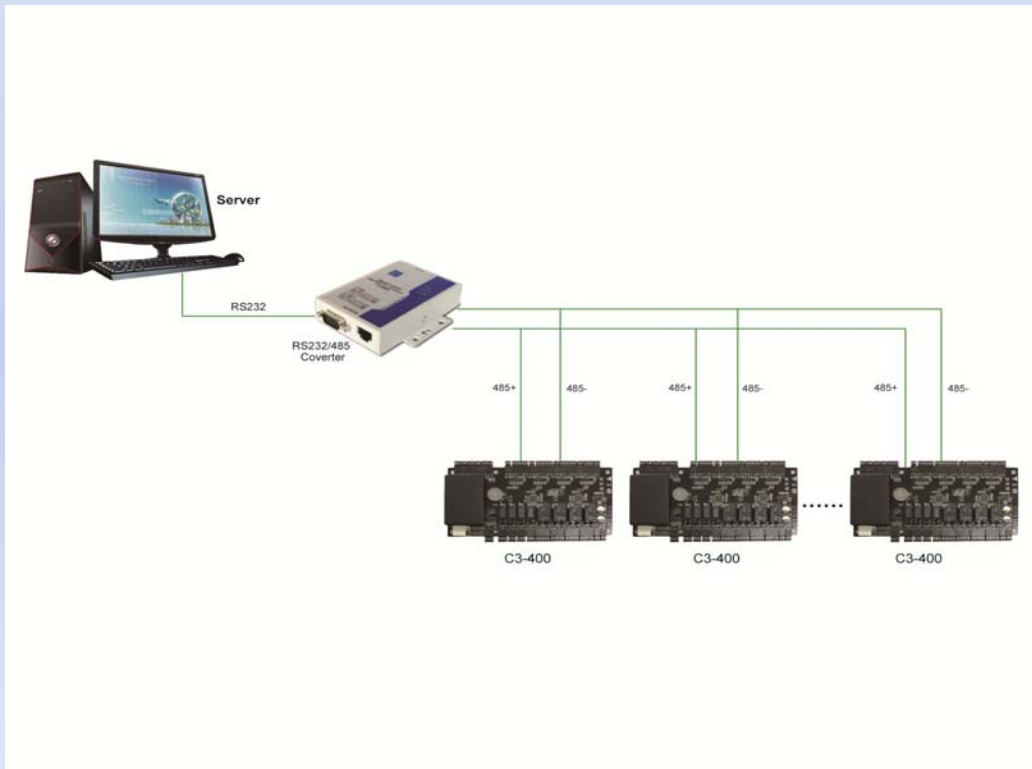
Install C3 using RS485

ZK's C3 series Access Control Panel provides two methods of communication, TCP/IP and RS485. This greatly increases the flexibility of installation options.

Equipment Communication

When we use the RS485 communication mode, we should connect the equipment, and then use the converter to connect with the computer then connect the device to the access security system. The communication cable should be as far away from high-voltage lines as possible. Do not keep the communication cable in parallel with power cords or bind them together.

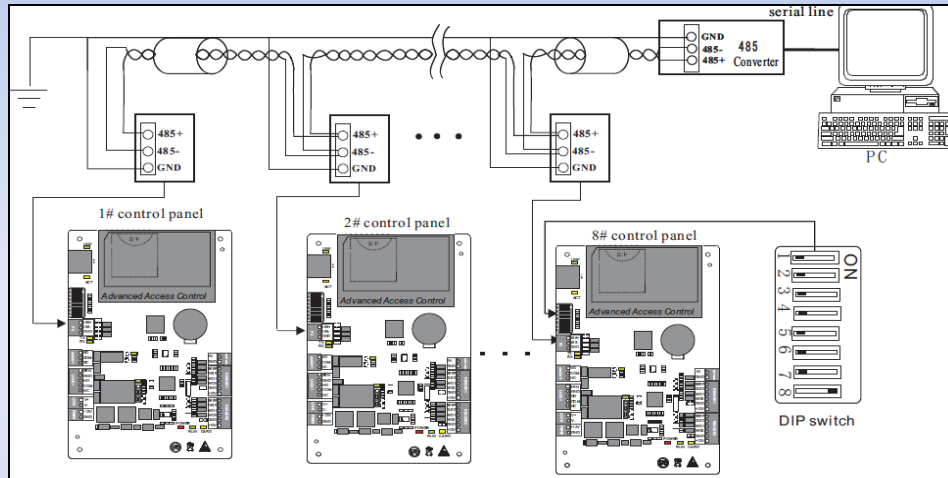
RS485 Communication



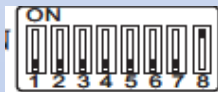
Note:

- 1) The RS485 communication wires are made of internationally accepted RVSP wire (shielded twisted pairs), which prove effective at preventing and shielding interference. The RS485 communication wires should be connected by means of bus cascade connection instead of in a star form to achieve a better shielding effect by reducing signal reflection during communications.





- 2) Considering the stability of communication, it is recommended that the length of RS485 bus be less than 600m.
- 3) A single 485 bus can be connected with a maximum 63 units of control panels but preferably it should be connected with less than 32 units of access control panels.
- 4) When bus is longer than 300m, it is necessary to keep the place 8 of DIP switches **of the first and the last control panel** at “ON” state. As shown in the figure above, place 8 of the DIP switches of units 1# and 8# is placed at “ON” state.



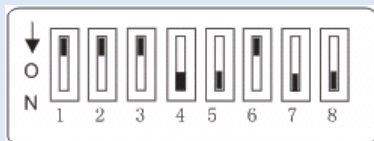
(Place 8 of the DIP switch in the ON position is equivalent to a parallel connection of one 120ohm resistance between the 485+ and 485- lines in order to enhance the stability of communication)

DIP Switch Settings

④ 485 Address Setting

Numbers 1-6 of the DIP switch are reserved to set the device number for RS485 communication. The code is binary and the lower places are in the front. When the switch is set to the ON position, it indicates 1 (on); when the switch is set downwards, it indicates 0 (off).

For example, to set a device number 39=1+2+4+32, which corresponds to the binary code 111001, put number 1, 2, 3, and 6 to the ON position, as illustrated below.



485 Address Setting Table:

Place Address	Switch Setting					
	1	2	3	4	5	6
Address No.	1	2	4	8	16	32
01	ON	OFF	OFF	OFF	OFF	OFF
02	OFF	ON	OFF	OFF	OFF	OFF
03	ON	ON	OFF	OFF	OFF	OFF
04	OFF	OFF	ON	OFF	OFF	OFF
05	ON	OFF	ON	OFF	OFF	OFF
06	OFF	ON	ON	OFF	OFF	OFF
07	ON	ON	ON	OFF	OFF	OFF
08	OFF	OFF	OFF	ON	OFF	OFF
09	ON	OFF	OFF	ON	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF
12	OFF	OFF	ON	ON	OFF	OFF
13	ON	OFF	ON	ON	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF
15	ON	ON	ON	ON	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF
17	ON	OFF	OFF	OFF	ON	OFF
18	OFF	ON	OFF	OFF	ON	OFF
19	ON	ON	OFF	OFF	ON	OFF
20	OFF	OFF	ON	OFF	ON	OFF
21	ON	OFF	ON	OFF	ON	OFF
22	OFF	ON	ON	OFF	ON	OFF
23	ON	ON	ON	OFF	ON	OFF
24	OFF	OFF	OFF	ON	ON	OFF
25	ON	OFF	OFF	ON	ON	OFF
26	OFF	ON	OFF	ON	ON	OFF
27	ON	ON	OFF	ON	ON	OFF
28	OFF	OFF	ON	ON	ON	OFF
29	ON	OFF	ON	ON	ON	OFF
30	OFF	ON	ON	ON	ON	OFF
31	ON	ON	ON	ON	ON	OFF
32	OFF	OFF	OFF	OFF	OFF	ON
33	ON	OFF	OFF	OFF	OFF	ON
34	OFF	ON	OFF	OFF	OFF	ON
35	ON	ON	OFF	OFF	OFF	ON
36	OFF	OFF	ON	OFF	OFF	ON

ZK Access Quick Start Guide

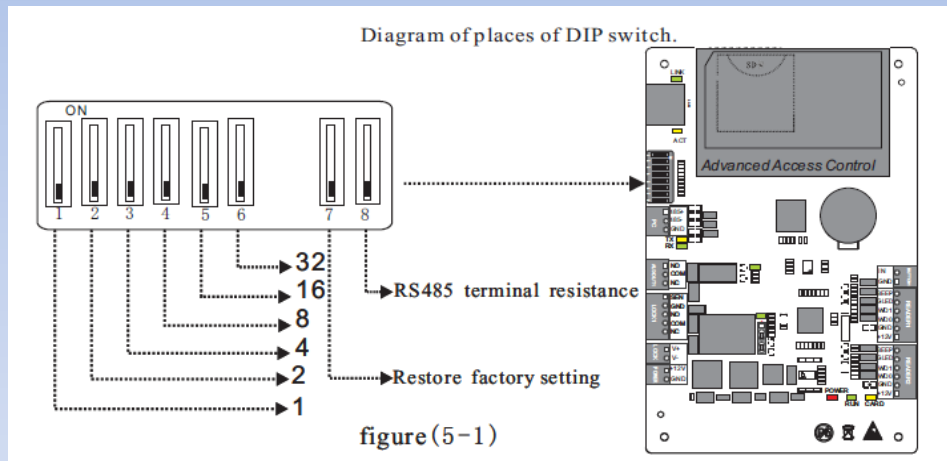
37	ON	OFF	ON	OFF	OFF	ON
38	OFF	ON	ON	OFF	OFF	ON
39	ON	ON	ON	OFF	OFF	ON
40	OFF	OFF	OFF	ON	OFF	ON
41	ON	OFF	OFF	ON	OFF	ON
42	OFF	ON	OFF	ON	OFF	ON
43	ON	ON	OFF	ON	OFF	ON
44	OFF	OFF	ON	ON	OFF	ON
45	ON	OFF	ON	ON	OFF	ON
46	OFF	ON	ON	ON	OFF	ON
47	ON	ON	ON	ON	OFF	ON
48	OFF	OFF	OFF	OFF	ON	ON
49	ON	OFF	OFF	OFF	ON	ON
50	OFF	ON	OFF	OFF	ON	ON
51	ON	ON	OFF	OFF	ON	ON
52	OFF	OFF	ON	OFF	ON	ON
53	ON	OFF	ON	OFF	ON	ON
54	OFF	ON	ON	OFF	ON	ON
55	ON	ON	ON	OFF	ON	ON
56	OFF	OFF	OFF	ON	ON	ON
57	ON	OFF	OFF	ON	ON	ON
58	OFF	ON	OFF	ON	ON	ON
59	ON	ON	OFF	ON	ON	ON
60	OFF	OFF	ON	ON	ON	ON
61	ON	OFF	ON	ON	ON	ON
62	OFF	ON	ON	ON	ON	ON
63	ON	ON	ON	ON	ON	ON

② Restoring Factory Setting

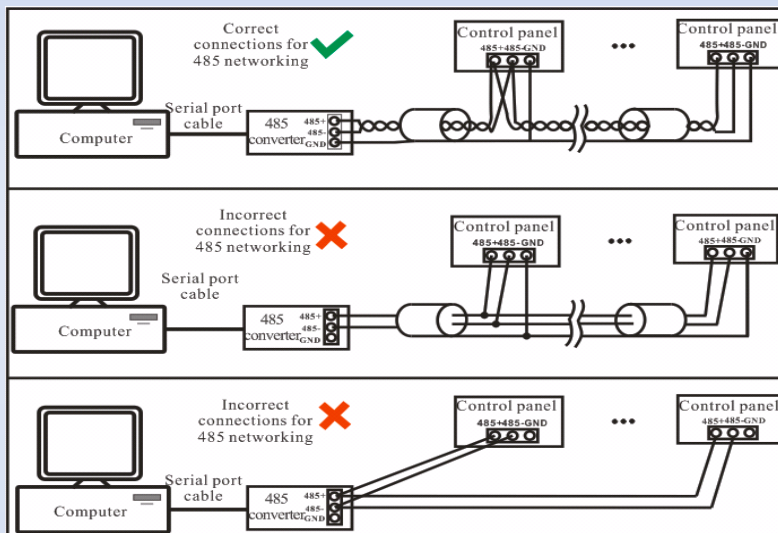
The silk-screened 7 (number 7) of the DIP switch is the switch for restoring system settings. The switch is set to OFF by default. When it is moved upwards and downwards three times within 10 seconds and finally returned to the OFF position, the factory settings will be restored after the access control panel is restarted.

③ Terminal Resistance Setting

Number 8 is for setting the RS485 termination resistance. Putting the switch to the ON position is equivalent to a parallel connection of a 120ohm termination resistance between 485+ and 485-.



Setting of DIP switch



RS485 Communication System Networking

Use Converter

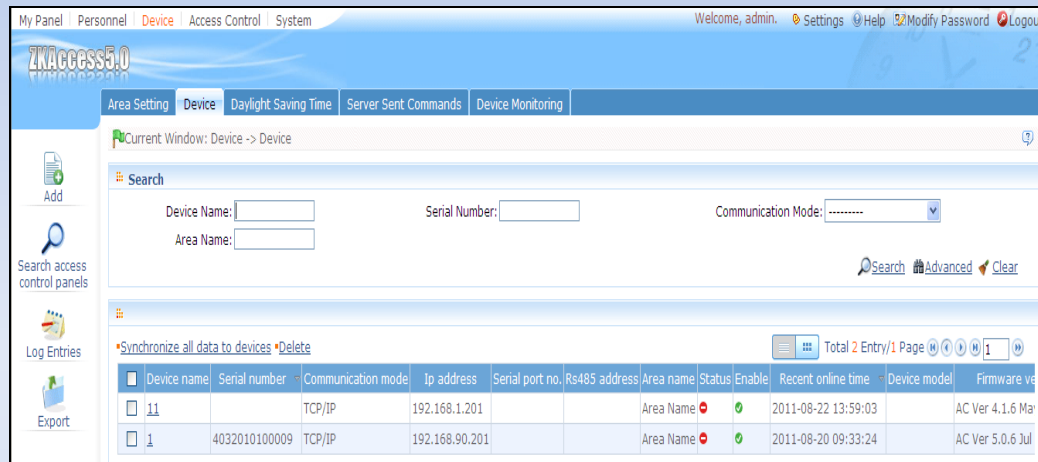
It is recommended that the customer use the RS485 active converter to connect with a computer for the stability of communication.



Connect the RS485 with Access4.5 Security System

Current Window: Device > Device > Add

After logging in to the ZKAccess4.5 Security System, click **Device** on the **[Device]** interface.



Click **[Add]** on the left side. The interface shows the following:

*Device Name:

*Communication Mode: TCP/IP
 RS485

*Serial Port No. :

*RS485 Address:

*Baud Rate:

Communication Password:

Access Control Panel Type:

Auto Synchronize Device Time:

*Area:

Clear Data in the Device when Adding:

When the Add interface appears, enter the **[Device Name]**. Then if the device is in RS 485 communication mode, chose the **[Serial Port No.]** from **COM1-COM254**.

RS485 Address: The machine number corresponding with the RS485 device address number.

Baud Rate: Same as the baud rate of the device (9600/ 19200/ 38400/ 57600/115200). The default is 38400.

Communication Password: Any character up to a combination of 15 characters (no blank).

Note: You do not need to input this field if the device has no communication password, for example if it is new factory device or just after initialization.

Panel Type: One-door panel, two-door panel, four-door panel.

Autos Synchronize Device Time: By default it is checked and will synchronize the device time with server time when you connect with the device. If it is unchecked, the user can manually synchronize device time.

Area: Specify areas of devices. After area setting, devices (doors) can be filtered by area upon Real-Time Monitoring.

After editing, click **[OK]** and the system will try connecting the current device.