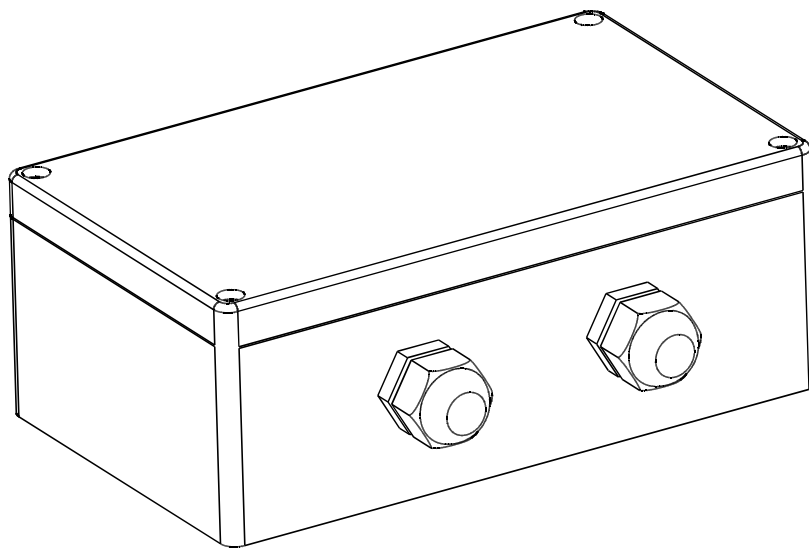# Alarm Box User Manual

Before use the product, please read this manual carefully.

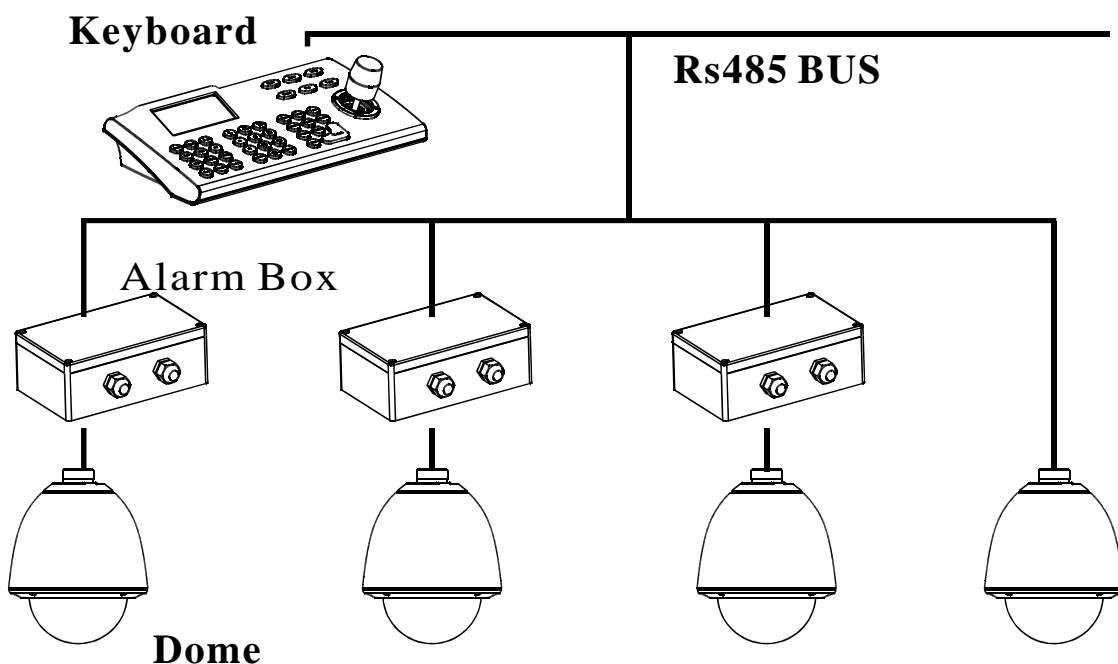# TABLE OF CONTENT

1. Main Function

The main function of the alarm box is alarm linkage. The alarm box can call the different presets quickly and automatically according to the different alarm signals. Connected with a dome camera, it can monitor different important places according to the Sequence of the alarm signal acquired, realizing the dynamic spot video surveillance.

The function of alarm linkage enables the system get the video information of alarm spot quickly. When there is alarm signal input, the alarm box can output two relay signals (NO/NC) for the user's reference.

2. Main Features

Ø IP66 waterproof design.

Ø Power supply 9V-24V AC/DC.

Ø RS485 of the dome and the keyboard controlling by DIP switches, 2400bps, 4800bps, 9600bps baud rates selectable.

Ø Setting the alarm box ID (0-255) by setting DIP Switches.

Ø With the function of arm and disarm.

Ø Setting the attribute (NO/NC) of the alarm box relay input by the keyboard.

Ø Setting the alarm input port number of the alarm box in accordance with the dome presets by keyboard.

Ø With the function of alarm spot memory.

Ø Setting the reset mode and interval time after alarming by keyboard.

3.Installation Diagram

Keyboard

Rs485 BUS

Alarm Box

Dome

Installation Diagram C3

● Magnifying Drawing

| J1 | J2 | J3 | J4 | J5 | J6 | J7 | J8 | J9 | J10 | J11 | J12 | J13 | J14 | J15 | J16 | J17 | J18 | J19 | J20 | J21 | J22 | J23 | J24 |

POWER

In1 In2 In3 In4 In5 In6 In7 In8

ALARM INPUT

RA+ RB-
Rs485

TA+ TB-
Rs485

OUT1 OUT2
ALARM OUTPUT

Power Supply   Alarm Input   Rs485 Input   Alarm Output
                                              （Keyboard）

                                                          Rs485 Output
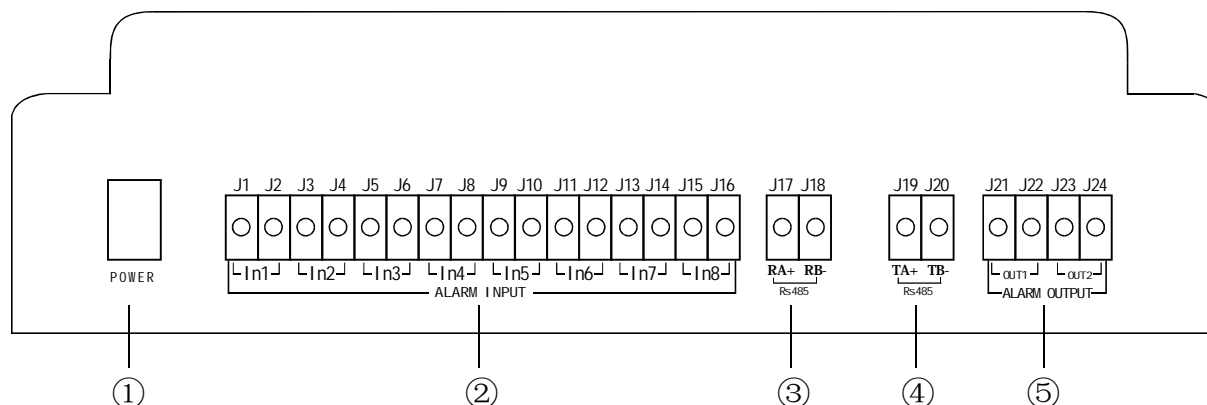   （Dome）
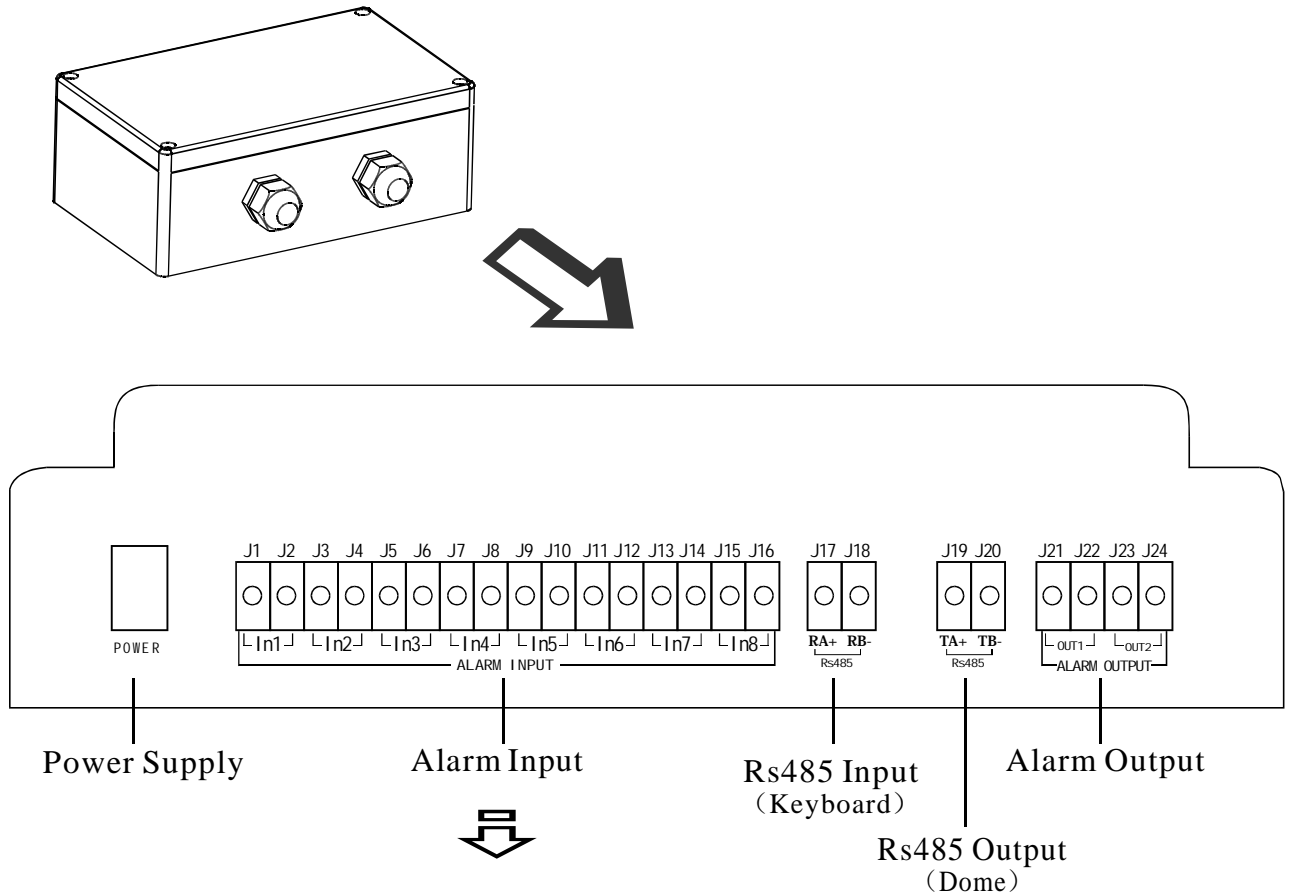
Alarm box relay input (1 to 8 channel):

There are two cables connected up relaysignal in each channel.

If the sensor conn-ected with the N channel is Number The relay

input attribute of this channel should be set to Number.otherwise

NC.

4. Connection

① Power supply: AC or DC 9V-24V, power consumption ≥1W; , connecting to the two ter minals in the POWER port. (There is no "＋" , "－" .)

② Alarm input: First make sure the attribute of the sensor in each channel connected with alarm box input is NO or NC. The attribute of the sensor in each channel should be strictly in accordance with the alarm input attribute set in each channel. The first to eighth channel alarm input should be connected with the two terminals in IN1, In2, IN3, IN4, In5,IN6, IN7, and IN8 accordingly. If the alarm input channels being used is less than 8, the two terminals of the unused alarm input channel should be short circuit to set the relay attribute NC. Accordingly the two terminals of the unused alarm input channel should be open circuit to set the reply attribute NO. For example, if there is

only 7 alarm input channelbeing used the two terminals of the 8th alarm input channel should be short circuit or open circuit. According to the reply inputs attribute.

③ RS485 input controlling cable: connecting to the RA+ and RB- terminals. (The controllingsignal is from keyboard)

④ Rs485 output controlling cable: connecting to the TA+ and TB- terminals. (The controlling signal is output to the dome camera.)

⑤ Alarm output: There are two channels relay output, OUT1 and OUT2. Set NO or NC by setting the jumper JP5 and JP6 on PCB Board.

⚠ **NOTICE** **Conducting the connection carefully to avoid misconnection as the connecting ports is joined closely.**

5. Function instruction

Ø User can set the alarm box arm or disarm via keyboard. When the alarm box is arm, besides accepting the operation to it and dome camera, the alarm box detects the input status all the time. Once there is alarm signal input, the alarm linkage will be activated, as well as the alarm output. When the alarm input signal disappears, the alarm linkage will keep on working until the alarm linkage is manually reset or automatically reset (via the keyboard controller). Only after the alarm linkage reset completely will the alarm output disappear automatically. When the alarm box is disarmed, the alarm box will not respond to the alarm input.

Ø User can set the reset mode of alarm linkage and alarm output via keyboard. The alarm linkage and alarm output can be set manually as well as automatically. The auto-reset interval time can be set via keyboard.

6. DIP Switch Setting

As following below，SW1、SW2 are 8-bitsDIP Switches，SW1is used for alarm box setting with ID No.（0-255），The bit 5、6 of Sw2 are used for Baud Rate of the Alarm Box and the dome（2400BPS、4800BPS、9600BPS).，The bit7、8 are used for the Baud Rate of Alarm Box and the Keyboard（2400bps、4800bps、9600BPS).The first four bits of SW2 is for setting factory default,and there is no other function temporarily. The resetdip switch setting is not effective unless it is initializing again
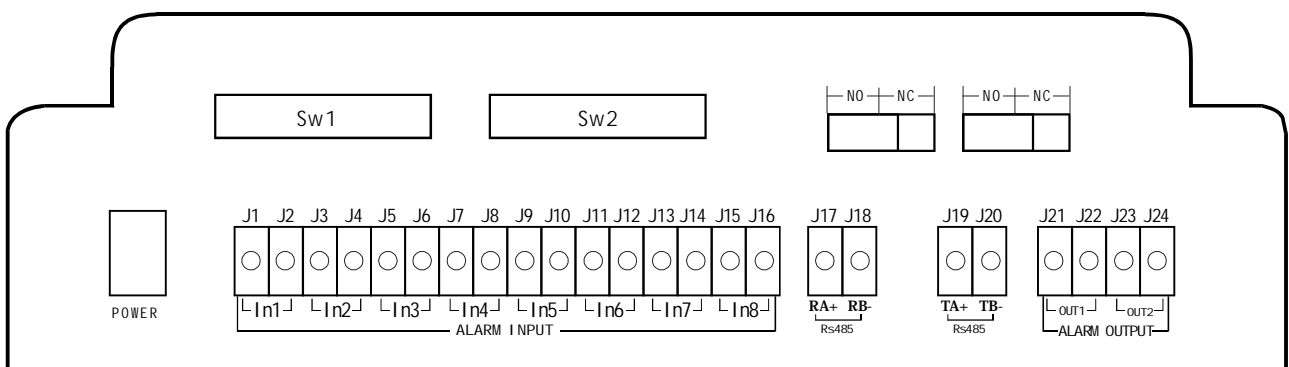
7. The Alarm Box ID Setting

The alarm box ID number（0-255）is set by setting the DIP Switch Sw1, Detailed setting refer to the table below.The circle "1" means the DIP switch setting should be "ON";the circle "0" means "OFF".

ID	DIP Switches (SW1)									ID	DIP Switches (SW1)							
	(Bit)1	2	3	4	5	6	7	8			(Bit)1	2	3	4	5	6	7	8
0										34	0	1	0	0	0	1	0	0
1	1	0	0	0	0	0	0	0		35	1	1	0	0	0	1	0	0
2	0	1	0	0	0	0	0	0		36	0	0	1	0	0	1	0	0
3	1	1	0	0	0	0	0	0		37	1	0	1	0	0	1	0	0
4	0	0	1	0	0	0	0	0		38	0	1	1	0	0	1	0	0
5	1	0	1	0	0	0	0	0		39	1	1	1	0	0	1	0	0
6	0	1	1	0	0	0	0	0		40	0	0	0	1	0	1	0	0
7	1	1	1	0	0	0	0	0		41	1	0	0	1	0	1	0	0
8	0	0	0	1	0	0	0	0		42	0	1	0	1	0	1	0	0
9	1	0	0	1	0	0	0	0		43	1	1	0	1	0	1	0	0
10	0	1	0	1	0	0	0	0		44	0	0	1	1	0	1	0	0
11	1	1	0	1	0	0	0	0		45	1	0	1	1	0	1	0	0
12	0	0	1	1	0	0	0	0		46	0	1	1	1	0	1	0	0
13	1	0	1	1	0	0	0	0		47	1	1	1	1	0	1	0	0
14	0	1	1	1	0	0	0	0		48	0	0	0	0	1	1	0	0
15	1	1	1	1	0	0	0	0		49	1	0	0	0	1	1	0	0
16	0	0	0	0	1	0	0	0		50	0	1	0	0	1	1	0	0
17	1	0	0	0	1	0	0	0		51	1	1	0	0	1	1	0	0
18	0	1	0	0	1	0	0	0		52	0	0	1	0	1	1	0	0
19	1	1	0	0	1	0	0	0		53	1	0	1	0	1	1	0	0
20	0	0	1	0	1	0	0	0		54	0	1	1	0	1	1	0	0
21	1	0	1	0	1	0	0	0		55	1	1	1	0	1	1	0	0
22	0	1	1	0	1	0	0	0		56	0	0	0	1	1	1	0	0
23	1	1	1	0	1	0	0	0		57	1	0	0	1	1	1	0	0
24	0	0	0	1	1	0	0	0		58	0	1	0	1	1	1	0	0
25	1	0	0	1	1	0	0	0		59	1	1	0	1	1	1	0	0
26	0	1	0	1	1	0	0	0		60	0	0	1	1	1	1	0	0
27	1	1	0	1	1	0	0	0		61	1	0	1	1	1	1	0	0
28	0	0	1	1	1	0	0	0		62	0	1	1	1	1	1	0	0
29	1	0	1	1	1	0	0	0		63	1	1	1	1	1	1	0	0
30	0	1	1	1	1	0	0	0		64	0	0	0	0	0	0	1	0
31	1	1	1	1	1	0	0	0		65	1	0	0	0	0	0	1	0
32	0	0	0	0	0	1	0	0		66	0	1	0	0	0	0	1	0
33	1	0	0	0	0	1	0	0		67	1	1	0	0	0	0	1	0

I D	DIP Switches (SW1)									I D	DIP Switches (SW1)							
	(Bit) 1	2	3	4	5	6	7	8			(Bit) 1	2	3	4	5	6	7	8
68	0	0	1	0	0	0	1	0		102	0	1	1	0	0	1	1	0
69	1	0	1	0	0	0	1	0		103	1	1	1	0	0	1	1	0
70	0	1	1	0	0	0	1	0		104	0	0	0	1	0	1	1	0
71	1	1	1	0	0	0	1	0		105	1	0	0	1	0	1	1	0
72	0	0	0	1	0	0	1	0		106	0	1	0	1	0	1	1	0
73	1	0	0	1	0	0	1	0		107	1	1	0	1	0	1	1	0
74	0	1	0	1	0	0	1	0		108	0	0	1	1	0	1	1	0
75	1	1	0	1	0	0	1	0		109	1	0	1	1	0	1	1	0
76	0	0	1	1	0	0	1	0		110	0	1	1	1	0	1	1	0
77	1	0	1	1	0	0	1	0		111	1	1	1	1	0	1	1	0
78	0	1	1	1	0	0	1	0		112	0	0	0	0	1	1	1	0
79	1	1	1	1	0	0	1	0		113	1	0	0	0	1	1	1	0
80	0	0	0	0	1	0	1	0		114	0	1	0	0	1	1	1	0
81	1	0	0	0	1	0	1	0		115	1	1	0	0	1	1	1	0
82	0	1	0	0	1	0	1	0		116	0	0	1	0	1	1	1	0
83	1	1	0	0	1	0	1	0		117	1	0	1	0	1	1	1	0
84	0	0	1	0	1	0	1	0		118	0	1	1	0	1	1	1	0
85	1	0	1	0	1	0	1	0		119	1	1	1	0	1	1	1	0
86	0	1	1	0	1	0	1	0		120	0	0	0	1	1	1	1	0
87	1	1	1	0	1	0	1	0		121	1	0	0	1	1	1	1	0
88	0	0	0	1	1	0	1	0		122	0	1	0	1	1	1	1	0
89	1	0	0	1	1	0	1	0		123	1	1	0	1	1	1	1	0
90	0	1	0	1	1	0	1	0		124	0	0	1	1	1	1	1	0
91	1	1	0	1	1	0	1	0		125	1	0	1	1	1	1	1	0
92	0	0	1	1	1	0	1	0		126	0	1	1	1	1	1	1	0
93	1	0	1	1	1	0	1	0		127	1	1	1	1	1	1	1	0
94	0	1	1	1	1	0	1	0		128	0	0	0	0	0	0	0	1
95	1	1	1	1	1	0	1	0		129	1	0	0	0	0	0	0	1
96	0	0	0	0	0	1	1	0		130	0	1	0	0	0	0	0	1
97	1	0	0	0	0	1	1	0		131	1	1	0	0	0	0	0	1
98	0	1	0	0	0	1	1	0		132	0	0	1	0	0	0	0	1
99	1	1	0	0	0	1	1	0		133	1	0	1	0	0	0	0	1
100	0	0	1	0	0	1	1	0		134	0	1	1	0	0	0	0	1
101	1	0	1	0	0	1	1	0		135	1	1	1	0	0	0	0	1

ID	DIP Switches (SW1)							
(Bit)	1	2	3	4	5	6	7	8
136	0	0	0	1	0	0	0	1
137	1	0	0	1	0	0	0	1
138	0	1	0	1	0	0	0	1
139	1	1	0	1	0	0	0	1
140	0	0	1	1	0	0	0	1
141	1	0	1	1	0	0	0	1
142	0	1	1	1	0	0	0	1
143	1	1	1	1	0	0	0	1
144	0	0	0	0	1	0	0	1
145	1	0	0	0	1	0	0	1
146	0	1	0	0	1	0	0	1
147	1	1	0	0	1	0	0	1
148	0	0	1	0	1	0	0	1
149	1	0	1	0	1	0	0	1
150	0	1	1	0	1	0	0	1
151	1	1	1	0	1	0	0	1
152	0	0	0	1	1	0	0	1
153	1	0	0	1	1	0	0	1
154	0	1	0	1	1	0	0	1
155	1	1	0	1	1	0	0	1
156	0	0	1	1	1	0	0	1
157	1	0	1	1	1	0	0	1
158	0	1	1	1	1	0	0	1
159	1	1	1	1	1	0	0	1
160	0	0	0	0	0	1	0	1
161	1	0	0	0	0	1	0	1
162	0	1	0	0	0	1	0	1
163	1	1	0	0	0	1	0	1
164	0	0	1	0	0	1	0	1
165	1	0	1	0	0	1	0	1
166	0	1	1	0	0	1	0	1
167	1	1	1	0	0	1	0	1
168	0	0	0	1	0	1	0	1
169	1	0	0	1	0	1	0	1

ID	DIP Switches (SW1)							
(Bit)	1	2	3	4	5	6	7	8
170	0	1	0	1	0	1	0	1
171	1	1	0	1	0	1	0	1
172	0	0	1	1	0	1	0	1
173	1	0	1	1	0	1	0	1
174	0	1	1	1	0	1	0	1
175	1	1	1	1	0	1	0	1
176	0	0	0	0	1	1	0	1
177	1	0	0	0	1	1	0	1
178	0	1	0	0	1	1	0	1
179	1	1	0	0	1	1	0	1
180	0	0	1	0	1	1	0	1
181	1	0	1	0	1	1	0	1
182	0	1	1	0	1	1	0	1
183	1	1	1	0	1	1	0	1
184	0	0	0	1	1	1	0	1
185	1	0	0	1	1	1	0	1
186	0	1	0	1	1	1	0	1
187	1	1	0	1	1	1	0	1
188	0	0	1	1	1	1	0	1
189	1	0	1	1	1	1	0	1
190	0	1	1	1	1	1	0	1
191	1	1	1	1	1	1	0	1
192	0	0	0	0	0	0	1	1
193	1	0	0	0	0	0	1	1
194	0	1	0	0	0	0	1	1
195	1	1	0	0	0	0	1	1
196	0	0	1	0	0	0	1	1
197	1	0	1	0	0	0	1	1
198	0	1	1	0	0	0	1	1
199	1	1	1	0	0	0	1	1
200	0	0	0	1	0	0	1	1
201	1	0	0	1	0	0	1	1
202	0	1	0	1	0	0	1	1
203	1	1	0	1	0	0	1	1

I D	DIP Switches (SW1)							
	(Bit)1	2	3	4	5	6	7	8
204	0	0	1	1	0	0	1	1
205	1	0	1	1	0	0	1	1
206	0	1	1	1	0	0	1	1
207	1	1	1	1	0	0	1	1
208	0	0	0	0	1	0	1	1
209	1	0	0	0	1	0	1	1
210	0	1	0	0	1	0	1	1
211	1	1	0	0	1	0	1	1
212	0	0	1	0	1	0	1	1
213	1	0	1	0	1	0	1	1
214	0	1	1	0	1	0	1	1
215	1	1	1	0	1	0	1	1
216	0	0	0	1	1	0	1	1
217	1	0	0	1	1	0	1	1
218	0	1	0	1	1	0	1	1
219	1	1	0	1	1	0	1	1
220	0	0	1	1	1	0	1	1
221	1	0	1	1	1	0	1	1
222	0	1	1	1	1	0	1	1
223	1	1	1	1	1	0	1	1
224	0	0	0	0	0	1	1	1
225	1	0	0	0	0	1	1	1
226	0	1	0	0	0	1	1	1
227	1	1	0	0	0	1	1	1
228	0	0	1	0	0	1	1	1
229	1	0	1	0	0	1	1	1
230	0	1	1	0	0	1	1	1
231	1	1	1	0	0	1	1	1
232	0	0	0	1	0	1	1	1
233	1	0	0	1	0	1	1	1
234	0	1	0	1	0	1	1	1
235	1	1	0	1	0	1	1	1
236	0	0	1	1	0	1	1	1
237	1	0	1	1	0	1	1	1

I D	DIP Switches (SW1)							
	(Bit)1	2	3	4	5	6	7	8
238	0	1	1	1	0	1	1	1
239	1	1	1	1	0	1	1	1
240	0	0	0	0	1	1	1	1
241	1	0	0	0	1	1	1	1
242	0	1	0	0	1	1	1	1
243	1	1	0	0	1	1	1	1
244	0	0	1	0	1	1	1	1
245	1	0	1	0	1	1	1	1
246	0	1	1	0	1	1	1	1
247	1	1	1	0	1	1	1	1
248	0	0	0	1	1	1	1	1
249	1	0	0	1	1	1	1	1
250	0	1	0	1	1	1	1	1
251	1	1	0	1	1	1	1	1
252	0	0	1	1	1	1	1	1
253	1	0	1	1	1	1	1	1
254	0	1	1	1	1	1	1	1
255 Programmable Address	1	1	1	1	1	1	1	1

The alarm box baud rate setting:（SW2）
As the chart bellow, the circle "1" means the DIP switch setting should be "ON"; the circle "0" means "OFF"

1、The baud rate setting of the alarm box and the keyboard

Baud Rate	DIP Switch (Sw2)	
	(Bit)5	6
2400bps	0	0
4800bps	1	0
9600bps	0	1

2、The baud rate setting of the alarmbox and the dome

Baud Rate	DIP Switch (Sw2)	
	(Bit)7	8
2400bps	0	0
4800bps	1	0
9600bps	0	1

8. Factory default setting

● The factory default alarm input and output attributes are NO.

● The 1-8 input channel of the alarm box is corresponding to the 1-8 preset of the dome. (Channel 1 to preset 1, channel 2 to preset 2).

● The alarm box ID is 1.

● The alarm box baud rate is 4800BPS.

● The alarm box is auto-reset, the auto-reset interval time is 5sec.

● The alarm box is arm.

9.Keyboard operation

1. Connect the alarm box with the keyboard and dome camera referring to diagram .

2. Set the dome with ALEC protocol and the same baud rate with the alarm box. The dome ID is random.

3. Set the alarm box ID.

4. Electrify to alarm box and keyboard, and set the baud rate of the keyboard same to the alarm box.

5. When user conduct the operation to dome by keyboard, the dome ID number should be set the same as the ID number of the alarm box connected with the dome so as to fulfill the operation to the dome. (For example, turn up, down, left, right, set preset and call preset.)

6. Set the attribute of the alarm input and the preset corresponding to the alarm input. Enter the submenu of Alarm box I/O setup via keyboard.

7.Port NO: input alarm input channel number (1-8), input 0 to respond to all the 8 channels.

8.Status: The attribute of the alarm input channel: 1 for NO, 0 for NC.

9.Preset: The preset corresponding to the channel. (1-80)

10. The sensor connected to IN7 is NC in the normal status. If the sensor sends an open relay input to the alarm box in the alarm situation, operate as follows to make the dome point to the preset 7, for detail operations as follow:

⚠
NOTICE

1) **Input 7 for the Port No and press Enter;**
2) **Input 0 for the Status and press Enter;**
3) **Input 7 for the Preset and press Enter;**
4) **The 7th input is end up.**

Keyboard operation ℭℬ

9.1 Set all alarm inputs as ON, for detail operations as follow:

1) Input 0 for the Port No and press Enter

2) Input 1 for the Status and press Enter

3) Input 0 for the Preset and press Enter

4) End to input

9.2 Arm disarm and reset mode setting

1) In the submenu of Alarm setup, input 2 to enter Alarm enable.

2) Press 1 to switch from arm(Alarm:ON)/ disarm(Alarm:OFF)state.

3) Press "REV" "NEXT" to plus or minus the value of Reset: (0 to 50) of the reset (the value means the auto reset interval time). Press "DEL" key to set the value 0, which means manually reset. The auto-reset time is 5 times the value of the reset seconds. For example, if the value is 1, the auto-reset time is 5 seconds, if the value is 2, the auto-reset time is 10 seconds.

4) Press Enter to confirm the setting.

9.3 Reset the alarm linkage

1) In the submenu of Alarm setup, input 3 to enter Alarm acknowledge. The screen will appear input port No:

2) Input 1-8 to reset the corresponding alarm input linkage. Input 0 and press ENTER to reset all the channels alarm linkage.For example:

   User can input 1 as well as 0, then press ENTER to reset the first alarm input channel.

10. Debugging

Ø   Do the first 5 steps according to 8 keyboard operation, the keyboard could conduct the operation to the dome. If it can not control, check each step carefully.

● It is suggested that user check if the keyboard can control the dome without connecting to the alarm box.

● Check if the power supply of the alarm box is connected to the alarm box correctly

● Check if the input and output of the Rs485 is connected correctly.

Ø   If it is ok and the dome can be controller by the keyboard set 8 presetsand call the presets to ensure 8 presets have been set in the dome. Firstclose the circuit of the N Channel (1≤N≤8), open the circuit of the otherchannels, the dome should point to preset N. If there is no action with the dome, set all the alarm box input NO via keyboard, set the N alarm input channel corresponding to preset N (1≤N≤8), then set the alarm box arm.

Ø   Connect the sensors in all the channels to the alarm box. If the sensor is NC, set the alarm box relay input NC after the connection and power on.

Ø   Test the system using the connected sensor. If there is no action with the dome, check if there is open circuit in connection lines and if the sensor works well.

11. Installation

Ø   If the system works well after the debugging, let all the cables across the cable aperture into the alarm box, screw the waterproof nut tightly.

Ø   Add a waterproof pat on the alarm pat on the alarm box housing and screw tightly with screws to avoid leakage.

Ø   The cable aperture should be downward when fixing the alarm box.

Ø   User takes all the responsibilities if he doesn't install the alarm box according to the manual and result in the circuit damage for rain leakage.

12. Technical Data

Power Supply	≥9V and ≤12V （AC or Dc）
Power Consumption	≤1W
Alarm Output	0.4A,125VAC；2A，30VDC
Weight	
Sending and Receiving Controlling Mode	Rs485
Sending and Receiving Baud Rate	2400BPS，4800BPS，9600BPS
The Furthest Transferring Distance(0.5mm twisted-pair)	1200m
Environment Temperature	0℃~+50℃
Dimensions	200*120*75 （mm）

13. Trouble Shooting

Problem	Possible Cause	Solution
The keyboard can not control the dome. There is no alarm linkage. There is no alarm output when changing the alarm input status. The alarm box does not work.	Bad connection of power cable.	Connect correctly.
	The badness of power supply.	Change the power supply.
The keyboard can not control the dome, There is alarm linkage when changing the alarm input status.	1、The wrong setting of the keyboard board rate； 2、The bad connection of the keyboard and the alarm box； 3、No connection.	1. Reset the keyboard baud rate； 2. Connect the keyboard and alarm box correctly.
	1、The bad connection of the dome and alarm box； 2、No connection； 3、The baud rate of keyboard and alarm box is not in accordance.	1、Connect the dome and alarm box correctly； 2、Reset the dome baud rate.
There is alarm linkage, while the keyboard can not control the dome.	1. The bad connection of the keyboard and alarm box； 2. The baud rate of the dome and alarmbox is not in accordance.	1、Connect the keyboard and alarm box correctly； 2、Reset the keyboard baud rate.
The keyboard can control alarm box, but can not control the dome, there is no alarm linkage.	1、The bad connection of the alarm box and the dome. 2、The baud rate of the dome and the alarm box is not in accordance.	1、Connect the alarm box and dome correctly. 2、Reset the dome baud rate.
The keyboard can control the dome, but there is no alarm linkage.	1、Bad connection of the alarm input cable； 2、The connection cable open circuit；	Connect the alarm input cable correctly.

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