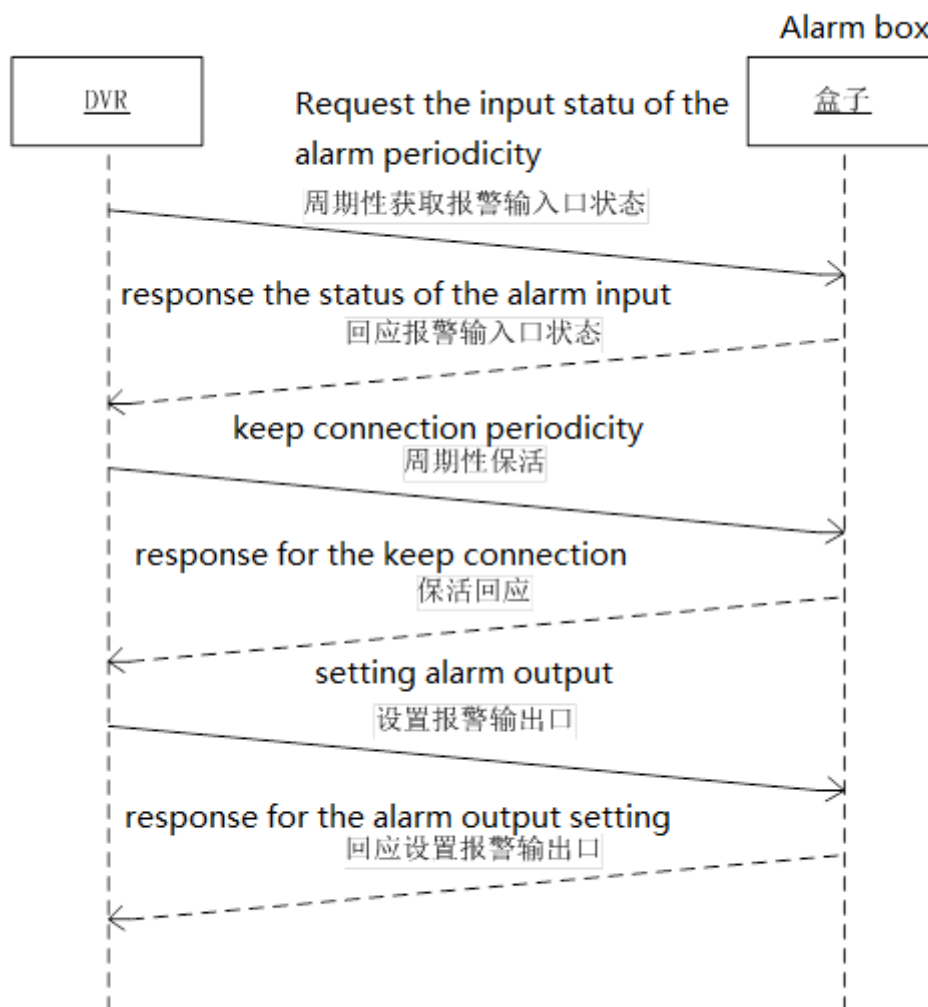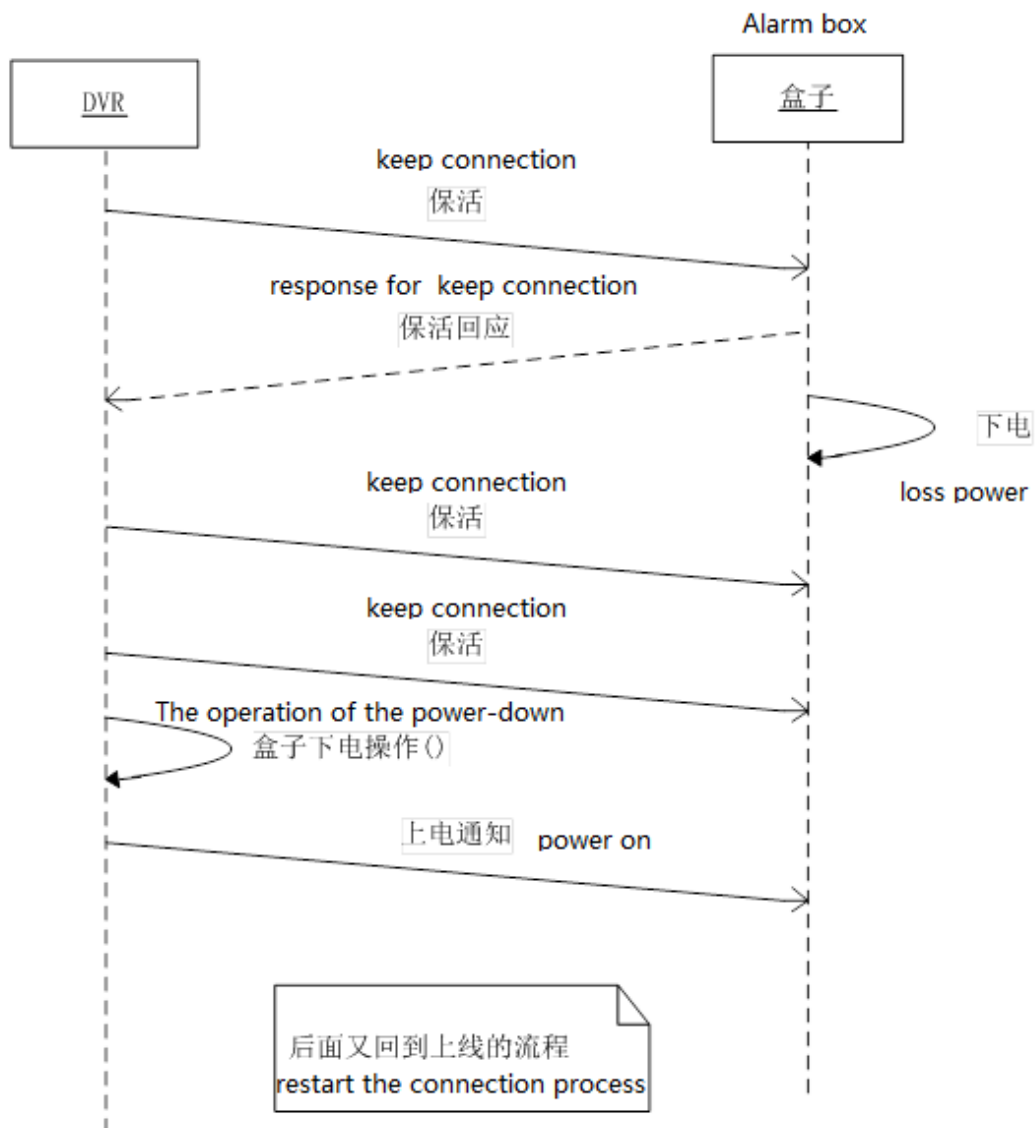# Alarm Box-Protocol

Interactive process

Connection Process

Interactive process

The process after connection

Disconnection Process

Set up connection

1. After DVR boot, keep send the power on information (0xfa) to all alarm box until connection successes.
2. After alarm box power on, receive the power on information (0xfa), response the register information (0xfe).
3. When DVR received the register information (0xfe), response register information (0xfe)(1 of the 7th position of the 8th bite).set up connection successfully.

Power on information

1	2	3	4	5	6	7	8
single protocol (byte)	Module address(byte)	Device power on (byte)					
0x81	485 address	0xFA	0x00	0x00	0x00	0x00	0x00

Register information

1	2	3	4	5	6	7	8
single protocol (byte)	Module address(byte)	Register (byte)	alarm input and output (byte)				
0x81	485 address	0xFE	0x00	0x00	0x00	0x00	0x00

Response for register information

1	2	3	4	5	6	7	8
single protocol (byte)	Module address(byte)	Register (byte)	alarm input and output (byte)				
0x81	485 address	0xFE	0x00	0x00	0x00	0x00	0x80

Keep connection

DVR send the keep connection request (0XFD) by every 10 seconds, and if the alarm box didn't response for 2 times, disconnecting the connection. DVR restart the process of the setup of the connection

Keep connection

1	2	3	4	5	6	7	8
single protocol (byte)	Module address	Keep connection					
0x81	485 address	0XFD	0x00	0x00	0x00	0x00	0x00

Response for the keep connection

1	2	3	4	5	6	7	8
single protocol (byte）	Module address	Keep connec tion					
0x81	485 address	0XFD	0x00	0x00	0x00	0x00	0X80

Get the ability class of the alarm box

After DVR connected, send 0xB1 to check the extend alarm input, send 0XB2 to check the extend alarm output.

Check the ability class—extend alarm input

single protocol (byte)	Module address(byte)	Check alarm input quantity (byte)					
0x81	485 address	0XB1	0x00	0x00	0x00	0x00	0x00

Response

1	2	3	4	5	6	7	8
single protocol (byte)	Module address(byte)	Check alarm input quantity (byte)	return the quantity of the alarm input (byte)				
0x81	485 address	0XB1	0x10	0x00	0x00	0x00	0X80

Check the ability class—extend alarm output

1	2	3	4	5	6	7	8
single protocol (byte)	Module address(byte)	Check alarm output quantity (byte)					
0x81	485 address	0XB2	0x00	0x00	0x00	0x00	0x00

Response

1	2	3	4	5	6	7	8
single protocol (byte)	Module address(byte)	Check alarm output quantity (byte)	return the quantity of the alarm output (byte)				
0x81	485 address	0XB2	0x06	0x00	0x00	0x00	0x80

Get and set the status of the alarm box

Connection and get the ability class

Check status of each extend alarm input: DVR send 0xC8 by every 10 seconds

Set the status of each extend output: DVR send 0xC6 when needed

Check the status of each extends alarm output: the status of extend alarm output refer to the DVR record, when the alarm box connected successfully, synchronize the setting status

Check the status of the alarm input

1	2	3	4	5	6	7	8
single protocol (byte)	Module address(byte)	Check alarm output quantity (byte)					
0x81	485 address	0XC8	0x00	0x00	0x00	0x00	0x00

Response

1	2	3	4	5	6	7	8
single protocol (byte)	Module address(byte)	Check alarm output quantity (byte)	Alarm input status from 1-8	Alarm input status from 9-16	Alarm input status from 17-24	Alarm input status from 25-32	
0x81	485 address	0XC8	0xFF	0xFF	0xFF	0xFF	0x80

Setting the alarm output status

1	2	3	4	5	6	7	8
single protocol (byte)	Module address(byte)	Check alarm output	Keep as 1	Alarm output status	Alarm output status	Alarm output status	Keep as 0x10

		quantity (byte)		from 1-8	from 9-16	from 17-24	
0x81	485 address	0XC6	0x01	0x00	0x00	0x00	0x10

Response

1	2	3	4	5	6	7	8
single protocol (byte)	Module address(byte)	Check alarm output quantity (byte)					
0x81	485 address	0XC6	0x00	0x00	0x00	0x00	0x80

Communication parameter

Now keep as 9600,8,n,1. It can't be configure now