

# 6Buttons Protocol

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## History

Version	Author	Edit date	Changes
1.0.0	RH	2013-6-5	6 Buttons

SN	Title
<b>1</b>	<b>Commands Shared</b>
<b>1.1</b>	<i>Address Detection</i>
1.1.1	Detect address [0xE5F5]
1.1.2	Modify address [0xE5F7]
<b>1.2</b>	<i>Device Backup</i>
1.2.1	Request total QTY of packages from PC to target device [0xDC10]
1.2.2	Request Current Small Package from PC to target device [0xDC14]
<b>1.3</b>	<i>Device Restore</i>
1.3.1	Send Total QTY of Packages from PC to Target Device [0xDC16]
1.3.2	Send Small Package from PC to Target Device [0xDC1A]
<b>1.4</b>	<i>MAC Address</i>
1.4.1	Read MAC Address [0xF003]
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<b>1.7</b>	Read firmware version [0xEEFD]
<b>1.8</b>	Modify subnet ID and Device ID through Mac address
<b>1.9</b>	To see whether the specify device is on line

<b>2</b>	<b>Protocol for Hardware Programming</b>
2.1	Outline
2.1.1	Address conflicts red warning
2.1.2	Address modification of human involvement
2.1.3	Hardware Programming Flowchart
2.2	The lock flag hardware programming read / write
2.2.1	Read Lock [0x0279]
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2.3	Ask if any address conflict or not [0x0284]
2.4	Create New Random Address
2.5	DLP/Switch Programming [0x0286]
2.6	After the success of human involvement to modify the address, subnet broadcast to all devices [0x0288]
<b>10</b>	<b>6 Button</b>
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2.4	Modify the lightness of all buttons [0xE012]
2.5	Read remark of specify button [0xE004]
2.6	Modify remark of specify button [0xE006]
2.7	Read mode of all buttons [0x E008]
2.8	Modify mode of all buttons [0xE00A]
2.9	Read combination button linking [0xE320]
2.10	Modify combination button linking [0xE322]
2.11	Read button statue when dimmer [0xE134]
2.12	Write button statue when dimmer [0xE136]
2.13	Read LED statue of button when pressed [0xE130]
2.14	Write LED statue of button when pressed [0xE132]
2.15	Read device Remote statue, Dimmer low level limit [0xE0E0]
2.16	Write device Remote statue, Dimmer low level limit [0xE0E2]

# 1 Commands Shared

## Address Detection

### 1.1.1 Detect Address

**Remark: Detect address by pressing broadcast address button**

**Supported Device: All modules which have broadcast button**

Operation Code: <b>0x E5F5</b>		
Target Subnet ID:	Broadcast address	0xFF
Target Device ID:		
<b>Additional Content</b>		
LEN of additional content:: 0 byte		

#### Response

Operation Code: <b>0x E5F6</b>		
Target Subnet ID:	Broadcast address	0xFF
Target Device ID:		
<b>Additional Content</b>		
LEN of additional content::2 bytes		
Index of Additional Content	Remark	Value
0	Subnet ID of target device	1byte
1	Device ID of target device	1byte

### 1.1.2 Modify Address

**Supported Device: All modules which have address broadcast button**

Operation Code: <b>0xE5F7</b>		
Target Subnet ID:	Specify old subnet ID of target device	scope 1-254
Target Device ID:	Specify old device ID of target device	scope 1-254
<b>Additional Content</b>		
LEN of additional content::2 bytes		
Index of Additional Content	Remark	Value

0	New Subnet ID	1byte , scope 1-254
1	New Device ID	1byte , scope 1-254

### Response

Operation Code: <b>0x E5F8</b>		
Target Subnet ID:	Broadcast address	0xFF
Target Device ID:		0xFF
<b>Additional Content</b>		
LEN of additional content::1byte		
Index of Additional Content	Remark	Value
0	Flag for success or Failure	1byte Success =0xF8 Failure=0xF5

## 1.2 Device Backup

### 1.2.1 Request Total QTY of packages from PC to target Device

**Supported Device: All G4 Modules**

Operation Code: <b>0xDC10</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 1-254
Target Device ID:	Specify device ID of target device	1byte, scope 1-254
Is Big UDP Package format : No		
<b>Additional Content</b>		
LEN of additional content:0 byte		

### Response

Operation Code: <b>0x DC11</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte,scope 1-254
Target Device ID:	Specify device ID of target device	1byte,scope 1-254
Is Big UDP Package format: No		
<b>Additional Content</b>		
LEN of additional content:3bytes		

Index of Additional Content	Remark	Value
0	Flag of success or failure	1byte Success=0xF8 Failure=0xF5
1	High 8 bits of Total QTY of packages	Total QTY of Packages : 2 bytes
2	Low 8 bits Total QTY of packages	

## 1.2.2 Request Current Small Package from PC to target device

**Supported Device: all G4 modules**

Operation Code: <b>0xDC14</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 1-254
Target Device ID:	Specify device ID of target device	1byte, scope 1-254
Is big UDP Package format :No		
<b>Additional Content</b>		
LEN of additional content::2 bytes		
Index of Additional Content	Remark	Value
0	High 8 bits of current Package No	Current Package No: 2 bytes
1	Low 8 bits of current Package No	

### Response

Operation Code: <b>0x DC15</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte,scope 1-254
Target Device ID:	Specify device ID of target device	1byte,scope 1-254
Is big UDP Package format : <b>No</b>		
<b>Additional Content</b>		
LEN of additional content: MAX. 65 bytes (Max. Flash data is 59 bytes)		
Index of Additional Content	Remark	Value
0	High 8 bits of current package No	Current Package No : 2 bytes
1	low 8 bits of current package No	
2	Flag of external flash or inner memory	1byte external flash=1

		inner memory=0
3	High 8 bits of flash Start Address	3 bytes
4	Medium 8 bits of flash Start Address	
5	Low 8 bits of flash Start Address	
6	Flash data start	
...		
64 (MAX.)	Flash data end	

## 1.3 Device Restore

### 1.3.1 Send Total QTY of Packages from PC to Target Device

**Supported Device: All Modules**

Operation Code: <b>0xDC16</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 1-254
Target Device ID:	Specify device ID of target device	1byte, scope 1-254
Is Big UDP Package format : No		
<b>Additional Content</b>		
LEN of additional content:2 bytes		
<b>Index of Additional Content</b>	<b>Remark</b>	<b>Value</b>
0	High 8 bits of total QTY of packages	Total QTY of packages : 2 bytes
1	Low 8 bits total QTY of packages	

#### Response

Operation Code: <b>0xDC17</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte,scope 1-254
Target Device ID:	Specify device ID of target device	1byte,scope 1-254
Is Big UDP Package format: No		
<b>Additional Content</b>		
LEN of additional content:1byte		
<b>Index of Additional Content</b>	<b>Remark</b>	<b>Value</b>

0	Flag of success or failure	1byte Success=0xF8 Failure=0xF5
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## 1.3.2 Send Small Package from PC to Target Device

**Supported Device: All modules**

Operation Code: <b>0xDC1A</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 1-254
Target Device ID:	Specify device ID of target device	1byte, scope 1-254
Is Big UDP Package format : <b>No</b>		
<b>Additional Content</b>		
LEN of additional content: MAX. 65 bytes (Max. Flash data is 59 bytes)		
Index of Additional Content	Remark	Value
0	High 8 bits of current package No	Current Package No : 2 bytes
1	low 8 bits of current package No	
2	Flag of external flash or inner memory	1byte external flash=1 inner memory=0
3	High 8 bits of flash start address	3 bytes
4	Medium 8 bits of flash Start Address	
5	Low 8 bits of flash start address	
6	Flash data start	
...		
64 (MAX.)	Flash data end	

### Response

Operation Code: <b>0xDC1B</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte,scope 1-254
Target Device ID:	Specify device ID of target device	1byte,scope 1-254
Is Big UDP Package format: No		
<b>Additional Content</b>		
LEN of additional content::3bytes		
Index of Additional Content	Remark	Value
0	Flag of success or failure	1byte Success=0xF8 Failure=0xF5
1	High 8 bits of current package No	Current Package No : 2



2	Low 8 bits of current package No	bytes
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## 1.4 MAC Address

### 1.4.1 Read MAC Address

**Supported Device: All modules**

Operation Code: <b>0x F003</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 1-254
Target Device ID:	Specify device ID of target device	1byte, scope 1-254
Is Big UDP Package format : <b>No</b>		
<b>Additional Content</b>		
LEN of additional content: 0 byte		
Index of Additional Content	Remark	Value

#### Response

Operation Code: <b>0xF004</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte,scope 1-254
Target Device ID:	Specify device ID of target device	1byte,scope 1-254
Is Big UDP Package format: No		
<b>Additional Content</b>		
LEN of additional content: If is not hotel devices ,8 bytes, more bytes no use		
Index of Additional Content	Remark	Value
0	MAC 1st byte	1byte
1	MAC 2nd byte	1byte
2	MAC 3rd byte	1byte
3	MAC 4th byte	1byte
4	MAC 5th byte	1byte
5	MAC 6th byte	1byte
6	MAC 7th byte	1byte
7	MAC 8th byte	1byte
8	1 <sup>st</sup> byte of Remark	20bytes, If the length of remark is less than 20, please use ASCII of space.
9	2 <sup>nd</sup> byte of remark	
10	3 <sup>rd</sup> byte of remark	
11	4 <sup>th</sup> byte of remark	

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## 1.4.2 Modify MAC Address

**Supported Device: All modules**

Operation Code: <b>0x F001</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 1-254
Target Device ID:	Specify device ID of target device	1byte, scope 1-254
Is Big UDP Package format : <b>No</b>		
<b>Additional Content</b>		
LEN of additional content: 8 bytes		
Index of Additional Content	Remark	Value
0	MAC 1st byte	1byte
1	MAC 2nd byte	1byte
2	MAC 3rd byte	1byte
3	MAC 4th byte	1byte
4	MAC 5th byte	1byte
5	MAC 6th byte	1byte
6	MAC 7th byte	1byte
7	MAC 8th byte	1byte

### Response

Operation Code: <b>0xF002</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte,scope 1-254
Target Device ID:	Specify device ID of target device	1byte,scope 1-254
<b>Additional Content</b>		
LEN of additional content: 1 byte		
Index of Additional Content	Remark	Value
0	Flag of success or failure	1byte Success=0xF8 Failure=0xF5

## 1.5 Read device remark

**Remark: This operation has two ways to use**

**1 Send to specify device to get its remark**

**2 Broadcast to the LAN to get there devices' remark on the LAN**

**Supported Device: All modules**

**1**

Operation Code: <b>0x 000E</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 1-254
Target Device ID:	Specify device ID of target device	1byte, scope 1-254
Is Big UDP Package format : <b>No</b>		

**Response**

Operation Code: <b>0x000F</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte,scope 1-254
Target Device ID:	Specify device ID of target device	1byte,scope 1-254
<b>Additional Content</b>		
LEN of additional content: 20 byte		
Index of Additional Content	Remark	Value
0	1 <sup>st</sup> byte of Remark	20bytes, If the length of remark is less than 20, please use ASCII of space.
1	2 <sup>nd</sup> byte of remark	
2	3 <sup>rd</sup> byte of remark	
3	4 <sup>th</sup> byte of remark	
4	5 <sup>th</sup> byte of remark	
5	6 <sup>th</sup> byte of remark	
6	7 <sup>th</sup> byte of remark	
7	8 <sup>th</sup> byte of remark	
8	9 <sup>th</sup> byte of remark	
9	10 <sup>th</sup> byte of remark	
10	11 <sup>th</sup> byte of remark	
11	12 <sup>th</sup> byte of remark	
12	13 <sup>th</sup> byte of remark	
13	14 <sup>th</sup> byte of remark	
14	15 <sup>th</sup> byte of remark	
15	16 <sup>th</sup> byte of remark	
16	17 <sup>th</sup> byte of remark	
17	18 <sup>th</sup> byte of remark	
18	19 <sup>th</sup> byte of remark	
19	20 <sup>th</sup> byte of remark	

**2**

Operation Code: <b>0x 000E</b>		
Target Subnet ID:	Broadcast address	0xFF
Target Device ID:	Broadcast address	0xFF
Is Big UDP Package format : <b>No</b>		

**Response:**

**Devices in the same LAN will relay a random number time to response ,  
Every one response as send to specify device**

## 1.6 Write device remark

Supported Device: All modules

Operation Code: <b>0x 0010</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 1-254
Target Device ID:	Specify device ID of target device	1byte, scope 1-254
Is Big UDP Package format : <b>No</b>		
<b>Additional Content</b>		
LEN of additional content: 20 byte		
Index of Additional Content	Remark	Value
0	1 <sup>st</sup> byte of Remark	20bytes, If the length of remark is less than 20, please use ASCII of space.
1	2 <sup>nd</sup> byte of remark	
2	3 <sup>rd</sup> byte of remark	
3	4 <sup>th</sup> byte of remark	
4	5 <sup>th</sup> byte of remark	
5	6 <sup>th</sup> byte of remark	
6	7 <sup>th</sup> byte of remark	
7	8 <sup>th</sup> byte of remark	
8	9 <sup>th</sup> byte of remark	
9	10 <sup>th</sup> byte of remark	
10	11 <sup>th</sup> byte of remark	
11	12 <sup>th</sup> byte of remark	
12	13 <sup>th</sup> byte of remark	
13	14 <sup>th</sup> byte of remark	
14	15 <sup>th</sup> byte of remark	
15	16 <sup>th</sup> byte of remark	
16	17 <sup>th</sup> byte of remark	
17	18 <sup>th</sup> byte of remark	
18	19 <sup>th</sup> byte of remark	
19	20 <sup>th</sup> byte of remark	

### Response

Operation Code: <b>0x0011</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte,scope 1-254
Target Device ID:	Specify device ID of target device	1byte,scope 1-254
<b>Additional Content</b>		
LEN of additional content: 1 byte		

Index of Additional Content	Remark	Value
0	Flag for success/ failure	1byte, Success=0xF8 Failure =0xF5

## 1.7 Read firmware version

**Supported Device: All modules**

Operation Code: <b>0xEEFD</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 1-254
Target Device ID:	Specify device ID of target device	1byte, scope 1-254
Is Big UDP Package format : <b>No</b>		
<b>Additional Content</b>		
LEN of additional content: 0 byte		

### Response

Operation Code: <b>0xEEFE</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte,scope 1-254
Target Device ID:	Specify device ID of target device	1byte,scope 1-254
Is Big UDP Package format: No		
<b>Additional Content</b>		
LEN of additional content: 22 bytes,		
Index of Additional Content	Remark	Value
0 ~21	Version info	22 bytes

## 1.8 Modify subnetID and DeviceID by Mac address

**Supported Device: All modules**

Operation Code: <b>0x F005</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 1-254
Target Device ID:	Specify device ID of target device	1byte, scope 1-254
Is Big UDP Package format : <b>No</b>		
<b>Additional Content</b>		
LEN of additional content: 10 bytes		
Index of Additional Content	Remark	Value

0	MAC 1st byte	1byte
1	MAC 2nd byte	1byte
2	MAC 3rd byte	1byte
3	MAC 4th byte	1byte
4	MAC 5th byte	1byte
5	MAC 6th byte	1byte
6	MAC 7th byte	1byte
7	MAC 8th byte	1byte
8	SubnetID	1byte
9	SubDecivelD	1byte

### Response

Operation Code: <b>0xF002</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte,scope 1-254
Target Device ID:	Specify device ID of target device	1byte,scope 1-254
<b>Additional Content</b>		
LEN of additional content: 1 byte		
Index of Additional Content	Remark	Value
0	Flag of success or failure	1byte Success=0xF8 Failure=0xF5

## 1.9 To see whether the specify device is on line

Supported Device: All modules

Operation Code: <b>0xF065</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 1-254
Target Device ID:	Specify device ID of target device	1byte, scope 1-254
Is Big UDP Package format : <b>No</b>		
<b>Additional Content</b>		
LEN of additional content: 0 byte		

### Response

Operation Code: <b>0xF066</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte,scope 1-254
Target Device ID:	Specify device ID of target device	1byte,scope 1-254
Is Big UDP Package format: No		
<b>Additional Content</b>		
LEN of additional content: 0 bytes,		

## 2 Protocol for Hardware Programming

### 2.1 Outline

In order to facilitate the primary installer program the hardware.

#### 2.1.1 Address conflicts red warning

If the software lock flag is turned on (Lock Active), then the module is powered addresses need to detect whether there is a conflict itself, if found to have address conflict, all conflicting module address Broadcast button under the red flashing LED lights require (Led lights 0.3s, off 0.5s) for the red warning.

If the software lock flag is off (Lock inactive), the module power is not required to detect whether the address confliction. It would not carry a red warning so do not waste too much time and affect the normal use.

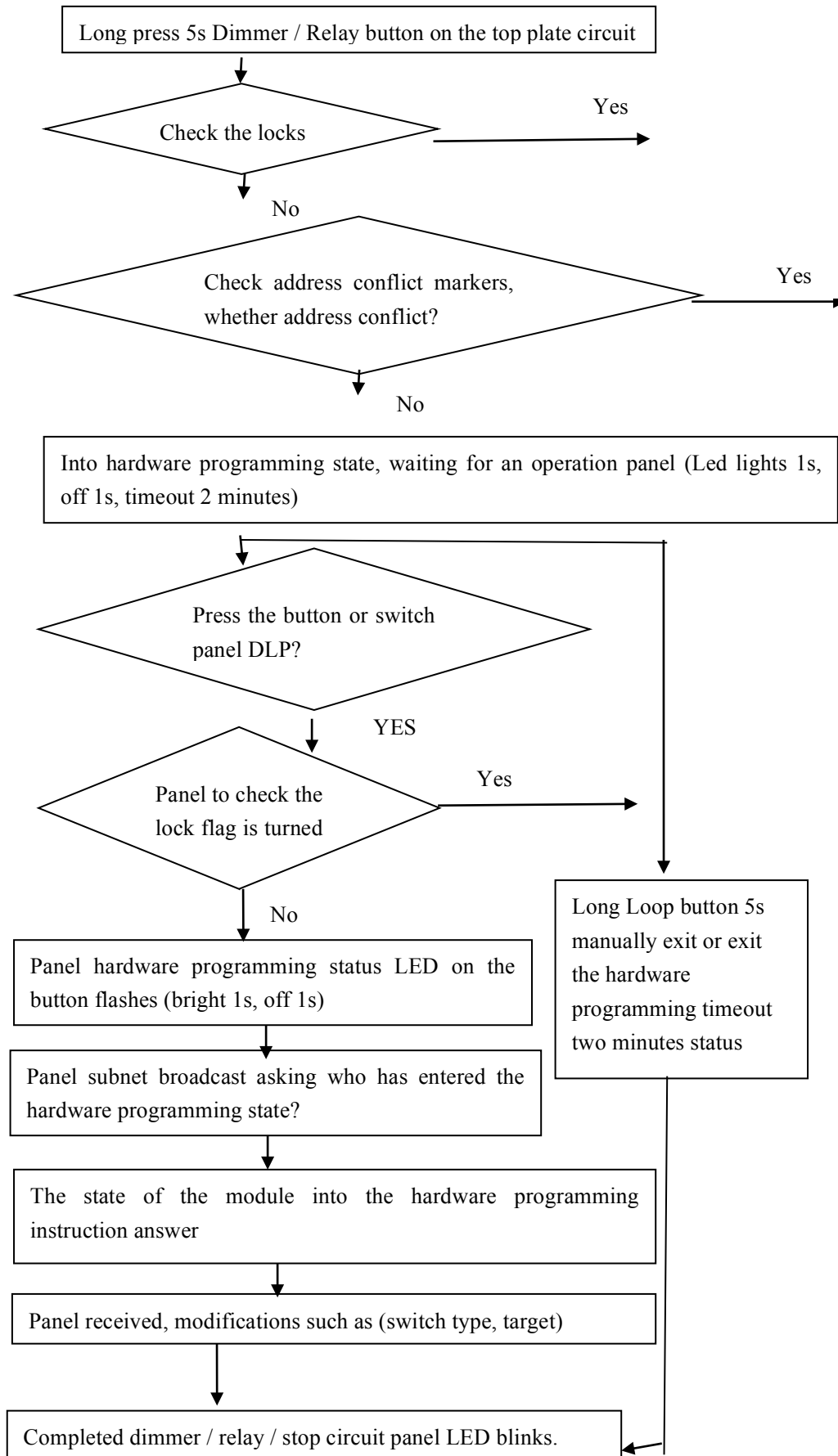
#### 2.1.2 Address modification of human involvement

Primary installer can address on the module changes, without modifying the use of computer software.

**Address conflicts exist in the case of address changes:**

Address already exists in the case of conflict, where the LED is flashing. Long press button 5s broadcast address for address changes. Modules that can be used automatically assign an address to the current module. Modify the address is complete. LED lights turn green and stops flashing.

#### 2.1.3 Hardware Programming Flowchart





## 2.2 The lock flag hardware programming read / write

### 2.2.1 Read Lock

**Supported Device: Dimmer/Relay/HVAC/9in1/DLP/Switch**

Operation Code: <b>0x0280</b>		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
<b>Additional Content</b>		
LEN of additional content:: 0 byte		

#### Response

Operation Code: <b>0x0281</b>		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
<b>Additional Content</b>		
LEN of additional content::1 byte		
Index of Additional Content	Remark	Value
0	Status of Lock	1byte Active =1 Inactive=0

### 2.2.2 Modify Lock

**Supported Device: Dimmer/Relay/HVAC/9in1/DLP/Switch**

Operation Code: 0x0282		
Target Subnet ID:	Specify subnet ID of target device or Broadcast address 255	scope 0-255
Target Device ID:	Specify device ID of target device or Broadcast address 255	scope 0-255
<b>Additional Content</b>		
LEN of additional content:: 1 byte		
Index of Additional Content	Remark	Value
0	Status of Lock	1byte Active =1 Inactive=0

### Response

Operation Code: <b>0x0283</b>		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
<b>Additional Content</b>		
LEN of additional content::1 byte		
Index of Additional Content	Remark	Value
0	Flag of success/failure	1byte Success =0xF8 Failure=0xF5

## 2.3 Ask if any address conflict or not?

### Supported Device: Dimmer/Relay/HVAC/9in1/DLP/Switch

Operation Code: <b>0x0284</b>		
Target Subnet ID:	subnet ID of itself	scope 0-254
Target Device ID:	Broadcast device address	255
<b>Additional Content</b>		
LEN of additional content:: 10 bytes		
Index of Additional Content	Remark	Value
0	Subnet ID of itself device	1byte
1	Device ID of itself device	1byte
2	1 <sup>st</sup> byte of MAC of itself device	1byte
3	2 <sup>nd</sup> byte of MAC of itself device	1byte
4	3 <sup>rd</sup> byte of MAC of itself device	1byte
5	4 <sup>th</sup> byte of MAC of itself device	1byte
6	5 <sup>th</sup> byte of MAC of itself device	1byte
7	6 <sup>th</sup> byte of MAC of itself device	1byte
8	7 <sup>th</sup> byte of MAC of itself device	1byte
9	8 <sup>th</sup> byte of MAC of itself device	1byte

### Response

Operation Code: <b>0x0285</b>		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
<b>Additional Content</b>		

LEN of additional content::9 bytes		
Index of Additional Content	Remark	Value
0	If exist same address or not	1byte Exist =1 Do no exist=0
1	1 <sup>st</sup> byte of MAC of target device	1byte
2	2 <sup>nd</sup> byte of MAC of target device	1byte
3	3 <sup>rd</sup> byte of MAC of target device	1byte
4	4 <sup>th</sup> byte of MAC of target device	1byte
5	5 <sup>th</sup> byte of MAC of target device	1byte
6	6 <sup>th</sup> byte of MAC of target device	1byte
7	7 <sup>th</sup> byte of MAC of target device	1byte
8	8 <sup>th</sup> byte of MAC of target device	1byte

## 2.4 Create New Random Address

Note: In order to address conflicts rare chance, you need to generate random numbers in 1-254. Each random number needed temporary. In the query, you need to detect whether there is history. If there is history, re-generate a random number; If there is no record in history, that query the current address is available. If not, continue to continue to generate random addresses.

If the reply is not received within 2s bell indicates that this address is available.

## 2.5 DLP/Switch Programming

Note: Ask what modules are programmed into the hardware state?

**Supported Device: DLP/Switch**

Operation Code: <b>0x0286</b>		
Target Subnet ID:	subnet ID of itself	scope 0-254
Target Device ID:	Broadcast device address	255
<b>Additional Content</b>		
LEN of additional content:: 0 byte		

### Response

Operation Code: <b>0x0287</b>		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
<b>Additional Content</b>		
LEN of additional content::7 bytes		
Index of Additional Content	Remark	Value
0	Subnet ID of controlled device (like Dimmer/Relay/HVAC/9in1)	1byte
1	Device ID of controlled device	1byte
2	Device Category	1byte <b>(see the definition below)</b>
3	1 <sup>st</sup> Parameter	1byte
4	2 <sup>nd</sup> Parameter	1byte
5	3 <sup>rd</sup> Parameter	1byte
6	4 <sup>th</sup> Parameter	1byte

Definition of Parameter according to device category

SN	Device Category	1 <sup>st</sup> Parameter	2 <sup>nd</sup> Parameter	3 <sup>rd</sup> Parameter	4 <sup>th</sup> Parameter
1	Dimmer	Channel No (brightness =100)	<N/A>	<N/A>	<N/A>
2	Relay	Channel No	<N/A>	<N/A>	<N/A>
3	HVAC	Subnet ID	Device ID	<N/A>	<N/A>
4	Sensors	<N/A>	<N/A>	<N/A>	<N/A>
5	Z-Audio	<N/A>	<N/A>	<N/A>	<N/A>

## 2.6 After the success of human involvement to modify the address, subnet broadcast to all devices

**Supported Device: DLP/Switch/Dimmer/Relay/9in1/HVAC**

Operation Code: <b>0x0288</b>		
Target Subnet ID:	subnet ID of itself	scope 0-254
Target Device ID:	Broadcast device address	255
<b>Additional Content</b>		
LEN of additional content:: 2 byte		

Index of Additional Content	Remark	Value
0	Old Subnet ID (Before modification address)	1byte
1	Old Subnet ID (Before modification address)	1byte

Remarks:

When the device receives the above address conflicts instruction, testing whether the old address itself address. If they are not the same, no need treatment. If they are the same, generate a random number in a delay of 500ms. Send “**2. Ask if any address conflict or not?**”

## 10 6 Buttons

### 1 6B. Control And Status

### 2 6B. Settings

#### 2.1 Read the function of specify button

Operation Code: 0xE000		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
Additional Content		
LEN of additional content:: 2bytes		
Index of Additional Content	Remark	Value
0	Button No.	1byte
1	Function No. of current button	1byte

#### Response

Operation Code: 0xE001		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
Additional Content		
LEN of additional content::9 bytes		

Index of Additional Content	Remark	Value
0	Button No.	1byte
1	Function No. of current button	1byte
2	Object type	1byte For Detail see table: <a href="#">Command Type Definition</a>
3	Object subnet ID	1byte
4	Object device ID	1byte
5 ~ 8	Parameters For Detail see table:	4bytes For Detail see table: <a href="#">Command Type Definition</a>

## 2.2 Modify the function of specify button

Operation Code: <b>0xE002</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
Additional Content		
LEN of additional content:: 9bytes		
Index of Additional Content	Remark	Value
0	Button No.	1byte Scope 1~6
1	Button function	1byte Scope 0~99
2	Object type	1byte For Detail see table: <a href="#">Command Type Definition</a>
3	Object subnet ID	1byte
4	Object device ID	1byte
5 ~ 8	Parameters For Detail see table:	4bytes For Detail see table: <a href="#">Command Type Definition</a>

### Response

Operation Code: <b>0xE003</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254

Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content:: 2bytes		
Index of Additional Content	Remark	Value
0	Button No.	1byte
1	Function No. of current button	1byte

## 2.3 Read the lightness of all buttons

Operation Code: <b>0xE010</b>		
Target Subnet ID:	Specify subnet ID of target device	scope 1-254
Target Device ID:	Specify device ID of target device	scope 1-254
<b>Additional Content</b>		
LEN of additional content:: 0 bytes		
Index of Additional Content	Remark	Value

### Response

Operation Code: <b>0xE011</b>		
Target Subnet ID:	Specify subnet ID of target device	scope 1-254
Target Device ID:	Specify subnet ID of target device	scope 1-254
<b>Additional Content</b>		
LEN of additional content:: 2bytes		
Index of Additional Content	Remark	Value
0	Status LED(red) level	1byte/ 0~100
1	Backlight LED(Blue)level	1byte/ 0~100

## 2.4 Modify the lightness of all buttons

Operation Code: <b>0xE012</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 1-254

Target Device ID:	Specify device ID of target device	1byte, scope 1-254
<b>Additional Content</b>		
LEN of additional content:: 2 bytes		
Index of Additional Content	Remark	Value
0	Status LED(red) level	1byte/ 0~100
1	Backlight LED(Blue)level	1byte/ 0~100

### Response

Operation Code: <b>0xE013</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 1-254
Target Device ID:	Specify device ID of target device	1byte, scope 1-254
<b>Additional Content</b>		
LEN of additional content:: 1byte		
Index of Additional Content	Remark	Value
0	Flag of success or failure	1byte Success=0xF8 Failure=0xF5

## 2.5 Read remark of specify button

Operation Code: <b>0xE004</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content:: 1bytes		
Index of Additional Content	Remark	Value
0	Button No.	1byte

### Response

Operation Code: <b>0xE005</b>		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 1-254
Target Device ID:	Specify device ID of target device	1byte, scope 1-254



Additional Content		
LEN of additional content:: 21 bytes		
Index of Additional Content	Remark	Value
0	Button No.	1byte
1~20	Remark content of currentbutton	20bytes

## 2.6 Modify remark of specify button

Operation Code: <b>0xE006</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
Additional Content		
LEN of additional content:: 2bytes		
Index of Additional Content	Remark	Value
0	Button No.	1byte
1~20	Remark content of currentbutton	20bytes

### Response

Operation Code: <b>0xE007</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
Additional Content		
LEN of additional content:: 1byte		
Index of Additional Content	Remark	Value
0	Flag of success or failure	1byte Success=0xF8 Failure=0xF5

## 2.7 Read mode of all buttons

Operation Code: **0x E008**

Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content:: 0byte		
<b>Index of Additional Content</b>	<b>Remark</b>	<b>Value</b>

### Response

Operation Code: <b>0xE009</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content:: QTY of current device bytes		
<b>Index of Additional Content</b>	<b>Remark</b>	<b>Value</b>
0	the mode of button 1	1byte
1	the mode of button 2	1byte
2	the mode of button 3	1byte
...	...	...
QTY of buttons -1	the mode of last button	1byte

## 2.8 Modify mode of all buttons

Operation Code: <b>0x E00A</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content:: QTY of current device bytes		
<b>Index of Additional Content</b>	<b>Remark</b>	<b>Value</b>
0	the mode of button 1	1byte
1	the mode of button 2	1byte
2	the mode of button 3	1byte
...	...	...
QTY of buttons -1	the mode of last button	1byte

### Response

Operation Code: <b>0xE00B</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254

Additional Content		
LEN of additional content:: 1byte		
Index of Additional Content	Remark	Value
0	Flag of success or failure	1byte Success=0xF8 Failure=0xF5

## 2.9 Read combination button linking

Operation Code: 0xE320		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
Additional Content		
LEN of additional content:: 0bytes		
Index of Additional Content	Remark	Value

### Response

Operation Code: 0x E321		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
Additional Content		
LEN of additional content:: 6bytes		
Index of Additional Content	Remark	Value
0	Button1 exclude	1byte
1	Button 2 exclude	1byte
2	Button 3 exclude	1byte
3	Button 4 exclude	1byte
4	Button 5 exclude	1byte
5	Button 6 exclude	1byte

## 2.10 Modify combination button linking

Operation Code: <b>0xE322</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content:: 0bytes		
<b>Index of Additional Content</b>	<b>Remark</b>	<b>Value</b>
<b>Index of Additional Content</b>	<b>Remark</b>	<b>Value</b>
0	Button1 exclude	1byte
1	Button 2 exclude	1byte
2	Button 3 exclude	1byte
3	Button 4 exclude	1byte
4	Button 5 exclude	1byte
5	Button 6 exclude	1byte

### Response

Operation Code: <b>0x E323</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content:: 1byte		
<b>Index of Additional Content</b>	<b>Remark</b>	<b>Value</b>
0	Flag of success or failure	1byte Success=0xF8 Failure=0xF5

## 2.11 Read button statue when dimmer

Operation Code: <b>0xE134</b>
-------------------------------

Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content:: 0bytes		

### Response

Operation Code: <b>0xE135</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content:: QTY of buttons bytes		
Index of Additional Content	Remark	Value
0	Button 1 Use high 4bit to show button can dimmer or not Use low 4bit to show lightness should save or not	1byte High 4bit = 0 ,can not dimmer High 4bit = 1 ,can dimmer Low 4bit = 0 ,do not save Low 4bit = 1 ,save
1	Button 2 Use high 4bit to show button can dimmer or not Use low 4bit to show lightness should save or not	1byte High 4bit = 0 ,can not dimmer High 4bit = 1 ,can dimmer Low 4bit = 0 ,do not save Low 4bit = 1 ,save
...	...	...
QTY of buttons	Last Button Use high 4bit to show button can dimmer or not Use low 4bit to show lightness should save or not	1byte High 4bit = 0 ,can not dimmer High 4bit = 1 ,can dimmer Low 4bit = 0 ,do not save Low 4bit = 1 ,save

## 2.12 Write button statue when dimmer

Operation Code: <b>0xE136</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254

Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content:: QTY of buttons bytes		
Index of Additional Content	Remark	Value
0	Button 1 Use high 4bit to show button can dimmer or not Use low 4bit to show lightness should save or not	1byte High 4bit = 0 ,can not dimmer High 4bit = 1 ,can dimmer Low 4bit = 0 ,do not save Low 4bit = 1 ,save
1	Button 2 Use high 4bit to show button can dimmer or not Use low 4bit to show lightness should save or not	1byte High 4bit = 0 ,can not dimmer High 4bit = 1 ,can dimmer Low 4bit = 0 ,do not save Low 4bit = 1 ,save
...	...	...
QTY of buttons	Last Button Use high 4bit to show button can dimmer or not Use low 4bit to show lightness should save or not	1byte High 4bit = 0 ,can not dimmer High 4bit = 1 ,can dimmer Low 4bit = 0 ,do not save Low 4bit = 1 ,save

### Response

Operation Code: <b>0xE137</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content:: 1 byte		
Index of Additional Content	Remark	Value
0	Flag of success or failure	1byte Success=0xF8 Failure=0xF5

## 2.13 Read LED statue of button when pressed

Operation Code: <b>0xE130</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content:: 0bytes		

### Response

Operation Code: <b>0xE131</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content:: QTY of buttons bytes		
Index of Additional Content	Remark	Value
0	Button 1 Show LED light when pressed or not	1byte 1 = disable 0 = enable
0	Button 2 Show LED light when pressed or not	1byte 1 = disable 0 = enable
...	...	...
QTY of buttons -1	Last Button Show LED light when pressed or not	1byte 1 = disable 0 = enable

## 2.14 Write LED statue of button when pressed

Operation Code: <b>0xE132</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content:: QTY of buttons bytes		

Index of Additional Content	Remark	Value
0	Button 1 Show LED light when pressed or not	1byte 1 = disable 0 = enable
0	Button 2 Show LED light when pressed or not	1byte 1 = disable 0 = enable
...	...	...
QTY of buttons -1	Last Button Show LED light when pressed or not	1byte 1 = disable 0 = enable

### Response

Operation Code: <b>0xE133</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content:: QTY of buttons bytes		
Index of Additional Content	Remark	Value
0	Flag of success or failure	1byte Success=0xF8 Failure=0xF5

## 2.15 Read device Remote statue, Dimmer low level limit

Operation Code: <b>0xE0E0</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		
LEN of additional content::0bytes		

### Response

Operation Code: <b>0xE0E1</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
<b>Additional Content</b>		



LEN of additional content:: 3bytes		
Index of Additional Content	Remark	Value
0	Flag of success or failure	1byte 0xF8 = success 0xF5 = Failure
1	Remote status	1byte 1 = disable 0 = enable
2	Dimmer low level limit	1byte < =50

## 2.16 Write device Remote statue, Dimmer low level limit

Operation Code: <b>0xE0E0</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
Additional Content		
LEN of additional content::2bytes		
0	Remote status	1byte 1 = disable 0 = enable
1	Dimmer low level limit	1byte < =50

### Response

Operation Code: <b>0xE0E1</b>		
Target Subnet ID:	Specify subnet ID of target device	Scope 1-254
Target Device ID:	Specify subnet ID of target device	Scope 1-254
Additional Content		
LEN of additional content:: 1byte		
Index of Additional Content	Remark	Value
0	Flag of success or failure	1byte Success=0xF8 Failure=0xF5

### Command Type Definition

Command TypeID	Command Type Name	Remark	First Parameter	Second Parameter	Third Parameter
0	Scene control		Zone No (1-254)	Scene No (0-254)	Unused (set 0 )
1	Sequence Control		Zone No (1-254)	Sequence No (0-254)	Unused (set 0 )
2	Universal Switch Control		Universal Switch ID (0-255)	Switch Control status (255:on 0: off)	Unused (set 0 )
3	Invalid	Invalid command, it will not take any actions	Any value (0-255)	Any value (0-255)	Any value (0-65535)
4	Single Channel Control		Channel No (1-255)	Brightness percentage (0 -100)	Running Time, unit: second (0 -3600)
5	Broadcast scene	Run the specific scene in all area of current module	Broadcast area (Must be set 255)	Scene No (0-254)	Unused (set 0 )
6	Broadcast All channels	Control all the channels of current module	Broadcast all channels (Must be set 255)	Brightness percentage (0 -100)	Running Time, unit: second (0 -3600)
7	Curtain Control	Control curtain if you are using g3 curtain module	Curtain No (1-4)	Curtain Control Status (0: Stop 1: Open 2: Close)	Unused (set 0 )
8	Timer Control		Channel No (1-255)	Control Status (255: open 0 :	Unused (set 0 )

				close)																												
9	SMS Control	Control G3 SMS module	Type ID ( 0: invalid 1: SMS Message)	SMS Command No (0-255)	Unused (set 0 )																											
10	Panel control		<b>Panel control for A/C</b> <table border="1"> <thead> <tr> <th>First Parameter (Type ID)</th> <th>Second Parameter (Value)</th> <th>Third Parameter</th> </tr> </thead> <tbody> <tr> <td>0=(invalid)</td> <td>0</td> <td>0</td> </tr> <tr> <td>1=(enable/disable receive function of DLP)</td> <td>0: (disable) 1: (enable)</td> <td>0</td> </tr> <tr> <td>3=(Power on/off A/C)</td> <td>0: (power off) 1: (power on)</td> <td>0</td> </tr> <tr> <td>4=(cool Set point)</td> <td>0-30 c 32-86F</td> <td>0</td> </tr> <tr> <td>5=(FAN Speed)</td> <td>0: (auto) 1: (High) 2: (Medium) 3: (low)</td> <td>0</td> </tr> <tr> <td>6=(AC mode)</td> <td>0: (Cool) 1: (Heat) 2: (FAN) 3: ( Auto)</td> <td>0</td> </tr> <tr> <td>7=(Heat set point)</td> <td>0-30 c 32-86F</td> <td></td> </tr> <tr> <td>8=(Auto Set point)</td> <td>0-30 c 32-86F</td> <td></td> </tr> </tbody> </table>			First Parameter (Type ID)	Second Parameter (Value)	Third Parameter	0=(invalid)	0	0	1=(enable/disable receive function of DLP)	0: (disable) 1: (enable)	0	3=(Power on/off A/C)	0: (power off) 1: (power on)	0	4=(cool Set point)	0-30 c 32-86F	0	5=(FAN Speed)	0: (auto) 1: (High) 2: (Medium) 3: (low)	0	6=(AC mode)	0: (Cool) 1: (Heat) 2: (FAN) 3: ( Auto)	0	7=(Heat set point)	0-30 c 32-86F		8=(Auto Set point)	0-30 c 32-86F	
First Parameter (Type ID)	Second Parameter (Value)	Third Parameter																														
0=(invalid)	0	0																														
1=(enable/disable receive function of DLP)	0: (disable) 1: (enable)	0																														
3=(Power on/off A/C)	0: (power off) 1: (power on)	0																														
4=(cool Set point)	0-30 c 32-86F	0																														
5=(FAN Speed)	0: (auto) 1: (High) 2: (Medium) 3: (low)	0																														
6=(AC mode)	0: (Cool) 1: (Heat) 2: (FAN) 3: ( Auto)	0																														
7=(Heat set point)	0-30 c 32-86F																															
8=(Auto Set point)	0-30 c 32-86F																															
11	Security Mode control		Zone no ( 1-8)	Mode No 1: vacation 2: away 3: night 4: Night with guest 5: Day 6: Disarm	Unused (set 0)																											
12	Security Alarm		Zone no (1-8)	<b>Alarm No</b> 1: vacation 2: Away 4: Night 8: Night with guest 16: Day 32: Siren	Unused (set 0)																											

				64: Power  128: Temperature  256: Fire 512: Gas 1024: Panic 2048: Emergency  4096: Current	
18	Z-Audio		<b>Z-Audio</b>		
			<b>First Parameter (Type ID)</b>	<b>Second Parameter (Value)</b>	<b>Third Parameter</b>
			1=Music Source	Music Source No  SD card =1 Audio In =2 FTP Server =3 FM Radio =4	N/A
			3=Song List / Radio List Control	<b>Type of list Control</b> PREV. Song List =1 Next Song List=2 Specify Song List No=3 PREV Radio Channel=4 Next Radio Channel =5 Specify Radio No=6	Song List / Radio No (only available when Second Parameter equal 3 or 6)
			4=Play Control	Previous Song=1 Next Song=2 Play=3 Stop=4	N/A
			5=Volume Control	Percentage of VOL (0~ 100, 100% is max. VOL, 0 is mute)	N/A
			6=Specify Song Control	Song List No (1byte,0-255, Song List No 0 is for alarm voice)	<b>Song No (1-999 )</b>