SMART BUS G4 Commands

Version: 4.4

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Website: www.SmartHomeBUS.com

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1. Lighting Control

1.1 Scene Control

Supported Device: Dimmer/Relay

Operation Code: **0x0002**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content:: 2 bytes		
Index of Additional Content	**Remark**	**Value**
0	Area No	scope 1-255
1	Scene No	scope 0-255

Response

Operation Code: **0x0003**		
Target Subnet ID:	Broadcast address	0xFF
Target Device ID:	Broadcast address	0xFF
Additional Content		
LEN of additional content::2 bytes		
Index of Additional Content	**Remark**	**Value**
0	Area No	1byte
1	Scene No	1byte

1.2 Single Channel Control

Supported Device: Dimmer/Relay

Operation Code: **0x0031**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content:: 4 bytes		
Index of Additional Content	**Remark**	**Value**
0	Light Channel No	1byte 1-255 if Channel no is 255, it means broadcast channels of the device.
1	Brightness Level	1byte,0-100 it's percentage of brightness
2	High 8 bits of Running time	Scope of Running time is 0-3600s H=(Running time) div 256
3	Low 8 bits of Running Time	L=(Running time) Mod 256

Response

Operation Code: **0x0032**		
Target Subnet ID:	Broadcast address	0xFF
Target Device ID:	Broadcast address	0xFF
Additional Content		
LEN of additional content:: 2 bytes		
Index of Additional Content	**Remark**	**Value**

0	Current Channel No	1byte,
1	Flag for success/ failure	1byte, Success=0xF8 Failure =0xF5

1.3. Sequence Control

Supported Device: Dimmer

Operation Code: **0x001A**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content:: 2 bytes		
Index of Additional Content	**Remark**	**Value**
0	Area No	1byte
1	Sequence No	1byte

Response

Operation Code: **0x001B**		
Target Subnet ID:	Broadcast address	0xFF
Target Device ID:	Broadcast address	0xFF
Additional Content		
LEN of additional content:: 2 bytes		
Index of Additional Content	**Remark**	**Value**
0	Area No	1byte
1	Sequence No	1byte

1.4 Read Status of Channels

Supported Device: Dimmer/Relay

Operation Code: **0x0033**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 0 byte		

Response

Operation Code: **0x0034**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: (QTY of Channels + 1) bytes		
Index of Additional Content	**Remark**	**Value**
0	QTY of Channels	1byte
1	Status of Channel 1	1byte , scope 0-100
2	Status of Channel 2	1byte , scope 0-100
…	…	…
QTY of Channels	Status of last channel	1byte , scope 0-100

1.5 Reversing Control

Supported Device: Dimmer/Relay

Remark:

If current status of channel is on, then it will be switched off when received command below;

if current status of channel is off, then it will be switched on when received command below;

Operation Code: **0xDC1C**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 4 bytes		
Index of Additional Content	**Remark**	**Value**
0	Channel No	1byte
1	reserved	1byte
2	High 8bits of Running time	1byte
3	Low 8bits of Running time	1byte

Response

Operation Code: **0xDC1D**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 2bytes		
Index of Additional Content	**Remark**	**Value**
0	Channel No	1byte

1	Flag of success or failure Success=0xF8 Failure=0xF5	1byte

2. Curtain Control

2.1 Curtain Control

Supported Device: Curtain Module

Operation Code: **0xE3E0**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 2 bytes		
Index of Additional Content	**Remark**	**Value**
0	Curtain Switch No	1byte
1	Curtain control Type	1byte Stop=0 Open=1 Close=2

Response

Operation Code: **0xE3E1**		
Target Subnet ID:	Broadcast address	0xFF
Target Device ID:	Broadcast address	0xFF
Additional Content		
LEN of additional content:: 2 bytes		
Index of Additional Content	**Remark**	**Value**
0	QTY of Channels	1byte
1	Curtain Switch No	1byte
2	Curtain control Type	1byte Stop=0 Open=1 Close=2

2.2 Read Status of Curtain

Supported Device: Curtain Module

Operation Code: **0xE3E2**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 1byte		
Index of Additional Content	**Remark**	**Value**
0	Curtain Switch No	1byte

Response

Operation Code: **0xE3E3**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 2 bytes		
Index of Additional Content	**Remark**	**Value**
0	QTY of Channels	1byte
1	Curtain Switch No	1byte
2	Curtain control Type	1byte Stop=0 Open=1 Close=2

2.3 Read curtain group settings from Relay module

Supported Device: Relay Module

Operation Code: **0xDC23**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 0 byte		

Response

Operation Code: **0xDC24**		
Target Subnet ID:	Specify subnet ID of	1byte, scope 0-254

<table>
<tr><td></td><td>target device</td><td></td></tr>
<tr><td>Target Device ID:</td><td>Specify device ID of target device</td><td>1byte, scope 0-254</td></tr>
<tr><td colspan="3">Additional Content</td></tr>
<tr><td colspan="3">LEN of additional content:: 9 bytes</td></tr>
<tr><td>Index of Additional Content</td><td>Remark</td><td>Value</td></tr>
<tr><td>0</td><td>Curtain group settings table</td><td>1byte
<table>
<tr><td>Bit7</td><td>Bit6</td><td>Bit5</td><td>Bit4</td><td>Bit3</td><td>Bit2</td><td>Bit1</td><td>Bit0</td></tr>
<tr><td>Group8: Ch14,15</td><td>Group7: Ch13,14</td><td>Group6: Ch11,12</td><td>Group5: Ch9,10</td><td>Group4: Ch7,8</td><td>Group3: Ch5,6</td><td>Group2: Ch3,4</td><td>Group1: Ch1,2</td></tr>
<tr><td colspan="8">Grouped=1
Ungroup=0</td></tr>
</table></td></tr>
<tr><td>1</td><td></td><td>Running Time for group 1 On, 1byte 1-180s</td></tr>
<tr><td>2</td><td></td><td>Running Time for group 2 On, 1byte 1-180s</td></tr>
<tr><td>3</td><td></td><td>Running Time for group 3 On, 1byte 1-180s</td></tr>
<tr><td>4</td><td></td><td>Running Time for group 4 On, 1byte 1-180s</td></tr>
<tr><td>5</td><td></td><td>Running Time for group 5 On, 1byte 1-180s</td></tr>
<tr><td>6</td><td></td><td>Running Time for group 6 On,1byte 1-180s</td></tr>
<tr><td>7</td><td></td><td>Running Time for group 7 On,1byte 1-180s</td></tr>
<tr><td>8</td><td></td><td>Running Time for group 8 On,1byte 1-180s</td></tr>
</table>

2.4 Modify curtain group settings from Relay module

Supported Device: Relay Module

Operation Code: **0xDC25**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 9 bytes		

Index of Additional Content	**Remark**	**Value**
0	Curtain group setting stable	1byte Bit7: Group8:Ch14, 15 / Bit6: Group7:Ch13, 14 / Bit5: Group6:Ch11,12 / Bit4: Group5:Ch9, 10 / Bit3: Group4:Ch7, 8 / Bit2: Group3:Ch5, 6 / Bit1: Group2:Ch3, 4 / Bit0: Group1:Ch1, 2 Grouped=1 Ungroup=0
1		Running Time for group 1 On, 1byte 1-180s
2		Running Time for group 2 On, 1byte 1-180s
3		Running Time for group 3 On, 1byte 1-180s
4		Running Time for group 4 On, 1byte 1-180s
5		Running Time for group 5 On, 1byte 1-180s
6		Running Time for group 6 On,1byte 1-180s
7		Running Time for group 7 On,1byte 1-180s
8		Running Time for group 8 On,1byte 1-180s

Response

Operation Code: **0xDC26**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 1 byte		

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

3. Universal Switch

3.1 Universal Switch

Supported Device: 9 in 1 sensor/PIR Sensor/Logic/IR Emitter

Operation Code: **0x**E01C		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 2 bytes		
Index of Additional Content	**Remark**	**Value**
0	Universal Switch No	1byte
1	Control Type (ON/OFF)	1byte ON=255 Off=0

Response

Operation Code: **0x**E01D		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 2bytes		
Index of Additional Content	**Remark**	**Value**
0	Universal Switch No	1 byte
1	Control Type (ON/OFF)	1byte ON=1 Off=0

4. DDP

4.1 Read Celsius/Fahrenheit Flag

Supported Device: DDP, 9 in 1/6 in 1/5 in 1 Sensor

Operation Code: **0x E120**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 0 byte		

Response

Operation Code: 0x**E121**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 1byte		
Index of Additional Content	**Remark**	**Value**
0	Celsius/ Fahrenheit flag	1byte Celsius =0; Fahrenheit =1;

4.2 Modify Celsius/Fahrenheit Flag

Supported Device: AC, 9 in1 /6 in 1/5 in 1 sensor

Operation Code: **0xE122**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 1byte		
Index of Additional Content	**Remark**	**Value**
0	Celsius/ Fahrenheit flag	1 byte Celsius =0; Fahrenheit =1;

Response

Operation Code: **0xE123**

Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 1byte		
Index of Additional Content	**Remark**	**Value**

0	Flag of success or failure	1 byte
		success =0xF8;
		failure =0xF5;

4.3 Read AC Temperature Range

Supported Device: DDP, HVAC2

Operation Code: **0x1900**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 0 byte		

Response

Operation Code: **0x1901**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 6bytes		
Index of Additional Content	**Remark**	**Value**
0	The start temperature of cool set point	1byte
1	The end temperature of cool set point	1byte
2	The start temperature of heat set point	1byte
3	The end temperature of heat set point	1byte
4	The start temperature of auto set point	1byte
5	The end temperature of auto set point	1byte

4.4 Read AC the count of Fan and Mode

Supported Device: DDP

Operation Code: **0xE124**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content::10 bytes		

Response

Operation Code: **0xE125**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
Index of Additional Content	**Remark**	**Value**
0	LEN of FAN table	1byte
1	1st FAN value	1byte CONST_FAN_AUTO_ID=0; CONST_FAN_HIGH_ID=1; CONST_FAN_MEDIUM_ID=2; CONST_FAN_LOW_ID=3;
…	…	…
LEN of FAN table	Last FAN Value	1byte
5	LEN of AC mode table	1byte
6	1st AC mode value	1byte CONST_AC_MODE_COOL_ID=0; CONST_AC_MODE_HEAT_ID=1; CONST_AC_MODE_FAN_ID=2; CONST_AC_MODE_AUTO_ID=3;
…	…	…
…	Last AC Mode value	1byte

Example source code which is made by Delphi:

```
bytLenOfFanTable:= arrayReceiveBuffer [9+0];
        setLength(marrayFAN, bytLenOfFanTable);
        if bytLenOfFanTable >0 then
        begin
          for byteI :=0 to High(marrayFAN) do
          begin
```

```
            marrayFAN[byteI]:= arrayReceiveBuffer [10+ byteI];
        end;
    end;

    bytLenOfModeTable:= arrayReceiveBuffer [9+5];
    setLength(marrayACMode, bytLenOfModeTable);
    if bytLenOfModeTable >0 then
    begin
        for byteI :=0 to High(marrayACMode) do
        begin
            marrayACMode[byteI]:= arrayReceiveBuffer [15+byteI];
        end;
    end;
```

For Example
You have Fan Auto/High/Medium, you disable Low Fan from SBUS Software, so
bytLenOfFanTable =3
marrayFAN [0..2]={0,1,2}

You have AC Mode Cool/FAN/Auto, you disable mode heat from SBUS software,so
LenOfModeTable=3
marrayACMode[0..2]={0,2,3}

Above information you will need it when you read AC status below.

4.5 Read AC Current Status

Supported Device: DDP

Operation Code: **0xE0EC**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 0 byte		

Response

Operation Code: **0x E0ED**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 8 bytes		

Index of Additional Content	Remark	Value
0	Status of AC on/off	1byte AC On=1 AC Off=0
1	Cool temperature set point	1byte
2	***Fan Index and Mode Index***	Lower 4 bits is Fan index of Fan Table higher 4 bits is AC mode index of Mode Table. Please see explanation blow
3	Local Flag	1byte (Useless now)
4	Current temperature	1byte
5	Heat temperature set point	1byte
6	Preserved	1byte
7	Auto temperature Set point	1byte

Explanation of Fan Index and Mode Index:

byteTmp:= arrayReceiveBuffer [9+2];
bytFANIndex:= byteTmp and $0F; //Low 4 bits
bytACModeIndex:=(byteTmp and $F0) shr 4 ; //High 4 bits

According to the above fan table marrayFAN & mode table marrayACMode you got (**0x E125).**

For example

bytFANIndex=2
bytACModeIndex=1

So
marrayFAN [0..2]={0,1,2}
Fan = marrayFAN[bytFANIndex]= marrayFAN[2]=2
so current fan is MEDIUM speed

marrayACMode[0..2]={0,2,3}
Mode= marrayACMode[bytACModeIndex]= marrayACMode[1]=2
So Current AC mode is FAN.

4.6 Panel Control

Supported Device: DDP, HVAC2

Operation Code: **0x**E3D8		
Target Subnet ID:	Specify subnet ID of DDP	1byte, scope 0-254
Target Device ID:	Specify device ID of DDP	1byte, scope 0-254
Additional Content		
LEN of additional content:: 2 bytes		
Index of Additional Content	**Remark**	**Value**
0	Type	1byte
1	Value, it depends on type above	1byte
Definition		
Function	**Type**	**Value**
Invalid	0x00	0x00
IR receiver function	0x01	Enable=0x01 Disable=0x00
Button Lock	0x02	No lock=0x00 Lock=0x01
AC ON	0x03	0x01
AC Off	0x03	0x00
Cool temperature Set Point	0x04	1byte, Cool set point **0-30 c** **32F-86F**
Fan Speed	0x05	Auto=0 High=1 Medial=2 Low=3
AC Mode	0x06	Cool=0 Heat=1 FAN=2 Auto=3
Heat temperature Set Point	0x07	1byte,Heat Set Point **0-30 c** **32F-86F**
Auto temperature Set Point	0x08	1byte,Auto Set Point **0-30 c** **32F-86F**
Go to Page	0x16	Page No 1-7

Response

Operation Code: **0x**E3D9		
Target Subnet ID:	Broadcast address	0xFF

Target Device ID:		0xFF
Additional Content		
LEN of additional content:: 2bytes		
Index of Additional Content	**Remark**	**Value**
0	Type of AC control	1 byte
1	Value, it depends on type above	1byte

4.7 Read flag of showing Temperature or Temperature & Clock

Supported Device: DDP

Operation Code: **0xDC1E**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 0 byte		

Response

Operation Code: **0x DC1F**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 1 byte		
Index of Additional Content	**Remark**	**Value**
0	Flag	1byte Show Temperature only =0 Show Temperature & Clock =1

4.8 Modify flag of showing Temperature or Temperature & Clock

Supported Device: DDP

Operation Code: 0x**DC20**

Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 1 byte		
Index of Additional Content	**Remark**	**Value**
0	Flag	1byte Show Temperature only =0 Show Temperature & Clock =1

Response

Operation Code: **0x DC21**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 1 byte		
Index of Additional Content	**Remark**	**Value**
0	Flag	1byte Success=0xF8 Failure=0xF5

4.7 Read flag of showing Temperature or Temperature & Clock

Supported Device: DDP

Operation Code: **0xDC1E**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 0 byte		

Response

Operation Code: **0x DC1F**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 1 byte		

Index of Additional Content	Remark	Value
0	Flag	1byte Show Temperature only =0 Show Temperature & Clock =1

4.8 Modify flag of showing Temperature or Temperature & Clock

Supported Device: DDP

Operation Code: 0x**DC20**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 1 byte		
Index of Additional Content	**Remark**	**Value**
0	Flag	1byte Show Temperature only =0 Show Temperature & Clock =1

Response

Operation Code: **0x DC21**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 1 byte		
Index of Additional Content	**Remark**	**Value**
0	Flag	1byte Success=0xF8 Failure=0xF5

4.9 Read status of enabling or disabling multi-channels dimming on DDP

(New, added on Dec 23, 2011)

Supported Device: DDP

Operation Code: **0xDC27**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 0 byte		

Response

Operation Code: **0x DC28**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 16 bytes		
Index of Additional Content	**Remark**	**Value**
0	Status of button 1	1byte enable=1 Disable=0
1	Status of button 2	1byte
2	Status of button 3	1byte
3	Status of button 4	1byte
4	Status of button 5	1byte
5	Status of button 6	1byte
6	Status of button 7	1byte
7	Status of button 8	1byte
8	Status of button 9	1byte
9	Status of button 10	1byte
10	Status of button 11	1byte
11	Status of button 12	1byte
12	Status of button 13	1byte
13	Status of button 14	1byte
14	Status of button 15	1byte
15	Status of button 16	1byte

4.10 Modify status of enabling or disabling multi-channels dimming on DDP

(New, added on Dec 23, 2011)

Supported Device: DDP

Operation Code: **0xDC29**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 16 bytes		
Index of Additional Content	**Remark**	**Value**
0	Status of button 1	1byte enable=1 Disable=0
1	Status of button 2	1byte
2	Status of button 3	1byte
3	Status of button 4	1byte
4	Status of button 5	1byte
5	Status of button 6	1byte
6	Status of button 7	1byte
7	Status of button 8	1byte
8	Status of button 9	1byte
9	Status of button 10	1byte
10	Status of button 11	1byte
11	Status of button 12	1byte
12	Status of button 13	1byte
13	Status of button 14	1byte
14	Status of button 15	1byte
15	Status of button 16	1byte

Response

Operation Code: **0x DC2A**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 1 byte		
Index of Additional Content	**Remark**	**Value**
0	Flag of success/failure Success=0xF8 Failure=0xF5	1byte

4.11 Read configuration of remote control button

Supported Device: DDP

Operation Code: **0xDC2B**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content:: 2 bytes		
Is UDP Big Package: No		
Index of Additional Content	**Remark**	**Value**
0	Button ID Away Arm=1 Night=2 Panic=3 Gate=4 Garden=5 Building=6 Fountain=7 Coffee=8 Food Mood=9 Curtain Open=10 Curtain Close=11 Curtain Stop=12 Hotel DND=13 Hotel Clean=14 Hotel Laundry=15 Hotel Food=16	1byte
1	Command ID	1byte 1-8

Response

Operation Code: **0xDC2C**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content:: 9 bytes		
Is UDP Big Package: No		
Index of Additional Content	**Remark**	**Value**
0	Button ID	1byte
1	Command ID	1byte

		Start from 1 MAX. Value is 8
2	Control Type 0=Scene 1=Sequence 2=Universal switch 3=Invalid 4=Single channel lighting control 7=Curtain Switch 11=Broadcast curtain 13=SMS Control 14=Panel control 17=Security Module 18=Zone-Audio 2 19=Reversing Control	1byte
3	Subnet ID	1byte
4	Device ID	1byte
5	Para 1	1byte
6	Para 2	1byte
7	High 8 bits of Para3	1byte
8	Low 8 bits of Para3	1byte

4.12 Modify configuration of remote control button

Supported Device: DDP

Operation Code: **0xDC2D**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content:: 1 byte		
Is UDP Big Package: No		
Index of Additional Content	**Remark**	**Value**
0	Button ID	1byte
1	Command ID	1byte Start from 1 MAX. Value is 8
2	Control Type 0=Scene 1=Sequence 2=Universal switch	1byte

	3=Invalid 4=Single channel lighting control 7=Curtain Switch 11=Broadcast curtain 13=SMS Control 14=Panel control 17=Security Module 18=Zone-Audio 2 19=Reversing Control	
3	Subnet ID	1byte
4	Device ID	1byte
5	Para 1	1byte
6	Para 2	1byte
7	High 8 bits of Para3	1byte
8	Low 8 bits of Para3	1byte

Response

Operation Code: **0xDC2E**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content:: 3 bytes		
Is UDP Big Package: No		
Index of Additional Content	**Remark**	**Value**
0	Flag of success /failure Success=0xF8 Failure=0xF5	
1	button ID	1byte
2	Command ID	1byte

5. Power Meter

5.1 Read Coefficient from Power Meter

Supported Device: Power Meter

Operation Code: **0xD920**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254

Additional Content
LEN of additional content:: 0 byte

Response

Operation Code: **0xD921**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 2 bytes		
Index of Additional Content	**Remark**	**Value**
0	High 8 bits of coefficient	1byte
1	Low 8 bits of coefficient	1byte
coefficient = arrayReceiveBuffer[9+0]*256+ arrayReceiveBuffer [9+1];		

5.2. Read KWH from Power Meter

Supported Device: Power Meter

Operation Code: **0xD91A**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 0 byte		

Response

Operation Code: **0xD91B**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 16 bytes		
Index of Additional Content	**Remark**	**Value**
0	Active KWH of phase A	1byte (HEX)
1		1byte (HEX)
2		1byte (HEX)
3		1byte (HEX)
4	Active KWH of phase B	1byte (HEX)
5		1byte(HEX)
6		1byte(HEX)
7		1byte(HEX)
8	Active KWH of phase C	1byte (HEX)
9		1byte(HEX)
10		1byte(HEX)

11		1byte(HEX)
12	Active KWH of Total	1byte(HEX)
13		1byte(HEX)
14		1byte(HEX)
15		1byte(HEX)

Example source code which is made by Delphi:
How to get KWH of Total?

```
strTotalKWH:=inttoHex(arrayReceiveBuffer [9+12],2)
            +inttoHex(arrayReceiveBuffer [9+13],2)
            +inttoHex(arrayReceiveBuffer [9+14],2)
            +inttoHex(arrayReceiveBuffer [9+15],2);
intTotalKWH:=strtoint('$'+ strTotalKWH) * coefficient div 3200;
```

5.3 Read Current from Power Meter

Supported Device: Power Meter

Operation Code: **0xD908**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 0 byte		

Response

Operation Code: **0xD909**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 16 bytes		
Index of Additional Content	**Remark**	**Value**
0	Current of phase A (Unit: Amp)	1byte (HEX)
1		1byte (Decimal)
2		1byte (Decimal)
3		1byte (Decimal)
4	Current of phase B (Unit: Amp)	1byte (HEX)
5		1byte (Decimal)
6		1byte (Decimal)
7		1byte (Decimal)
8	Current of phase C (Unit: Amp)	1byte (HEX)
9		1byte (Decimal)
10		1byte (Decimal)

11		1byte (Decimal)
12	Current of Total (Unit: Amp)	1byte (HEX)
13		1byte (Decimal)
14		1byte (Decimal)
15		1byte (Decimal)

How to get current from power meter?
Example source code which is Made by Delphi below:

```
strIT:='$'+inttoHex(arrayReceiveBuffer [9+12],2);
strIT:=inttostr(strtoint(strIT));

strIT:=strIT+'.'+inttostr(arrayReceiveBuffer [9+13])
                +inttostr(arrayReceiveBuffer [9+14])
                +inttostr(arrayReceiveBuffer [9+15]);
floatT:=strtofloat(strIT)* coefficient;
```

6. Security

6.1 Arm/Disarm Security

Supported Device: Security Module

Operation Code: **0x0104**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 2 bytes		
Index of Additional Content	**Remark**	**Value**
0	Security Zone No	1byte
1	Security Mode	1byte vacation=1 Away=2 Night=3 Night with visitor=4 Day=5 Disarm=6

Response

Operation Code: **0x0105**		
Target Subnet ID:	**Broadcast address**	0xFF
Target Device ID:		0xFF
Additional Content		

LEN of additional content:: 2bytes		
Index of Additional Content	**Remark**	**Value**
0	Security Zone No	1 byte
1	Security Mode	1byte

7. Sensors

7.1 Read Status from 9in1 Sensor

Supported Device: 9 in 1 Sensor

Operation Code: **0xDB00**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 0byte		

Response

Operation Code: **0xDB01**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 8bytes		
Index of Additional Content	**Remark**	**Value**
0	Status of dry contact no 1	1 byte
1	Status of dry contact no 2	1byte
2	LUX value	1byte
3	Status of motion sensor	1byte ok=0 Movement=1
4	reserved	
5	reserved	
6	reserved	
7	reserved	

7.2 Read temperature from 9in1/6in1 sensor

Supported Device: 9 in 1/6 in 1 sensor

Operation Code: **0xDC00**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 0byte		

Response

Operation Code: **0xDC01**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 2bytes		
Index of Additional Content	**Remark**	**Value**
0	Celsius/ Fahrenheit flag	1 byte Celsius =0; Fahrenheit =1;
1	Current temperature	1byte

7.3 Forwardly Report Status by 9in1/6in1/5in1 sensor

Remark: if status of 9in1 is changed, the 9in1 will report status of 2 contacts and motion sensor to the network by broadcast

To make sure the data will not be loss, 9in1 need to send 3 times, interval delay is 1second.

It means devices will report 3 times, every 1 second will send 1 time. Total is 3 times.

Supported Device: 9 in 1, 6 in 1, 5 in 1

Operation Code: **0x02CA**		
Target Subnet ID:	Broadcast address	0xFF
Target Device ID:		0xFF
Additional Content		
LEN of additional content:: 8 bytes		
Index of Additional Content	**Remark**	**Value**
0	QTY of dry contacts	1byte 9 in 1 sensor has 2 dry contacts No.
1	Type of dry contact 1	1byte Type of dry contact:

		NC=1 NO=0 Invalid=2
2	Type of dry contact 2	1byte
3	Status of dry contact 1	1byte Status: Open =1 Close =0
4	Status of dry contact 2	1byte
5	Status of motion sensor	1byte Motion=1 No motion =0
6	LUX Value	2 bytes
7		

7.4 Read the address of linked DDP for Remote Control (New, Added on March 16, 2012)

Supported Device: 9 in 1/6 in 1 sensor/5 in 1 sensor

Operation Code: **0xDC30**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 0byte		

Response

Operation Code: **0xDC31**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 2bytes		
Index of Additional Content	**Remark**	**Value**
0	Subnet ID of linked DDP	1 byte
1	Device ID of linked DDP	1byte

7.5 Modify the address of linked DDP for Remote Control

(New, Added on March 16, 2012)

Supported Device: 9 in 1/6 in 1 sensor/5 in 1 sensor

Operation Code: **0xDC32**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 0byte		
Index of Additional Content	**Remark**	**Value**
0	Subnet ID of linked DDP	1 byte
1	Device ID of linked DDP	1byte

Response

Operation Code: **0x**DC33		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 1 byte		
Index of Additional Content	**Remark**	**Value**
0	Flag of success or failure	1 byte Success=0xF8 Failure =0xF5

7.6 Send Command from sensor to DDP for remote control

(New, Added on March 16, 2012)

Supported Device: 9 in 1/6 in 1 sensor/5 in 1 sensor

Operation Code: **0xDC34**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 1byte		
Index of Additional Content	**Remark**	**Value**
0	Button ID of Remote Control Please see the definition below	1 byte

Definition of Buttons of Remote Control

Button ID	Button Name	Remark
1	Away	Security control
2	Night	
3	Panic	
4	Gate	
5	Garden	Mood
6	Building	
7	Fountain	
8	Coffee	
9	Food mood	
10	Curtain Open	Curtain
11	Curtain Close	
12	Curtain Stop	
13	DND Service	Service
14	Clean Service	
15	Laundry Service	
16	Food Service	
17	ALL OFF	
18	A/C on/off	
19	M1	
20	M2	
21	M3	
22	M4	
23	Number 1	
24	Number 2	
25	Number 3	
26	Number 4	
27	Number 5	
28	Number 6	
29	Number 7	
30	Number 8	
31	Next Page	
32	PREV. Album	
33	NEXT Album	
34	VOL+	
35	VOL-	
36	PREV Song	
37	Next Song	
38	Play & Stop	
39	Mute	

40	PA.	
41	SD	
42	FM	
43	FTP	
44	AUX	
45	FAN Mode	
46	DRY Mode	
47	T -	
48	T+	
49	AUTO Fan Speed	
50	High Fan Speed	
51	MED. Fan Speed	
52	Low Fan Speed	
53	Cold Mode	
54	Cool Mode	
55	Warm	
56	HOT	

Response

Operation Code: **0xDC35**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 2 bytes		
Index of Additional Content	**Remark**	**Value**
0	Flag of success or failure	1 byte Success=0xF8 Failure =0xF5
1	Button ID	1byte

8. 4Z

8.1 Read Status from 4Z

Supported Device: 4Z

Operation Code: **0x012C**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		

LEN of additional content:: 0byte

Response

Operation Code: **0x012D**		
Target Subnet ID:	Specify subnet ID of target device	1byte, scope 0-254
Target Device ID:	Specify device ID of target device	1byte, scope 0-254
Additional Content		
LEN of additional content:: 10bytes		
Index of Additional Content	**Remark**	**Value**
0	Flag of success/failure	1 byte Success=0xF8 Failure=0xF5
1	QTY of dry contacts	1byte Here QTY=4
2	Type of dry contact 1	1byte Type: NC=1 NO=0 Invalid=2
3	Type of dry contact 2	1byte
4	Type of dry contact 3	1byte
5	Type of dry contact 4	1byte
6	Status of dry contact 1	1byte Status: Open =1 Close =0
7	Status of dry contact 2	1byte
8	Status of dry contact 3	1byte
9	Status of dry contact 4	1byte

8.2 Forwardly Report Status by 4Z

Remark: if status of 4z is changed, the 4z will report status of 4 contacts to the network by broadcast

To make sure the data will not be loss, 4z need to send 3 times, interval delay is 1second.

It means devices will report 3 times, every 1 second will send 1 time. Total is 3 times.

Supported Device: 4Z

Operation Code: **0xDC22 (Updated on Dec 16,2011)**		
Target Subnet ID:	Broadcast address	0xFF
Target Device ID:		0xFF
Additional Content		
LEN of additional content:: 9 bytes		
Index of Additional Content	**Remark**	**Value**
0	QTY of dry contacts	1byte Here QTY is 4
1	Type of dry contact 1	1byte Type of dry contact: NC=1 NO=0 Invalid=2
2	Type of dry contact 2	1byte
3	Type of dry contact 3	1byte
4	Type of dry contact 4	1byte
5	Status of dry contact 1	1byte Status: Open =1 Close =0
6	Status of dry contact 2	1byte
7	Status of dry contact 3	1byte
8	Status of dry contact 4	1byte

9. Address Detection

9.1 Detect Address

Remark: Detect address by pressing broadcast address button

Supported Device: All modules which have broadcast button

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

Response

Operation Code: **0x E5F6**

Target Subnet ID:	Broadcast address	0xFF
Target Device ID:		0xFF
Additional Content		
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

9.2 Modify Address

Supported Device: All modules which have address broadcast button

Operation Code: **0xE5F7**		
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
Additional Content		
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: **0x E5F8**		
Target Subnet ID:	Broadcast address	0xFF
Target Device ID:		0xFF
Additional Content		
LEN of additional content::1byte		
Index of Additional Content	**Remark**	**Value**
0	Flag for success or Failure	1byte Success =0xF8 Failure=0xF5

10. Device Backup

10.1 Request Total QTY of packages from PC to target Device

Supported Device: All G4 Modules

Operation Code: **0xDC10**		
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		
Additional Content		
LEN of additional content:0 byte		

Response

Operation Code: **0x DC11**		
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		
Additional Content		
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	

10.2 Request Current Small Package from PC to target device

Supported Device: all G4 modules

Operation Code: **0xDC14**		
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		
Additional Content		
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: **0x DC15**		
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**		
Additional Content		
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	

11. Device Restore

11.1 Send Total QTY of Packages from PC to Target Device

Supported Device: All Modules

Operation Code: **0xDC16**		
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		
Additional Content		
LEN of additional content:2 bytes		
Index of Additional Content	**Remark**	**Value**
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: **0xDC17**		
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		

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

11.2 Send Small Package from PC to Target Device

Supported Device: All modules

Operation Code: **0xDC1A**		
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**		
Additional Content		
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: **0xDC1B**		
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		
Additional Content		
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 bytes
2	Low 8 bits of current package No	

12. MAC Address

12.1 Read MAC Address

Supported Device: All modules

Operation Code: **0x F003**		
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**		
Additional Content		
LEN of additional content: 0 byte		
Index of Additional Content	**Remark**	**Value**

Response

Operation Code: **0xF004**		
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		
Additional Content		
LEN of additional content: 28 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	1st byte of Remark	20bytes, If the length of remark is less than 20, please use ASCII of space.
9	2nd byte of remark	
10	3rd byte of remark	
11	4th byte of remark	
12	5th byte of remark	
13	6th byte of remark	
14	7th byte of remark	

15	8th byte of remark	
16	9th byte of remark	
17	10th byte of remark	
18	11th byte of remark	
19	12th byte of remark	
20	13th byte of remark	
21	14th byte of remark	
22	15th byte of remark	
23	16th byte of remark	
24	17th byte of remark	
25	18th byte of remark	
26	19th byte of remark	
27	20th byte of remark	

12.2 Modify MAC Address

Supported Device: All modules

Operation Code: **0x F001**		
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**		
Additional Content		
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: **0xF002**		
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: 1 byte		
Index of Additional	**Remark**	**Value**

Content		
0	Flag of success or failure	1byte Success=0xF8 Failure=0xF5

13. Logic

13.1 Read date time from logic module

Supported Device: Logic modules

Operation Code: **0x 02C0**		
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: 0 bytes		

Response

Operation Code: **0x02C1**		
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: 6 bytes		
Index of Additional Content	**Remark**	**Value**
0	Year, Real year =year + 2000	1byte
1	Month	1-12
2	Day	1-31
3	Hour	0-23
4	Minute	0-59
5	Second	0-59

13.2 Read logic sync status

Supported Device: G4 Logic Module

Operation Code: **0x 02C2**		
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: 0 byte		

Response

Operation Code: **0x02C3**		
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: 3 bytes		
Index of Additional Content	**Remark**	**Value**
0	Logic sync status	0: no sync 1: yes, with logic sync date time
1	subnet ID of sync logic module(if no sync, here is 0)	1byte
2	Device ID of sync logic module (if no sync, here is 0)	1byte

13.3 Modify logic sync

Supported Device: G4 Logic Module

Operation Code: **0x 02C4**		
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: 3 byte		
0	Flag of Logic sync 0: no sync 1: yes, with sync	1byte
1	subnet ID of another logic module (if no sync, here is 0)	1byte
2	Device ID of another logic module (if no sync, here is 0)	1byte

Response

Operation Code: **0x02C5**		
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: 1 bytes		
Index of Additional Content	**Remark**	**Value**
0	Flag of success or failure	Success=0xF8 Failure= 0xF5

14. Temperature Sensor

14.1 Read Temperature Value

Supported Device: HVAC, DDP, and 9in1/6in1 Sensor

Operation Code: **0XE3E7**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content:1bytes		
Index of Additional Content	**Remark**	**Value**
0	Temperature Flag	1byte 0x01 = Celsius 0x00=Fahrenheit temperature

Response

Operation Code: **0XE3E8**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content: Max 17 bytes		
Index of Additional Content	**Remark**	**Value**
0	Temperature Flag	1byte Celsius =0x01 Fahrenheit=0x00 temperature unit
1	Temperature value 1	1byte
2	Temperature value 2 (optional)	1byte
3	Temperature value 3 (optional)	1byte
4	Temperature value 4 (optional)	1byte
5	Temperature value 5 (optional)	1byte
6	Temperature value 6 (optional)	1byte
7	Temperature value 7 (optional)	1byte
8	Temperature value 8 (optional)	1byte
9	Flag or plus/minus of temperature 1 (optional)	1byte Plus=0,Minus=1
10	Flag or plus/minus of temperature 2 (optional)	1byte Plus=0,Minus=1
11	Flag or plus/minus of temperature 3 (optional)	1byte Plus=0,Minus=1
12	Flag or plus and minus of temperature	1byte

	4 (optional)	Plus=0,Minus=1
13	Flag or plus and minus of temperature 5 (optional)	1byte Plus=0,Minus=1
14	Flag or plus/minus of temperature 6 (optional)	1byte Plus=0,Minus=1
15	Flag or plus/minus of temperature 7 (optional)	1byte Plus=0,Minus=1
16	Flag or plus/minus of temperature 8 (optional)	1byte Plus=0,Minus=1

14.2 Read Temperature Compensation

Supported Device: 9in1/6in1 sensor

Operation Code: **0x02C6**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content:0 byte		
Index of Additional Content	**Remark**	**Value**

Response

Operation Code: **0X02C7**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content:: MAX 8 bytes		
Index of Additional Content	**Remark**	**Value**
0	Temperature Compensation 1	1byte scope 0- 16 Really value = Temperature Compensation + 8
1	Temperature Compensation 2 (optional)	1byte scope 0- 16 Really value = Temperature Compensation + 8
2	Temperature Compensation 3 (optional)	1byte scope 0- 16 Really value = Temperature Compensation + 8

3	Temperature Compensation 4 (optional)	1byte scope 0- 16 Really value = Temperature Compensation + 8
4	Temperature Compensation 5 (optional)	1byte scope 0- 16 Really value = Temperature Compensation + 8
5	Temperature Compensation 6 (optional)	1byte scope 0- 16 Really value = Temperature Compensation + 8
6	Temperature Compensation 7 (optional)	1byte scope 0- 16 Really value = Temperature Compensation + 8
7	Temperature Compensation 8 (optional)	1byte scope 0- 16 Really value = Temperature Compensation + 8

14.3 Modify Temperature Compensation

Supported Device: 9 in 1/6in1 sensor

Operation Code: **0x02C8**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content:: MAX 8 bytes		
Index of Additional Content	**Remark**	**Value**
0	Temperature Compensation 1	1byte 0- 16 Temperature Compensation= Really value + 8
1	Temperature Compensation 2 (optional)	1byte 0- 16 Temperature Compensation= Really value + 8
2	Temperature Compensation 3	1byte

	(optional)	0- 16 Temperature Compensation= Really value + 8
3	Temperature Compensation 4 (optional)	1byte 0- 16 Temperature Compensation= Really value + 8
4	Temperature Compensation 5 (optional)	1byte 0- 16 Temperature Compensation= Really value + 8
5	Temperature Compensation 6(optional)	1byte 0- 16 Temperature Compensation= Really value + 8
6	Temperature Compensation 7(optional)	1byte 0- 16 Temperature Compensation= Really value + 8
7	Temperature Compensation 8 (optional)	1byte 0- 16 Temperature Compensation= Really value + 8

Response

Operation Code: **0X02C9**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content:2 bytes		
Index of Additional Content	**Remark**	**Value**
0	Flag of Success/Failure Success=0xF8 Failure=0xF5	1byte

15. HVAC Control

Supported Device: HVAC, Hotel Mix Controller

Operation Code: **0x193A**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content:: 13 bytes		
Index of Additional Content	**Remark**	**Value**
0	AC No.	1byte，default value is 1
1	Temperature unit	1byte ， Celsius:0 ， Fahrenheit:1
2	Reserved	1byte ，Reserved
3	Cool set temperature value	1byte
4	Heat set temperature value	1byte
5	Auto set temperature value	1byte
6	Reserved	1byte ，Reserved
7	AC Mode & Fan Speed	1byte, Higher 4bits is AC mode (cold=0, heat=1 ，FAN=2，Auto=3，dry=4) ，Lower 4 bits is fan speed(Auto=0 ， high fan speed=1 ， medium fan speed=2，low fan speed=3)
8	HVAC Power	1byte，1-on , 0-off
9	Reserved	1byte ，Reserved
10	Reserved	1byte ，Reserved
11	Reserved	1byte ，Reserved
12	Reserved	1byte ，Reserved

Response

Operation Code: **0x193B**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Broadcast address	0xFF
Additional Content		
LEN of additional content: 13 bytes		
Index of Additional Content	**Remark**	**Value**
0	AC No.	1byte，default value is 1
1	Temperature type	1byte，Celsius:0，Fahrenheit:1，
2	Reserved	1byte ，Reserved

3	Cool set temperature value	1byte
4	Heat set temperature value	1byte
5	Auto set temperature value	1byte
6	Reserved	1byte ， Reserved
7	AC mode & fan Speed	Higher 4bits is AC mode (cold=0, heat=1，FAN=2，Auto=3，dry=4) , Lower 4 bits is fan speed(Auto=0，high fan speed=1，medium fan speed=2，low fan speed=3)
8	HVAC active flag	1byte，1-on 0-off
9	Reserved	1byte ， Reserved
10	Reserved	1byte ， Reserved
11	Reserved	1byte ， Reserved
12	Reserved	1byte ， Reserved

17. Z-Audio

17.1 IR Receiver on Z-Audio

17.1.1 Read the IR status of IR Receiver on Z-Audio

Supported Device: Z-Audio 2

Operation Code: **0xDC36**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content:: 0 byte		

Response

Operation Code: **0xDC37**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Broadcast address	0xFF
Additional Content		
LEN of additional content: 1 byte		
Index of Additional Content	**Remark**	**Value**
0	IR Status of IR Receiver	1byte 1=enable IR receiver 0=disable IR Receiver

17.1.2 Modify the IR status of IR Receiver on Z-Audio

Supported Device: Z-Audio 2

Operation Code: **0xDC38**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Specify device ID of target device	scope 0-254
Additional Content		
LEN of additional content:: 1 byte		
Index of Additional Content	**Remark**	**Value**
0	IR Status of IR Receiver	1byte 1=enable IR receiver 0=disable IR Receiver

Response

Operation Code: **0xDC39**		
Target Subnet ID:	Specify subnet ID of target device	scope 0-254
Target Device ID:	Broadcast address	0xFF
Additional Content		
LEN of additional content: 1 byte		
Index of Additional Content	**Remark**	**Value**
0	Flag of success or failure	1byte Success=0xF8 Failure=0xF5