



SMART BUS G4 Commands

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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 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 2 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Area No | 1byte scope 1-254 |
| 1 | Scene No Scene No 0 is for stopping scene | 1byte scope 1-254 |

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/ZoneBeast

| | | |
|-------------------------------|------------------------------------|-------------|
| Operation Code: 0x0031 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |

| 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 $H=(\text{Running time}) \div 256$ |
| 3 | Low 8 bits of Running Time | $L=(\text{Running time}) \text{ Mod } 256$ |

Response

| Operation Code: 0x0032 | | |
|-------------------------------------|-------------------------------------|---|
| Target Subnet ID: | Broadcast address | 0xFF |
| Target Device ID: | Broadcast address | 0xFF |
| Additional Content | | |
| LEN of additional content:: 3 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Current Channel No | 1byte, |
| 1 | Flag for success/ failure | 1byte, Success=0xF8 Failure =0xF5 |
| 2 | Brightness Level of current channel | 1byte scope 1-100 |

1.3. Sequence Control**Supported Device: Dimmer**

| Operation Code: 0x001A | | |
|-------------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 2 bytes | | |
| Index of Additional | Remark | Value |

| Content | | |
|---------|--|----------------|
| 0 | Area No | 1byte 1-254 |
| 1 | Sequence No No 0 is for stopping sequence | 1byte 1-254 |

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 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: 0x0034 | | |
|---|------------------------------------|---------------------|
| 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:: (QTY of Channels + 1) bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | QTY of Channels | 1byte |
| 1 | Status of Channel 1 | 1byte , scope 1-100 |
| 2 | Status of Channel 2 | 1byte , scope 1-100 |
| ... | ... | ... |
| QTY of Channels | Status of last channel | 1byte , scope 1-100 |

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 1-254 |
| Target Device ID: | Specify device ID of target device | 1byte, scope 1-254 |
| 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 1-254 |
| Target Device ID: | Specify device ID of target device | 1byte, scope 1-254 |
| 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 |

1.6 Forwardly Report Status by Dimmer/Relay/Zone Beast

Support Device: Dimmer/Relay/Zone Beast

Every 5 seconds

or the statues of channel is changed by pressed the button on Dimmer/Relay/Zone Beast

Dimmer/Relay/Zone Beast will report status of by broadcast automatic.

| Operation Code: 0x EFFF | | |
|--|-------------------------------|---|
| Target Subnet ID: | Broadcast address | 0xFF |
| Target Device ID: | Broadcast address | 0xFF |
| Additional Content | | |
| LEN of additional content:: (QTY of zones+1 +nub (nub = 1:Lesser than 8 channels; nub = 2: more than 8 channels and lesser than16 ;nub = 3 :more than 16 channels bytes lesser than24) | | |
| Index of Additional Content | Remark | Value |
| 0 | QTY of Zones | 1 byte |
| 1 | Status of Zone 1 | 1 byte 0 = sequence others = Scenes |
| 2 | Status of Zone 2 | 1 byte 0 = sequence others = Scenes |
| | | |
| QTY of Zones | Status of Zone (QTY of Zones) | 1 byte 0 = sequence others = Scenes |

| | | |
|------------------|---|--------|
| QTY of Zones + 1 | QTY of Channels | 1 byte |
| QTY of Zones + 2 | <p>Status of channel1~channel8</p> <p>Use Binary to describe channel status</p> <p>0 = Off</p> <p>1 = On (no percentage)</p> <p>From low bit to high bit Describe channel 1 to channel 8</p> <p>Example:</p> <p>value1 binary is 0000 0001 ch#1 is on, others is off</p> <p>value25 binary is 0001 1001 ch#1 ch#4 ch#5 is on, others is off</p> | 1 byte |
| QTY of Zones + 3 | <p>Status of Channel 9~channel 16</p> <p>(if have more than 8channels)</p> <p>Use Binary to describe channel status</p> | 1 byte |
| QTY of Zones + 4 | <p>Status of Channel 17~channel 24</p> <p>(if have more than 16channels)</p> <p>Use Binary to describe channel status</p> | 1 byte |

2. Motor Control

2.1 by G3 Curtain Module

2.1.1 Curtain Control

Supported Device: G3 Curtain Module

| Operation Code: 0xE3E0 | | |
|-------------------------------------|------------------------------------|--------------------------------------|
| 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:: 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 |

2.1.2 Read Status of Curtain

Supported Device: G3 Curtain Module

| | | |
|------------------------------------|------------------------------------|--------------------|
| Operation Code: 0xE3E2 | | |
| 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:: 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 1-254 |
| Target Device ID: | Specify device ID of target device | 1byte, scope 1-254 |
| 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 |

2.2 By G4 Relay Module

2.2.1 Motor Control by Single Channel Command

by using Single Channel Control command **0x0031** to control motor through **G4 Relay module**,

First Parameter is Channel No

Second Parameter is for on/off (on=100, off=0)

Third Parameter is for motor running time,

If running time is 0, it means the motor will run with max. Time;
if running time is more than 0 but less than max. Time, then motor will run with this specify time.

For command detail, please see

1.2 Single Channel Control

2.2.2 Read Motor Group Table from G4 Relay module

Supported Device: G4 Relay Module

| | | |
|------------------------------------|------------------------------------|--------------------|
| Operation Code: 0xDC23 | | |
| 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: 0xDC24 | | |
|-------------------------------------|------------------------------------|--|
| 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:: 9 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Motor Group table | 1byte Please see below Motor Group Table |
| 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 |

Motor Settings Table (1 byte):

| Bit7 | Bit6 | Bit5 | Bit4 | Bit3 | Bit2 | Bit1 | Bit0 |
|--|---------------------------|---------------------------|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Group8:Ch 15,16 | Group7:Ch 13,14 | Group6:Ch 11,12 | Group5:Ch 9,10 | Group4: Ch7,8 | Group3: Ch5,6 | Group2: Ch3,4 | Group1: Ch1,2 |
| Grouped=1 Ungrouped=0, if channels are ungrouped, they are used as normal relay channel. If the channels are grouped, they are used as motor control. | | | | | | | |

2.4 Modify Motor Group Table from G4 Relay module

Supported Device: Relay Module

| Operation Code: 0xDC25 | | | |
|-------------------------------------|------------------------------------|--|-------|
| 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:: 9 bytes | | | |
| Index of Additional Content | Remark | Value | |
| 0 | Motor Group table | 1byte Please see above Motor Group Table | |
| 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 | Specify subnet ID of | 1byte, scope 1-254 |

| Subnet ID: | target device | |
|------------------------------------|------------------------------------|-------------------------------------|
| Target Device ID: | Specify device ID of target device | 1byte, scope 1-254 |
| 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: 0xE01C | | |
|-------------------------------------|------------------------------------|--------------------------|
| 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:: 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: 0xE01D | | |
| 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:: 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, HVAC, 9 in 1/6 in 1/5 in 1,Zone Beast

| Operation Code: 0x E120 | | |
|------------------------------------|------------------------------------|--------------------|
| 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: 0xE121 | | |
|-----------------------------------|------------------------------------|---------------------------------------|
| 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:: 1byte | | |
| Index of Additional Content | Remark | Value |
| 0 | Celsius/ Fahrenheit flag | 1byte Celsius =0; Fahrenheit =1 |

4.2 Modify Celsius/Fahrenheit Flag

Supported Device: DDP, HVAC, Zone Beast, 9 in1 /6 in 1/5 in 1,Zone Beast

| Operation Code: 0xE122 | | |
|-----------------------------------|------------------------------------|---|
| 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:: 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 1-254 |
| Target Device ID: | Specify device ID of target device | 1byte, scope 1-254 |
| 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 AC Temperature Range

4.3.1 Read AC Temperature Range

Supported Device: DDP, HVAC2, Zone Beast

| | | |
|-------------------------------|------------------------------------|--------------------|
| Operation Code: 0x1900 | | |
| 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: 0x1901 | | |
|------------------------------------|-------------------------------------|--------------------|
| 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:: 6bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | The start temperature of cool range | 1byte |
| 1 | The end temperature of cool range | 1byte |
| 2 | The start temperature of heat range | 1byte |
| 3 | The end temperature of heat range | 1byte |
| 4 | The start temperature of auto range | 1byte |
| 5 | The end temperature of auto range | 1byte |

4.3.2 Modify AC Temperature Range

Supported Device: DDP, HVAC2, Zone Beast

| Operation Code: 0x1902 | | |
|-------------------------------------|-------------------------------------|--------------------|
| 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 | The start temperature of cool range | 1byte |
| 1 | The end temperature of cool range | 1byte |
| 2 | The start temperature of heat range | 1byte |
| 3 | The end temperature of heat range | 1byte |
| 4 | The start temperature of auto | 1byte |

| | | |
|---|-----------------------------------|-------|
| | range | |
| 5 | The end temperature of auto range | 1byte |

Response

| | | |
|------------------------------------|------------------------------------|--|
| Operation Code: 0x1903 | | |
| 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:: 1byte | | |
| Index of Additional Content | Remark | Value |
| 0 | Flag of success or failure | 1byte Success=0xF8 Failure =0xF5 |

4.4 The count of Fan Speed and Mode

4.4.1 Read AC the count of Fan Speed and Mode

Supported Device: DDP, Zone Beast

| | | |
|--------------------------------------|------------------------------------|--------------------|
| Operation Code: 0xE124 | | |
| 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:: 10 bytes | | |

Response

| | | |
|------------------------------------|------------------------------------|-------------------------------|
| Operation Code: 0xE125 | | |
| 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 | | |
| Index of Additional Content | Remark | Value |
| 0 | LEN of FAN table | 1byte |
| 1 | 1 st 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 | 1 st 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 |
| <p>Example source code which is made by Delphi:</p> <pre> 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; </pre> <p>For Example You have Fan Auto/High/Medium, you disable Low Fan from SBUS Software, so bytLenOfFanTable =3 marrayFAN [0..2]={0,1,2}</p> <p>You have AC Mode Cool/FAN/Auto, you disable mode heat from SBUS software,so LenOfModeTable=3 marrayACMode[0..2]={0,2,3}</p> <p>Above information you will need it when you read AC status below.</p> | | |

| |
|--|
| |
| |

4.4.2 Modify AC the count of Fan Speed and Mode

Supported Device: DDP, Zone Beast

| Operation Code: 0xE126 | | |
|-------------------------------------|------------------------------------|--|
| 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::10 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | LEN of FAN table | 1byte |
| 1 | 1 st 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 | 1 st 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 |

Response

| | | |
|-----------------------------------|------------------------------------|--------------------|
| Operation Code: 0xE127 | | |
| 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 Content | Remark | Value |
|-----------------------------|----------------------------|---------------------------------------|
| 0 | Flag of success of failure | 1byte Success=0xF8 Failure=0xF5 |

4.5 Read AC Current Status

Supported Device: DDP

| | | |
|------------------------------------|------------------------------------|--------------------|
| Operation Code: 0xE0EC | | |
| 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: 0x E0ED | | |
|-------------------------------------|------------------------------------|--|
| 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:: 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 (**0xE125**).

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: 0xE3D8 | | |
|-------------------------------------|---------------------------------|-----------------------------|
| Target Subnet ID: | Specify subnet ID of DDP | 1byte, scope 1-254 |
| Target Device ID: | Specify device ID of DDP | 1byte, scope 1-254 |
| 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 |
| Invoking DDP Button | 0x12 | 1 byte DDP button number Scope 1-32 1 = left of the first button of Pag1 from top to bottom 2 = right of the first button of Pag1 from top to bottom 3 = left of the second button from top to bottom of Pag1 4 = 2R P1 , 5 = 3L P1, 6 = 3R P1, 7 = 4L P1, 8 = 4R P1; 9 = 1L P2, 10 = 1R P2, 11 = 2L P2, 12 = 2R P2, 13 = 3L P2, 14 = 3R P2 32 = right of the fourth button of Pag4 |
| Go to Page | 0x16 | Page No 1-7 |

Response

| | | |
|------------------------|-------------------|------|
| Operation Code: 0xE3D9 | | |
| 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 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: 0xDC1F | | |
|------------------------------------|------------------------------------|--|
| 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 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: 0xDC20 | | |
|------------------------------------|------------------------------------|--|
| 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 Content | Remark | Value |
| 0 | Flag | 1byte Show Temperature only =0 Show Temperature & Clock =1 |

Response

| Operation Code: 0xDC21 | | |
|------------------------------------|------------------------------------|---------------------------------------|
| 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 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 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: 0x DC1F | | |
|------------------------------------|------------------------------------|--|
| 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 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: 0xDC20 | | |
|------------------------------------|------------------------------------|--|
| 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 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 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 Content | Remark | Value |

| Content | | |
|---------|------|---------------------------------------|
| 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 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: 0xDC28 | | |
|--------------------------------------|------------------------------------|--------------------------------|
| 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:: 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 1-254 |
| Target Device ID: | Specify device ID of target device | 1byte, scope 1-254 |
| 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: 0xDC2A | | |
| 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 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 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| 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 | 1byte |

| | | |
|---|---------------|--------------|
| | Hotel Food=16 | |
| 1 | Command ID | 1byte 1-8 |

Response

| Operation Code: 0xDC2C | | |
|-------------------------------------|--|--|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| 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 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| 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 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 |

Response

| | | |
|-------------------------------------|------------------------------------|-------------|
| Operation Code: 0xDC2E | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| 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 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: 0xD921 | | |
|---|------------------------------------|--------------------|
| 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:: 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 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: 0xD91B | | |
|--------------------------------------|------------------------------------|--------------------|
| 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:: 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 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: 0xD909 | | |
|--------------------------------------|------------------------------------|--------------------|
| 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:: 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 1-254 |
| Target Device ID: | Specify device ID of target device | 1byte, scope 1-254 |
| 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 |

6.2 Active Alarm

Supported Device: Security Module

| Operation Code: 0x010C | | |
|-------------------------------------|------------------------------------|---|
| 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:: 5 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Security Zone No | 1byte 1-8 |
| 1 | Alarm type | 2bytes please sea the definition below |
| 2 | | |
| 3 | reserved | 1byte Default 0 |
| 4 | reserved | 1byte Default 0 |

Definition of Alarm Type

| Alarm Type Dec Value (2bytes) | Description | Binary value (2bytes) |
|-------------------------------|------------------|-----------------------|
| 4096 | Current | 0001 0000 0000 0000 |
| 2048 | Emergency | 0000 1000 0000 0000 |
| 1024 | Panic | 0000 0100 0000 0000 |
| 512 | Gas | 0000 0010 0000 0000 |
| 256 | Fire | 0000 0001 0000 0000 |
| 128 | Temperature | 0000 0000 1000 0000 |
| 64 | Power | 0000 0000 0100 0000 |
| 32 | Siren | 0000 0000 0010 0000 |
| 16 | Day | 0000 0000 0001 0000 |
| 8 | Night with guest | 0000 0000 0000 1000 |
| 4 | Night | 0000 0000 0000 0100 |
| 2 | Away | 0000 0000 0000 0010 |
| 1 | vacation | 0000 0000 0000 0001 |

Response

| | | |
|-------------------------------|--------------------------|------|
| Operation Code: 0x010D | | |
| Target Subnet ID: | Broadcast address | 0xFF |

| Target Device ID: | | 0xFF |
|-------------------------------------|------------------|---|
| Additional Content | | |
| LEN of additional content:: 5 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Security Zone No | 1byte 1-8 |
| 1 | Alarm type | 2bytes please sea the definition below |
| 2 | | |
| 3 | reserved | 1byte Default 0 |
| 4 | reserved | 1byte Default 0 |

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 1-254 |
| Target Device ID: | Specify device ID of target device | 1byte, scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 0byte | | |

Response

| Operation Code: 0xDB01 | | |
|------------------------------------|------------------------------------|--------------------|
| 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:: 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 1-254 |
| Target Device ID: | Specify device ID of target device | 1byte, scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 0byte | | |

Response

| Operation Code: 0xDC01 | | |
|------------------------------------|------------------------------------|---|
| 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:: 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 1-254 |

| | | |
|-----------------------------------|------------------------------------|--------------------|
| Target Device ID: | Specify device ID of target device | 1byte, scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 0byte | | |

Response

| Operation Code: 0xDC31 | | |
|------------------------------------|------------------------------------|--------------------|
| 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:: 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 1-254 |
| Target Device ID: | Specify device ID of target device | 1byte, scope 1-254 |
| 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: 0xDC33 | | |
|------------------------------------|------------------------------------|--------------------|
| 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 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 1-254 |
| Target Device ID: | Specify device ID of target device | 1byte, scope 1-254 |
| 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 | |

ResponseOperation Code: **0xDC35**

| 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:: 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 1-254 |
| Target Device ID: | Specify device ID of target device | 1byte, scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 0byte | | |

Response

| Operation Code: 0x012D | | |
|-------------------------------------|------------------------------------|--|
| 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:: 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 | Remark | Value |

| Content | | |
|---------|-----------------------------------|---------------------------------------|
| 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 | 1 st byte of Remark | 20bytes, |

| | | |
|----|---------------------------------|---|
| 9 | 2 nd byte of remark | If the length of remark is less than 20, please use ASCII of space. |
| 10 | 3 rd byte of remark | |
| 11 | 4 th byte of remark | |
| 12 | 5 th byte of remark | |
| 13 | 6 th byte of remark | |
| 14 | 7 th byte of remark | |
| 15 | 8 th byte of remark | |
| 16 | 9 th byte of remark | |
| 17 | 10 th byte of remark | |
| 18 | 11 th byte of remark | |
| 19 | 12 th byte of remark | |
| 20 | 13 th byte of remark | |
| 21 | 14 th byte of remark | |
| 22 | 15 th byte of remark | |
| 23 | 16 th byte of remark | |
| 24 | 17 th byte of remark | |
| 25 | 18 th byte of remark | |
| 26 | 19 th byte of remark | |
| 27 | 20 th 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 Content | Remark | Value |
| 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, Zone Beast, 9in1/6in1 Sensor, 4T

| Operation Code: 0XE3E7 | | |
|---------------------------------|------------------------------------|-------------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:1byte | | |
| Index of Additional Content | Remark | Value |
| 0 | Temperature unit | 1byte Celsius=1 Fahrenheit =0 |

Response

| | | |
|---|------------------------------------|-------------|
| Operation Code: 0XE3E8 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content: Max 17 bytes | | |

| Index of Additional Content | Remark | Value |
|-----------------------------|--|-------------------------------------|
| 0 | Temperature unit | 1byte Celsius=1 Fahrenheit =0 |
| 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 4 (optional) | 1byte 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 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| 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 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: MAX 8 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Temperature Compensation 1 | 1byte scope 1- 16 Really value = Temperature Compensation + 8 |
| 1 | Temperature Compensation 2 (optional) | 1byte scope 1- 16 Really value = Temperature Compensation + 8 |
| 2 | Temperature Compensation 3 (optional) | 1byte scope 1- 16 Really value = Temperature Compensation + 8 |
| 3 | Temperature Compensation 4 (optional) | 1byte scope 1- 16 Really value = Temperature Compensation + 8 |
| 4 | Temperature Compensation 5 (optional) | 1byte scope 1- 16 Really value = Temperature Compensation + 8 |
| 5 | Temperature Compensation 6 (optional) | 1byte scope 1- 16 Really value = Temperature Compensation + 8 |
| 6 | Temperature Compensation 7 (optional) | 1byte scope 1- 16 Really value = Temperature Compensation + 8 |
| 7 | Temperature Compensation 8 (optional) | 1byte scope 1- 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 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| 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 (optional) | 1byte 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 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| 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

15.1 HVAC Automatic Control

Supported Device: HVAC, Hotel Mix Controller

| Operation Code: 0x193A | | |
|--------------------------------------|------------------------------------|----------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| 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 1-254 |
| 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 |
|----|----------|------------------|

15.2 Delays for Compressor and Fan

15.2.1 Read delays for Compressor and Fan

Supported Device: HVAC, Zone Beast

| | | |
|------------------------------------|------------------------------------|-------------|
| Operation Code: 0x E3F4 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 0 byte | | |

Response

| Operation Code: 0x E3F5 | | |
|------------------------------------|------------------------------------|--|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content: 4 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Delay for fan on | 1byte,1-10s |
| 1 | Delay for fan off | 1byte,1-10s |
| 2 | Delay for compressor on | 1byte, 3-127s or 1-10mins if bit[7]=1, then it means second If bit[7]=0, then it means minute |
| 3 | Delay for compressor off | 1byte, 1-10s |

15.2.2 Modify delays for Compressor and Fan

Supported Device: HVAC, Zone Beast

| | | |
|--------------------------------|------------------------------------|-------------|
| Operation Code: 0x E3F6 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |

| Target Device ID: | Specify device ID of target device | scope 1-254 |
|-------------------------------------|------------------------------------|--|
| Additional Content | | |
| LEN of additional content:: 4 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Delay for fan on | 1byte,1-10s |
| 1 | Delay for fan off | 1byte,1-10s |
| 2 | Delay for compressor on | 1byte, 3-127s or 1-10mins if bit[7]=1, then it means second If bit[7]=0, then it means minute |
| 3 | Delay for compressor off | 1byte, 1-10s |

Response

| Operation Code: 0x E3F7 | | |
|-----------------------------------|------------------------------------|--|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content: 1 byte | | |
| Index of Additional Content | Remark | Value |
| 0 | Flag of Success of failure | 1byte Success=0xF8 Failure =0xF5 |

//

15.3 Running Sequences for compressor**15.3.1 Read running Sequences for compressor****Supported Device: HVAC, Zone Beast**

| Operation Code: 0x E3FC | | |
|-------------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 2 bytes | | |
| Index of Additional Content | Remark | Value |

| | | |
|---|----------------------|------------------------------------|
| 0 | Constant Flag | 1byte,0xF8 |
| 1 | Relay No for AC Mode | 1byte, 1-3 M1=1 M2=2 M3=3 |

Response

| Operation Code: 0x E3FD | | |
|-------------------------------------|---------------------------------------|--|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 7 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Flag of Success or Failure | 1byte, Success=0xF8 Failure=0xF5 |
| 1 | Relay No for AC Mode | 1byte, 1-3 M1=1 M2=2 M3=3 |
| 2 | AC Mode No | 1byte, |
| 3 | duration for 1 st step on | 1byte |
| 4 | duration for 2 nd step off | 1byte |
| 5 | duration for 3 rd step on | 1byte |
| 6 | duration for 4 th step off | 1byte |

15.3.2 Modify running Sequences for compressor**Supported Device: HVAC, Zone Beast**

| Operation Code: 0x E3FE | | |
|-------------------------------------|------------------------------------|----------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 7 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Constant Flag | 1byte, 0xF8 |
| 1 | Relay No for AC Mode | 1byte, 1-3 |

| | | |
|---|------------------------------------|----------------------|
| | | M1=1 M2=2 M3=3 |
| 2 | AC Mode No | 1byte, |
| 3 | Delay for 1 st step on | 1byte |
| 4 | Delay for 2 nd step off | 1byte |
| 5 | Delay for 3rd step on | 1byte |
| 6 | Delay for 4 th step off | 1byte |

Response

| | | |
|------------------------------------|------------------------------------|--|
| Operation Code: 0x E3FF | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content: 1 byte | | |
| Index of Additional Content | Remark | Value |
| 0 | Flag of Success of failure | 1byte Success=0xF8 Failure =0xF5 |

15.4 Temperature Sensors for HVAC

15.4.1 Read temperatures sensor for HVAC

Supported Device: HVAC, Zone Beast

| | | |
|------------------------------------|------------------------------------|-------------|
| Operation Code: 0x 018C | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 0 byte | | |

Response

| | | |
|-------------------------------------|------------------------------------|--------------|
| Operation Code: 0x 018D | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content: 12 bytes | | |
| Index of Additional Content | Remark | Value |

| | | |
|----|---------------------------|---|
| 0 | Reserved | 1byte |
| 1 | Enabled for Sensor 1 | 1byte Enabled =1,disabled=0 |
| 2 | Compensation for sensor 1 | 1byte, |
| 3 | Enabled for Sensor 2 | 1byte Enabled =1,disabled=0 |
| 4 | Subnet ID Of Sensor 2 | 1byte,1-254 |
| 5 | Device ID Of Sensor 2 | 1byte,1-254 |
| 6 | Reserved | 1byte |
| 7 | Enabled for Sensor 3 | 1byte Enabled =1,disabled=0 |
| 8 | Subnet ID Of Sensor 3 | 1byte,1-254 |
| 9 | Device ID Of Sensor 3 | 1byte,1-254 |
| 10 | Port No of 4T | 1byte,1-4 (updated on Nov 14,2012) |
| 11 | Way Of Calculation | 1byte const_max_temperature=1; const_avg_temperature=2; const_min_temperature=3; |

15.4.2 Modify temperatures sensor for HVAC

Supported Device: HVAC, Zone Beast

| Operation Code: 0x 018E | | |
|--------------------------------------|------------------------------------|--------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 12 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Reserved | 1byte |
| 1 | Enabled for Sensor 1 | 1byte Enabled =1,disabled=0 |
| 2 | Compensation for sensor 1 | 1byte, |
| 3 | Enabled for Sensor 2 | 1byte Enabled =1,disabled=0 |
| 4 | Subnet ID Of Sensor 2 | 1byte,1-254 |
| 5 | Device ID Of Sensor 2 | 1byte,1-254 |
| 6 | Reserved | 1byte |
| 7 | Enabled for Sensor 3 | 1byte |

| | | |
|----|-----------------------|---|
| | | Enabled =1,disabled=0 |
| 8 | Subnet ID Of Sensor 3 | 1byte,1-254 |
| 9 | Device ID Of Sensor 3 | 1byte,1-254 |
| 10 | Port No of 4T | 1byte,1-4 (updated on Nov 14,2012) |
| 11 | Way Of Calculation | 1byte const_max_temperature=1; const_avg_temperature=2; const_min_temperature=3; |

Response

| | | |
|-------------------------------------|------------------------------------|--------------|
| Operation Code: 0x 018F | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content: 12 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Reserved | 1byte |

15.5 lasting time for ignoring if temperature changing is not more than 1 degree

15.5.1 Read lasting time

Supported Device: HVAC, DDP, Zone Beast

| | | |
|------------------------------------|------------------------------------|-------------|
| Operation Code: 0x DD24 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 0 byte | | |

Response

| | | |
|-----------------------------------|------------------------------------|-------------|
| Operation Code: 0x DD25 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content: 1 byte | | |

| Index of Additional Content | Remark | Value |
|-----------------------------|--------------|--------------------------|
| 0 | Lasting time | 1byte 3 - 240 seconds |

15.5.2 Modify lasting time

Supported Device: HVAC, DDP, Zone Beast

| Operation Code: 0x DD26 | | |
|------------------------------------|------------------------------------|--------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 1 byte | | |
| Index of Additional Content | Remark | Value |
| 0 | Lasting time | 1byte 3 - 240 seconds |

Response

| Operation Code: 0x DD27 | | |
|-----------------------------------|------------------------------------|---|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content: 1 byte | | |
| Index of Additional Content | Remark | Value |
| 0 | Flag of success / failure | 1byte Success =0xF8 Failure =0xF5 |

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 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 0 byte | | |

Response

| Operation Code: 0xDC37 | | |
|-----------------------------------|------------------------------------|--|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| 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 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| 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 1-254 |
| 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 |

17.2 IP Address of FTP**17.2.1 Read IP Address of FTP from Z-Audio****Supported Device: Z-Audio**

| Operation Code: 0x 022A | | |
|------------------------------------|-------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 1 byte | | |
| Index of Additional Content | Remark | Value |
| 0 | Type ID 1=Read IP address of FTP | 1byte |

Response

| Operation Code: 0x022B | | |
|------------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Broadcast address | 0xFF |
| Additional Content | | |
| LEN of additional content: 6 bytes | | |
| Index of Additional Content | Remark | Value |

| | | |
|---|----------------------------|---------------------------------------|
| 0 | Flag of success or failure | 1byte Success=0xF8 Failure=0xF5 |
| 1 | Type ID | 1byte |
| 2 | IP Address of FTP Server | 4bytes |
| 3 | | |
| 4 | | |
| 5 | | |

18. IR Macro

18.1 Macro Remark

18.1.1 Read Macro Remark

Supported Device: IR Emitter V1.1 or Above

| | | |
|------------------------------------|------------------------------------|--------------------------------|
| Operation Code: 0x DC3A | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::1 byte | | |
| Index of Additional Content | Remark | Value |
| 0 | macro number | 1byte Number Range(1 to 10) |

Response

| | | |
|-------------------------------------|------------------------------------|--------------------------------|
| Operation Code: 0x DC3B | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::21 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Specify macro number | 1byte Number Range(1 to 10) |

| | | |
|------|--------------|---------|
| 1~20 | Macro Remark | 20bytes |
|------|--------------|---------|

18.1.2 Modify Macro Remark

Supported Device: IR Emitter V1.1 or Above

| | | |
|-------------------------------------|------------------------------------|--------------------------------|
| Operation Code: 0x DC3C | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::21 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | macro number | 1byte Number Range(1 to 10) |
| 1~20 | Remark | 20bytes |

Response

| | | |
|------------------------------------|------------------------------------|--------------------------------------|
| Operation Code: 0x DC3D | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::2 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Success flag | 1byte 0xf8 =success 0xF5=error |
| 1 | macro number | 1byte Number Range(1 to 10) |

18.2 Commands of Macro

18.2.1 Read Commands of Macro

Supported Device: IR Emitter V1.1 or Above

| Operation Code: 0x DC3E | | |
|------------------------------------|------------------------------------|--------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::2 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | macro number | 1byte Number Range(1 to 10) |
| 1 | CMD ID | 1byte Number Range(1 to 50) |

Response

| Operation Code: 0xDC3F | | |
|------------------------------------|---|--|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::8 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | macro number | 1byte Number Range(1 to 10) |
| 1 | CMD ID | 1byte Number Range(1 to 50) |
| 2 | IR Number | 1byte Range: 1-249 invalid: 0 or 255 |
| 3 | On/off status | On:255 Off:0 |
| 4 | Delay after sending the command 0.1s -10hour | 4bytes 高 8 位在前, 低 8 位在后面 ie. 200=200/10=20s 10=10/10=1s 1=1/10=0.1s |
| 5 | | |
| 6 | | |
| 7 | | |

| | | |
|--|--|--|
| | | |
|--|--|--|

18.2.2 Modify Commands of Macro

Supported Device: IR Emitter V1.1 or Above

| Operation Code: 0x DD00 | | |
|------------------------------------|---|--|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::8 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | macro number | 1byte Number Range(1 to 10) |
| 1 | CMD # | 1byte Number Range(1 to 50) |
| 2 | IR Number | 1byte Range: 1-249 invalid: 0 or 255 |
| 3 | On/off status | On:255 Off:0 |
| 4 | Delay after sending the command 0.1s -10hour | 4bytes 高 8 位在前, 低 8 位在后面 ie. 200=200/10=20s 10=10/10=1s 1=1/10=0.1s |
| 5 | | |
| 6 | | |
| 7 | | |

Response

| Operation Code: 0x DD01 | | |
|------------------------------------|------------------------------------|--------------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::3 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Success flag | 1byte 0xf8 =success 0xF5=error |

| | | |
|---|--------------|--------------------------------|
| 1 | macro number | 1byte Number Range(1 to 10) |
| 2 | CMD # | 1byte Number Range(1 to 50) |

18.3 IR# which works with current sensor

18.3.1 Read IR# which works with current sensor

Supported Device: IR Emitter V1.1 or Above

| | | |
|------------------------------------|------------------------------------|--------------|
| Operation Code: 0Xd962 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::0 bytes | | |
| Index of Additional Content | Remark | Value |
| | | |

Response

| | | |
|------------------------------------|------------------------------------|---------------------------------|
| Operation Code: 0xd963 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::4 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | IR# 1 for on | 1byte Number Range(1 to 249) |
| 1 | IR# 1 for off | 1byte Number Range(1 to 249) |
| 2 | IR# 2 for on | 1byte Number Range(1 to 249) |
| 3 | IR# 2 for off | 1byte Number Range(1 to 249) |

18.3.2 Modify IR# which works with current sensor

Supported Device: IR Emitter V1.1 or Above

| Operation Code: 0Xd960 | | |
|-----------------------------------|------------------------------------|---------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::4bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | IR# 1 for on | 1byte Number Range(1 to 249) |
| 1 | IR# 1 for off | 1byte Number Range(1 to 249) |
| 2 | IR# 2 for on | 1byte Number Range(1 to 249) |
| 3 | IR# 2 for off | 1byte Number Range(1 to 249) |

Response

| Operation Code: 0xd961 | | |
|------------------------------------|------------------------------------|--------------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::1 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Success flag | 1byte 0xf8 =success 0xF5=error |

18.4 Current Value of current sensor

18.4.1 Read current value of current sensor

Supported Device: IR Emitter V1.1 or Above

| Operation Code: 0X DD1A | | |
|-----------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::0 byte | | |
| Index of Additional Content | Remark | Value |

| | | |
|---|-------|----------------|
| 0 | IR No | 1byte 1-249 |
|---|-------|----------------|

Response

| Operation Code: 0xDD1B | | |
|-------------------------------------|--|-------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::22 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | IR No | 1byte 1-249 |
| 1 | Valid or IR | 1byte Valid=1 Invalid=0 |
| 2-21 | Remark of IR If IR is valid, return the remark of IR; if IR is invalid, return empty string. | 20bytes |

18.4.2 Modify current value of current sensor

Supported Device: IR Emitter V1.1 or Above

| Operation Code: 0Xd972 | | |
|------------------------------------|--|------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::4 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Delay time of 1 st current sensor | 1byte 0-255 s |
| 1 | Stand-by current of 1 st current sensor | 1byte |
| 2 | Delay time of 2nd current sensor | 1byte 0-255 s |
| 3 | Stand-by current of 2nd current sensor | 1byte |

Response

| | | |
|-------------------------------|------------------------------------|-------------|
| Operation Code: 0xd973 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |

| Additional Content | | |
|-----------------------------------|--------------|--------------------------------------|
| LEN of additional content::1 byte | | |
| Index of Additional Content | Remark | Value |
| 0 | Success flag | 1byte 0xf8 =success 0xF5=error |

18.5 IR Remark

18.5.1 Read IR Remark

Supported Device: IR Emitter V1.1 or Above

| Operation Code: 0X DD1A | | |
|-----------------------------------|------------------------------------|----------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::1 byte | | |
| Index of Additional Content | Remark | Value |
| 0 | IR No | 1byte 1-249 |

Response

| Operation Code: 0x DD1B | | |
|--------------------------------------|------------------------------------|-------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 22 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | IR No | 1byte 1-249 |
| 1 | Validity | 1byte Valid=1 Invalid=0 |
| 2 - 21 | Remark Of IR | 20bytes |

18.6 Mode of Macro

18.6.1 read mode of Macro

Supported Device: IR Macro

| | | |
|------------------------------------|------------------------------------|--------------|
| Operation Code: 0X DD1E | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::0 byte | | |
| Index of Additional Content | Remark | Value |

Response

| | | |
|--------------------------------------|------------------------------------|--|
| Operation Code: 0xDD1F | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 10 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Mode of macro 1 | 1byte 1= exclusive (stop all old macros, run only new one) 0= not exclusive (keep all old macros, and add new macro) |
| 1 | Mode of macro 2 | 1byte |
| 2 | Mode of macro 3 | 1byte |
| 3 | Mode of macro 4 | 1byte |
| 4 | Mode of macro 5 | 1byte |
| 5 | Mode of macro 6 | 1byte |
| 6 | Mode of macro 7 | 1byte |
| 7 | Mode of macro 8 | 1byte |
| 8 | Mode of macro 9 | 1byte |
| 9 | Mode of macro 10 | 1byte |

18.6.2 Modify mode of Macro

Supported Device: IR Macro

| Operation Code: 0X DD20 | | |
|--------------------------------------|------------------------------------|--|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 10 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Mode of macro 1 | 1byte 1= exclusive (stop all old macros, run only new one) 0= not exclusive (keep all old macros, and add new macro) |
| 1 | Mode of macro 2 | 1byte |
| 2 | Mode of macro 3 | 1byte |
| 3 | Mode of macro 4 | 1byte |
| 4 | Mode of macro 5 | 1byte |
| 5 | Mode of macro 6 | 1byte |
| 6 | Mode of macro 7 | 1byte |
| 7 | Mode of macro 8 | 1byte |
| 8 | Mode of macro 9 | 1byte |
| 9 | Mode of macro 10 | 1byte |

Response

| Operation Code: 0x DD21 | | |
|------------------------------------|------------------------------------|---------------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 1 byte | | |
| Index of Additional Content | Remark | Value |
| 0 | Flag of success/failure | 1byte Success=0xF8 Failure=0xF5 |

19. Impulse Counter

19.1 Logic Address

19.1.1 Read address of logic module

Supported Device: Impulse Counter

| Operation Code: 0xDD02 | | |
|------------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::0 bytes | | |
| Index of Additional Content | Remark | Value |

Response

| Operation Code: 0xDD03 | | |
|------------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::2 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Subnet ID of the logic module | 1byte |
| 1 | Device ID of the logic module | 1byte |

19.1.2 Modify address of logic module

Supported Device: Impulse Counter

| Operation Code: 0xDD04 | | |
|------------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::2 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Subnet ID of the logic module | 1byte |
| 1 | Device ID of the logic module | 1byte |

Response

| Operation Code: 0xDD05 | | |
|------------------------------------|------------------------------------|--------------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::1 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Success flag | 1byte 0xF8 =success 0xF5=error |

19.2 Initial Data**19.2.1 Read Initial Data**

Supported Device: Impulse Counter

| Operation Code: 0xDD06 | | |
|------------------------------------|------------------------------------|-------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::1 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No. | 1byte Number Range(1 to 4) |

Response

| | | |
|--------------------------------|------------------------------------|-------------|
| Operation Code: 0x DD07 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |

| Additional Content | | |
|------------------------------------|----------------------------------|-------------------------------|
| LEN of additional content::3 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No. | 1byte Number Range(1 to 4) |
| 1 | High 8 bits of the Initial Value | 1byte |
| 2 | Low 8 bits of the Initial Value | 1byte |

19.2.2 Read Initial Data

Supported Device: Impulse Counter

| Operation Code: 0x DD08 | | |
|------------------------------------|------------------------------------|-------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::3 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No. | 1byte Number Range(1 to 4) |
| 1 | High 8 bits of the Initial Value | 1byte |
| 2 | Low 8 bits of the Initial Value | 1byte |

Response

| Operation Code: 0x DD09 | | |
|------------------------------------|------------------------------------|--------------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::2 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Success flag | 1byte 0xF8 =success 0xF5=error |
| 1 | Channel No. | 1byte Number Range(1 to 4) |

19.3 Channel Remark

19.3.1 Read Channel Remark

Supported Device: Impulse Counter

| Operation Code: 0x DD0A | | |
|------------------------------------|------------------------------------|-------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::1 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No. | 1byte Number Range(1 to 4) |

Response

| Operation Code: 0x DD0B | | |
|-------------------------------------|------------------------------------|-------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::21 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No. | 1byte Number Range(1 to 4) |
| 1~20 | Remark | 20bytes |

19.3.2 Modify Channel Remark

Supported Device: Impulse Counter

| Operation Code: 0x DD0C | | |
|-------------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::21 bytes | | |
| Index of Additional Content | Remark | Value |

| Content | | |
|---------|-------------|-------------------------------|
| 0 | Channel No. | 1byte Number Range(1 to 4) |
| 1~20 | Remark | 20byte |

Response

| Operation Code: 0x DD0D | | |
|------------------------------------|------------------------------------|--------------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::2 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Success flag | 1byte 0xF8 =success 0xF5=error |
| 1 | Channel No. | 1byte Number Range(1 to 4) |

19.4 Log of impulse counter

19.4.1 Read total QTY of package for the log between dates

Supported Device: Impulse Counter

| Operation Code: 0x DD0E | | |
|------------------------------------|------------------------------------|---|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::7 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No. | 1byte Number Range(1 to 4) 0xFF = All Channel |

| | | |
|---|--|--|
| 1 | Start Year Real Year = Start + 2000 For example 2011 = 11 + 2000 | |
| 2 | Start Month | |
| 3 | Start Day | |
| 4 | End Year Real Year = End + 2000 For example 2011 = 11 + 2000 | |
| 5 | End Month | |
| 6 | End Day | |

Response

| | | |
|------------------------------------|------------------------------------|--------------|
| Operation Code: 0x DD0F | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::2 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Total QTY of Package. | 2byte |
| 1 | | |

19.4.2 Read Total QTY of package for the log before the date

Supported Device: Impulse Counter

| | | |
|------------------------------------|------------------------------------|--|
| Operation Code: 0x DD10 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::4 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No. | 1byte Number Range(1 to 4) or 0xFF = All Channel |
| 1 | End Year | |

| | | |
|---|---|--|
| | Real Year = End + 2000 For example 2011 = 11 + 2000 | |
| 2 | End Month | |
| 3 | End Day | |

Response

| Operation Code: 0x DD11 | | |
|------------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::3 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No | 1byte |
| 1 | Total QTY of Package. | 2byte |
| 2 | | |

19.4.3 Read log of current package

Supported Device: Impulse Counter

| Operation Code: 0x DD12 | | |
|------------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::3 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No | 1byte |
| 1 | Current Package No | 2byte |
| 2 | | |

Response

| Operation Code: 0x DD13 | | |
|-------------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::58 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No. | 1byte |

| | | |
|------------------------------|------------------------------------|--|
| | | Number Range(1 to 4) or 0xFF = All Channel |
| 1 | Current Package No | 2bytes |
| 2 | | |
| 3 | Channel No. of 1 st log | 1byte Number Range(1 to 4) |
| 4 | Year of 1 st log | 1byte Number Range(0 to 255) |
| 5 | Month of 1 st log | 1byte Number Range(1 to 12) |
| 6 | Day of 1 st log | 1byte Number Range(1 to 31) |
| 7 | Hour of 1 st log | 1byte Number Range(0 to 23) |
| 8~11 | Count Value of 1 st log | 4bytes (不包括初始值) |
| 12 | Channel No. of 2 nd log | 1byte Number Range(1 to 4) |
| 13 | Year of 2 nd log | 1byte Number Range(0 to 99) |
| 14 | Month of 2 nd log | 1byte Number Range(1 to 12) |
| 15 | Day of 2 nd log | 1byte Number Range(1 to 31) |
| 16 | Hour of 2 nd log | 1byte Number Range(0 to 23) |
| 17~20 | Count Value of 2 nd log | 4bytes (不包括初始值) |
| ... | | |
| ... | | |
| Max. log is 6 in one package | | |

19.4.4 Read total counter value between dates

Supported Device: Impulse Counter

| | | |
|------------------------------------|------------------------------------|--------------|
| Operation Code: 0x DD14 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::7 bytes | | |
| Index of Additional | Remark | Value |

| Content | | |
|---------|--|---|
| 0 | Channel No. | 1byte Number Range(1 to 4) 0xFF = All Channel |
| 1 | Start Year Real Year = Start + 2000 For example 2011 = 11 + 2000 | |
| 2 | Start Month | |
| 3 | Start Day | |
| 4 | End Year Real Year = End + 2000 For example 2011 = 11 + 2000 | |
| 5 | End Month | |
| 6 | End Day | |

Response

| Operation Code: 0x DD15 | | |
|------------------------------------|------------------------------------|---|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::5 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No. | 1byte Number Range(1 to 4) 0xFF = All Channel |
| 1~4 | Total value | 4bytes (不包括初始值) |

19.4.5 Delete logs between dates

Supported Device: Impulse Counter

| Operation Code: 0x DD16 | | |
|------------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::7 bytes | | |
| Index of Additional Content | Remark | Value |

| | | |
|---|--|---|
| 0 | Channel No. | 1byte Number Range(1 to 4) 0xFF = All Channel |
| 1 | Start Year Real Year = Start + 2000 For example 2011 = 11 + 2000 | |
| 2 | Start Month | |
| 3 | Start Day | |
| 4 | End Year Real Year = End + 2000 For example 2011 = 11 + 2000 | |
| 5 | End Month | |
| 6 | End Day | |

Response

| | | |
|------------------------------------|------------------------------------|--|
| Operation Code: 0x DD17 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::2 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Success flag | 1byte 0xF8 =success 0xF5=error |
| 1 | Channel No. | 1byte Number Range(1 to 4) or 0xFF = All Channel |

19.4.6 Delete all logs

Supported Device: Impulse Counter

| | | |
|------------------------------------|------------------------------------|--------------|
| Operation Code: 0x DD18 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::0 bytes | | |
| Index of Additional | Remark | Value |

| | | |
|------------------------------------|------------------------------------|--------------------------------------|
| Content | | |
| Response | | |
| Operation Code: 0x DD19 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::1 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Success flag | 1byte 0xF8 =success 0xF5=error |

20 Microwave Sensor

20.1 Sensitive

20.1.1 Read Sensitive

Supported Device: Microwave

| | | |
|------------------------------------|------------------------------------|--------------|
| Operation Code: 0xD828 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::0 byte | | |
| Index of Additional Content | Remark | Value |

Response

| | | |
|------------------------------------|------------------------------------|--------------|
| Operation Code: 0x D829 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::4 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Sensitive of PIR 1 | 1byte,0-100 |

| | | |
|---|------------------------|---|
| | | 100=MAX. sensitive 0=min. sensitive |
| 1 | Sensitive of PIR 2 | 1byte,0-100 100=MAX. sensitive 0=min. sensitive |
| 2 | Sensitive of PIR 3 | 1byte,0-100 100=MAX. sensitive 0=min. sensitive |
| 3 | Sensitive of microwave | 1byte,0-100 100=MAX. sensitive 0=min. sensitive |

20.1.2 Modify Sensitive

Supported Device: Microwave

| Operation Code: 0xD826 | | |
|------------------------------------|------------------------------------|---|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::4 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Sensitive of PIR 1 | 1byte,0-100 100=MAX. sensitive 0=min. sensitive |
| 1 | Sensitive of PIR 2 | 1byte,0-100 100=MAX. sensitive 0=min. sensitive |
| 2 | Sensitive of PIR 3 | 1byte,0-100 100=MAX. sensitive 0=min. sensitive |
| 3 | Sensitive of microwave | 1byte,0-100 100=MAX. sensitive 0=min. sensitive |

Response

| Operation Code: 0x D827 | | |
|-----------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::1 byte | | |
| Index of Additional Content | Remark | Value |

| | | |
|---|-------------------------|---------------------------------------|
| 0 | Flag of success/failure | 1byte Success=0xF8 Failure=0xF5 |
|---|-------------------------|---------------------------------------|

20.2 Trigger Delay when movement turns to no movement

20.2.1 Read Trigger Delay

Supported Device: Microwave

| | | |
|------------------------------------|------------------------------------|--------------|
| Operation Code: 0xD818 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::0 byte | | |
| Index of Additional Content | Remark | Value |

Response

| | | |
|------------------------------------|------------------------------------|------------------|
| Operation Code: 0x D819 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::2 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Reserved | 1byte |
| 1 | Departure time | 1byte 1-255 s |

20.2.2 Modify Trigger Delay

Supported Device: Microwave

| | | |
|--------------------------------|------------------------------------|-------------|
| Operation Code: 0x d80C | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |

| Additional Content | | |
|------------------------------------|----------------|------------------|
| LEN of additional content::2 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Reserved | 1byte |
| 1 | Departure time | 1byte 1-255 s |

Response

| Operation Code: 0x d80d | | |
|-----------------------------------|------------------------------------|---------------------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::1 byte | | |
| Index of Additional Content | Remark | Value |
| 0 | Flag of success/failure | 1byte Success=0xF8 Failure=0xF5 |

20.3 Dry Contact

20.3.1 Read the status of dry contact

Supported Device: microwave

| Operation Code: 0x041A | | |
|------------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 0 byte | | |
| Is UDP Big Package: No | | |

Response

| Operation Code: 0x041B | | |
|-------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |

| LEN of additional content:: 2 bytes | | |
|-------------------------------------|---|----------------------|
| Is UDP Big Package: No | | |
| Index of Additional Content | Remark | Value |
| 0 | NC NO flag of f 1 st dry contact | NO=1 NC=0 |
| 1 | Status of 1 st dry contact | Opened=1 Closed=0 |

20.3.2 Modify NO/NC flag for dry contact

Supported Device: microwave

| Operation Code: 0x041C | | |
|-----------------------------------|--|--------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 1byte | | |
| Is UDP Big Package: No | | |
| Index of Additional Content | Remark | Value |
| 0 | NC or NO flag of 1 st dry contact | NO=1 NC=0 |

Response

| Operation Code: 0x041D | | |
|------------------------------------|------------------------------------|------------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 1 byte | | |
| Is UDP Big Package: No | | |
| Index of Additional Content | Remark | Value |
| 0 | Flag of success or failure | Success=1 Failure=0 |

20.4 Forwardly report status of dry contact

Please take 8.2 above as reference

20.5 Sensor Status

20.5.1 Read Sensor Status

Supported Device: microwave

| | | |
|------------------------------------|------------------------------------|--------------|
| Operation Code: 0x DD1C | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 1byte | | |
| Is UDP Big Package: No | | |
| Index of Additional Content | Remark | Value |

Response

| | | |
|-------------------------------------|--|--|
| Operation Code: 0x DD1D | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 5 bytes | | |
| Is UDP Big Package: No | | |
| Index of Additional Content | Remark | Value |
| 0 | General status if any status of 4 sensors is movement, general status is movement. if all status of 4 sensors are no | 1byte Movement =1 No movement =0 |

| | | |
|---|--|-------|
| | movement, general status is no movement. | |
| 1 | Status of PIR 1 | 1byte |
| 2 | Status of PIR 2 | 1byte |
| 3 | Status of PIR 3 | 1byte |
| 4 | Status of microwave sensor | 1byte |

20 Fan Controller

21.1 Gears Settings

21.1.1 Read gears settings of Fan

Supported Device: Fan Controller

| Operation Code: 0xDD28 | | |
|------------------------------------|------------------------------------|-----------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 1 byte | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No | 1byte 1 to 6 |

Response

| Operation Code: 0xDD29 | | |
|-------------------------------------|------------------------------------|-----------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 6 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No | 1byte 1 to 6 |
| 1 | Value of 1 st gear | 1byte 0-100 |

| | | |
|---|-------------------------------|----------------|
| 2 | Value of 2 nd gear | 1byte 0-100 |
| 3 | Value of 3rd gear | 1byte 0-100 |
| 4 | Value of 4 th gear | 1byte 0-100 |
| 5 | Value of 5 th gear | 1byte 0-100 |

21.1.2 Modify gears settings of Fan

Supported Device: Fan Controller

| Operation Code: 0xDD2A | | |
|------------------------------------|------------------------------------|-----------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::6 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No | 1byte 1 to 6 |
| 1 | Value of 1 st gear | 1byte 0-100 |
| 2 | Value of 2 nd gear | 1byte 0-100 |
| 3 | Value of 3rd gear | 1byte 0-100 |
| 4 | Value of 4 th gear | 1byte 0-100 |
| 5 | Value of 5 th gear | 1byte 0-100 |

Response

| Operation Code: 0xDD2B | | |
|------------------------------------|------------------------------------|-----------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::2 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No | 1byte 1 to 6 |
| 1 | Flag of Success /failure | 1byte Success=0xF8 |

| | | |
|--|--|--------------|
| | | Failure=0xF5 |
|--|--|--------------|

21.2 Control gear of Fan

Supported Device: Fan Controller

| Operation Code: 0x0031 | | |
|------------------------------------|------------------------------------|--|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content::4 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Channel No | 1byte 1 to 6 255 means broadcast all channels |
| 1 | Gear No | 1byte 0-5 0 = off 1=1 st gear 2=2 nd gear 3=3 rd gear 4=4 th gear 5=5 th gear 5 th gear is strongest |
| 2 | Reserved | 1byte |
| 3 | Reserved | 1byte |

Response

| Operation Code: 0x0032 | | |
|------------------------------------|------------------------------------|-------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| 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 |
|--|--|-------------------------------|

21.3 Read status of fan controller

Supported Device: Fan Controller

| | | |
|------------------------------------|------------------------------------|--------------------|
| Operation Code: 0x0033 | | |
| 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: 0x0034 | | |
|---|------------------------------------|---------------------------|
| 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:: (QTY of Channels + 1) bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | QTY of Channels | 1byte |
| 1 | Status of Channel 1 | 1byte gear No from 0-5 |
| 2 | Status of Channel 2 | 1byte gear No from 0-5 |
| ... | ... | ... |
| QTY of Channels | Status of last channel | 1byte gear No from 0-5 |

22 RSIP

22.1 Obtain an IP address automatically or use specify IP address

22.1 Read flag of automatic and manual IP

Supported Device: RSIP

| | | |
|------------------------------------|------------------------------------|--------------------|
| Operation Code: 0xDD2C | | |
| 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: 0xDD2D | | |
|------------------------------------|------------------------------------|--|
| 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 Content | Remark | Value |
| 0 | Flag of automatic & manual IP | 1byte Automatic IP=1 Manual IP=0 |

22.2 Modify flag of automatic and manual IP

Supported Device: RSIP

| Operation Code: 0xDD2E | | |
|------------------------------------|------------------------------------|--|
| 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 Content | Remark | Value |
| 0 | Flag of automatic & manual IP | 1byte Automatic IP=1 Manual IP=0 |

Response

| | | |
|------------------------------------|------------------------------------|--------------------|
| Operation Code: 0xDD2F | | |
| 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 Content | Remark | Value |
|-----------------------------|----------------------------|---------------------------------------|
| 0 | Flag of success or failure | 1byte Success=0xF8 Failure=0xF5 |

24 LED Driver Control

24.1 Color Lighting control

Support Device: LED Driver

| Operation Code: 0xF080 | | |
|-------------------------------------|------------------------------------|--|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 6 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Red value | 1byte scope 0-100 |
| 1 | Green value | 1byte scope 0-100 |
| 2 | Blue value | 1byte scope 0-100 |
| 3 | White value | 1byte scope 0-100 |
| 4 | High 8 bits of Running time | Scope of Running time is 0-3600s $H = (\text{Running time}) \div 256$ |
| 5 | Low 8 bits of Running Time | $L = (\text{Running time}) \text{ Mod } 256$ Unit: 0.1S |

Response

| | | |
|-------------------------------|------------------------------------|-------------|
| Operation Code: 0xF081 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |

| | | |
|-------------------------------------|------------------------------------|---|
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 1 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Flag for success/ failure | 1byte, Success=0xF8 Failure =0xF5 |

24.1 Read Status of Driver

Support Device: LED Driver

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

Response

| | | |
|-------------------------------------|------------------------------------|----------------------|
| Operation Code: 0x0034 | | |
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 5 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | QTY of Led color value | 1byte, Const = 4 |
| 1 | Red value | 1byte scope 0-100 |
| 2 | Green value | 1byte scope 0-100 |
| 3 | Blue value | 1byte scope 0-100 |
| 4 | White value | 1byte scope 0-100 |

24.3 LED Scene Control

Supported Device: LED Driver

| Operation Code: 0x0002 | | |
|-------------------------------------|--|----------------------|
| Target Subnet ID: | Specify subnet ID of target device | scope 1-254 |
| Target Device ID: | Specify device ID of target device | scope 1-254 |
| Additional Content | | |
| LEN of additional content:: 2 bytes | | |
| Index of Additional Content | Remark | Value |
| 0 | Area No | 1byte scope 1-254 |
| 1 | Scene No Scene No 0 is for stopping scene | 1byte scope 1-254 |

Response

| Operation Code: 0x0003 | | |
|--|---|---|
| Target Subnet ID: | Broadcast address | 0xFF |
| Target Device ID: | Broadcast address | 0xFF |
| Additional Content | | |
| LEN of additional content::If fail 1byte = 0xF5. If success 4 bytes, | | |
| Index of Additional Content | Remark | Value |
| 0 | Area No | 1byte |
| 1 | Scene No | 1byte |
| 2 | QTY of channels | 1byte |
| 3 | Status of channels use Binary to describe channel status From low bit to high bit Describe channel 1 to channel 8 | 1byte 0 = Off 1 = On (no percentage) |

24.4 Sequence Control

Supported Device: LED Driver/ Dimmer

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

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 |