IR Protocol

Version: 1.0
Updated Date: Jun 13, 2013
Website: www.smarthomebus.com

Contents

History

Version	Author	Edit date	Changes
1.0	Glen	2013-6-13	IR

SN	Title
1	**Commands Shared**
1.1	*Address Detection*
1.1.1	Detect address [0xE5F5]
1.1.2	Modify address [0xE5F7]
1.2	*Device Backup*
1.2.1	Request total QTY of packages from PC to target device [0xDC10]
1.2.2	Request Current Small Package from PC to target device [0xDC14]
1.3	*Device Restore*
1.3.1	Send Total QTY of Packages from PC to Target Device [0xDC16]
1.3.2	Send Small Package from PC to Target Device [0xDC1A]
1.4	*MAC Address*
1.4.1	Read MAC Address [0xF003]
1.4.2	Modify MAC address [0xF001]
1.5	Read device remark [0x 000E]
1.6	Write device remark [0x 0010]
1.7	Read firmware version [0xEEFD]
1.8	Modify subnetID and DeviceID through Mac address
1.9	To see whether the specify device is on line
15	**IR**
1	**Control And Statue**
1.1	Send specify IR# [0xE01C]
1.2	Send specify IR MACRO [0x0031]
2	**Settings**
2.1	**IR#**

2.1.1	Start Downing IR to specify IR# [0xD900]
2.1.2	Down Packages of Current IR [0xD906]
2.1.3	Delete specify IR# [0xD904]
2.1.4	Delete all IR# [0xD9E0]
2.1.5	Read remark of specify IR# [0xD90C]
2.1.6	Modify remark of specify IR# [0xD90E]
2.1.7	Read QTY of valid IR# [0xD914]
2.2	IR Macro
2.2.1	Read commands of macro [0xDC3E]
2.2.2	Modify commands of macro [0xDD00]
2.2.3	Read macro remark [0xDC3A]
2.2.4	Modify macro remark [0xDC3C]
2.2.5	Read mode of Macro [0XDD1E]
2.3	Current Sensor
2.3.1	Read IR # which works with current sensor [0XD962]
2.3.2	Modify IR# which works with current sensor [0Xd960]
2.3.3	Read current value of current sensor [0XDD1A]
2.3.4	**Modify current value of current sensor [0XD972]**

1 Commands Shared

Address Detection

1.1.1 Detect Address

Remark: Detect address by pressing broadcast address button

Supported Device: All modules which have broadcast button

Operation Code: **0x E5F5**		
Target Subnet ID:	Broadcast address	0xFF
Target Device ID:		
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

1.1.2 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

1.2 Device Backup

1.2.1 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	

1.2.2 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	

1.3 Device Restore

1.3.1 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

1.3.2 Send Small Package from PC to Target Device

Supported Device: All modules

Operation Code: **0xDC1A**

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

Response

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

1.4 MAC Address

1.4.1 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: If is not hotel devices ,8 bytes, more bytes no use		
Index of Additional Content	**Remark**	**Value**
0	MAC 1st byte	1byte
1	MAC 2nd byte	1byte
2	MAC 3rd byte	1byte
3	MAC 4th byte	1byte
4	MAC 5th byte	1byte
5	MAC 6th byte	1byte
6	MAC 7th byte	1byte
7	MAC 8th byte	1byte
8	1st byte of Remark	20bytes, If the length of remark is less than 20, please use ASCII of space.
9	2nd byte of remark	
10	3rd byte of remark	
11	4th byte of remark	

1.4.2 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

1.5 Read device remark

Remark:This operation has two ways to use

1 Send to specify device to get its remark

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

Supported Device: All modules

1

Operation Code: **0x 000E**

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**		

Response

Operation Code: **0x000F**		
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: 20 byte		
Index of Additional Content	**Remark**	**Value**
0	1st byte of Remark	20bytes, If the length of remark is less than 20, please use ASCII of space.
1	2nd byte of remark	
2	3rd byte of remark	
3	4th byte of remark	
4	5th byte of remark	
5	6th byte of remark	
6	7th byte of remark	
7	8th byte of remark	
8	9th byte of remark	
9	10th byte of remark	
10	11th byte of remark	
11	12th byte of remark	
12	13th byte of remark	
13	14th byte of remark	
14	15th byte of remark	
15	16th byte of remark	
16	17th byte of remark	
17	18th byte of remark	
18	19th byte of remark	
19	20th byte of remark	

2

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

Response:

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

1.6 Write device remark

Supported Device: All modules

Operation Code: **0x 0010**		
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: 20 byte		
Index of Additional Content	**Remark**	**Value**
0	1st byte of Remark	20bytes, If the length of remark is less than 20, please use ASCII of space.
1	2nd byte of remark	
2	3rd byte of remark	
3	4th byte of remark	
4	5th byte of remark	
5	6th byte of remark	
6	7th byte of remark	
7	8th byte of remark	
8	9th byte of remark	
9	10th byte of remark	
10	11th byte of remark	
11	12th byte of remark	
12	13th byte of remark	
13	14th byte of remark	
14	15th byte of remark	
15	16th byte of remark	
16	17th byte of remark	
17	18th byte of remark	
18	19th byte of remark	
19	20th byte of remark	

Response

Operation Code: **0x0011**		
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 for success/ failure	1byte,

		Success=0xF8 Failure =0xF5

1.7 Read firmware version

Supported Device: All modules

Operation Code: **0xEEFD**		
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: **0xEEFE**		
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: 22 bytes,		
Index of Additional Content	**Remark**	**Value**
0 ~21	Version info	22 bytes

1.8 Modify subnetID and DeviceID by Mac address

Supported Device: All modules

Operation Code: **0x F005**		
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: 10 bytes		
Index of Additional Content	**Remark**	**Value**
0	MAC 1st byte	1byte
1	MAC 2nd byte	1byte
2	MAC 3rd byte	1byte

3	MAC 4th byte	1byte
4	MAC 5th byte	1byte
5	MAC 6th byte	1byte
6	MAC 7th byte	1byte
7	MAC 8th byte	1byte
8	SubnetID	1byte
9	SubDeciveID	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

1.9 To see whether the specify device is on line

Supported Device: All modules

Operation Code: **0xF065**		
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: **0xF066**		
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 bytes,		

15 IR

1 Control And Statue

1.1 Send specify IR#

Operation Code: **0x**E01C		
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: **0x**E01D		
Target Subnet ID:	Broadcast	0xFF
Target Device ID:	Broadcast	0xFF
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

1.2 Send specify IR MACRO

Operation Code: **0x0031**		
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	IR Macro No.	1byte
1	Flag of on/off	1byte ON=100 Off=0
2	Reserved	1byte
3	Reserved	1byte

Response

Operation Code: **0x**0032		
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:: 3bytes		
Index of Additional Content	**Remark**	**Value**
0	IR Macro No.	1byte

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

2	Flag of on/off	1byte ON=100 Off=0

2 Settings

2.1 IR#

2.1.1 Start Downing IR to specify IR#

Operation Code: **0xD900**		
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	IR# No.	1byte
1	High 8bits of length of IR data	2bytes

2	Low 8bits of length of IR data	

Response

Operation Code: **0xD901**		
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:: 3bytes		
Index of Additional Content	**Remark**	**Value**

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

1	Reserved	1 byte
2	IR# No.	1byte

2.1.2 Down Packages of Current IR data

Operation Code: **0xD906**		
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:: The first package 18 bytes, others 16bytes(no length of IR code)		
Index of Additional Content	**Remark**	**Value**
0	IR name	1byte
1	IR# No.	1byte
2	High 8bits of length of IR code	1byte (The first package)
3	Low 8bits of length of IR code	1byte (The first package)
4~17	Data of IR code	14bytes

Response

Operation Code: **0xD907**		
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:: 3bytes		
Index of Additional	**Remark**	**Value**

Content		

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

1	Success/Failure detail	1 byte 0x8C = success Others = failure reason
2	Sequence of package	1byte

2.1.3 Delete specify IR#

Operation Code: **0xD904**		
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	IR# No.	1byte

Response

Operation Code: **0xD905**		
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:: 3bytes		
Index of Additional Content	**Remark**	**Value**

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

1	Reserved	1 byte
2	IR# No.	1byte

2.1.4 Delete all IR#

Operation Code: **0xD9E0**		
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: **0xD9E1**		
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;

2.1.5 Read remark of specify IR#

Operation Code: **0xD90C**		
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	IR# No.	1byte

Response

Operation Code: **0xD90D**		
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:: 3bytes		
Index of Additional Content	**Remark**	**Value**

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

1	Reserved	1 byte

2	IR# No.	1byte
3	Flag of Is first 10 bytes of remark data or last 10 bytes	1byte 0 = The first 10 bytes of remark data 1 = The last 10 bytes of remark data
4~13	Remark	10 bytes

2.1.6 Modify remark of specify IR#

Operation Code: **0xD90E**		
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:: 12 bytes		
Index of Additional Content	**Remark**	**Value**
0	IR# No.	1byte
1	Flag of Is first 10 bytes of remark data or last 10 bytes	1byte 0 = The first 10 bytes of remark data 1 = The last 10 bytes of remark data
2~11	Remark	10 bytes

Response

Operation Code: **0xD90F**		
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:: 4bytes		
Index of Additional Content	**Remark**	**Value**

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

1	Reserved	1 byte
2	IR# No.	1byte
3	Flag of Is first 10 bytes of remark data or last 10 bytes	1byte 0 = The first 10 bytes of

		remark data 1 = The last 10 bytes of remark data

2.1.7 Read QTY of valid IR#

Operation Code: **0xD914**		
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: **0xD915**		
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:: 3bytes		
Index of Additional Content	**Remark**	**Value**

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

1	QTY of valid IR# in memory	1byte
2	Reserved	1byte

2.2 IR Macro

2.2.1 Read commands of macro

Operation Code: **0xDC3E**		
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 High 8bits in front, Low 8bite below ie. 200=200/10=20s 10=10/10=1s 1=1/10=0.1s
5		
6		
7		

2.2.2 Modify commands of macro

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 5 6 7	Delay after sending the command 0.1s -10hour	4bytes High 8bits in front, Low 8bite below 200=200/10=20s 10=10/10=1s 1=1/10=0.1s

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)

2.2.3 Read macro remark

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

2.2.4 Modify macro remark

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)

2.2.5 Read mode of 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

2.3 Current Sensor

2.3.1 Read IR # which works with current sensor

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 byte		

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)

2.3.2 Modify IR# which works with current sensor

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

2.3.3 Read current value of current sensor

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

2.3.4 Modify current value of current sensor

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 1st current sensor	1byte 0-255 s
1	Stand-by current of 1st 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