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| Airsmartx |
| 网关与客户端的协议 |
| 该协议只适合app客户端 |
|  |

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| **版本** | **日期** | **内容简述** | **作者** |
| V1.1.1 | 20141203 | LED，RGB，RGBW，CCT,LUX,PIR的控制命令与接收命令 | Lennon |
| V1.1.2 | 20141208 | 添加DAC,SWITCH,SOCKET设备 | Lennon |
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**版本更改记录**

1. 发送与接收说明
2. **包的结构：**

起始符---包头---包身---终止符

包的起始和终止符都为 0x7E ，判断是否需要异或的标识符号 0x7D （后面有解释），异或值：0x20：

1. **发送 包的操作顺序：** 先放包头包体→C RC →发送的符号检验→包头包尾添加0X7E
2. **接收 包的操作顺序：**去除头尾0X7E →接收的 符号检验→ CRC → 解析数据
3. **发送的符号检验：**

如发送的包数据中有0x7E 或者 0X7D,则异或 ^ 0x20，然后在前增加一个byte，赋值为0x7D。

1. **接收的符号检验：**

如接收的包中有0X7D，则把后面的值 异或 ^0x20，再去除0X7D的byte。

1. 常量：

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 备注名 | 常量名 | | 值 | 备注 |
| deviceType | 设备类型 | | | |
|  | DEV\_TYPE\_LED | | 0x001 | LED灯 |
|  | DEV\_TYPE\_RGB | | 0x002 | RGB灯 |
|  | DEV\_TYPE\_RGBW | | 0x003 | RGBW灯 |
|  | DEV\_TYPE\_CCT | | 0x004 | CCT灯 |
|  | DEV\_TYPE\_LUX | | 0x005 | LUX传感器 |
|  | DEV\_TYPE\_PIR | | 0x006 | PIR传感器 |
|  | DEV\_TYPE\_DAC | | 0x007 | DAC 数模转换器 |
|  | DEV\_TYPE\_SWITCH | | 0x008 | 触摸开关 |
|  | DEV\_TYPE\_SOCKET | | 0x009 | 插座 |
| SendCMDType | 发送命令 | | | |
|  | CMD\_CTRL | | 0x001 | 改变某设备的某项值 |
|  | CMD\_CTRL\_STATUS | | 0X002 | 查询设备状态 |
|  | CMD\_CTRL\_LIST | | 0x003 | 获取设备列表 |
|  | CMD\_CTRL\_BIND | | 0X004 | 绑定列表，主要用于传感器 |
| ReciveCMDType | 接收命令 | |  |  |
|  | CMD\_DEV\_DEL | | 0x005 | 删除设备 |
|  | CMD\_DEV\_ADD | | 0x006 | 添加设备 |
|  | CMD\_DEV\_STATUS | | 0x007 | 设备状态 |
|  |  | |  |  |
| sendDeviceCtrlType | 当发送 CMD\_CTRL 的时候（即单控命令），会使用到以下某值。 | | | |
|  | CTRL\_LED\_STATUS | | 0x001 | LED的开关 |
|  | CTRL\_LED\_W | | 0x002 | LED的亮度 |
|  | CTRL\_RGB\_STATUS | | 0x003 | RGB的开关 |
|  | CTRL\_RGB\_COLOR | | 0x004 | RGB的颜色 |
|  | CTRL\_RGBW\_STATUS | | 0x005 | RGBW的开关 |
|  | CTRL\_RGBW\_W | | 0x006 | RGBW的亮度 |
|  | CTRL\_RGBW\_COLOR | | 0x007 | RGBW的颜色 |
|  | CTRL\_CCT\_STATUS | | 0x008 | CCT的开关 |
|  | CTRL\_CCT\_WARM | | 0x009 | CCT的暖色 |
|  | CTRL\_LUX\_SETTING | | 0x010 | LUX的光照设定值 |
|  | CTRL\_DAC\_STATUS | | 0X011 | DAC的开关 |
|  | CTRL\_DAC\_C | | 0X012 | DAC的转换值 |
|  | CTRL\_SWITCH\_SWITCH | | 0X013 | SWITCH绑定的灯的开关控制 |
|  | CTRL\_SOCKET\_STATUS | | 0x014 | SOCKET的开关 |
| sendDeviceBindType | 当发送CMD\_CTRL\_BIND（绑定设备），会使用到以下某值。 | | | |
|  | BIND\_LUX\_LIST | | 0x001 | LUX的控制列表 |
|  | BIND\_PIR\_LIST | | 0x002 | PIR的控制列表 |
|  |  | |  |  |
| sendDeviceStatusType | 当发送CMD\_CTRL\_STATUS（获取设备信息），会使用到以下某值。 | | | |
|  | STATUS\_SEND\_LED | | 0x001 | LED的状态 :开关，w |
|  | STATUS\_ SEND\_RGB | | 0x002 | RGB的状态：开关,rgb |
|  | STATUS\_ SEND\_RGBW | | 0x003 | RGBW的状态:开关，rgb,w |
|  | STATUS\_ SEND\_CCT | | 0x004 | CCT的状态:开关,warm |
|  | STATUS\_ SEND\_LUX\_SETTING | | 0x005 | LUX的状态:LUX的设置值 |
|  | STATUS\_ SEND\_LUX\_LIST | | 0x006 | LUX的LIST |
|  | STATUS\_ SEND\_PIR\_LIST | | 0x007 | PIR的LIST |
|  | STATUS\_ SEND\_DAC | | 0X008 | DAC的状态:开关,c |
|  | STATUS\_ SEND\_SWITCH | | 0X009 | SWITCH的状态:1,2,3灯的开关 |
|  | STATUS\_ SEND\_SOCKET | | 0X010 | SOCKET的状态：开关 |
| ReciveDeviceStatusType | 当接收到CMD\_DEV\_STATUS（获取设备信息），会使用到以下某值。 | | | |
|  | STATUS\_ RECIVE\_LED | 0x011 | | LED的状态 :开关，w |
|  | STATUS\_ RECIVE \_RGB | 0x012 | | RGB的状态：开关,rgb |
|  | STATUS\_ RECIVE \_RGBW | 0x013 | | RGBW的状态:开关，rgb,w |
|  | STATUS\_ RECIVE \_CCT | 0x014 | | CCT的状态:开关,warm |
|  | STATUS\_ RECIVE \_LUX\_SETTING | 0x015 | | LUX的状态:LUX的设置值 |
|  | STATUS\_ RECIVE \_LUX\_CURRENT | 0x016 | | LUX的实时LUX值 |
|  | STATUS\_ RECIVE \_LUX\_LIST | 0x017 | | LUX的LIST |
|  | STATUS\_ RECIVE \_PIR\_CURRENT | 0x018 | | PIR的实时值 |
|  | STATUS\_ RECIVE \_PIR\_LIST | 0x019 | | PIR的LIST |
|  | STATUS\_ RECIVE \_DAC | 0X020 | | DAC的状态:开关,c |
|  | STATUS\_ RECIVE \_SWITCH | 0X021 | | SWITCH的状态:1,2,3灯的开关 |
|  | STATUS\_ RECIVE \_SOCKET | 0X022 | | SOCKET的状态：开关 |

1. 变量取值范围以及字节大小:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 设备 | 变量 | 字节 | 范围 | 注释 |
|  |  |  |  |  |
| ALL |  |  |  |  |
|  | deviceId | 8 |  |  |
|  | deviceType | 1 |  |  |
| LED |  |  |  |  |
|  | status | 1 | 0-1 | 开关 |
|  | w | 1 | 0-255 | 亮度 |
| RGB |  |  |  |  |
|  | status | 1 | 0-1 | 开关 |
|  | r | 1 | 0-255 | 颜色的r |
|  | g | 1 | 0-255 | 颜色的g |
|  | b | 1 | 0-255 | 颜色的b |
| RGBW |  |  |  |  |
|  | status | 1 | 0-1 | 开关 |
|  | r | 1 | 0-255 | 颜色的r |
|  | g | 1 | 0-255 | 颜色的g |
|  | b | 1 | 0-255 | 颜色的b |
|  | w | 1 | 0-255 | 颜色的w |
| CCT |  |  |  |  |
|  | status | 1 | 0-1 | 开关 |
|  | warm | 1 | 0-255 | 暖色 |
| LUX |  |  |  |  |
|  | luxCurrent | 2 | 0-1000 | 实时的光照值 |
|  | luxSetting | 2 | 0-1000 | 用户设的光照度 |
| PIR |  |  |  |  |
|  | pirCurrent | 1 | 0-1 | 红外值 |
| DAC | 数模转换器 | | | |
|  | status | 1 | 0-1 | 开关 |
|  | c | 1 | 0-255 | 转换值 |
| SWITCH | 墙壁触摸开关 | | | |
|  | index | 1 | 0-2 | 第几个灯 |
|  | oneStatus | 1 | 0-1 | 第一个灯的开关 |
|  | twoStatus | 1 | 0-1 | 第二个灯的开关 |
|  | threeStatus | 1 | 0-1 | 第三个灯的开关 |
| SOCKET | 插座 | | | |
|  | status | 1 | 0-1 | 开关 |

1. 包的结构：

包

|  |  |
| --- | --- |
| Head(包头) | Body(包体) |

包头 (5 byte)

|  |  |  |  |
| --- | --- | --- | --- |
| 0x12 | 0x34 | headLen(包头长度) | packLen (2 byte) |

包体：

|  |  |  |
| --- | --- | --- |
| CMD\_TYPE（命令类型） | 内容（可无） | CRC校验 (4 byte) |

1. 不同控制命令的包体：

1.CMD\_CTRL:

|  |  |  |
| --- | --- | --- |
| 0x001 | 控制信息（可多个） | Crc校验值(4byte) |

2.CMD\_CTRL\_STAUTS:

|  |  |  |
| --- | --- | --- |
| 0x002 | 查询信息（可多个） | Crc校验值(4byte) |

3.CMD\_CTRL\_LIST:

|  |  |
| --- | --- |
| 0x003 | Crc校验值(4byte) |

4. CMD\_CTRL\_BIND:

|  |  |  |
| --- | --- | --- |
| 0x004 | 绑定信息（可多个） | Crc校验值(4byte) |

单控控制信息：// CMD\_CTRL

1. CTRL \_LED\_STATUS (12byte):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id(8byte) | status |

1. CTRL \_LED\_W (12byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id(8byte) | w |

1. CTRL \_RGB\_STATUS (12byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id(8byte) | status |

1. CTRL \_RGB\_COLOR (14byte)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id | r | g | b |

1. CTRL \_RGBW\_STATUS (12byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id(8byte) | status |

1. CTRL \_RGBW\_W(12byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id(8byte) | w |

1. CTRL \_RGBW\_COLOR(14byte)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id | r | g | b |

1. CTRL \_CCT\_STATUS(12byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id(8byte) | status |

1. CTRL \_CCT\_WARM(12byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id(8byte) | warm |

1. CTRL \_LUX\_SETTING(13byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id | luxSetting(2 byte) |

1. CTRL \_DAC\_STATUS(12byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id | status |

1. CTRL \_DAC\_C(12byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id | c |

1. CTRL \_SWITCH\_SWITCH(13byte)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id | oneStatus | twoStatus | threeStatus |

1. CTRL \_SOCKET\_STATUS(12byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id | status |

查询命令CMD\_CTRL\_STATUS：

1.STATUS\_SEND \_LED(11 byte)

|  |  |  |  |
| --- | --- | --- | --- |
| len | sendDeviceStatus | Device\_Type | Device\_Id(8byte) |

2. STATUS\_SEND \_RGB(11 byte)

|  |  |  |  |
| --- | --- | --- | --- |
| len | sendDeviceStatus | Device\_Type | Device\_Id(8byte) |

3. STATUS\_SEND \_RGBW(11 byte)

|  |  |  |  |
| --- | --- | --- | --- |
| len | sendDeviceStatus | Device\_Type | Device\_Id(8byte) |

4. STATUS \_SEND \_CCT(11 byte)

|  |  |  |  |
| --- | --- | --- | --- |
| len | sendDeviceStatus | Device\_Type | Device\_Id(8byte) |

5. STATUS \_SEND \_LUX\_SETTING(11 byte)

|  |  |  |  |
| --- | --- | --- | --- |
| len | sendDeviceStatus | Device\_Type | Device\_Id(8byte) |

6. STATUS\_SEND \_LUX\_LIST(11 byte)

|  |  |  |  |
| --- | --- | --- | --- |
| len | sendDeviceStatus | Device\_Type | Device\_Id(8byte) |

7. STATUS \_SEND \_PIR\_LIST(11 byte)

|  |  |  |  |
| --- | --- | --- | --- |
| len | sendDeviceStatus | Device\_Type | Device\_Id(8byte) |

8. STATUS\_ SEND\_DAC(11 byte)

|  |  |  |  |
| --- | --- | --- | --- |
| len | sendDeviceStatus | Device\_Type | Device\_Id(8byte) |

9. STATUS\_ SEND\_ SWITCH (11 byte)

|  |  |  |  |
| --- | --- | --- | --- |
| len | sendDeviceStatus | Device\_Type | Device\_Id(8byte) |

10. STATUS\_ SEND\_ SOCKET (11 byte)

|  |  |  |  |
| --- | --- | --- | --- |
| len | sendDeviceStatus | Device\_Type | Device\_Id(8byte) |

CMD\_CTRL\_SEND \_BIND://绑定命令

1. BIND \_LUX\_LIST(more than 19byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id | bindingID(8byte)(可多个) |

2. BIND \_PIR\_LIST(more than 19byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | sendDeviceCtrlType | Device\_Type | Device\_Id | bindingID(8byte)(可多个) |

1. 不同接收命令的包体：

1. CMD\_ DEV\_DEL(13byte)：

|  |  |  |
| --- | --- | --- |
| CMD\_ DEV\_DEL | 设备ID（8byte） | Crc校验值(4byte) |

2. CMD\_ DEV\_ADD(14byte)：

|  |  |  |  |
| --- | --- | --- | --- |
| CMD\_ DEV\_ADD | 设备类型 | 设备ID（8byte） | Crc校验值(4byte) |

3. CMD\_ DEV\_STATUS：

|  |  |  |
| --- | --- | --- |
| CMD\_ DEV\_STATUS | CMD\_DEV\_STATUS内容 | Crc校验值(4byte) |

CMD\_DEV\_STATUS:

1. STATUS \_RECIVE\_LED(13byte)：

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| len | ReciveDeviceStatus | Device\_Type | Device\_Id(8byte) | status | w |

1. STATUS\_RECIVE \_RGB (15byte)：

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| len | ReciveDeviceStatus | Device\_Type | Device\_Id | Status | r | g | b |

1. STATUS\_RECIVE \_RGBW (16byte)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| len | ReciveDeviceStatus | Device\_Type | Device\_Id | Status | r | g | b | w |

1. STATUS\_RECIVE \_CCT (13byte)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| len | ReciveDeviceStatus | Device\_Type | Device\_Id | Status | Warm |

1. STATUS\_RECIVE \_LUX\_SETTING (13 byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | ReciveDeviceStatus | Device\_Type | Device\_Id | luxSetting(2byte) |

1. STATUS\_RECIVE \_LUX\_CURRENT (13byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | ReciveDeviceStatus | Device\_Type | Device\_Id | luxCurrent(2byte) |

1. STATUS\_RECIVE \_LUX\_LIST (more than 19byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | ReciveDeviceStatus | Device\_Type | Device\_Id | bindingID(8byte)(可多个) |

1. STATUS \_RECIVE \_PIR\_CURRENT (12 byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | ReciveDeviceStatus | Device\_Type | Device\_Id(8byte) | pirCurrent |

1. STATUS\_RECIVE \_PIR\_LIST (more than 19byte )

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | ReciveDeviceStatus | Device\_Type | Device\_Id(8byte) | bindingID(8byte)(可多个) |

1. STATUS\_RECIVE \_DAC (13byte)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| len | ReciveDeviceStatus | Device\_Type | Device\_Id | Status | c |

1. STATUS\_RECIVE \_SWITCH(14byte)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| len | ReciveDeviceStatus | Device\_Type | Device\_Id | oneStatus | twoStatus | threeStatus |

1. STATUS\_RECIVE \_SOCKET (12byte)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| len | ReciveDeviceStatus | Device\_Type | Device\_Id | Status |