# Sparrow 蓝牙通信协议

## 协议格式

方向：android->esp32

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 内容 | Start | Cmd | DataLen | Data | CheckSum | Stop |
| 长度(字节) | 2 | 1 | 2 | N | 1 | 2 |
| 值 | 0xA5、0x5A |  |  |  |  | 0xF0、0x0F |

方向：esp32->android

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 内容 | Start | Cmd | DataLen | Data | CheckSum | Stop |
| 长度(字节) | 2 | 1 | 2 | N | 1 | 2 |
| 值 | 0xA5、0x5A |  |  |  |  | 0xF0、0x0F |

说明：

1. Start：协议起始字节；
2. Cmd：指令类型；
3. DataLen：数据长度；
4. Data：数据内容；
5. CheckSun：校验和，计算方式为从Start开始到Data结束的字节累加和；
6. Stop：协议结束字节；

## 协议内容

1. 鼠标移动（0x01）

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | Data | | CheckSum | Stop |
| 0x01 | 0x00 0x02 | x | y |  |

说明：

* 1. x：鼠标x方向移动距离；
  2. y：鼠标y方向移动距离；

1. 鼠标按键操作（0x02）

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | Data | | CheckSum | Stop |
| 0x02 | 0x00 0x02 | key | state |  |

说明：

1. key：按键

0x01：鼠标左键；

0x02：鼠标右键；

0x03：鼠标中键；

1. state：状态

0x01：按键按下；

0x02：按键释放；

0x03：按键点击；

1. 键盘输入（0x03）

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | Data | CheckSum | Stop |
| 0x03 | 0x00 0x01 | key |  |

说明：

key：按键，注：输入内容仅包含英文大小写、标点符号以及空格；

1. 键盘功能键（0x04）

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | Data | CheckSum | Stop |
| 0x04 | 0x00 0x01 | func |  |

说明：

func：功能按键；

1. 发送hid数据（0x05）

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | Data | CheckSum | Stop |
| 0x05 |  | data |  |

说明：

data：hid协议规定一次传输最大63字节。

1. 配置服务器地址（0x06）

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | Data | CheckSum | Stop |
| 0x06 |  | addr |  |

1. 配置服务器用户名（0x07）

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | Data | CheckSum | Stop |
| 0x07 |  | username |  |

1. 配置服务器密码（0x08）

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | Data | CheckSum | Stop |
| 0x08 |  | password |  |

1. 启动发送文本数据（0x09）

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | FrameLen | CheckSum | Stop |
| 1 | 2 | 2 |  |
| 0x09 |  |  |  |

1. 发送文本数据(0x0A)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | Data | CheckSum | Stop |
| 1 | 2 | 2 |  |
| 0x0A |  |  |  |  |

1. 启动发送文件(0x0B)

方向：APP->ESP32

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | NameSize | Name | DataSize | FrameSize | CheckSum | Stop |
| 1 | 2 |  |  | 2 | 2 |  |
| 0x0B | 0x00 0x03 |  |  |  |  |  |  |

说明：

NameSize：文件名长度；

Name：文件名；

DataSize：数据总长度；

FrameSize：帧大小，一帧数据包含的字节数（最后一帧数据长度可能小于此值）；

1. 发送文本文件(0x0C)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | FrameIndex | FrameData | CheckSum | Stop |
| 1 | 2 | 2 |  |  |
| 0x0C |  |  |  |  |  |