Uart Protocol

|  |  |  |
| --- | --- | --- |
| Version | Modify records | Modified by/time |
| V1.0.0 |  | Alan/20220427 |

# **1.Uart Protocol data format**

## 1.1 Uart read device information data format

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Device type | Header | Device | Function Key | Data length | Datas | CS check | End |
| **Host device** | 0xED | 0x01 | - | 0x00 | NULL | 0x00 | 0xEE |
| Beacon | 0xED | 0x02 | - | - | - | - | 0xEE |

## 1.2 Uart write device information data format

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Device type | Header | Device | Function Key | Data length | Datas | CS check | End |
| **Host computer** | 0xED | 0x01 | - | - | - | - | 0xEE |
| Beacon | 0xED | 0x02 | - | 0x01 | - | - | 0xEE |

# 4、User Protocol data format

## 4.1 Read and write device MAC --（0x01）

* **Read device mac**

**Host device send：**

|  |  |  |
| --- | --- | --- |
| **Byte offset** | **Value** | **Description** |
| 0 | 0xED | HEAD |
| 1 | 0x01 | **Host device** |
| 2 | 0x01 | Function key(read and write **device mac**) |
| 3 | 0x00 | len |
| 4 | 0x00 | cs |
| 5 | 0xEE | End data |

**Beacon feedback：**

|  |  |  |
| --- | --- | --- |
| **Byte offset** | **Value** | **Description** |
| 0 | 0xED | HEAD |
| 1 | 0x02 | Beacon |
| 2 | 0x01 | Function key(read and write **device mac**) |
| 3 | 0x06 | Data len(6Byte) |
| 4-9 | 01 02 03 04 05 06 | User data  Data type：hex  Mac addr：0x01 0x02 0x03 0x04 0x05 0x06 |
| 10 | 0x15 | cs check ,user data check sum |
| 11 | 0xEE | End data |

Example：

Host device send：0xED 01 01 00 00 EE

Beacon feedback：0xED 02 01 06 01 02 03 04 05 06 15 EE

* **Write device mac**

**Host device send：**

|  |  |  |
| --- | --- | --- |
| **Byte offset** | **Value** | **Description** |
| 0 | 0xED | HEAD |
| 1 | 0x01 | **Host device** |
| 2 | 0x01 | Function key(read and write **device mac**) |
| 3 | 0x06 | Data len(6Byte) |
| 4-9 | 01 02 03 04 05 06 | User data  Data type：hex  Mac addr：0x01 0x02 0x03 0x04 0x05 0x06 |
| 10 | 0x15 | CS Check ,user data check sum |
| 11 | 0xEE | End data |

**Beacon feedback：**

|  |  |  |
| --- | --- | --- |
| **Byte offset** | **Value** | **Description** |
| 0 | 0xED | HEAD |
| 1 | 0x02 | **Beacons** |
| 2 | 0x01 | Function command(read and write device mac) |
| 3 | 0x01 | len(1Byte) |
| 4-5 | 0xAA 0xAA | 0x55 0x55：failure  0xAA 0xA：success |

Example：

Host device send：0xED 01 01 06 01 02 03 04 05 06 15 EE

**Beacon** feedback：**0xED 02 01 01 55 55 EE**（write failure）

**0xED 02 01 01 66 66 EE**（write failure）

**Beacon** feedback：**0xED 02 01 01 AA AA EE**（write success）

## 4.2 Read and write Production Date --（0x07）

* **Read Production Date**

**Host device send：**

|  |  |  |
| --- | --- | --- |
| **Byte offset** | **Value** | **Description** |
| 0 | 0xED | HEAD |
| 1 | 0x01 | **Host device** |
| 2 | 0x07 | Function key(read and write **Production Date**) |
| 3 | 0x00 | len |
| 4 | 0x00 | cs |
| 5 | 0xEE | End data |

**Beacon feedback：**

|  |  |  |
| --- | --- | --- |
| **Byte offset** | **Value** | **Description** |
| 0 | 0xED | HEAD |
| 1 | 0x02 | Beacon |
| 2 | 0x07 | Function key(read and write **Production Date**) |
| 3 | 0x04 | Data len(4Byte) |
| 4-6 | 07 E3 04 01 | User data  Data type：hex  Production Date：07 E3 04 01（20190401） |
| 7 | 0xEF | cs check ,user data check sum |
| 8 | 0xEE | End data |

Example：

Host device send：0xED 01 07 00 00 EE

Beacon feedback：0xED 02 07 04 07 E3 04 01 EF EE

* **Write Production Date**

**Host device send：**

|  |  |  |
| --- | --- | --- |
| **Byte offset** | **Value** | **Description** |
| 0 | 0xED | HEAD |
| 1 | 0x01 | **Host device** |
| 2 | 0x07 | Function key(read and write **Production Date**) |
| 3 | 0x04 | Data len(4 Byte) |
| 4-6 | 07 E3 04 01 | User data  Data type：hex  Production Date：07 E3 04 01（20190401） |
| 7 | 0xEF | cs check ,user data check sum |
| 8 | 0xEE | End data |

**Beacon feedback：**

|  |  |  |
| --- | --- | --- |
| **Byte offset** | **Value** | **Description** |
| 0 | 0xED | HEAD |
| 1 | 0x02 | **Beacon** |
| 2 | 0x07 | Function command(read and write Production Date) |
| 3 | 0x01 | len(1Byte) |
| 4-5 | 0xAA 0xAA | 0x55 0x55：failure  0xAA 0xA：success |

Example：

**Host device** send：0xED 01 07 04 07 E3 04 01 EF EE

**Beacon** feedback：**0xED 02 07 01 55 55 EE**（write failure）

**0xED 02 07 01 66 66 EE**（write failure）

**Beacon** feedback：**0xED 02 07 01 AA AA EE**（write success）

## 4.3 Read Equipment type --（0x0F）

**Host device send：**

|  |  |  |
| --- | --- | --- |
| **Byte offset** | **Value** | **Description** |
| 0 | 0xED | HEAD |
| 1 | 0x01 | **Host device** |
| 2 | 0x0F | Function key(read Equipment type) |
| 3 | 0x00 | len |
| 4 | 0x00 | Cs check sum |
| 5 | 0xEE | End data |

**Beacon feedback：**

|  |  |  |
| --- | --- | --- |
| **Byte offset** | **Value** | **Description** |
| 0 | 0xED | HEAD |
| 1 | 0x02 | Beacon |
| 2 | 0x0F | Function key(read **Production Date**) |
| 3 | 0x01 | Data len(4Byte) |
| 4 | 0x01 | **0x00:** represents the sensorless version,  **0x01:** represents the version with a three-axis accelerometer,  **0x02:** represents the temperature and humidity version,  **0x03:** represents the three-axis + temperature and humidity version,  **0x04 :** represents the light-sensing version,  **0x05:** represents the light-sensing + three-axis version |
| 7 | 0x01 | cs check ,user data check sum |
| 8 | 0xEE | End data |

Example：

Host device send：0xED 01 0F 00 00 EE

Beacon feedback：0xED 02 0F 01 01 01 EE

## 4.4 write Sleep mode --（0x34）

**Host device send：**

|  |  |  |
| --- | --- | --- |
| **Byte offset** | **Value** | **Description** |
| 0 | 0xED | HEAD |
| 1 | 0x01 | **Host device** |
| 2 | 0x34 | Function key(write **sleep mode**) |
| 3 | 0x01 | len |
| 4 | 0x01 | data |
| 5 | 0x01 | cs |
| 5 | 0xEE | End data |

**Beacon feedback：**

|  |  |  |
| --- | --- | --- |
| **Byte offset** | **Value** | **Description** |
| 0 | 0xED | HEAD |
| 1 | 0x02 | **Beacon** |
| 2 | 0x34 | Function command(read and write Production Date) |
| 3 | 0x01 | len(1Byte) |
| 4-5 | 0xAA 0xAA | 0x55 0x55：failure  0xAA 0xA：success |

Example：

Host device send：0xED 01 34 01 01 01 EE

Beacon feedback：**0xED 02 34 01 55 55 EE**（write failure）

**0xED 02 34 01 66 66 EE**（write failure）

Beacon feedback：**0xED 02 34 01 AA AA EE**（write success）