|  |  |
| --- | --- |
| Command Status |  |
| Command Success | 0 |
| Already Executed | 1 |
| Invalid Syntax | 2 |
| Invalid Parameters | 3 |
| Value Can not be Applied | 4 |
| Value not in range | 5 |
| Command not found | 6 |
| Device not found | 7 |
| Transaction Discarded | 8 |
| Transaction not found | 9 |
| Unknown Failure | 0xFF |

|  |  |
| --- | --- |
| Valve Status (Default Close) |  |
| Close | 0x00 |
| Open | 0x01 |
| Auto | 0x02 ( For Pre Paid) |

|  |  |
| --- | --- |
|  |  |
| Prepaid | 0x01 |
| PostPaid | 0x00 |

|  |  |
| --- | --- |
| Meter Type |  |
| Disabled | 0 |
| Water | 1 |
| Gas | 2 |
| Energy | 3 |

|  |  |
| --- | --- |
| Meter Status Byte |  |
| Bit | Status |
| 0 | Door Open |
| 1 | Magnetic tamper |
| 2 | Schedule Disconnect |
| 3 |  |
| 4 | RTC Fault |
| 5 | Low Bat |
| 6 |  |
| 7 |  |

|  |  |
| --- | --- |
| Sync Interval is in 2 to 1440mins | |
| Min | Max |
| 2 | 1440 |
| 0x0 is Manual Sync by button press | |

**Lowbalance will come when balance is less than the tariff**

**LowBattery will come when battery percentage becomes less than 20%**

1. **Live status**

**Live Status of AMR from Gateway to Server**

Server Provides Post URL for individual device status update

**POST: / SERVER/api/{device\_eui}/status**

{

timestamp: yyyy/mm/dd HH:mm:ss, //last update at

type: 0/1/2/3, //Water/Gas/Energy

sync\_time: xxxx, //HH:mm:ss

sync\_interval: xxxx,

pre\_post\_paid: 0/1,

bat\_volt: xx.xx,

valve\_configuration: 0/1/2, //Close, Open, Auto

valve\_live\_status: 0/1, //close, open

credit: xxxx.xx,

tariff: xxxx.xx,

emergency\_credit: xxx.xx,

min\_elapsed\_after\_valve\_trip: xxxx,

reading: xxxxx,

status: { //all are 0 or 1

door\_open: 0/1,

magnetic: 0/1,

schedule\_disconnect: 0/1,

rtc\_fault: 0/1,

low\_bat: 0/1,

low\_bal: 0/1,

}

}

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Parameter | ID | Data type | No Of Bytes | Remarks |
| Meter Reset | 1 | 0 | 0 |  |
| Tariff | 3 | Float | 4 |  |
| EmergencyCredit | 4 | Float | 4 |  |
| Valve | 5 | Uint8 | 1 | 0/1/2 |
| RTC | 6 | Date Time | 6 | YY,mm,dd,HH,mm,ss |
| Schedule Disconnect | 7 | String | 12 | Start and End Times |
| Sync Interval | 8 | Uint16\_t | 2 | 2 to 1440 |
| Meter Reading | 9 | Uint32\_t | 5 | Reading |
| PrePaidPostPaid Mode | 10 | Uint8 | 1 | 0/1/2 |
| Meter Resource Type | 11 | Uint8 | 1 | 0/1/2/3 |
| Clear Tamper | 12 | Uint8 | 1 |  |
| Sync Time | 13 | Time | 3 | HH,mm,ss |
| cancel\_transaction | 14 | Uint32\_t | 4 | Transaction\_ID |

1. **Set Individual Parameters**

**Set Request from server to update AMR**

Gateway Provides Post URL for individual parameter update

**POST: / GATEWAY/api/{device\_eui}/set**

{

transaction\_id: “xxxxx”, //it will be generated by server for tracking command status

parameter\_id: x, //

value: “xxxxxx,

}

Resp: 200

**Set Response from AMR to Server**

Server Provides Post URL for individual parameter update response

**POST: / SERVER/api/{device\_eui}/set/response**

{

transaction\_id: “xxxxx”, //it will be generated by server for tracking command status

parameter\_id: x, //

value: “xxxxxx,

cmd\_status: x,

}

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Parameter | ID | Data type | No Of Bytes | Remarks |
| Meter Reset | 1 | 0 | 0 |  |
| Sync Interval | 8 | Uint16\_t | 2 |  |
| Meter Reading | 9 | Uint32\_t | 4 |  |
| PrePaidPostPaid Mode | 10 | Uint8 | 1 |  |
| Meter Resource Type | 11 | Uint8 | 1 |  |
| Clear Tamper | 12 | Uint8 | 1 |  |
| Sync Time | 13 | Time | 3 | HH:mm:ss |

**Above parameters can be sent for Group set**

1. **Set Group of Parameters**

**Set Request from server to update AMR**

Gateway Provides Post URL for individual parameter update

**POST: / GATEWAY/api/{device\_eui}/group/set**

{

transaction\_id: “xxxxx”, //it will be generated by server for tracking command status

parameters:[

{parameter\_id: x, value: “xxxxxx, }

……

]

}

Resp: 200

**Set Response from AMR to Server**

Server Provides Post URL for individual parameter update response

**POST: / SERVER/api/{device\_eui}/group/set/response**

{

transaction\_id: “xxxxx”, //it will be generated by server for tracking command status

response: x

}

1. **Topup Request**

**Request from Server to update AMR**

Gateway Provides Post URL for individual parameter update

**POST: / GATEWAY/api/{device\_eui}/topup**

{

transaction\_id: “xxxxx”, //it will be generated by server for tracking command status

emergency\_credit: xxxx,

credit: xxxx,

}

Resp: 200

**Response from AMR to Server**

Server Provides Post URL for individual parameter update response

**POST: / SERVER/api/{device\_eui}/topup/response**

{

transaction\_id: “xxxxx”, //it will be generated by server for tracking command status

response: x

type: 0/1/2/3, //Water/Gas/Energy

sync\_time: xxxx, //HH:mm:ss

sync\_interval: xxxx,

pre\_post\_paid: 0/1,

bat\_volt: xx.xx,

valve\_configuration: 0/1/2, //Close, Open, Auto

valve\_live\_status: 0/1, //close, open

credit: xxxx.xx,

tariff: xxxx.xx,

emergency\_credit: xxx.xx,

min\_elapsed\_after\_valve\_trip: xxxx,

reading: xxxxx,

status:

{ //all are 0 or 1

door\_open: 0/1,

magnetic: 0/1,

schedule\_disconnect: 0/1,

rtc\_fault: 0/1,

low\_bat: 0/1,

low\_bal: 0/1,

}

}