**智能家居实训系统**

**通讯协议**

**V0.1**

**研发部**

**北京瀚恒星火科技有限公司**

**智能家居实训系统通信协议V0.1**

**文档修订历史**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 版本编号 | 变化状态 | 简要说明 | 日期 | 变更人 |
| V0.1 | C | **智能家居实训系统通信协议** | 2017-08-03 | 靳爱兵 |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**\*变化状态：C—创建，A—增加，M—修改，D删除**

目录

[一、协议简介 5](#_Toc489629829)

[二、协议说明--HTTP接口 5](#_Toc489629830)

[2.1 应用配置接口 5](#_Toc489629831)

[2.1.1.用户 5](#_Toc489629832)

[2.1.2.建筑 6](#_Toc489629833)

[2.1.3.房间 7](#_Toc489629834)

[2.1.4.网关 7](#_Toc489629835)

[2.1.5.灯光 8](#_Toc489629836)

[2.1.6.窗帘 9](#_Toc489629837)

[2.1.7.环境传感器 10](#_Toc489629838)

[2.1.8.摄像头 11](#_Toc489629839)

[2.1.9.安防传感器 12](#_Toc489629840)

[2.1.10.空调 13](#_Toc489629841)

[2.1.11.电视 14](#_Toc489629842)

[2.1.12.机顶盒 15](#_Toc489629843)

[2.1.13.情景开关 16](#_Toc489629844)

[2.1.14.电表 17](#_Toc489629845)

[2.1.15.智能插座（连接通断电即可控制的设备） 18](#_Toc489629846)

[2.2 应用交互接口 19](#_Toc489629847)

[三、协议说明--UDP接口 19](#_Toc489629848)

[四、协议说明--MQTT接口 19](#_Toc489629849)

# 一、协议简介

智能家居实训系统通信协议主要用于智能家居系统的协同开发而编写，同时也为系统的二次开发提供技术资料。协议按照通讯方式分为3大类，HTTP、UDP以及MQTT，其中HTTP和UDP主要用于局域网通信，MQTT主要用于远程通讯。

其中HTTP协议又分为两大部分，应用配置接口和应用交互接口，UDP和MQTT只提供应用交互接口协议，详细内容见各协议说明。

# 二、协议说明--HTTP接口

## 2.1 应用配置接口

应用配置接口主要用于系统初始化配置以及后续用户及设备管理，主要以用户或者设备的增/删/改/查功能为主。

### 2.1.1.用户

|  |  |
| --- | --- |
| 添加新用户 | |
| URL | /config/user/add |
| params | account,pwd |
| response | success:true,result:ok/failed,reason:ok/exist |
| 删除用户信息 | |
| URL | /config/user/delete |
| params | id |
| response | success:true,result:ok,reason:ok |
| 修改用户信息 | |
| URL | /config/user/edit |
| params | id,account,pwd |
| response | success:true,result:ok/failed,reason:ok/exist |
| 查询用户信息 | |
| URL | /config/user/query |
| params | none |
| response | success:true,users:[{id:1,account:””,pwd:”” },{},…] |

### 2.1.2.建筑

|  |  |
| --- | --- |
| 添加新建筑 | |
| URL | /config/building/add |
| params | building\_name |
| response | success:true,result:ok/failed,reason:ok/exist |
| 删除建筑信息 | |
| URL | /config/building/delete |
| params | id |
| response | success:true,result:ok,reason:ok |
| 修改建筑信息 | |
| URL | /config/building/edit |
| params | id,building\_name |
| response | success:true,result:ok/failed,reason:ok/exist |
| 查询建筑信息 | |
| URL | /config/building/query |
| params | building\_name |
| response | success:true,buildings:[{id:1,building\_name:””},{},…] |

### 2.1.3.房间

|  |  |
| --- | --- |
| 添加新房间 | |
| URL | /config/room/add |
| params | building\_id,room\_name |
| response | success:true,result:ok/failed,reason:ok/exist |
| 删除房间信息 | |
| URL | /config/room/delete |
| params | id |
| response | success:true,result:ok,reason:ok |
| 修改房间信息 | |
| URL | /config/room/edit |
| params | id,room\_name |
| response | success:true,result:ok/failed,reason:ok/exist |
| 查询房间信息 | |
| URL | /config/room/query |
| params | room\_name |
| response | success:true,rooms:[{id:1,building\_name:””,room\_name:””},{},…] |

### 2.1.4.网关

|  |  |
| --- | --- |
| 添加新网关 | |
| URL | /config/gateway/add |
| params | gateway\_name, gtype,args,room\_id  gateway\_name:网关别名  gtype:zigbee/modbus/shc/relay  args:did,username,pwd/ip,port/did,ip/ip,port  room\_id:所属房间ID |
| response | success:true,result:ok/failed,reason:ok/argsError |
| 删除网关信息 | |
| URL | /config/gateway/delete |
| params | id |
| response | success:true,result:ok,reason:ok |
| 修改网关信息 | |
| URL | /config/gateway/edit |
| params | id,gateway\_name, args,room\_id |
| response | success:true,result:ok,reason:ok |
| 查询网关信息 | |
| URL | /config/gateway/query |
| params | gateway\_name,gtype |
| response | success:true,gateways:[{id:1,gateway\_name:””,did:””,gtype:””,agrs:””,room\_id:1,room\_name:””,building\_name:””},{},…] |

### 2.1.5.灯光

|  |  |
| --- | --- |
| 添加新灯光 | |
| URL | /config/light/add |
| params | name,type,cfg,gid  name:灯光别名  type:ours.switch1/ours.switch2/ours.switch3/orvibo.switch1/ orvibo.switch2/orvibo.switch3/lumi.switch1/lumi.switch2/ lumi.switch3/RF.switch/ours.hueLight/jiawen.hueLight/philips.hueLight  cfg: RF.switch:3-1,3-2,其他：did,0/1/2,hueLight:did  gid:网关ID |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 删除灯光信息 | |
| URL | /config/light/delete |
| params | id |
| response | success:true,result:ok,reason:ok |
| 修改灯光信息 | |
| URL | /config/light/edit |
| params | id,name,type,cfg,gid |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 查询灯光信息 | |
| URL | /config/light/query |
| params | name |
| response | success:true,lights:[{id:1,name:””,did:””,type:””,cfg:””,gid:1,gateway\_name:””,room\_name:””,building\_name:””},{},…] |

### 2.1.6.窗帘

|  |  |
| --- | --- |
| 添加新窗帘 | |
| URL | /config/curtain/add |
| params | name,type,cfg,gid  name:窗帘别名  type: ours.WindowCovering1/ours.WindowCovering2/RF.curtain  cfg: RF.curtain:3-1,3-2,3-3,其他：did,0/1  gid:网关ID |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 删除窗帘信息 | |
| URL | /config/curtain/delete |
| params | id |
| response | success:true,result:ok,reason:ok |
| 修改窗帘信息 | |
| URL | /config/curtain/edit |
| params | id,name,type,cfg,gid |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 查询窗帘信息 | |
| URL | /config/curtain/query |
| params | name |
| response | success:true,curtains:[{id:1,name:””,did:””,type:””,cfg:””,gid:1,gateway\_name:””,room\_name:””,building\_name:””},{},…] |

### 2.1.7.环境传感器

|  |  |
| --- | --- |
| 添加新环境传感器 | |
| URL | /config/numSensor/add |
| params | name,type,cfg,gid  name:传感器名称  type:lumi.TempHumi/fb.TempHumi/lumi.PIR/fb.PIR/485.TempHumi/485.light/485.TmepHumiLight/485.PM/485.HCHO/485.CO2/485.CO  cfg:  gid:网关ID |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 删除环境传感器信息 | |
| URL | /config/numSensor/delete |
| params | id |
| response | success:true,result:ok,reason:ok |
| 修改环境传感器信息 | |
| URL | /config/numSensor/edit |
| params | id,name,type,cfg,gid |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 查询环境传感器信息 | |
| URL | /config/numSensor/query |
| params | name |
| response | success:true,numSensors:[{id:1,name:””,did:””,type:””,cfg:””,gid:1,gateway\_name:””,room\_name:””,building\_name:””},{},…] |

### 2.1.8.摄像头

|  |  |
| --- | --- |
| 添加新摄像头 | |
| URL | /config/camera/add |
| params | name,type,cfg,room\_id  name:摄像头名称  type:IpCamera/HKCamera  cfg:ip,port  room\_id:所属房间ID |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 删除摄像头信息 | |
| URL | /config/camera/delete |
| params | id |
| response | success:true,result:ok,reason:ok |
| 修改摄像头信息 | |
| URL | /config/camera/edit |
| params | id,name,type,cfg,room\_id |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 查询摄像头信息 | |
| URL | /config/camera/query |
| params | name |
| response | success:true,cameras:[{id:1,name:””,did:””,type:””,cfg:””,room\_id:1,room\_name:””,building\_name:””},{},…] |

### 2.1.9.安防传感器

|  |  |
| --- | --- |
| 添加新安防传感器 | |
| URL | /config/ioSensor/add |
| params | name,type,cfg,gid  name:传感器名称  type:fb.PIR/fb.ContactSwitch/fb.smoke/fb.gas/fb.water/lumi.PIR/ lumi.ContactSwitch/lumi.smoke/lumi.gas/lumi.water  cfg:  gid:网关ID |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 删除安防传感器信息 | |
| URL | /config/ioSensor/delete |
| params | id |
| response | success:true,result:ok,reason:ok |
| 修改安防传感器信息 | |
| URL | /config/ioSensor/edit |
| params | id,name,type,cfg,gid |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 查询安防传感器信息 | |
| URL | /config/ioSensor/query |
| params | name |
| response | success:true,curtains:[{id:1,name:””,did:””,type:””,cfg:””,gid:1,gateway\_name:””,room\_name:””,building\_name:””},{},…] |

### 2.1.10.空调

|  |  |
| --- | --- |
| 添加新空调 | |
| URL | /config/air/add |
| params | name,type,cfg,gid  name:空调名称  type:空调品牌  cfg:码库索引  gid:网关ID |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 删除空调信息 | |
| URL | /config/air/delete |
| params | id |
| response | success:true,result:ok,reason:ok |
| 修改空调信息 | |
| URL | /config/air/edit |
| params | id, name,type,cfg,gid |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 查询空调信息 | |
| URL | /config/air/query |
| params | name |
| response | success:true,airConditioners:[{id:1,name:””,did:””,type:””,cfg:””,gid:1,gateway\_name:””,room\_name:””,building\_name:””},{},…] |

### 2.1.11.电视

|  |  |
| --- | --- |
| 添加新电视 | |
| URL | /config/television/add |
| params | name,gid  name:电视名称  gid:网关ID |
| response | success:true,result:ok,reason:ok |
| 删除电视信息 | |
| URL | /config/television/delete |
| params | id |
| response | success:true,result:ok,reason:ok |
| 修改电视信息 | |
| URL | /config/television/edit |
| params | name,gid |
| response | success:true,result:ok,reason:ok |
| 查询电视信息 | |
| URL | /config/television/query |
| params | name |
| response | success:true,televisions:[{id:1,name:””,did:””,gid:1,gateway\_name:””,room\_name:””,building\_name:””},{},…] |

### 2.1.12.机顶盒

|  |  |
| --- | --- |
| 添加新机顶盒 | |
| URL | /config/topbox/add |
| params | name,gid  name:机顶盒名称  gid:网关ID |
| response | success:true,result:ok,reason:ok |
| 删除机顶盒信息 | |
| URL | /config/topbox/delete |
| params | id |
| response | success:true,result:ok,reason:ok |
| 修改机顶盒信息 | |
| URL | /config/topbox/edit |
| params | name,gid |
| response | success:true,result:ok,reason:ok |
| 查询机顶盒信息 | |
| URL | /config/topbox/query |
| params | name |
| response | success:true,topboxes:[{id:1,name:””,did:””,gid:1,gateway\_name:””,room\_name:””,building\_name:””},{},…] |

### 2.1.13.情景开关

|  |  |
| --- | --- |
| 添加新情景开关 | |
| URL | /config/sceneButton/add |
| params | name,type,cfg,gid  name:情景开关别名  type: ours.scene3/ours.scene4/orvibo.scene3/orvibo.scene5/lumi.scene1/lumi.scene2/lumi.scene3/EnOcean.scene4  cfg: did,0/1/2/3/4/5  gid:网关ID |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 删除情景开关信息 | |
| URL | /config/sceneButton/delete |
| params | id |
| response | success:true,result:ok,reason:ok |
| 修改情景开关信息 | |
| URL | /config/sceneButton/edit |
| params | id, name,type,cfg,gid |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 查询情景开关信息 | |
| URL | /config/sceneButton/query |
| params | name |
| response | success:true,sceneButtons:[{id:1,name:””,did:””,type:””,cfg:””,gid:1,gateway\_name:””,room\_name:””,building\_name:””},{},…] |

### 2.1.14.电表

|  |  |
| --- | --- |
| 添加新电表 | |
| URL | /config/ammeter/add |
| params | name,cfg,gid  name:电表别名  cfg:485地址值  gid:485网关ID |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 删除电表信息 | |
| URL | /config/ammeter/delete |
| params | id |
| response | success:true,result:ok,reason:ok |
| 修改电表信息 | |
| URL | /config/ammeter/edit |
| params | name,cfg,gid |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 查询电表信息 | |
| URL | /config/ammeter/query |
| params | name |
| response | success:true,ammeters:[{id:1,name:””,did:””,cfg:””,gid:1,gateway\_name:””,room\_name:””,building\_name:””},{},…] |

### 2.1.15.智能插座（连接通断电即可控制的设备）

|  |  |
| --- | --- |
| 添加新插座 | |
| URL | /config/plugBase/add |
| params | name,type,cfg,gid  name:插座别名  type:ours.plug/orvibo.plug/lumi.plug/RF.plug  cfg: RF.plug:3-1,3-2,其他：did  gid:网关ID |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 删除插座信息 | |
| URL | /config/plugBase/delete |
| params | id |
| response | success:true,result:ok,reason:ok |
| 修改插座信息 | |
| URL | /config/plugBase/edit |
| params | id,name,type,cfg,gid |
| response | success:true,result:ok/failed,reason:ok/cfgError |
| 查询插座信息 | |
| URL | /config/plugBase/query |
| params | name |
| response | success:true,plugBases:[{id:1,name:””,did:””,type:””,cfg:””,gid:1,gateway\_name:””,room\_name:””,building\_name:””},{},…] |

## 2.2 应用交互接口

应用交互接口主要用于局域网内PC客户端和平板电脑客户端与系统进行数据交互而设计，主要包含设备列表查询、设备实时数据/状态查询、设备历史数据查询、设备控制、情景模式增/删/改/查以及智能联动模式的增/删/改/查等功能。

### 2.2.1.环境监测

/run/getBuildingList

/run/getRoomList

环境监测主要由各种数值类传感器实现相关功能，功能包括实时环境数据显示，历史环境数据表格查询和图表查询。

|  |  |
| --- | --- |
| 查询环境监测传感器列表 | |
| URL | /run/evn/getSensorList |
| params | building\_id,room\_id |
| response | success:true,numSensors:[{did:””,name:””,unit:””},{},…] |
| 查询所有传感器实时状态 | |
| URL | /run/evn/getSensorStates |
| params | building\_id,room\_id |
| response | success:true, numSensors:[{did:””,name:””,value:””,unit:””},{},…] |
| 查询单个传感器实时数据 | |
| URL | /run/evn/getSensorState |
| params | did |
| response | success:true,sensor:{did:””,name:””,value:””,unit:””} |
| 查询指定传感器指定时间段内的历史数据（支持分页） | |
| URL | /run/evn/getHisdata |
| params | did,startTime,endTime,start,limit  did:传感器设备编号  startTime:时间段起始时间，若空，则从头查起（yyyy-MM-dd）  endTime:时间段结束时间，若空，则以当前时间为值（yyyy-MM-dd）  start:分页查询起始位置  limit:分页查询总条数，若为空，则查询所有符合条件的记录 |
| response | success:true,hisdata:[{id:1,data:””,insertTime:””},{},…] |

### 2.2.2.灯光控制

|  |  |
| --- | --- |
| 查询灯光列表 | |
| URL | /run/light/getLightList |
| params | building\_id,room\_id |
| response | success:true,lights:[{did:””,name:””,type:”io/hue”},{},…] |
| 查询所有灯光状态 | |
| URL | /run/light/getLightStates |
| params | building\_id,room\_id |
| response | success:true,lights:[{did:””,name:””,type:”io”,status:”on/off”},{did:””,name:””,type:”hue”,status:”on/off”,HSL:”240.0,1.0,0.5”},…] |
| 查询指定灯光状态 | |
| URL | /run/light/getLightState |
| params | did |
| response | success:true,light:{did:””,name:””,type:”io”,status:”on/off”}/{did:””,name:””,type:”hue”,status:”on/off”,HSL:”240.0,1.0,0.5”} |
| 控制灯光状态 | |
| URL | /run/light/control |
| params | did,key,value  did:灯光的did，全部控制可用all-building\_id-room\_id  key:io/hue/saturation/lightness(开关/色相/饱和度/亮度)  value:(on/off)/0~360/0~100/0~100 |
| response | 单控参考【查询指定灯光状态】，全控参考【查询所有灯光状态】 |

### 2.2.3.窗帘控制

|  |  |
| --- | --- |
| 查询窗帘列表 | |
| URL | /run/curtain/getCurtainList |
| params | building\_id,room\_id |
| response | success:true,curtains:[{did:””,name:””,type:”ZB/RF”},{},…] |
| 查询所有窗帘状态 | |
| URL | /run/curtain/getCurtainStates |
| params | building\_id,room\_id |
| response | success:true,curtains:[{did:””,name:””,type:””,status:”open/close/pause”},{ },…] |
| 查询指定窗帘状态 | |
| URL | /run/curtain/getCurtainState |
| params | did |
| response | success:true,curtain:{did:””,name:””,type:””,status:”open/close/pause”} |
| 控制窗帘状态 | |
| URL | /run/curtain/control |
| params | did,state  did:窗帘的did，全部控制可用all-building\_id-room\_id  state:open/close/pause |
| response | 单控参考【查询指定窗帘状态】，全控参考【查询所有窗帘状态】 |

### 2.2.4.环境控制

|  |  |
| --- | --- |
| 查询空调列表 | |
| URL | /run/evnControl/getAirList |
| params | building\_id,room\_id |
| response | success:true,airConditioners:[{did:””,name:”” },{},…] |
| 查询指定空调状态 | |
| URL | /run/evnControl/getAirState |
| params | did |
| response | success:true,airConditioner:{did:””,name:””,type:””,power:”on/off”,temp:16~31”,model:”auto/cool/dehumi/wind/hot”,windSpeed:”auto/low/middle/high”,windDir:”up/middle/down”,windAuto:”on/off”} |
| 控制空调状态 | |
| URL | /run/envControl/airControl |
| params | did,fun,arg  did:空调的did  fun:loop/temp  arg:(open/close/add/reduce/model/windSpeed/windDir/windAuto)/(16~31) |
| response | success:true,airConditioner:{did:””,name:””,type:””,power:”on/off”,temp:16~31”,model:”auto/cool/dehumi/wind/hot”,windSpeed:”auto/low/middle/high”,windDir:”up/middle/down”,windAuto:”on/off”} |
| 查询插座列表 | |
| URL | /run/envControl/getPlugList |
| params | building\_id,room\_id |
| response | success:true,plugs:[{did:””,name:””,type:”ZB/RF”},{},…] |
| 查询所有插座状态 | |
| URL | /run/envControl/getPlugStates |
| params | building\_id,room\_id |
| response | success:true,plugbases:[{did:””,name:””,type:””,status:”on/off”},{},…] |
| 查询指定插座状态 | |
| URL | /run/envControl/getPlugState |
| params | did |
| response | success:true,curtain:{did:””,name:””,type:””,status:”on/off”} |
| 控制插座状态 | |
| URL | /run/envControl/plugControl |
| params | did,state  did:插座的did  state:on/off |
| response | success:true,curtain:{did:””,name:””,type:””,status:”on/off”} |

### 2.2.5.影音控制

|  |  |
| --- | --- |
| 查询电视列表 | |
| URL | /run/audio/getTvList |
| params | building\_id,room\_id |
| response | success:true, televisions:[{did:””,name:””},{},…] |
| 查询机顶盒列表 | |
| URL | /run/audio/getTopboxList |
| params | building\_id,room\_id |
| response | success:true, televisions:[{did:””,name:””},{},…] |
| 切换红外状态（学习/控制） | |
| URL | /run/audio/changeState |
| params | state  state:learn/control |
| response | success:true,state:learn/control |
| 学习红外命令 | |
| URL | /run/audio/irLearn |
| params | did,key  did:电视/机顶盒did  key:按键key值 |
| response | success:true,result:ok/failed,reason:ok/noOrder/wrongOrder |
| 发送控制红外命令 | |
| URL | /run/audio/irControl |
| params | did,key  did:电视/机顶盒did  key:按键key值 |
| response | success:true,result:ok/failed,reason:ok/noOrder |
| 查询歌曲列表 | |
| URL | /run/audio/getSongList |
| params | building\_id,room\_id |
| response | success:true,songs:[{no:1,name:””,duration:””},{},…] |
| 歌曲选择并从头播放 | |
| URL | /run/audio/selectSong |
| params | no |
| response | success:true,result:ok/failed,reason:ok/notFound,song:{no:1,name:””,duration:””,process:”0”} |
| 歌曲播放控制 | |
| URL | /run/audio/playerControl |
| params | arg,process  arg:play/stop/pause/next/last/process  process:0~100 |
| response | success:true, song:{no:1,name:””,duration:””,process:”0~100”} |
| 播放器音量控制 | |
| URL | /run/audio/playerVoice |
| params | voiceValue  voiceVlaue:0~100 |
| response | success:true,voiceValue:0~100 |
| 播放顺序控制 | |
| URL | /run/audio/playOrder |
| params | order  order:single/order/random(单曲循环/顺序播放/随机播放) |
| response | success:true,order: single/order/random |

### 2.2.6.视频监控

|  |  |
| --- | --- |
| 查询摄像头列表 | |
| URL | /run/camera/getCameraList |
| params | building\_id,room\_id |
| response | success:true,cameras:[{did:””,name:””,type:” IpCamera/HKCamera”},{},…] |
| 获取实时图像 | |
| URL | /run/camera/getImage |
| params | did |
| response | 直接返回实时图像截图 |
| 控制摄像头云台 | |
| URL | /run/camera/ptzControl |
| params | did,dir  dir:up/down/left/right |
| response | success:true |

### 2.2.7.智能安防

|  |  |
| --- | --- |
| 查询安防传感器列表 | |
| URL | /run/protect/getSensorList |
| params | building\_id,room\_id |
| response | success:true,ioSensors:[{did:””,name:””},{},…] |
| 查询所有传感器实时状态 | |
| URL | /run/protect/getSensorStates |
| params | building\_id,room\_id |
| response | success:true, ioSensors:[{did:””,name:””,status:”on/off”,state:”有人/没人/门开/门关…”},{},…] |
| 查询单个传感器实时数据 | |
| URL | /run/protect/getSensorState |
| params | did |
| response | success:true,sensor:{did:””,name:””,status:””,state:””} |
| 查询报警历史数据（支持分页） | |
| URL | /run/protect/getHisdata |
| params | building\_id,room\_id,start,limit  start:分页查询起始位置  limit:分页查询总条数，若为空，则查询所有符合条件的记录 |
| response | success:true,remind:”true/false”,alarmRecords:[{id:1,reason:””,insertTime:””,pictures:””,building\_name:””,room\_name:””,state:”0/1”},{},…] |
| 打开电磁锁 | |
| URL | /run/protect/openDoor |
| params | key |
| response | success:true |

### 2.2.8.能源监控

|  |  |
| --- | --- |
| 查询电表列表 | |
| URL | /run/power/getAmmeterList |
| params | building\_id,room\_id |
| response | success:true,ammeters:[{did:””,name:””},{},…] |
| 查询电表当前耗电功率 | |
| URL | /run/power/getRealtimePower |
| params | did |
| response | success:true, realtimePower:”” |
| 查询当月已用电量 | |
| URL | /run/power/getPowerOfThisMouth |
| params | did |
| response | success:true,powerOfThisMouth:”” |
| 查询指定电表指定时间段内的历史数据 | |
| URL | /run/power/getHisdata |
| params | did,startTime,endTime,timeType  did:电表设备编号  startTime:时间段起始时间，若空，则从头查起（yyyy-MM-dd）  endTime:时间段结束时间，若空，则以当前时间为值（yyyy-MM-dd）  timeType:year/mouth/day(时间段最小单位:年/月/日) |
| response | success:true,hisdata:[{id:1,data:””,insertTime:””},{},…] |

### 2.2.9.情景模式

### 2.2.10.智能联动

# 三、协议说明--UDP接口

# 四、协议说明--MQTT接口