



./opt/swagger-conf

Explore

# Slamware RESTful API

1.1.0 OAS3

./opt/swagger-conf.json

本文档适用于思岚科技旗下的各类底盘和服务机器人产品。

## system 系统资源



GET /api/core/system/v1/capabilities 获取机器人能力



该接口用于判断机器人支持哪些功能，以及是否已完成初始化。本文档中的部分接口需要依赖特定的capability才能运行。

### Parameters

[Try it out](#)

No parameters

### Responses

Code	Description	Links
------	-------------	-------

200	OK	<i>No links</i>
-----	----	-----------------

Media type

[application/json](#)

Controls Accept header.

Example Value Schema

```
[  
  {  
    "name": "slamware.agent.core",  
    "version": "4.0.0",  
    "enabled": true  
  }  
]
```

GET /api/core/system/v1/power/status 获取机器人电源状态



### Parameters

[Try it out](#)

No parameters

## Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type

application/json

Controls Accept header.

Example Value Schema

```
{
  "batteryPercentage": 90,
  "dockingStatus": "on_dock",
  "isCharging": true,
  "isDCConnected": false,
  "powerStage": "running",
  "sleepMode": "awake"
}
```

POST /api/core/system/v1/power/:shutdown 关闭或重启机器人 ^

## Parameters

[Try it out](#)

No parameters

### Request body required

application/json

通过设置关机时间和重启时间来实现机器人延时重启，单位分钟，如果都为0则表示立即关机且不再重启。

#### Example Value Schema

```
{
  "shutdown_time_interval": 0,
  "restart_time_interval": 0
}
```

## Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type

Code	Description	Links
	<p><b>application/json</b></p> <p>Controls Accept header.</p> <p>Example Value Schema</p> <p><b>true</b></p>	

POST /api/core/system/v1/power/:hibernate 休眠机器人 ^

休眠时激光雷达暂停工作

Parameters Try it out

No parameters

Responses

Code	Description	Links
200	OK	<i>No links</i>

POST /api/core/system/v1/power/:wakeup 唤醒机器人 ^

Parameters Try it out

No parameters

Responses

Code	Description	Links
200	OK	<i>No links</i>

POST /api/core/system/v1/power/:restartmodule 重启模块 ^

Parameters Try it out

No parameters

**Request body** required

application/json

根据指定的重启模式（默认软复位）执行重启操作。

Example Value Schema

```
{  
    "mode": "RestartModeSoft"  
}
```

**Responses**

Code	Description	Links
200	OK	<i>No links</i>

Media type

application/json

Controls Accept header.

Example Value Schema

true

GET /api/core/system/v1/robot/info 获取设备信息 ^

Parameters

Try it out

No parameters

**Responses**

Code	Description	Links
200	OK	<i>No links</i>

Media type

application/json

Controls Accept header.

Example Value Schema

Links

```
{
  "manufacturerId": 255,
  "manufacturerName": "Slamtec",
  "modelId": 43792,
  "modelName": "Apollo",
  "deviceID": "D2E6D7C0F7ABF29EDFEAFEE1C781D09",
  "hardwareVersion": "511",
  "softwareVersion": "3.6.1-rtm+20210807"
}
```

GET /api/core/system/v1/robot/health 获取设备健康状态信息



Parameters

Try it out

No parameters

Responses

Code Description

Links

200

OK

No links

Media type

application/json

Controls Accept header.

Example Value Schema

```
{
  "hasWarning": false,
  "hasError": true,
  "hasFatal": false,
  "baseError": [
    {
      "id": 0,
      "component": 1,
      "errorCode": 33621760,
      "level": 2,
      "message": "motor barke released"
    }
  ]
}
```

DELETE /api/core/system/v1/robot/health/{error\_code} 清除出错的状态信息



Parameters

Try it out

Name Description

error\_code \* required

integer 错误码

Name	Description	
(path)	Example : 33621760	<input type="text" value="33621760"/>

  

### Responses

Code	Description	Links
200	OK	No links
400	Invalid Error Code	No links

GET	/api/core/system/v1/laserscan	获取当前激光观测帧	<a href="#">^</a>		
<b>所需最低固件版本 4.2.2</b>					
<b>Parameters</b>			<a href="#">Try it out</a>		
No parameters					
<b>Responses</b>					
Code	Description	Links			
200	OK	No links			
Media type <input checked="" type="button" value="application/json"/> Controls Accept header.					
<a href="#">Example</a> <a href="#">Value</a> <a href="#">Schema</a>					
<pre>{   "pose": {     "x": 0,     "y": 0,     "z": 0,     "yaw": 0,     "pitch": 0,     "roll": 0   },   "laser_points": [     {       "id": 0,       "angle": 0,       "range": 0     }   ] }</pre>					

Code	Description	Links
	<pre>         "distance": 0,         "angle": 0,         "valid": true     } ] } </pre>	
GET	/api/core/system/v1/parameter 获得系统参数	^
Parameters		<a href="#">Try it out</a>
Name	Description	
param * required string (query)	<p>系统参数名:</p> <ul style="list-style-type: none"> <li>• <b>base.max_moving_speed</b> – 最大线速度</li> <li>• <b>base.max_angular_speed</b> – 最大角速度</li> <li>• <b>docking.docked_register_strategy</b> – 充电桩注册策略, <b>always</b> 每次回桩都注册, <b>when_not_exists</b> 桩不存在时注册</li> </ul> <p><i>Available values : base.max_moving_speed, base.max_angular_speed, docking.docked_register_strategy</i></p> <div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">base.max_moving_speed</div>	
Responses		
Code	Description	Links
200	OK	No links
	<p>Media type</p> <div style="border: 2px solid #00AEEF; padding: 2px; display: inline-block;">text/plain</div> <p>Controls Accept header.</p> <p>Example Value Schema</p> <p>string</p>	
400	Parameter is required	No links

PUT /api/core/system/v1/parameter 设置系统参数 ^

Parameters

[Try it out](#)

No parameters

Request body required

application/json

设置的系统参数仅本次运行有效，重启机器后恢复原值

Example Value Schema

```
{  
    "param": "base.max_moving_speed",  
    "value": "0.5"  
}
```

## Responses

Code	Description	Links
200	OK	<i>No links</i>
400	Bad Request	<i>No links</i>

Media type

application/json

Controls Accept header.

Example Value Schema

true

400

Bad Request

*No links*

GET

/api/core/system/v1/network/status 获取网络状态



获取机器人当前的网络状态

## Parameters

Try it out

No parameters

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

```
{
  "networkstatus": {
    "ethip1": "192.168.11.1/24",
    "ip": "10.6.128.147",
    "mac": "ec:0e:c4:0a:e4:3b",
    "mode": "STA",
    "quality": 100,
    "ssid": "string"
  }
}
```

PUT /api/core/system/v1/network/status 设置网络状态 ^

当网络由安卓管理时，该接口会返回false

#### Parameters

Try it out

No parameters

#### Request body required

application/json

#### Example Value Schema

```
{
  "networkmode": 0,
  "options": []
}
```

#### Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Code	Description	Links
	Example Value Schema <code>true</code>	
400	Bad Request	<i>No links</i>

GET	/api/core/system/v1/network/route	获取路由信息	^
Parameters			<a href="#">Try it out</a>
No parameters			
<b>Responses</b>			
Code	Description	Links	
200	OK	<i>No links</i>	
Media type			
<code>application/json</code>			
Controls Accept header.			
Example Value Schema			
<code>{     "priority": "wifi" }</code>			
500	Failed to get route	<i>No links</i>	

PUT	/api/core/system/v1/network/route	设置路由信息	^
可设置路由优先级，当wifi和4g都可用时，可选择wifi优先或者4g优先。			
Parameters			<a href="#">Try it out</a>
No parameters			
Request body <small>required</small>			<code>application/json</code>

Example Value Schema

```
{  
    "priority": "wifi"  
}
```

## Responses

Code	Description	Links
200	OK	No links
400	Invalid JSON data	No links
500	Failed to set route	No links

GET /api/core/system/v1/network/apn 获取cmlink apn ^

所需最低固件版本 4.4.0

## Parameters

[Try it out](#)

No parameters

## Responses

Code	Description	Links
200	OK	No links
	Media type <b>application/json</b> Controls Accept header.	
	Example Value Schema	
	<pre>{     "apn": "cmhk" }</pre>	
500	Failed to get cmlink apn	No links

Code	Description	Links									
PUT	/api/core/system/v1/network/apn 设置cmlink apn	^									
根据地区来设置cmlink apn，设置4g在不同地区的接入点，具体的apn请查阅运营商官网											
所需最低固件版本 4.4.0											
<b>Parameters</b> <div style="float: right;"><a href="#">Try it out</a></div>											
No parameters											
<b>Request body</b> <small>required</small>		application/json									
<b>Example Value</b> <small>Schema</small> <pre>{   "apn": "cmhk" }</pre>											
<b>Responses</b>											
<table border="1"> <thead> <tr> <th>Code</th><th>Description</th><th>Links</th></tr> </thead> <tbody> <tr> <td>200</td><td>OK</td><td>No links</td></tr> <tr> <td>500</td><td>Failed to set cmlink apn</td><td>No links</td></tr> </tbody> </table>			Code	Description	Links	200	OK	No links	500	Failed to set cmlink apn	No links
Code	Description	Links									
200	OK	No links									
500	Failed to set cmlink apn	No links									

PUT	/api/core/system/v1/cube/config 设置Cube配置	^
以二进制方式读取cube_cfg_dat文件作为Request Body. Cube配置文件请用RoboStudio的Cube配置工具导出或联系思岚技术支持获取.		
所需最低固件版本 4.2.0		
<b>Parameters</b> <div style="float: right;"><a href="#">Try it out</a></div>		
No parameters		
<b>Request body</b>		application/octet-stream

Example values are not available for *application/octet-stream* media types.

## Responses

Code	Description	Links
200	OK	No links

POST    `/api/core/system/v1/light/control` 设置灯光控制效果 ^

可以设置不同通道，不同部分，不同类型的led灯颜色效果。

## Parameters

[Try it out](#)

No parameters

### Request body required

application/json

#### Example Value Schema

```
{  
    "channel": "One",  
    "controlPart": "Left",  
    "mode": "AlwaysBright",  
    "color": {  
        "red": 0,  
        "green": 0,  
        "blue": 0  
    },  
    "brightnessEndColor": {  
        "red": 0,  
        "green": 0,  
        "blue": 0  
    },  
    "brightMs": 0,  
    "offMs": 0  
}
```

## Responses

Code	Description	Links
200	OK	No links
400	Invalid JSON data	No links

Code	Description	Links
500	Failed to set light control	No links
<b>POST    /api/core/system/v1/aeb/control</b> 设置AEB控制 <span style="float: right;">^</span>		
设置AEB功能打开或者关闭。		
<b>Parameters</b> <span style="float: right; border: 1px solid black; padding: 2px;">Try it out</span>		
No parameters		
<b>Request body</b> <span style="color: red;">required</span> <span style="float: right; border: 1px solid black; padding: 2px;">application/json</span>		
<b>Example Value</b> <span style="color: green;">"On"</span>		
<b>Responses</b>		
Code	Description	Links
200	OK	No links
400	Invalid JSON data	No links
500	Failed to set aeb control	No links

<b>POST    /api/core/system/v1/jack/status</b> 设置千斤顶状态 <span style="float: right;">^</span>
设置千斤顶状态。
<b>Parameters</b> <span style="float: right; border: 1px solid black; padding: 2px;">Try it out</span>
No parameters
<b>Request body</b> <span style="color: red;">required</span> <span style="float: right; border: 1px solid black; padding: 2px;">application/json</span>

[Example Value](#) [Schema](#)["On"](#)

## Responses

Code	Description	Links
200	OK	<i>No links</i>
400	Invalid JSON data	<i>No links</i>
500	Failed to set aeb control	<i>No links</i>

[GET /api/core/system/v1/jack/status 获取千斤顶状态](#)

获取千斤顶状态。

## Parameters

[Try it out](#)

No parameters

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

```
{
  "actual_pos": 0,
  "alarm": 0,
  "drv_status": 0,
  "stage": 0
}
```

GET /api/core/system/v1/rawadcimu 获得IMU的ADC原始值 ^

获取机器人IMU的ADC原始值

#### Parameters

Try it out

No parameters

#### Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

```
{
  "acc_x": 0,
  "acc_y": 0,
  "acc_z": 0,
  "gyro_x": 0,
  "gyro_y": 0,
  "gyro_z": 0,
  "comp_x": 0,
  "comp_y": 0,
  "comp_z": 0,
  "timestamp": 0
}
```

GET /api/core/system/v1/battery/pack 获取电池包的电流和温度 ^

获取电池包的电流和温度

#### Parameters

[Try it out](#)

No parameters

#### Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type

application/json

Controls Accept header.

Example Value Schema

```
{  
    "current": 1000,  
    "temp_count": 2,  
    "temp": [  
        233,  
        234  
    ]  
}
```

GET /api/core/system/v1/rawimu 获取IMU原始值 ^

获取机器人IMU原始值

#### Parameters

[Try it out](#)

No parameters

#### Responses

Code	Description	Links
200	OK	<i>No links</i>

Code	Description	Links
	<p>Media type</p> <div style="border: 2px solid green; padding: 2px; display: inline-block;">application/json</div> <p>Controls Accept header.</p> <p>Example Value Schema</p> <pre>{     "acc_x": 0,     "acc_y": 0,     "acc_z": 0,     "gyro_x": 0,     "gyro_y": 0,     "gyro_z": 0,     "comp_x": 0,     "comp_y": 0,     "comp_z": 0,     "timestamp": 0 }</pre>	

## slam 定位、建图相关功能

^

GET	/api/core/slam/v1/localization/pose	获取机器人位姿	<a href="#">Try it out</a>
<b>Parameters</b>			
No parameters			
<b>Responses</b>			
Code	Description	Links	
200	OK	No links	
	<p>Media type</p> <div style="border: 2px solid green; padding: 2px; display: inline-block;">application/json</div> <p>Controls Accept header.</p> <p>Example Value Schema</p> <pre>{     "x": 0,     "y": 0,     "z": 0,     "yaw": 0,     "pitch": 0,     "roll": 0 }</pre>		

将机器人强制设置到地图中的某个位置

#### Parameters

Try it out

No parameters

Request body

application/json

Example Value Schema

```
{  
    "x": 0,  
    "y": 0,  
    "z": 0,  
    "yaw": 0,  
    "pitch": 0,  
    "roll": 0  
}
```

#### Responses

Code	Description	Links
200	OK	No links
400	Invalid Argument	No links

GET /api/core/slam/v1/localization/odopose 获得机器人里程计位姿



#### Parameters

Try it out

No parameters

#### Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Code	Description	Links
	Example Value	Schema
	<pre>{     "x": 0,     "y": 0,     "z": 0,     "yaw": 0,     "pitch": 0,     "roll": 0 }</pre>	

GET     </api/core/slam/v1/localization/quality> 获取定位质量 ^

定位质量范围 0 ~ 100, 值越大表示定位越好

#### Parameters

[Try it out](#)

No parameters

#### Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type

application/json

Controls Accept header.

Example Value

Schema

0

GET     </api/core/slam/v1/localization/:enable> 是否支持定位 ^

返回值true表示支持定位, false表示暂停定位即纯里程模式

#### Parameters

[Try it out](#)

No parameters

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

true

PUT /api/core/slam/v1/localization/:enable 开启/暂停定位 ^

返回值true表示操作成功

## Parameters

Try it out

No parameters

## Request body

application/json

## Example Value Schema

```
{  
    "enable": true  
}
```

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

true

Code	Description	Links
400	Bad Request	No links

POST [/api/core/slam/v1/localization/status/:reset](#) 重置定位状态 [^](#)

将定位状态重置

Parameters [Try it out](#)

No parameters

Responses

Code	Description	Links
200	OK	No links

Media type [application/json](#)  
Controls Accept header.

Example Value Schema  
`true`

GET [/api/core/slam/v1/mapping/:enable](#) 是否开启建图 [^](#)

返回值true表示建图模式， false表示定位模式

Parameters [Try it out](#)

No parameters

Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

true

PUT /api/core/slam/v1/mapping/:enable 开启/暂停建图 ^

返回值true表示操作成功

Parameters

Try it out

No parameters

Request body

application/json

Example Value Schema

```
{  
  "enable": true  
}
```

Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

true

Code	Description	Links
400	Bad Request	No links

GET /api/core/slam/v1/loopclosure/:enable 是否开启闭环检测 ^

所需最低固件版本 4.6.0

#### Parameters

Try it out

No parameters

#### Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

true

PUT /api/core/slam/v1/loopclosure/:enable 开启/暂停闭环检测 ^

返回值true表示操作成功

所需最低固件版本 4.6.0

#### Parameters

Try it out

No parameters

Request body

application/json

Example Value Schema

```
{  
    "enable": true  
}
```

## Responses

Code	Description	Links
200	OK	No links
400	Bad Request	No links

GET /api/core/slam/v1/homepose 获取充电桩位置 ^

获取当前的充电桩位置，如果当前地图中不存在充电桩，则返回404错误

## Parameters

Try it out

No parameters

## Responses

Code	Description	Links
200	OK	No links

Code	Description	Links
	<pre>{   "x": 0,   "y": 0,   "z": 0,   "yaw": 0,   "pitch": 0,   "roll": 0 }</pre>	
404	Home dock not found	No links

PUT	/api/core/slam/v1/homepose	设置充电桩位置	^
设置当前的充电桩位置，当地图中存在多个充电桩时，需要上位机设置其中一个作为当前使用的桩。			
<b>Parameters</b>			<b>Try it out</b>
No parameters			
Request body			<b>application/json</b>
<b>Example Value</b> Schema <pre>{   "x": 0,   "y": 0,   "z": 0,   "yaw": 0,   "pitch": 0,   "roll": 0 }</pre>			
<b>Responses</b>			
Code	Description	Links	
200	OK	No links	
Media type <b>application/json</b>			
Controls Accept header.			
<b>Example Value</b> Schema			
<b>true</b>			

GET /api/core/slam/v1/homedocks 获得所有充电桩信息 ^

获取机器人的所有充电桩信息。

所需最低固件版本 4.3.2

#### Parameters

[Try it out](#)

No parameters

#### Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type [application/json](#)  
Controls Accept header.

Example Value Schema

```
[{"id": "3fa85f64-5717-4562-b3fc-2c963f66afa6", "pose": {"x": 0, "y": 0, "yaw": 0}, "metadata": {}}
```

PUT /api/core/slam/v1/homedocks 设置所有充电桩 ^

设置机器人的所有充电桩信息。

所需最低固件版本 4.3.2

#### Parameters

[Try it out](#)

No parameters

#### Request body

[application/json](#)

Example Value Schema

```
[  
  {  
    "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",  
    "pose": {  
      "x": 0,  
      "y": 0,  
      "yaw": 0  
    },  
    "metadata": {}  
  }  
]
```

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

true

POST /api/core/slam/v1/homedocks 添加充电桩 ^

给机器人添加一个充电桩， metadata需要display\_name字段，表示充电桩名称。

### Parameters

[Try it out](#)

No parameters

### Request body required

application/json

### Example Value Schema

```
{  
  "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",  
  "pose": {  
    "x": 0,  
    "y": 0,  
    "yaw": 0  
  },  
  "metadata": {}  
}
```

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

```
true
```

**DELETE /api/core/slam/v1/homedocks** 清空充电桩信息 ^

## Parameters

**Try it out**

No parameters

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

```
{
  "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "pose": {
    "x": 0,
    "y": 0,
    "yaw": 0
  },
  "metadata": {}
}
```

**POST /api/core/slam/v1/homedocks/:register** 注册充电桩 ^

根据机器人当前位置在地图上注册一个充电桩

## Parameters

[Try it out](#)

No parameters

Request body required

application/json

Example Value Schema

```
{
  "metadata": {
    "display_name": "string"
  }
}
```

## Responses

Code Description

Links

200

OK

No links

Media type

application/json

Controls Accept header.

Example Value Schema

```
{
  "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "pose": {
    "x": 0,
    "y": 0,
    "yaw": 0
  },
  "metadata": {}
}
```

PUT /api/core/slam/v1/homedocks/{dock\_id} 编辑充电桩信息 ^

编辑充电桩信息，id不可修改，只允许修改pose和metadata

## Parameters

[Try it out](#)

Name Description

dock\_id \* required

string(\$uuid)

(path)

dock\_id

Request body required

application/json

Example Value Schema

```
{  
  "pose": {  
    "x": 0,  
    "y": 0,  
    "yaw": 0  
  },  
  "metadata": {}  
}
```

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

true

DELETE /api/core/slam/v1/homedocks/{dock\_id} 移除一个充电桩 ^

## Parameters

Try it out

Name	Description
dock_id * required string(\$uuid) (path)	<input style="width: 200px; height: 30px; border: 1px solid #ccc; border-radius: 5px; padding: 5px; margin-left: 10px;" type="text" value="dock_id"/>

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Code	Description	Links
	<p>Controls Accept header.</p> <p>Example Value Schema</p> <pre>true</pre>	

GET	/api/core/slam/v1 imu	获取IMU数据	^		
获取以机器人坐标系表示的IMU数据					
<b>Parameters</b>		<b>Try it out</b>			
No parameters					
<b>Responses</b>					
Code	Description	Links			
200	<p>OK</p> <p>Media type</p> <div style="border: 1px solid green; padding: 2px;">application/json</div> <p>Controls Accept header.</p> <p>Example Value Schema</p> <pre>{   "availabilityBitMap": 0,   "compass": {     "x": 0,     "y": 0,     "z": 0   },   "euler_angle": {     "x": 0,     "y": 0,     "z": 0   },   "gyro": {     "x": 0,     "y": 0,     "z": 0   },   "quaternion": {     "w": 0,     "x": 0,     "y": 0,     "z": 0   },   "raw_acc": {     "x": 0,     "y": 0,     "z": 0   } }</pre>	No links			

GET /api/core/slam/v1/knownarea 获取已知区域



已知区域即当前地图的范围，机器人的活动空间和各种人工标记元素都应当在此范围内

#### Parameters

[Try it out](#)

No parameters

#### Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type

application/json

Controls Accept header.

Example Value Schema

```
{
  "x": 0,
  "y": 0,
  "width": 0,
  "height": 0
}
```

GET /api/core/slam/v1/maps/explore 获取栅格地图



获取激光探索的栅格地图，可通过min\_x, min\_y, max\_x, max\_y指定获取的范围，默认获取全部地图。  
响应报文为二进制字节流，前32字节为元数据(低位字节在前)，后续为地图数据。

位置	数据类型	描述
0-3	float	地图起始位置的X坐标
4-7	float	地图起始位置的Y坐标
8-11	uint32	X轴方向栅格数量
12-15	uint32	Y轴方向栅格数量
16-19	float	地图分辨率，每个格子的边长，单位米
20-31	byte[]	预留
32-35	uint32	后续数据的字节数，该值应当等于X轴栅格数*Y轴栅格数
36-End	byte[]	地图数据，每个字节代表一个格子

[Try it out](#)

## Parameters

Name Description

min\_x  
number  
(query)

min\_y  
number  
(query)

max\_x  
number  
(query)

max\_y  
number  
(query)

## Responses

Code Description

Links

200 OK [No links](#)

Media type

[application/octet-stream](#)

Controls Accept header.

Example Value Schema

string

GET /api/core/slam/v1/maps/stcm 获得复合地图 ^

包含所有数据的复合地图

响应报文为二进制字节流，可直接保存为stcm文件。

## Parameters

[Try it out](#)

No parameters

## Responses

Code	Description	Links
200	OK	No links

Media type

application/octet-stream

Controls Accept header.

Example Value Schema

string

PUT /api/core/slam/v1/maps/stcm 设置复合地图 ^

将地图设置到slamware系统中，以二进制方式读取stcm文件作为request body。  
机器人位姿会被重置到原点，需要重新设置机器人位姿。  
【注意】地图不会持久化保存，重启后即失效

### Parameters

[Try it out](#)

No parameters

### Request body

application/octet-stream

*Example values are not available for application/octet-stream media types.*

## Responses

Code	Description	Links
200	OK	No links

DELETE /api/core/slam/v1/maps 清空地图 ^

### Parameters

[Try it out](#)

No parameters

## Responses

Code	Description	Links
200	OK	No links

PUT /api/core/slam/v1/maps/origin 移动地图原点 ^

移动地图原点,并更新到slamware系统中

### Parameters

[Try it out](#)

No parameters

### Request body required

application/json

### Example Value Schema

```
{  
  "new_origin": {  
    "x": 0,  
    "y": 0  
  }  
}
```

## Responses

Code	Description	Links
200	OK	No links

## artifact 地图语义元素 ^

GET /api/core/artifact/v1/lines/{usage} 获取虚拟线段

### Parameters

[Try it out](#)

### Name Description

**usage** \* required  
string  
(path)                   

- **tracks** 虚拟轨道
- **walls** 虚拟墙

Name	Description
<i>Available values : tracks, walls</i>	
	<input type="button" value="tracks"/>

## Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type

**application/json**

Controls Accept header.

Example Value Schema

```
[{"id": 0, "start": {"x": 0, "y": 0}, "end": {"x": 0, "y": 0}, "metadata": {}}
```

POST /api/core/artifact/v1/lines/{usage} 添加虚拟线段 ^

添加时id为无效字段，可为任意值。

## Parameters

Name	Description
<b>usage</b> * required string (path)	<ul style="list-style-type: none"> <li><b>tracks</b> 虚拟轨道</li> <li><b>walls</b> 虚拟墙</li> </ul>

*Available values : tracks, walls*

## Request body

[Example Value](#) [Schema](#)

```
[
  {
    "id": 0,
    "start": {
      "x": 0,
      "y": 0
    },
    "end": {
      "x": 0,
      "y": 0
    },
    "metadata": {}
  }
]
```

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

true

PUT /api/core/artifact/v1/lines/{usage} 修改虚拟线段 ^

### Parameters

Try it out

Name	Description
------	-------------

**usage** \* required  
**string**  
*(path)*

- **tracks** 虚拟轨道
- **walls** 虚拟墙

Available values : tracks, walls

tracks

### Request body

application/json[Example Value](#) [Schema](#)

```
[  
  {  
    "id": 0,  
    "start": {  
      "x": 0,  
      "y": 0  
    },  
    "end": {  
      "x": 0,  
      "y": 0  
    },  
    "metadata": {}  
  }  
]
```

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

true

DELETE /api/core/artifact/v1/lines/{usage} 清空某一类虚拟线段 ^

## Parameters

Try it out

Name	Description
------	-------------

**usage** \* required

string  
(path)

- **tracks** 虚拟轨道
- **walls** 虚拟墙

Available values : tracks, walls

tracks

## Responses

Code	Description	Links								
200	OK	No links								
<p>Media type</p> <div style="border: 2px solid green; padding: 2px; display: inline-block;">application/json</div> <p>Controls Accept header.</p> <p>Example Value Schema</p> <div style="background-color: #f0f0f0; padding: 2px; border: 1px solid #ccc; display: inline-block;">true</div>										
<p><b>DELETE /api/core/artifact/v1/lines/{usage}/{id}</b> 删除虚拟线段</p>		<a href="#" style="border: 1px solid #ccc; padding: 2px 10px; border-radius: 5px; text-decoration: none; color: inherit;">Try it out</a>								
<p>Parameters</p>										
<table border="1"><thead><tr><th>Name</th><th>Description</th></tr></thead><tbody><tr><td><b>usage</b> <small>* required</small> string (path)</td><td><ul style="list-style-type: none"><li><b>tracks</b> 虚拟轨道</li><li><b>walls</b> 虚拟墙</li></ul><p>Available values : tracks, walls</p><div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">tracks</div></td><td></td></tr><tr><td><b>id</b> <small>* required</small> integer (path)</td><td><div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">id</div></td><td></td></tr></tbody></table>			Name	Description	<b>usage</b> <small>* required</small> string (path)	<ul style="list-style-type: none"><li><b>tracks</b> 虚拟轨道</li><li><b>walls</b> 虚拟墙</li></ul> <p>Available values : tracks, walls</p> <div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">tracks</div>		<b>id</b> <small>* required</small> integer (path)	<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">id</div>	
Name	Description									
<b>usage</b> <small>* required</small> string (path)	<ul style="list-style-type: none"><li><b>tracks</b> 虚拟轨道</li><li><b>walls</b> 虚拟墙</li></ul> <p>Available values : tracks, walls</p> <div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">tracks</div>									
<b>id</b> <small>* required</small> integer (path)	<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">id</div>									
<p>Responses</p>										
<table border="1"><thead><tr><th>Code</th><th>Description</th><th>Links</th></tr></thead><tbody><tr><td>200</td><td>OK</td><td>No links</td></tr></tbody></table>			Code	Description	Links	200	OK	No links		
Code	Description	Links								
200	OK	No links								
<p>Media type</p> <div style="border: 2px solid green; padding: 2px; display: inline-block;">application/json</div> <p>Controls Accept header.</p> <p>Example Value Schema</p> <div style="background-color: #f0f0f0; padding: 2px; border: 1px solid #ccc; display: inline-block;">true</div>										

GET /api/core/artifact/v1/rectangle-areas/{usage} 获取矩形区域



## Parameters

[Try it out](#)

Name	Description
------	-------------

**usage** \* required

string  
(path)

Available values : forbidden\_area, elevator\_area, dangerous\_area, coverage\_area, maintenance\_area, sensor\_disable\_area, restricted\_area

forbidden\_area

## Responses

Code	Description	Links
------	-------------	-------

200

OK

No links

Media type

application/json

Controls Accept header.

Example Value Schema

```
[
  {
    "id": 0,
    "usage": "forbidden_area",
    "area": {
      "start": {
        "x": 0,
        "y": 0
      },
      "end": {
        "x": 0,
        "y": 0
      },
      "half_width": 0
    },
    "metadata": {}
  }
]
```

POST /api/core/artifact/v1/rectangle-areas/{usage} 添加矩形区域



不同类型的矩形区域，所需要的metadata也不同，请参考文档描述。

## Parameters

[Try it out](#)

Name	Description
<b>usage</b> <small>* required</small> <code>string (path)</code>	<i>Available values</i> : forbidden_area, elevator_area, dangerous_area, coverage_area, maintenance_area, sensor_disable_area, restricted_area  <code>forbidden_area</code>

Request body application/json

Example Value Schema

```
{
  "area": {
    "start": {
      "x": 0,
      "y": 0
    },
    "end": {
      "x": 0,
      "y": 0
    },
    "half_width": 0
  },
  "metadata": []
}
```

## Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type application/json  
Controls Accept header.

Example Value Schema

```
true
```

DELETE /api/core/artifact/v1/rectangle-areas/{usage} 清空某一类矩形区域 ^

Parameters	Try it out
------------	------------

Name	Description	
<b>usage</b> <small>* required</small> <b>string</b> <i>(path)</i>	<i>Available values :</i> forbidden_area, elevator_area, dangerous_area, coverage_area, maintenance_area, sensor_disable_area, restricted_area  <input type="text" value="forbidden_area"/>	

  

### Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type  
  
Controls Accept header.

Example Value Schema

PUT	/api/core/artifact/v1/rectangle-areas/{usage}/{id}	编辑矩形区域	^
修改指定ID的矩形区域坐标或metadata。			
Parameters		<input type="button" value="Try it out"/>	
Name	Description		
<b>usage</b> <small>* required</small> <b>string</b> <i>(path)</i>	<i>Available values :</i> forbidden_area, elevator_area, dangerous_area, coverage_area, maintenance_area, sensor_disable_area, restricted_area  <input type="text" value="forbidden_area"/>		
<b>id</b> <small>* required</small> <b>integer</b> <i>(path)</i>	<input type="text" value="id"/>		
Request body			<input type="text" value="application/json"/>
Example Value Schema			

```
{
  "area": {
    "start": {
      "x": 0,
      "y": 0
    },
    "end": {
      "x": 0,
      "y": 0
    },
    "half_width": 0
  },
  "metadata": {}
}
```

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

true

DELETE /api/core/artifact/v1/rectangle-areas/{usage}/{id} 删除矩形区域 ^

## Parameters

Try it out

Name	Description
usage <small>* required</small>	<small>Available values :</small> forbidden_area, elevator_area, dangerous_area, coverage_area, maintenance_area, sensor_disable_area, restricted_area
id <small>* required</small>	

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

true

GET /api/core/artifact/v1/pois 获取当前地图中的所有POI ^

POI指Point of interest, 也称为星标或兴趣点, 用于标记地图上的某个位姿, 以及若干与业务逻辑相关的metadata。

#### Parameters

[Try it out](#)

No parameters

#### Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

```
[  
  {  
    "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",  
    "pose": {  
      "x": 0,  
      "y": 0,  
      "yaw": 0  
    },  
    "metadata": {}  
  }  
]
```

POST /api/core/artifact/v1/pois 添加POI ^

调用方应当随机生成一个UUID作为id, metadata中的display\_name用于界面显示, type用于区分POI类型。  
在建图过程中添加POI时, 建议不包含Pose, 此时会用机器人当前位置创建POI, 并且记录传感器观测信息, 在闭环后会进行位姿调整。

#### Parameters

Try it out

No parameters

#### Request body required

application/json

Example Value Schema

```
{  
    "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",  
    "pose": {  
        "x": 0,  
        "y": 0,  
        "yaw": 0  
    },  
    "metadata": []  
}
```

#### Responses

##### Code Description

##### Links

200

OK

No links

**DELETE /api/core/artifact/v1/pois** 清空POI ^

#### Parameters

Try it out

No parameters

#### Responses

##### Code Description

##### Links

200

OK

No links

Media type

application/json

Controls Accept header.

Code	Description	Links
	Example Value Schema	
	true	

POST /api/core/artifact/v1/pois/:adjust 优化POI位姿 ^

如果在建图时添加POI，则在闭环后POI会跟着调整位姿，调用该接口可以进一步减少位姿调整的误差。  
【注意】仅在闭环后调用有效，其他时候无需调用。

所需最低固件版本 4.2.4

Parameters Try it out

No parameters

Responses

Code Description Links

---

200 OK No links

GET /api/core/artifact/v1/pois/{poi\_id} 根据ID查找POI ^

Parameters Try it out

Name Description

---

poi\_id \* required  
string(\$uuid)  
(path)

Responses

Code Description Links

---

200 OK No links

Media type

[Links](#)[Code](#)[Description](#)[application/json](#)

Controls Accept header.

[Example](#) [Value](#) [Schema](#)

```
{
  "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "pose": {
    "x": 0,
    "y": 0,
    "yaw": 0
  },
  "metadata": {}
}
```

PUT /api/core/artifact/v1/pois/{poi\_id} 修改POI



请求报文中pose和metadata可以只包含其中一个，则另一个字段保持不变。

[Parameters](#)[Try it out](#)[Name](#) [Description](#)

**poi\_id** \* required  
 string(\$uuid)  
(path)

[Request body](#) required[application/json](#)[Example](#) [Value](#) [Schema](#)

```
{
  "pose": {
    "x": 0,
    "y": 0,
    "z": 0,
    "yaw": 0,
    "pitch": 0,
    "roll": 0
  },
  "metadata": {}
}
```

[Responses](#)[Code](#)[Description](#)[Links](#)

200

OK

No links

Code	Description	Links
	<p>Media type</p> <p><b>application/json</b></p> <p>Controls Accept header.</p> <p>Example Value Schema</p> <p><b>true</b></p>	

<b>DELETE</b>	<b>/api/core/artifact/v1/pois/{poi_id}</b>	删除POI	^						
Parameters			<b>Try it out</b>						
<table border="1"><thead><tr><th>Name</th><th>Description</th></tr></thead><tbody><tr><td><b>poi_id</b> <small>* required</small></td><td><b>poi_id</b></td></tr></tbody></table>			Name	Description	<b>poi_id</b> <small>* required</small>	<b>poi_id</b>			
Name	Description								
<b>poi_id</b> <small>* required</small>	<b>poi_id</b>								
Responses									
<table border="1"><thead><tr><th>Code</th><th>Description</th><th>Links</th></tr></thead><tbody><tr><td>200</td><td>OK</td><td><i>No links</i></td></tr></tbody></table>			Code	Description	Links	200	OK	<i>No links</i>	
Code	Description	Links							
200	OK	<i>No links</i>							
<p>Media type</p> <p><b>application/json</b></p> <p>Controls Accept header.</p> <p>Example Value Schema</p> <p><b>true</b></p>									

<b>GET</b>	<b>/api/core/artifact/v1/laser-landmarks</b>	获取激光地标	^
激光地标指激光雷达识别到的反光板位置。			
所需最低固件版本：5.1.1			
Parameters			<b>Try it out</b>

No parameters

## Responses

Code	Description	Links
200	OK <p>Media type</p> <div style="border: 2px solid green; padding: 2px; display: inline-block;">application/json</div> <p>Controls Accept header.</p> <p>Example Value Schema</p> <pre>[   {     "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",     "pose": {       "x": 0,       "y": 0,       "yaw": 0     },     "metadata": []   } ]</pre>	No links

**DELETE /api/core/artifact/v1/laser-landmarks** 清空激光地标 ^

清空所有激光地标

所需最低固件版本: 5.1.1

### Parameters

Try it out

No parameters

## Responses

Code	Description	Links
200	OK <p>Media type</p> <div style="border: 2px solid green; padding: 2px; display: inline-block;">application/json</div> <p>Controls Accept header.</p> <p>Example Value Schema</p>	No links

Code	Description	Links
	<code>true</code>	

PUT	/api/core/artifact/v1/laser-landmarks	设置激光地标	^
将从地图中读出的激光地标信息设置到Slamware中			
所需最低固件版本: 5.1.1			
Parameters		Try it out	
No parameters			
Request body <small>required</small>		application/json	
Example Value	Schema		
<pre>[{"id": "3fa85f64-5717-4562-b3fc-2c963f66afa6", "pose": {"x": 0, "y": 0, "yaw": 0}, "metadata": {}}]</pre>			
Responses			
Code	Description	Links	
200	OK	No links	
Media type			
application/json			
Controls Accept header.			
Example Value	Schema		
<code>true</code>			

GET /api/core/artifact/v1/laser-landmarks/:update 获得激光地标更新状态



Slamware是否正在自动更新激光地标

所需最低固件版本: 5.1.1

#### Parameters

[Try it out](#)

No parameters

#### Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type

`application/json`

Controls Accept header.

Example Value Schema

`true`

PUT /api/core/artifact/v1/laser-landmarks/:update 设置取激光地标更新状态



设置是否允许Slamware自动更新激光地标

所需最低固件版本: 5.1.1

#### Parameters

[Try it out](#)

No parameters

Request body required

`application/json`

Example Value Schema

```
{  
  "enable": true  
}
```

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

true

POST /api/core/artifact/v1/laser-landmarks/:remove 删除激光地标 ^

删除部分激光地标, 请求报文为ID数组, ID来自获取激光地标接口返回内容的id字段。

所需最低固件版本: 5.1.1

## Parameters

[Try it out](#)

No parameters

Request body required

application/json

Example Value Schema

```
[  
  0  
]
```

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Code	Description	Links
	Example Value Schema	
	<code>true</code>	

## motion 机器人运动控制

^

GET	/api/core/motion/v1/action-factories	获取所有支持的Action	^		
Parameters		<button>Try it out</button>			
No parameters					
Responses					
Code	Description	Links			
200	OK	No links			
<p>Media type</p> <p><code>application/json</code></p> <p>Controls Accept header.</p>					
<p>Example Value Schema</p> <pre>[   {     "action_name": "slamtec.agent.actions.MoveToAction"   } ]</pre>					

GET	/api/core/motion/v1/actions/:current	获取当前行为	^		
Parameters		<button>Try it out</button>			
No parameters					
Responses					

Code	Description	Links
200	OK	No links
	<p>Media type</p> <div style="border: 2px solid green; padding: 2px; display: inline-block;">application/json</div> <p>Controls <code>Accept</code> header.</p> <p>Example Value Schema</p> <pre>{   "action_id": 0,   "action_name": "string",   "stage": "GOING_TO_TARGET",   "state": {     "status": 0,     "result": 0,     "reason": ""   } }</pre>	

**DELETE /api/core/motion/v1/actions/:current** 终止当前行为 ^

#### Parameters

Try it out

No parameters

#### Responses

Code	Description	Links
200	OK	No links

**POST /api/core/motion/v1/actions** 创建新的运动行为 ^

#### Parameters

Try it out

No parameters

Request body required

application/json

action\_name通过/api/core/motion/v1/action-factories接口进行查询, options具体内容根据action类型而定

Example Value Schema

```
{
  "action_name": "slamtec.agent.actions.MoveToAction",
  "options": {
    "target": {
      "x": 0,
      "y": 0,
      "z": 0
    },
    "move_options": {
      "mode": 0,
      "flags": 0,
      "yaw": 0,
      "acceptable_precision": 0,
      "fail_retry_count": 0,
      "speed_ratio": 0
    }
  }
}
```

## Responses

Code	Description	Links
200	OK	No links
400	<p>Media type</p> <div style="border: 2px solid green; padding: 2px; display: inline-block;">application/json</div> <p>Controls Accept header.</p> <p>Example Value Schema</p> <pre>{   "action_id": 0,   "action_name": "string",   "stage": "GOING_TO_TARGET",   "state": {     "status": 0,     "result": 0,     "reason": ""   } }</pre>	No links

GET    /api/core/motion/v1/actions/{action\_id}    查询Action状态 ^

可查询最近20次action的状态, state.status为4表示action已结束, 此时通过result判断成功与否。

### Parameters

[Try it out](#)

Name	Description
action_id * required integer	action_id

Name	Description	
(path)		

## Responses

Code	Description	Links
200	OK	No links
	<p>Media type</p> <div style="border: 2px solid green; padding: 2px; display: inline-block;">application/json</div> <p>Controls Accept header.</p> <p>Example Value Schema</p> <pre>{   "action_id": 0,   "action_name": "string",   "stage": "GOING_TO_TARGET",   "state": {     "status": 0,     "result": 0,     "reason": ""   } }</pre>	

404	Not Found	No links
-----	-----------	----------

GET /api/core/motion/v1/path 获取剩余路径点 ^

当前Action剩余的路径点

Parameters	Try it out
------------	------------

No parameters

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

[Links](#)[Code](#)[Description](#)

Controls Accept header.

Example Value Schema

```
{
  "path_points": [
    [
      [
        0,
        0
      ]
    ]
  ]
}
```

GET /api/core/motion/v1/milestones 获得剩余目标点



当前Action剩余的目标点

[Parameters](#)[Try it out](#)

No parameters

[Responses](#)[Code](#)[Description](#)[Links](#)

200

OK

No links

Media type

[application/json](#)

Controls Accept header.

Example Value Schema

```
{
  "path_points": [
    [
      [
        0,
        0
      ]
    ]
  ]
}
```

GET /api/core/motion/v1/speed 获得运动速度



获取机器人当前运动速度

[Parameters](#)[Try it out](#)

No parameters

## Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type

application/json

Controls Accept header.

Example Value Schema

```
{  
    "vx": 0,  
    "vy": 0,  
    "omega": 0  
}
```

GET /api/core/motion/v1/time 获取剩余时间 ^

获取机器人到目的地的剩余运动时间（估计值）

## Parameters

Try it out

No parameters

## Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type

application/json

Controls Accept header.

Example Value Schema

```
0
```

POST /api/core/motion/v1/:search\_path 搜索路径 ^

搜索从机器人到目标点的最优路径

#### Parameters

[Try it out](#)

No parameters

Request body required

application/json

[Example Value](#) [Schema](#)

```
{
  "target": {
    "x": 0,
    "y": 0
  },
  "timeout": 0
}
```

#### Responses

Code Description

Links

200

OK

*No links*

Media type

application/json

Controls Accept header.

[Example Value](#) [Schema](#)

```
{
  "path_points": [
    [
      [
        0,
        0
      ]
    ]
  ]
}
```

GET /api/core/motion/v1/strategies 获取支持的所有运动策略 ^

运动策略为Slamware一系列内部参数的组合，涉及到运动速度、避障行为等各个方面，不同的策略可适用于不同的场景。一般情况下采用默认策略即可。

所需最低固件版本 4.2.4

## Parameters

[Try it out](#)

No parameters

## Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type

`application/json`

Controls Accept header.

Example Value Schema

```
[  
  "default"  
]
```

GET /api/core/motion/v1/strategies/:current 获取当前运动策略 ^

## Parameters

[Try it out](#)

No parameters

## Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type

`text/plain`

Controls Accept header.

Example Value Schema

```
string
```

PUT /api/core/motion/v1/strategies/:current 设置运动策略 ^

## Parameters

[Try it out](#)

No parameters

Request body required

application/json

Example Value Schema

```
{
  "strategy": "string"
}
```

## Responses

Code	Description	Links
200	OK	No links

Media type application/json  
Controls Accept header.

Example Value Schema

true

## firmware 固件升级



GET /api/core/firmware/v1/newversion 查询新版本固件



GET /api/core/firmware/v1/autoupdate/:enable 是否支持自动升级



PUT /api/core/firmware/v1/autoupdate/:enable 开启/关闭自动升级



POST /api/core/firmware/v1/autoupdate/:start 开始自动固件升级



POST /api/core/firmware/v1/update/:start 上传固件升级



GET /api/core/firmware/v1/progress 获取固件升级进度



## statistics 运行数据统计

[^](#)

GET /api/core/statistics/v1/odometry 获取运行里程

[^](#)

机器人总的运行里程，单位米

### Parameters

[Try it out](#)

No parameters

### Responses

Code	Description	Links
------	-------------	-------

200	OK	No links
-----	----	----------

Media type

application/json

Controls Accept header.

Example Value Schema

0

GET /api/core/statistics/v1/runtime 获取运行时间

[^](#)

机器人总的运行时间，单位秒

### Parameters

[Try it out](#)

No parameters

### Responses

Code	Description	Links
------	-------------	-------

200	OK	No links
-----	----	----------

Code	Description	Links
Media type <code>application/json</code>	Controls Accept header. Example Value Schema <code>0</code>	

## sensors 传感器控制

^

PUT	/api/core/sensors/v1/depth/:enable 使能/禁用深度摄像头数据	^
用户设置是否使用深度摄像头数据		
Parameters		<a href="#">Try it out</a>
No parameters		
Request body	application/json	
Example Value Schema		
{ "enable": true }		
Responses		
Code	Description	Links
200	OK	No links

GET	/api/core/sensors/v1/masks 获取传感器禁用状态	^
获取禁用状态的传感器掩码信息。		
Parameters		<a href="#">Try it out</a>

No parameters

## Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type

application/json

Controls Accept header.

Example Value Schema

```
[  
  {  
    "id": 0,  
    "isAlways": true  
  }  
]
```

PUT /api/core/sensors/v1/masks 使能/禁用传感器



设置传感器掩码。

## Parameters

[Try it out](#)

No parameters

Request body

application/json

Example Value Schema

```
[  
  {  
    "id": 0,  
    "isAlways": true,  
    "isEnabled": true  
  }  
]
```

## Responses

Code	Description	Links
200	OK	<i>No links</i>

Code	Description	Links
Media type <code>application/json</code>	Controls Accept header. Example Value Schema <code>true</code>	

## application 安卓应用程序管理(仅限ARM平台) ^

GET	/api/core/application/v1/apps 获取所有自定义安装的APP	Try it out ^
Parameters		
No parameters		
Responses		
Code	Description	Links
200	OK Media type <code>application/json</code> Controls Accept header. Example Value Schema <pre>[   {     "name": "string",     "version": "string"   } ]</pre>	No links

POST	/api/core/application/v1/apps 安装APP	Try it out ^
Parameters		
No parameters		
Request body		<code>application/octet-stream</code>

Example values are not available for *application/octet-stream* media types.

## Responses

Code	Description	Links
200	OK	No links
500	Failed to install application	No links

**DELETE** /api/core/application/v1/apps/{app\_name} 卸载一个APP ^

### Parameters

[Try it out](#)

Name	Description
------	-------------

**app\_name** \* required  
string  
(path)

## Responses

Code	Description	Links
200	OK	No links

## platform 机器人通用底盘和平台相关的功能 ^

**GET** /api/platform/v1/timestamp 获取系统时间戳 ^

获取系统启动以来的毫秒数, 返回值为字符串格式的整数。

所需最低固件版本 4.2.4

### Parameters

[Try it out](#)

No parameters

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

"string"

GET /api/platform/v1/events 获取事件信息 ^

获取机器人发生的事件，上位机可以播报语音或进行别的交互，启用不同的插件会扩展出不同的事件类型。

## Parameters

Try it out

No parameters

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

```
[{"type": "DEVICE_ERROR", "timestamp": "string"}]
```

## multi-floor 多楼层地图管理，乘电梯等功能 ^

GET /api/multi-floor/status 获取地图状态信息 ^

Parameters Try it out

No parameters

Responses

Code	Description	Links
200	OK	No links

Media type application/json Controls Accept header.

Example Value Schema

```
{  
    "is_in_mapping_mode": true,  
    "map_load_status": "NOT_LOADED",  
    "is_managed_by_cloud": true  
}
```

GET /api/multi-floor/map/v1/floors 获取所有楼层信息 ^

Parameters Try it out

No parameters

Responses

Code	Description	Links
200	OK	No links

Media type application/json Controls Accept header.

Example Value Schema

```
[  
    {  
        "building": "",  
        "name": ""  
    }]
```

Code	Description	Links
<pre>         "floor": "1F",         "order": 0,         "is_default_floor": true     } ]</pre>		

**GET /api/multi-floor/map/v1/floors/:current** 获取机器人所在楼层信息 ^

**Parameters** **Try it out**

No parameters

**Responses**

Code	Description	Links
200	OK	<i>No links</i>

Media type application/json

Controls Accept header.

Example Value Schema

```
{
    "building": "",
    "floor": "1F",
    "elevator": "",
    "map_id": "3fa85f64-5717-4562-b3fc-2c963f66afa6"
}
```

**PUT /api/multi-floor/map/v1/floors/:current** 设置机器人所在楼层信息 ^

正常情况下应当由机器人在乘坐电梯过程中自主切换楼层，该接口仅供特殊情况下（如人工搬运机器人）使用。

**Parameters** **Try it out**

No parameters

**Request body** required application/json

Example Value Schema

```
{
    "building": "string",
    "floor": "string",
    "pose": {
        "x": 0,
        "y": 0,
        "z": 0
    }
}
```

```
        "y": 0,  
        "yaw": 0  
    }  
}
```

## Responses

Code	Description	Links
200	OK	No links

GET    /api/multi-floor/map/v1/pois 获取POI信息 ^

通过参数指定楼层，不带参数时获取所有楼层的POI。

## Parameters

Try it out

Name	Description
------	-------------

floor  
string  
(query)  
楼层名

floor

building  
string  
(query)  
建筑物名

Default value :

building

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

Code	Description	Links
	<pre>[   {     "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",     "poi_name": "string",     "type": "ROOM",     "floor": "string",     "building": "string",     "pose": {       "x": 0,       "y": 0,       "yaw": 0     }   } ]</pre>	
400	Invalid floor or building	No links

POST	/api/multi-floor/map/v1/pois/:search_nearby	查找最近的POI	^
查找离机器人最近的POI信息。其中name有三个特殊值，ON_DOCK表示在桩上，IN_ELEVATOR表示在电梯内，UNKNOWN表示没有POI，此时没有relative_pose字段，其他的值均表示地图中添加的常规POI的名称。			
<b>Parameters</b> <div style="float: right; border: 1px solid #ccc; padding: 2px 10px; border-radius: 5px; margin-right: 10px;">Try it out</div>			
No parameters			
<b>Responses</b>			
Code	Description	Links	
200	OK	No links	
Media type <div style="border: 2px solid #00AEEF; padding: 2px; display: inline-block;">application/json</div> Controls Accept header.			
<a href="#">Example</a> <a href="#">Value</a> <a href="#">Schema</a>			
<pre>{   "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",   "name": "ON_DOCK",   "relative_pose": {     "x": 0,     "y": 0   } }</pre>			

POST	/api/multi-floor/map/v1/pois/:dispatch	查询POI的最优遍历顺序	^

给定若干个POI名称，返回调整顺序后的POI名称，使得机器人依次遍历这些POI并回到当前位置的总路径最短。

【注】该接口耗时随着POI数量指数增长，请勿传入大量POI。

所需最低固件版本 4.5.0

#### Parameters

[Try it out](#)

No parameters

Request body required

application/json

Example Value Schema

```
[  
  "101",  
  "103",  
  "102"  
]
```

#### Responses

Code Description

Links

200

OK

*No links*

Media type

application/json

Controls Accept header.

Example Value Schema

```
[  
  "101",  
  "102",  
  "103"  
]
```

GET /api/multi-floor/map/v1/homedocks 获取充电桩信息 ^

通过Query参数指定楼层，不带参数时获取所有楼层的充电桩

#### Parameters

[Try it out](#)

Name Description

floor	楼层名
string	

Name	Description
(query)	floor

**building** **string** **(query)** 建筑物名  
*Default value :*

building

### Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

```
[
  {
    "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
    "dock_name": "string",
    "floor": "string",
    "building": "string",
    "pose": {
      "x": 0,
      "y": 0,
      "yaw": 0
    }
  }
]
```

GET /api/multi-floor/map/v1/homedocks/:current 获取绑定的充电桩 ^

获取机器人当前绑定的充电桩信息，如果没绑定过或dock id无效，返回的result为false。

#### Parameters

[Try it out](#)

No parameters

#### Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls `Accept` header.

Example Value Schema

```
{
  "result": true,
  "msg": "string",
  "data": {
    "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
    "dock_name": "string",
    "floor": "string",
    "building": "string",
    "pose": {
      "x": 0,
      "y": 0,
      "yaw": 0
    }
  }
}
```

PUT /api/multi-floor/map/v1/homedocks/:current 绑定充电桩 ^

【注意】如果绑定的充电桩不在启动楼层，则需要先将机器人推到充电桩上，然后调用本接口，此时会同步修改启动楼层并重置地图。

#### Parameters

[Try it out](#)

No parameters

#### Request body

application/json

#### Example Value Schema

```
{
  "dock_id": "3fa85f64-5717-4562-b3fc-2c963f66afa6"
}
```

#### Responses

Code	Description	Links
200	OK	No links

POST /api/multi-floor/map/v1/homedocks/:search\_nearby 查找离机器人最近的充电桩 ^

调用该接口前请确保机器人定位准确。

#### Parameters

[Try it out](#)

No parameters

#### Responses

Code	Description	Links
200	OK	No links

Media type

[application/json](#)

Controls Accept header.

[Example](#) [Value](#) [Schema](#)

```
{  
    "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",  
    "dock_name": "string",  
    "floor": "string",  
    "building": "string",  
    "pose": {  
        "x": 0,  
        "y": 0,  
        "yaw": 0  
    }  
}
```

POST /api/multi-floor/map/v1/stcm 上传地图到机器人 ^

上传的地图会持久化保存在文件系统中，但不会加载到Slamware中。

【注意】当机器人由云端管理时，从云端下载的地图会覆盖本地地图。

#### Parameters

[Try it out](#)

No parameters

## Request body

application/octet-stream

Example values are not available for application/octet-stream media types.

## Responses

Code	Description	Links
200	OK	No links

**DELETE /api/multi-floor/map/v1/stcm** 删除保存的地图 ^

不会清空内存中的当前地图，而是删除文件系统中缓存的地图

## Parameters

Try it out

No parameters

## Responses

Code	Description	Links
204	OK	No links

**POST /api/multi-floor/map/v1/stcm/:save** 持久化保存当前地图 ^

从Slamware中读取地图并保存到文件。

【注意】 多楼层环境中禁止该操作，否则会丢失其他楼层的地图。

## Parameters

Try it out

No parameters

## Responses

Code	Description	Links
200	OK	No links

POST	/api/multi-floor/map/v1/stcm/:reload 重新加载地图	^
<p>重新加载地图，优先尝试从云端下载，下载失败或机器人不受云端管理时从本地文件读取。 pose为可选字段，pose为空时设置机器人位姿到充电桩前。 【注意】系统启动时会自动加载地图，该接口一般在部署阶段地图有变更时才需要调用。</p>		

Parameters	Try it out
No parameters	

Request body	application/json
--------------	------------------

Example Value	Schema
<pre>{   "pose": {     "x": 0,     "y": 0,     "z": 0,     "yaw": 0,     "pitch": 0,     "roll": 0   } }</pre>	

Responses	Links						
<table border="1"> <tr> <th>Code</th> <th>Description</th> <th>Links</th> </tr> <tr> <td>200</td> <td>OK</td> <td>No links</td></tr> </table>		Code	Description	Links	200	OK	No links
Code	Description	Links					
200	OK	No links					

POST	/api/multi-floor/map/v1/stcm/:sync 同步地图	^		
<p>保存当前地图到文件，并重新加载，相当于save和reload 2个接口的组合。 【注意】多楼层环境中禁止该操作，否则会丢失其他楼层的地图。</p> <p>所需最低固件版本 4.2.4</p> <table border="1"> <tr> <td>Parameters</td> <td>Try it out</td> </tr> </table>			Parameters	Try it out
Parameters	Try it out			

No parameters

## Responses

Code	Description	Links
200	OK	<i>No links</i>

POST    /api/multi-floor/map/v1/scene/unbind 解绑云端场景



将机器人与云端场景解除绑定，并删除本地地图，在机器人需要换场景部署时调用。

所需最低固件版本 6.2.0

## Parameters

[Try it out](#)

No parameters

## Request body

application/json

## Example Value Schema

```
{  
    "keep_local_map": true  
}
```

## Responses

Code	Description	Links
200	OK	<i>No links</i>

POST    /api/multi-floor/map/v1/search\_path\_points 通过轨道搜索路径点



在轨道构成的图中，搜索起点到终点的可行路径。

## Parameters

[Try it out](#)

No parameters

**Request body** required

application/json

Example Value Schema

```
{
  "building": "string",
  "floor": "string",
  "start_point": {
    "x": 0,
    "y": 0
  },
  "end_point": {
    "x": 0,
    "y": 0
  },
  "with_direction": true
}
```

## Responses

Code	Description	Links
200	OK	<i>No links</i>

Media type

application/json

Controls Accept header.

Example Value Schema

```
{
  "path_points": [
    [
      0,
      0
    ]
  ]
}
```

PUT /api/multi-floor/localization/v1/pose 设置机器人位姿 ^

将机器人位姿设置到指定的POI上，一般用于发生异常后的恢复操作。

所需最低固件版本 4.5.3

Parameters

Try it out

No parameters

Request body

application/json

**Example Value Schema**

```
{  
    "poi_name": "string"  
}
```

**Responses**

Code	Description	Links
200	OK	<i>No links</i>

Media type

application/json

Controls Accept header.

Example Value Schema

true

PUT /api/multi-floor/localization/v1/homedock 根据充电桩重置机器人定位 ^

将机器人位姿设置到指定的充电桩前，一般用于发生异常后的恢复操作。

所需最低固件版本 6.2.0

**Parameters**Try it out

No parameters

**Request body**

application/json

**Example Value Schema**

```
{  
    "dock_id": "3fa85f64-5717-4562-b3fc-2c963f66afa6"  
}
```

**Responses**

Code	Description	Links
200	OK	No links

GET /api/multi-floor/map/v1/elevators 获取电梯区域



获取电梯区域内的元素，包括电梯ID以及等待点。

#### Parameters

Try it out

No parameters

#### Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

```
{
  "door_type": "front_door",
  "elevator_id": "string",
  "front_scheduling_poses": [
    {
      "x": 0,
      "y": 0,
      "z": 0,
      "yaw": 0,
      "pitch": 0,
      "roll": 0
    }
  ],
  "rear_scheduling_poses": [
    {
      "x": 0,
      "y": 0,
      "z": 0,
      "yaw": 0,
      "pitch": 0,
      "roll": 0
    }
  ]
}
```

GET /api/multi-floor/map/v1/elevators/{elevator\_id} 获取某个电梯的信息



[Try it out](#)

## Parameters

Name	Description
------	-------------

**elevator\_id** \* required  
**string**  
*(path)*

elevator\_id

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

```
{
  "door_type": "front_door",
  "elevator_id": "string",
  "front_scheduling_poses": [
    {
      "x": 0,
      "y": 0,
      "z": 0,
      "yaw": 0,
      "pitch": 0,
      "roll": 0
    }
  ],
  "rear_scheduling_poses": [
    {
      "x": 0,
      "y": 0,
      "z": 0,
      "yaw": 0,
      "pitch": 0,
      "roll": 0
    }
  ]
}
```

400	Unknown Elevator ID	No links
-----	---------------------	----------

GET    [/api/multi-floor/map/v1/elevators/{elevator\\_id}/pose\\_relation](/api/multi-floor/map/v1/elevators/{elevator_id}/pose_relation)

获取机器人与电梯的位置关系



## Parameters

[Try it out](#)

Name	Description	
elevator_id <small>* required</small> <small>string (path)</small>	elevator_id	
<b>Responses</b>		
Code	Description	Links
200	OK	<i>No links</i>
	<p>Media type</p> <div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">application/json</div> <p>Controls Accept header.</p> <p>Example Value Schema</p> <div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">"in_elevator"</div>	
400	Unknown Elevator ID	<i>No links</i>

## industry 工业搬运服务 ^

POST	/api/industry/v1/tasks/templates	创建任务模板	<a href="#">Try it out</a>
创建一个呼叫器任务模板			
Parameters			
No parameters			
Request body		application/json	
<p>Example Value Schema</p> <pre>{   "key": "3fa85f64-5717-4562-b3fc-2c963f66afa6",   "name": "string",   "action_list": [     {       "display_name": "string",       "action": "string",       "wait_time": 0     }   ] }</pre>			

```

    }
  ]
}

```

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

```
{
  "task_template_key": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "task_template_type": 0,
  "name": "string",
  "scene_id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "device_id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "action_list": [
    {
      "display_name": "string",
      "action": "string",
      "wait_time": 0
    }
  ]
}
```

GET    /api/industry/v1/tasks/templates 获得任务模板 ^

获取当前设备所属场景下的所有任务模板

### Parameters

Try it out

No parameters

## Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Links

Code

Description

Example Value Schema

```
[
  {
    "task_template_key": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
    "task_template_type": 0,
    "name": "string",
    "scene_id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
    "device_id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
    "action_list": [
      {
        "display_name": "string",
        "action": "string",
        "wait_time": 0
      }
    ]
  }
]
```

**DELETE /api/industry/v1/tasks/templates/{key\_id}** 删除任务模板

删除一个任务模板

Parameters

Try it out

Name Description

**key\_id** \* required  
 string(\$uuid)  
 (path)

3fa85f64-5717-4562-b3fc-2c963f66afa6

Responses

Code

Description

Links

200

OK

No links

Media type

text/plain

Controls Accept header.

Example Value Schema

```
{
  "result": true,
  "msg": "string",
  "data": []
}
```

GET /api/industry/v1/tasks 查询任务信息



默认返回ready和running状态的所有类型的任务，status为all时表示查询最近的所有任务，包括已成功完成和失败的任务。

#### Parameters

[Try it out](#)

Name	Description
type <b>string</b> (query)	<i>Available values</i> : carry_calling_by_template, carry_calling, industry --
status <b>string</b> (query)	<i>Available values</i> : ready, running, succeeded, failed, all --

#### Responses

Code	Description	Links
200	OK	No links

Media type

application/json

Controls Accept header.

Example Value Schema

```

{
  "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "task": {
    "target": "string",
    "type": "CARRY_CALLING",
    "order_id": "string",
    "template_key": "string",
    "start_time": "string",
    "task_targets": [
      {
        "target_name": "string",
        "action": "string",
        "wait_time": 0
      }
    ],
    "message": {}
  },
  "status": "READY",
  "result": {
    "stage": "GOING_TO_ELEVATOR",
    "reason": "",
    "timestamp": "string"
  }
}

```

POST /api/industry/v1/tasks/events 推送任务事件



上位机执行呼叫器任务时，通过该接口推送任务事件，同时更新任务状态。

#### Parameters

Try it out

No parameters

Request body

application/json

Example Value Schema

```
{  
    "task_id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",  
    "status": "RUNNING"  
}
```

#### Responses

Code Description

Links

200

OK

No links

## delivery 配送服务(仅限整机，通用底盘无法支持)



GET /api/delivery/v1/admin/password 获取操作密码



PUT /api/delivery/v1/admin/password 设置操作密码



GET /api/delivery/v1/admin mode 获取机器人工作模式



PUT /api/delivery/v1/admin mode 设置机器人工作模式



GET /api/delivery/v1/admin/language 获取机器人语言



PUT /api/delivery/v1/admin/language 设置机器人语言



GET /api/delivery/v1/admin/working\_time 获取机器人工作时间



PUT /api/delivery/v1/admin/working\_time 设置机器人工作时间



GET	/api/delivery/v1/admin/move_options	获取运动选项	✓
PUT	/api/delivery/v1/admin/move_options	设置运动选项	✓
GET	/api/delivery/v1/admin/line_speed	获取配送速度和返航速度	✓
PUT	/api/delivery/v1/admin/line_speed	设置配送速度和返航速度	✓
GET	/api/delivery/v1/configurations	获取机器配置信息	✓
GET	/api/delivery/v1/settings	获取配送相关的设置信息	✓
PUT	/api/delivery/v1/settings/timeout	设置任务的超时时间	✓
GET	/api/delivery/v1/voice_resources	获取语音包信息	✓
GET	/api/delivery/v1/cargos	获取所有Cargo信息	✓
GET	/api/delivery/v1/cargos/{cargo_id}/boxes	获取某个Cargo所有Box信息	✓
GET	/api/delivery/v1/cargos/{cargo_id}/boxes/{box_id}	获取Box信息	✓
PUT	/api/delivery/v1/cargos/{cargo_id}/boxes/{box_id}/{op}	操作Box	✓
GET	/api/delivery/v1/cargos/{cargo_id}/boxes/{box_id}/operation_result	查询Box操作结果	✓
GET	/api/delivery/v1/cargos/assigned	获取被占用的外卖舱	✓
GET	/api/delivery/v1/tasks	查询任务信息	✓
POST	/api/delivery/v1/tasks	创建任务	✓
DELETE	/api/delivery/v1/tasks	取消所有任务	✓
POST	/api/delivery/v1/tasks/:batch	批量创建任务	✓
DELETE	/api/delivery/v1/tasks/{task_id}	根据Task ID取消任务	✓
DELETE	/api/delivery/v1/tasks/orders/{order_id}	根据订单ID取消任务	✓
GET	/api/delivery/v1/stage	获取当前任务状态	✓

PUT	/api/delivery/v1/tasks/:task_execution 暂停/继续执行任务	✓
PUT	/api/delivery/v1/tasks/:task_finish 结束所有任务	✓
PUT	/api/delivery/v1/tasks/:start_pickup 开始取物	✓
PUT	/api/delivery/v1/tasks/:end_pickup 结束取物	✓
PUT	/api/delivery/v1/tasks/:end_operation 完成操作	✓

## Schemas



```
Capability {
    name string
        • slamware.agent.core 定位导航等底盘核心通用功能
        • slamware.agent.platform 日志采集等平台通用功能
        • slamware.agent.multi_floor 多楼层地图管理和跨楼层移动功能
        • slamware.agent.delivery 配送服务功能
        • slamware.agent.mercury2 支持云端调度的智能酒店配送服务功能

    Enum:
        Array [ 5 ]
    version string
        example: 4.0.0
    enabled boolean

    插件初始化失败，或者刚启动时该值为false，上位机应当继续等待一段时间，直到该值变成true或者超时。
}
```

```

PowerStatus {
    batteryPercentage      integer
                           example: 90
                           电池电量百分比, 0 ~ 100
    dockingStatus          string
                           对桩状态
                           Enum:
                           Array [ 2 ]
                           boolean
                           是否正在充电
    isDCConnected           boolean
                           example: false
                           外部电源是否连接
    powerStage               string
                           example: running
                           电源状态
                           Enum:
                           Array [ 5 ]
                           string
                           休眠状态
                           Enum:
                           Array [ 3 ]
}

```

```

DeviceInfo {
    manufacturerId        integer
                           example: 255
                           制造商ID
    manufacturerName       string
                           example: Slamtec
                           制造商名称
    modelId                integer
                           example: 43792
                           设备型号ID
    modelName               string
                           example: Apollo
                           设备型号名称
    deviceID                string($uuid)
                           example: D2E6D7C0F7ABF29EDFEAFEF1C781D09
                           设备序列号
    hardwareVersion         string
                           example: 511
                           硬件版本号
    softwareVersion         string
                           example: 3.6.1-rtm+20210807
                           软件版本号
}

```

```

BaseError {
    id           integer
    component    integer
    example: 1
    0 User, 1 System, 2 Power, 3 Motion, 4 Sensor, 255 Unknown

    Enum:
        Array [ 6 ]
    errorCode   integer
    example: 33621760
    level       integer
    example: 2
    0 Healthy, 1 Warn, 2 Error, 4 Fatal, 255 Unknown

    Enum:
        Array [ 5 ]
    message     string
    example: motor barke released
}

```

```

BaseHealthInfo {
    hasWarning   boolean
    example: false
    是否有告警信息

    hasError     boolean
    example: true
    是否有错误信息

    hasFatal     boolean
    example: false
    是否有致命错误

    baseError    [...]
}

```

```

NetworkStatus {
    ethip1        string
    example: 192.168.11.1/24
    以太网地址

    ip            string
    example: 10.6.128.147
    IP地址

    mac           string
    example: ec:0e:c4:0a:e4:3b
    MAC地址

    mode          string
    Enum:
        Array [ 2 ]
    quality      integer
    example: 100
    网络质量

    ssid          string
}

```

```
ApModeOptions {
    description: ssid和password均为可选项， 默认从配置文件设置热点名称
    ssid           string
    password       string
}
```

```
StationModeOptions {
    ssid*          string
    password*      string
}
```

```
RouteStatus {
    priority       string
    example: wifi
    路由优先级选择:
        • wifi - WIFI 优先
        • 4g   - 4G 优先
    Enum:
        Array [ 2 ]
}
```

```
ApnStatus {
    apn            string
    example: cmhk
    根据地区选择对应apn: 例如香港地区: cmhk
}
```

```
ActionState {
    status         integer
    0:NewBorn, 1:Working, 3:Paused, 4:Done
    Enum:
        Array [ 4 ]
        integer
        0:Success, -1: Failed, -2: Aborted
    Enum:
        Array [ 3 ]
        string
        default:
}
```

```
ActionGravestone {
    action_id      integer
    state          ActionState {...}
}
```

```
ActionInfo {
    action_id      integer
    action_name    string
    stage          string
    state          ActionState {...}
}
```

```
Pose3D {
    description: 三维空间的位姿信息

    x           number
    y           number
    z           number
    yaw         number
    pitch       number
    roll        number
}
```

```
Pose2D {
    description: 二维平面的位姿信息

    x           number
    y           number
    yaw         number
}
```

```
Location {
    x           number
    y           number
    z           number
}
```

```
Point {
    x           number
    y           number
}
```

```
Quaternion {
    w           number
    x           number
    y           number
    z           number
}
```

PathPoints [  
 x、y坐标构成的路径点，每个元素为包含两个浮点数的数组，分别为x、y坐标值  
 PathPoints [...]]

```

LaserScan {
    description:
        pose为观测到该帧激光时的机器人位姿，每个激光点的angle表示激光与机器人正前方的夹角。
    pose
    laser_points
    [...]
}

```

```

EmptyMetadata {
    description:
        metadata是key和value都是字符串的map
}

```

```

BezierCurveMetadata {
    description:
        描述贝塞尔曲线的metadata, control_point1和control_point2是两个控制点的坐标，再加上
        Line的起点和终点可以确定一个三阶贝塞尔曲线
    control_point1*
    control_point2*
    string
    example: {'x':0.1,'y':0.1}
    string
    example: {'x':0.1,'y':0.1}
}

```

```

Line {
    id
    integer
    如果是添加线段，id会被忽略，如果是编辑线段，则会修改对应id的线段
    start
    Point {...}
    end
    Point {...}
    metadata
    {...}
}

```

```

Rectangle {
    x
    number
    y
    number
    width
    number
    height
    number
}

```

```

RectangleAreaUsage string


- forbidden area 禁行区域，禁止机器人进入该区域
- elevator area 电梯区域
- dangerous area 危险区域，机器人进入该区域后自动减速
- coverage area 覆盖规划区域，用于清扫和消毒等
- maintenance area 运维区域，用于将建图范围限制在该区域内
- sensor disable area 传感器禁用区域，机器人进入该区域后忽略指定的传感器数据
- restricted area 限行区域，用于多机调度，可限制同时进入的机器人数。



Enum:



```
[ forbidden_area, elevator_area, dangerous_area, coverage_area, maintenance_area,
sensor_disable_area, restricted_area ]
```


```

```

ElevatorAreaMetadata {
    elevator_id*           string($uuid)
                            梯控设备序列号

    elevator_sill_width*   string
                            example: 0.4
                            门槛宽度，从电梯门内侧到门洞外侧的距离

    elevator_scheduling_point_dist* string
                            example: 1
                            电梯调度点离电梯门的距离

    elevator_door_type      string
                            电梯开门方向，0 正面开门，1 背面开门，2 双向开门

    Enum:
        Array [ 3 ]
}

```

```

ForbiddenAreaMetadata {
    escape_distance*        string
                            example: 0.4
                            可逃脱区域大小，从禁区边界往里面计算，单位米.

}

```

```

DangerousAreaMetadata {
    dangerous_area_type*   string
                            危险区域类型，0 斜坡，1 窄走廊

    Enum:
        Array [ 2 ]
    max_line_speed          string
                            example: 0.5
                            机器人在该区域内的最大线速度，单位米/秒

}

```

```

SensorDisableAreaMetadata {
    sensor_type              string
                            example: [0, 3]
                            传感器类型，0 碰撞，1 跌落，2 超声，3 深度

}

```

```

CoverageAreaMetadata {
}

```

```

RestrictedAreaMetadata {
    restricted_scheduling_points string
        example: [{"x": "0.1", "y": "0.1"}]
        限行区域调度点

    restricted_robots_number_limit string
        example: 1
        允许同时进入的机器人数量

}

```

```

RectangleAreaMetadata {
    description: 矩形区域的metadata，键值对数据，所有数据都应当序列化成字符串格式。

    oneOf ->
        EmptyMetadata {...}
        ElevatorAreaMetadata {...}
        ForbiddenAreaMetadata {...}
        DangerousAreaMetadata {...}
        CoverageAreaMetadata {...}
        SensorDisableAreaMetadata {...}
        RestrictedAreaMetadata {...}

}

```

```

RectangleArea {
    id integer
    usage RectangleAreaUsage string
        • forbidden area 禁行区域，禁止机器人进入该区域
        • elevator area 电梯区域
        • dangerous area 危险区域，机器人进入该区域后自动减速
        • coverage area 覆盖规划区域，用于清扫和消毒等
        • maintenance area 运维区域，用于将建图范围限制在该区域内
        • sensor_disable_area 传感器禁用区域，机器人进入该区域后忽略指定的传感器数据
        • restricted_area 限行区域，用于多机调度，可限制同时进入的机器人数量。

    Enum:
        area Array [ 7 ]
        {...}
    metadata RectangleAreaMetadata {...}

}

```

```

ImuData {
    description: 通过按位或运算组合而成的availabilityBitMap表明了哪些数据是有效的

    acc           Location {...}
    availabilityBitMap integer

        • 1 以四元数表示的位姿
        • 2 校准后的加速度计
        • 4 校准后的陀螺仪
        • 8 校准后的罗盘
        • 16 加速度计原始值
        • 32 陀螺仪原始值
        • 64 罗盘原始值
        • 128 6自由度的位姿信息
        • 256 9自由度的位姿信息
        • 512 以欧拉角表示的位姿

    compass        Location {...}
    euler_angle    Location {...}
    gyro           Location {...}
    quaternion     Quaternion {...}
    raw_acc         Location {...}
    raw_compass    Location {...}
    raw_gyro       Location {...}
    timestamp      integer

    底盘启动以来经过的毫秒数

}

```

```

FirmwareInfo {
    manufacturer string
    default: Slamtec

    model          string
    default: Hermes

    firmware       string
    default: 4.2.2-rtm+20211011

    firmware_id    string($uuid)
}

```

```

FloorInfo {
    building       string
    default:
    floor          string
    example: 1F
    order          integer

    如果需要在UI中列出楼层信息，应当按此字段排序

    is_default_floor boolean

    是否为默认楼层，不指定启动楼层时，机器人会设置到默认楼层。所有电梯都需要停靠默认楼层。

}

```

```

CurrentFloorInfo {
    building           string
    default:          string
    floor              string
    example: 1F   string
    elevator          string
    default:

        如果该字段非空则表示机器人还在电梯内。

    map_id            string($uuid)

        当前所在楼层的地图ID

}

```

```

MultiFloorTarget {
    building           string
    default:          string
    floor              string
    example: 1F   string
    pose              Pose2D  {...}

}

```

```

PoiType string
Enum:
    [ ROOM, REFILL, RECEPTION, TABLE, PARKING, RECYCLE, DISINFECT ]

```

```

SpecialPOIName string

    • ON DOCK 在杆上
    • IN ELEVATOR 在电梯内
    • UNKNOWN 未知，没有POI或软件异常

Enum:
    [ ON_DOCK, IN_ELEVATOR, UNKNOWN ]

```

```

NearbyPoiInfo {
    description:          name字段有三个特殊值，除此之外都表示地图中添加的常规POI名称。relative_pose表示POI相对机器人的位姿，机器人前方为X轴正方向，左侧为Y轴正方向。
    id                   string($uuid)
    name*               {...}
    relative_pose        Point    {...}

}

```

```

MultiFloorPoiInfo {
    id                   string($uuid)
    poi_name             string
    type                 PoiType string
    Enum:

        Array [ 7 ]

    floor                string
    building              string
    pose                 Pose2D  {...}

}

```

```

MultiFloorDockInfo {
    id          string($uuid)
    dock_name   string
    floor        string
    building     string
    pose         Pose2D  {...}
}

```

```

PoseEntry {
    id*          string($uuid)
    pose         Pose2D  {...}
    metadata     {...}
}

```

```

Box {
    id          integer
    door_status string
    Enum:
        Array [ 5 ]
    lock_status string
    Enum:
        Array [ 2 ]
    stock_status string
    Enum:
        Array [ 3 ]
    status       string
    Enum:
        Array [ 3 ]
    errors      [...]
}

```

```

Cargo {
    id          string($uuid)
    pos         integer
    orientation string
    Enum:
        Array [ 3 ]
    layer       integer
    type        string
    Enum:
        Array [ 2 ]
    errors      [...]
    boxes       [...]
}

```

```

CargoEntry {
    cargo_id    string($uuid)
    boxes       [...]
}

```

```
AssignedCargoEntry {
    target           string
    order_id        string
    cargo_id        string($uuid)
    boxes           [...]
}
```

```
FailedTask {
    target           string
    cargos          [...]
}
```

```
DeliveryTaskRequest {
    target           string
    type            string
    Enum:
        Array [ 9 ]
    req_id          string
    order_id        string
    no_pickup_wait boolean
    cargos          [...]
    failed_tasks    [...]
    station_id      string
    station_cargos [...]
    message         {...}
}
```

```
DeliveryPickupResultEntry {
    description: 包含cargo信息表示舱体的取物结果，包含task_point_id表示任务点的操作结果，二者只存其一
    cargo_id        string($uuid)
    box_id          string($integer)
    example: 0
    result          string
    Enum:
        Array [ 2 ]
    reason          string
    default:
    task_point_id   string
    default:
}
```

**DeliveryTaskEventStage** `string`

任务执行阶段

```
Enum:
    Array [ 13 ]
```

```
DeliveryTaskResult {
    stage          string
        任务执行阶段
    Enum:
        Array [ 13 ]
    reason         string
    pickup_result string
    timestamp      string($datetime)
}
```

```
DeliveryTaskStatus string
Enum:
    Array [ 6 ]
```

```
DeliveryTask {
    id            string($uuid)
    task          DeliveryTaskRequest {...}
    status        DeliveryTaskStatus string
    Enum:
        Array [ 6 ]
    result        DeliveryTaskResult   {...}
}
```

```
DeviceError {
    component     integer
    error_code    integer
    error_level   integer
    message       string
}
```

```
TaskExecutionInfo {
    enable_task_execution boolean
}
```

**GeneralEventType string**

- **DEVICE\_ERROR** 发生了Error或Fatal级别的设备健康状态报警
- **PATH\_OCCUPIED** 行进路径被阻挡
- **ROBOT\_BLOCKED** 在一个地方被长时间连续阻挡（默认3分钟）
- **RESET\_MAP\_TO\_DOCK** 机器人被推回桩并重置地图成功
- **START\_CHARGING** 开始充电
- **STOP\_CHARGING** 停止充电
- **ON\_DOCK** 机器人上桩
- **OFF\_DOCK** 机器人下桩
- **UPGRADE** 正在升级固件
- **POWER\_OFF** 正在关机
- **PASS\_THE\_NARROW\_CORRIDOR** 通过窄走廊
- **MAP\_LOOP\_CLOSURE** 完成一次建图闭环
- **SET\_MAP\_DONE** 完成设置地图操作
- **MOVE\_TO\_LANDING\_POINT\_FAILED** 前往充电桩失败
- **SEARCH\_DOCK\_FAILED** 找桩失败
- **CHARGING\_BASE\_FAILED** 充电失败
- **SYNC\_MAP\_FROM\_CLOUD** 从云端同步地图
- **DOCK\_ID\_NOT\_FOUND** 在地图中找不到绑定的桩
- **BRAKE\_RELEASED** 刹车释放按钮被按下
- **BUMPER\_TRIGGERED** 碰撞传感器触发
- **CURRENT\_POSE\_OCCUPIED** 当前机器人位姿被占据
- **CLIFF\_DETECTED** 检测到悬崖

## Enum:

```
[ DEVICE_ERROR, PATH_OCCUPIED, ROBOT_BLOCKED, RESET_MAP_TO_DOCK, START_CHARGING, STOP_CHARGING,
ON_DOCK, OFF_DOCK, UPGRADE, POWER_OFF, PASS_THE_NARROW_CORRIDOR, MAP_LOOP_CLOSURE, SET_MAP_DONE,
MOVE_TO_LANDING_POINT_FAILED, SEARCH_DOCK_FAILED, CHARGING_BASE_FAILED, SYNC_MAP_FROM_CLOUD,
DOCK_ID_NOT_FOUND, BRAKE_RELEASED, BUMPER_TRIGGERED, CURRENT_POSE_OCCUPIED, CLIFF_DETECTED ]
```

**ElevatorEventType string**

- **WAIT\_ELEVATOR** 机器人到达电梯等待点
- **ENTER\_ELEVATOR** 即将开始进电梯
- **ENTER\_ELEVATOR\_OCCUPIED** 进电梯过程中被阻挡
- **ENTER\_ELEVATOR\_FAILED** 进电梯失败
- **TURNING\_ROUND\_IN\_ELEVATOR** 在电梯内即将转身
- **LEAVE\_ELEVATOR** 即将开始出电梯
- **LEAVE\_ELEVATOR\_OCCUPIED** 出电梯过程中被阻挡
- **LEAVE\_ELEVATOR\_FAILED** 出电梯失败
- **IN\_ELEVATOR** 在电梯内
- **OUT\_OF\_ELEVATOR** 在电梯外
- **TAKE\_ELEVATOR\_OCCUPIED** 讲出电梯被挡
- **SEARCH\_ELEVATOR\_PATH\_FAILED** 搜索电梯路径失败
- **ENTER\_ELEVATOR\_PATH\_FOUND** 进电梯搜路成功

## Enum:

```
[ WAIT_ELEVATOR, ENTER_ELEVATOR, ENTER_ELEVATOR_OCCUPIED, ENTER_ELEVATOR_FAILED,
TURNING_ROUND_IN_ELEVATOR, LEAVE_ELEVATOR, LEAVE_ELEVATOR_OCCUPIED, LEAVE_ELEVATOR_FAILED,
IN_ELEVATOR, OUT_OF_ELEVATOR, TAKE_ELEVATOR_OCCUPIED, SEARCH_ELEVATOR_PATH_FAILED,
ENTER_ELEVATOR_PATH_FOUND ]
```

**DeliveryEventType** string

- **START FROM DOCK** 从桩上出发执行任务
- **DELIVERY SETTINGS CHANGED** 配送相关的设置项有更新
- **DELIVERY TASK START** 开始执行配送任务
- **STATION TASK START** 开始执行货柜取物任务
- **OPERATING CABINET** 正在操作货柜
- **BACK TO RECEPTION FOR FAILED ORDER** 配送失败回到前台
- **DELIVERY NO PICKUP** 配送任务用户未取物
- **COLLECT NO PICKUP** 回前台任务用户未取物
- **UNDOCK FAILED** 下桩失败(下桩重试时间为2分钟)
- **START TO WORK** 机器人开始工作(进入工作时间或电量充到80%)
- **GET OFF WORK** 机器人下班啦
- **LOW BATTERY** 电量过低，机器人即将回桩
- **NEW TASK RECEIVED** 从云端接收到新的任务
- **ROBOT REBOOT** 机器人即将重启
- **DISINFECT TASK FAILED** 消毒任务失败
- **LOCALIZATION\_ANOMALY** 定位异常，需要推回桩或调用接口重置机器人位姿后才会消除

Enum:

```
[ START_FROM.Dock, DELIVERY_SETTINGS_CHANGED, DELIVERY_TASK_START, STATION_TASK_START,
OPERATING_CABINET, BACK_TO_RECEPTION_FOR_FAILED_ORDER, DELIVERY_NO_PICKUP, COLLECT_NO_PICKUP,
UNDOCK_FAILED, START_TO_WORK, GET_OFF_WORK, LOW_BATTERY, NEW_TASK_RECEIVED, ROBOT_REBOOT,
DISINFECT_TASK_FAILED, LOCALIZATION_ANOMALY ]
```

**RobotEvent** {

**description**:

    机器人事件信息，type在不同场景下会扩展新的定义，APP只需处理自己关心的事件即可。  
GeneralEventType为通用的事件，ElevatorEventType为进出电梯相关的事件，  
DeliveryEventType为配送相关事件。

**type**

    {...}

**timestamp**

    string(\$int64)

    系统启动以来的毫秒数

}

**PostTaskRequestEntry** {

**location**

    {...}

**type**

    string

- **TAKEOUT** 外卖配送任务（仅限有货仓的机型）
- **GUIDE** 引领任务，将人带到指定目的地
- **FOOD DELIVERY** 送餐任务
- **RETURN** 快速返航，回到取餐点
- **RECYCLE** 回收餐盘
- **TAKEOUT\_DISTRIBUTE** 外卖分发，打开所有舱门由用户自主取物

Enum:

**cargos**

    Array [ 6 ]

    [...]

}

```

DeliveryWorkMode {
    work_mode
        string

        • DISPATCH 派送模式，本地应当禁止用户创建任务，只响应云端的呼叫任务
        • RECYCLE 回盘模式，本地除了回盘禁止创建其他任务，可响应云端的呼叫回盘任务
        • MANUAL 手动操作模式，本地人工创单进行配送或回盘

    Enum:
        Array [ 3 ]
}

```

```

DeliverySettings {
    low_battery_level
        {...}
    timeout_settings
        {...}
}

```

```

WorkingTime {
    hours
        [...]
    restdays
        [...]
}

```

```

LocationInfo {
    poi_name
        string
    type
        PoiType string
    Enum:
        Array [ 7 ]
}

```

```

GoingHomeStage {
    description: 正在回桩，对应stage为GOING_HOME

    stage
        string
    Enum:
        Array [ 1 ]
    string
    Enum:

    milestone
        Array [ 8 ]
    current_floor
        string
        example: 2F
    target_floor
        string
        example: 1F
}

```

```

IdleStage {
    description: 空闲，对应stage为IDLE

    stage
        string
    Enum:
        Array [ 1 ]
    current_floor
        string
        example: 1F
}

```

```

OnDeliveringStage {
    description: 正在前往目标点, 对应stage为ON_DELIVERING

    stage          string
    Enum:

    milestone     Array [ 1 ]
                    DeliveryTaskEventStage string

    任务执行阶段

    Enum:

    current_floor Array [ 13 ]
    target_floor   string
    info           string
                    {...}

}

```

```

ArrivedAtTargetStage {
    description: 已到达目标点, 对应stage为ARRIVED_AT_TARGET

    stage          string
    Enum:

    info           Array [ 1 ]
    pickup        DeliveryTask  {...}
                    {...}

}

```

```

DeviceErrorStage {
    description: 设备故障, 对应stage为DEVICE_ERROR

    stage          string
    Enum:

    info           Array [ 1 ]
                    {...}

}

```

```

OnReturningStage {
    description: 机器人正在返航

    stage          string
    Enum:

    current_floor Array [ 1 ]
    target_floor   string
                    ...

}

```

```

ArrivedAtTaskPointStage {
    description: 到达任务点, 对应stage为ARRIVED_AT_TASK_POINT

    stage          string
    Enum:

    info           Array [ 1 ]
                    ...

}

```

```
GoingToTaskPointStage  {
    description:  正在前往任务点，对应stage为GOING_TO_TASK_POINT
    stage          string
    Enum:
        Array [ 1 ]
    current_floor   string
    target_floor    string
    info            {...}
}
```

```
TaskStage  {
    description:  返回数据为以下几种结构体中的其中一种，首先判断stage字段，再解析剩余的信息
    oneOf ->
        DeviceErrorStage  {...}
        GoingToTaskPointStage  {...}
        ArrivedAtTaskPointStage  {...}
        OnDeliveringStage  {...}
        ArrivedAtTargetStage  {...}
        OnReturningStage  {...}
        GoingHomeStage  {...}
        IdleStage  {...}
}
```

```
ElevatorInfo  {
    description:  电梯区域信息
    door_type*    string
    Enum:
        Array [ 3 ]
    elevator_id*  string
    front_scheduling_poses  [...]
    rear_scheduling_poses  [...]
}
```

```

MoveOptions {
    mode*      integer
                default: 0
                    0: 自由导航, 1: 严格轨道模式(遇障碍物停止并等待), 2: 轨道优先模式(遇障碍物下轨绕行)

    Enum:
        flags     Array [ 3 ]
                    [...]
        yaw       number
                    到目标点后机器人的朝向

    acceptable_precision number
                    可接受的到点范围, 当目标点被占据时, 机器人离目标点距离在该范围内都算成功, 默认值为0.1米或0.18米, 该值不影响机器人到点精度。

    fail_retry_count integer
                    失败重试次数

    speed_ratio     number
                    【所需固件版本 4.5.4】速度比例, 配置的最大移动速度乘以该值为本次运动的最大速度, 最小值为0.1, 大于1的值会导致避障距离变长, 在动态障碍物较多的环境中请谨慎使用。
}

```

```

EnterElevatorOptions {
    elevator_door_flag string
                default: front_door
                items: OrderedMap { "type": "string", "enum": List [ "front_door", "rear_door" ] }
                    • front_door 从电梯前门进入
                    • rear_door 从电梯后门进入

    elevator_stopping_yaw string
                default: face_to_front_door
                items: OrderedMap { "type": "string", "enum": List [ "face_to_front_door", "face_to_rear_door" ] }
                    • face_to_front_door 进入电梯后面向电梯前门
                    • face_to_rear_door 进入电梯后面向电梯后门

    timeout_in_ms      number
                    进电梯的总时长

    use_conservative_mode boolean
                    true表示保守策略, 前往电梯中心点。false表示挤电梯, 前往电梯更里面
}

```

```

LeaveElevatorOptions  {
    elevator_door_flag
        string
        default: front_door
        items: OrderedMap { "type": "string", "enum": List [
            "front_door", "rear_door" ] }

            • front_door 从电梯前门进入
            • rear_door 从电梯后门进入

    timeout_in_ms
        number
        出电梯的总时长

    arrive_door_timeout_in_ms
        number
        出电梯过程中到达电梯门的超时时间

    search_path_timeout_in_ms
        number
        出电梯的搜路超时时间，超过这个时间仍未搜到路便放弃出电梯

    on_elevator_door_timeout_in_ms number
        堵在电梯门槛上的超时时间，到达超时放弃出梯

    if_need_reach_milestone
        boolean
        true前往出后前往目标点，false表示只到达门口等待点

    move_options
        MoveOptions  {...}
}

}

```

```

MoveToActionOptions  {
    target*
        Location  {...}
    move_options
        MoveOptions  {...}
}

}

```

```

SeriesMoveToActionOptions  {
    targets*
        [...]
    move_options
        MoveOptions  {...}
}

}

```

ActionDirection integer

- 0 前进
- 1 后退
- 2 右转
- 3 左转

Enum:

[ 0, 1, 2, 3 ]

```

MoveByActionOptions {
    description: 遥控运动的参数, direction和theta只需包含一个即可, 前者指定方向, 后者指定一个角速度进行转弯

    direction ActionDirection integer
        • 0 前进
        • 1 后退
        • 2 右转
        • 3 左转

    Enum:

    theta number
    duration integer

    运动持续时间, 单位毫秒。不指定时默认持续500毫秒。注意! 遥控运动不会避障, 请勿设置过长的持续时间。
}

}

```

```

GoHomeActionOptions {
    gohome_options {...}
}

```

```

RotateActionOptions {
    angle* number

    机器人转动的角度值, 单位弧度, 正数表示逆时针旋转, 负数表示顺时针旋转
}

```

```

RotateToActionOptions {
    angle* number

    机器人停止时的Yaw值, 单位弧度
}

```

```

RecoverLocalizationActionOptions {
    description: 不包含area字段或area为空时为全局重定位, 否则为局部重定位

    area Rectangle {...}
    relocalization_options {...}
}

```

```

MoveToTagActionOptions {
    description: 标签精准对接，其中target为开始对接的起始位置

    target*           Pose3D   {...}
    tag_type*         integer
                        default: 0
                            0: 二维码视觉标签, 1: 激光标签, 2: 激光反光板, 3: 货架(需要6.0或更高版本)

    Enum:
        Array [ 4 ]
    target_relative_pose   {...}
    backward_docking       boolean
                        default: false
                            是否向后对接

    turn_radian            number
                            对接成功后的转向弧度, 默认机器是面向或背对Tag, 如果需要机器在对接成功后转指定角度, 请设置该字段。

    tag_ids                [...]
    reflect_tag_num         integer
                            tag_type为2时有效, 对接的反光板个数, 默认为1.

    dock_retry_count        integer
                            对接失败后的重试次数, 默认不重试.

    dock_allowance          number
                            tag_type为3时有效, 对接货架时默认机器中心对准货架中心。dock_allowance表示机器人留在货架外的机身长度.

}

}

```

```

BackOffFromTagActionOptions {
    description: 从二维码前后退

    backup_mode          integer
                        • 0 自由后退
                        • 1 窄道后退, 在后退过程中一直观测二维码并调整角度

    Enum:
        Array [ 2 ]
    tag_type              integer
                        default: 0
                            0: 二维码视觉标签, 1: 激光标签, 2: 激光反光板

    Enum:
        Array [ 3 ]
    backup_distance        number($double)
                            后退的距离, 可选值, 默认后退直到机器可以转身

    backward_docking       boolean
                        default: false
                            是否向后对接, 如果是向后对接, 则调用BackOffFromTagAction时实际是向前移动

}

}

```

```
MultiFloorMoveActionOptions  {
    target*                  {...}
    move_options               MoveOptions   {...}
}

SweepActionOptions  {
    description:           清扫Action的参数, 不包含region_ids时清扫所有区域, 否则只清扫指定区域
    sweep_options           {...}
}

ReturnToParkingActionOptions  {
    description:           返航Action的参数
    target                  {...}
    move_options               MoveOptions   {...}
}

FollowPathPointsActionOptions  {
    path_points*             [...]
    move_options               MoveOptions   {...}
}

EnterElevatorActionOptions  {
    elevator_id*             string
    enter_elevator_options   EnterElevatorOptions   {...}
}

LeaveElevatorActionOptions  {
    elevator_id*             string
    target                   Pose2D   {...}
    leave_elevator_options   LeaveElevatorOptions   {...}
}

DisabledSensorMaskData  {
    id                      integer
    isAlways                boolean
}

SensorMaskCtrlData  {
    id                      number
    isAlways                boolean
    isEnabled               boolean
}
```

```

LightControlData {
    channel      {
        string
        example: One
        led控制通道:One通道一, Two通道二
    }
    controlPart {
        string
        example: Left
        led控制部分:Left左半部, Right右半部
    }
    mode         {
        string
        example: AlwaysBright
        led控制模式:AlwaysBright常亮, Breathe呼吸, Blink闪烁, HorseLamp跑马
    }
    color        {
        string
        example: {...}
        常亮模式可填入任意值; 呼吸模式填入亮度单次变化时间 (单次变化表示color每次增大1的时间); 闪烁模式填入点亮的持续时间; 跑马模式表示点亮下一个灯的时间
    }
    offMs       {
        integer
        闪烁模式填入熄灭的持续时间; 其他模式可填入任意值
    }
}

```

```

TaskOperation {
    display_name {
        string
        目标点位POI的display_name
    }
    action       {
        string
        机器人在目标点位需要执行的操作
    }
    wait_time   {
        integer
        机器人在目标点位完成操作后的等待时间, 单位秒
    }
}

```

```

TaskTemplateRequest {
    key          {
        string($uuid)
        任务模板ID
    }
    name         {
        string
        任务模板名称
    }
    action_list  {
        [...]
    }
}

```

```
TaskTemplate {
    task_template_key      string($uuid)
        任务模板ID

    task_template_type    integer
        任务模板类型

    name                  string
        任务模板名称

    scene_id              string($uuid)
        任务模板绑定的场景ID

    device_id             string($uuid)
        创建任务模板的设备ID

    action_list           [...]
}

}
```

```
IndustryTarget {
    target_name          string
    action                string
    wait_time             integer
}

}
```

```
IndustryTaskRequest {
    target                string
    type                 string
    Enum:
        Array [ 3 ]
    order_id              string
    template_key          string
    start_time            string
    task_targets          [...]
    message               {...}
}

}
```

```
IndustryTaskEventStage  string
任务执行阶段

Enum:
    Array [ 10 ]
```

```
IndustryTaskResult {
    stage                IndustryTaskEventStage  string
        任务执行阶段

    Enum:
        Array [ 10 ]
    reason               string
    default:
        string($datetime)
    timestamp            string($datetime)
}

}
```

```
IndustryTask  {
    id           string($uuid)
    task         IndustryTaskRequest  {...}
    status       DeliveryTaskStatus  string
    Enum:
        Array [ 6 ]
    result      IndustryTaskResult  {...}
}
```

INVALID {…}