



# Integration Guide

## MQTT& HTTP APIs for X5 Sensing Camera

Update Time	Applicable Firmware version	Description
2023-12-19	V_31.1.0.1	Initial version
2024-10-12	V_3x.1.0.3	<ol style="list-style-type: none"><li>1. Change Status topic to Heartbeat topic,</li><li>2. Update snapshot and heartbeat report content;</li><li>3. add debug capture, heartbeat settings, etc.</li></ol>

## Content

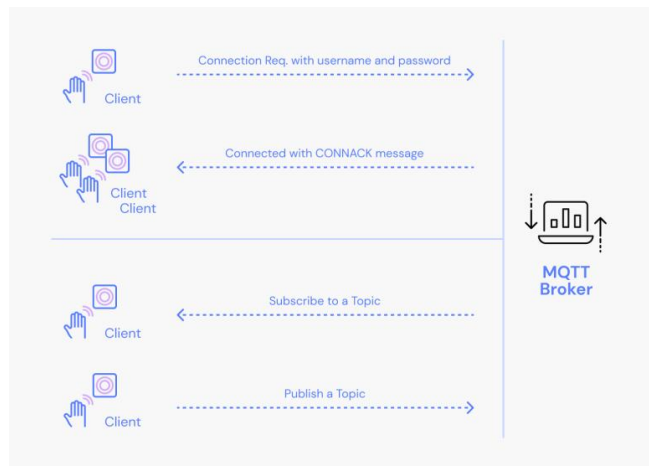
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# MQTT Instructions

## 1. What is MQTT

MQTT is an open-source pub/sub communication protocol. It is efficient in its utilization of bandwidth and system resources. As a result, it is popular in use cases ranging from low-powered embedded systems to cloud-native micro services.

The pub/sub model is at the core of MQTT communication. Information is organized by topics. Client devices can publish data to a topic to send messages to any subscribers. Similarly, clients can subscribe to a topic to be notified when a message is published.



## 2. MQTT Topics on the Camera

There are 5 Topics on the camera:

1. Snapshot Topic
2. Heartbeat Topic
3. Alarm Topic
4. Remote Configure Topic
  - (1) Configuration Request Topic
  - (2) Configuration Respond Topic
5. Wake Topic (No shown on the page)

**Note:** Except the "Wake Topic", all topic on the web page is customizable and has default value as shown below:

Enable Post	<input checked="" type="checkbox"/>
Alot Sensing Platform Mode	<input type="checkbox"/>
Post Content	<input checked="" type="checkbox"/> Snapshot <input checked="" type="checkbox"/> Heartbeat <input checked="" type="checkbox"/> Alarm
Heartbeat Test Mode	<input checked="" type="checkbox"/>
Heartbeat Interval	<input type="text" value="60"/> min(1~4320)
Snapshot Topic	<input type="text" value="X5SensingCam/Snapshot"/>
Heartbeat Topic	<input type="text" value="X5SensingCam/Status"/>
Alarm Topic	<input type="text" value="X5SensingCam/Alarm"/>
Configure Request Topic	<input type="text" value="X5SensingCam/ConfigureReques"/>
Configure Respond Topic	<input type="text" value="X5SensingCam/ConfigureRespor"/>

### 3. Application on the Camera

1. Enable the “Enable Post” , then the MQTT application functions.
2. Check the “Post Content” option , then the camera will send corresponding topic data.

For instance, if you want receive snapshots from the camera, you MUST check the “Snapshot” option, and set the “Snapshot Topic” .

3. “Configure Request Topic” and “Configure Respond Topic” are for remote configuration, after setting the topic, they function always.
4. Client subscribe the topic to receive and send data.

**Note:** All data is in JSON format.

### 4. Topic Description

#### 1. Snapshot Topic

- Client subscribes the “Snapshot Topic” .
- Camera publish snapshot data to the “Snapshot Topic” .
- After receiving snapshot data, the client needs to decode the data and transform it to an image file.

**Data sample:**

```
{
  "ts": 1682336818966,
  "values": {
    "devName": "X5 Sensing Camera",
    "devMac": "5CC5638AE729",
    "snapType": "Noise",
    "triggerValue": "51",
    "file": "debug_202304240745431198T",
    "time": 1682336743,
    "imageSize": 20941,
    "image": "data:image/jpeg;base64,/9j/4AA..."
  }
}
```

#### 2. Heartbeat Topic

- Client subscribes the “Heartbeat Topic” .
- Each time when the camera wakes up, it sends status data to the “Heartbeat Topic” .

**Data sample:**

```
{
  "ts": 1689238041244,
  "values": {
    "devName": "X5 Sensing Camera",
    "devMac": "1CC3164126A2",
    "battery": {
      "soc": 91,
      "capacity": 5682,
      "voltage": 4052,
      "healthy": 100,
      "chargeCurrent": 0,
      "chargeStat": 0,
      "chargeVoltage": 10560,
      "powerGoodStat": 0
    },
    "gps": {
      "latitude": "24.62493",
      "longitude": "118.03077",
      "altitude": "59.8"
    },
    "cellular": {
      "connectStatus": "4G Connected",
      "simStatus": "Valid",
      "signalStrength": 0,
      "imei": "868444050582056",
      "imsi": "460115211076172",
      "iccid": "89860322245922526572",
      "ipAddr": "10.33.177.77",
      "subMask": "255.255.255.252",
      "gateway": "10.33.177.78",
      "dns": "114.114.114.114",
      "dataMonthly": 6107722
    },
    "sensor": {
      "LAF": 61,
      "temperature": "32"
    }
  }
  "storage": {
    "storageCapacity": "6.5%"
  }
}
```

### 3. Alarm Topic

- Client needs to subscribe to the “Alarm Topic”.
- Camera sends active alarms to this topic.
- Client parses the content after receiving it.

#### Data sample:

```
{
  "ts": 1682336818966,
  "values": {
    "devName": "X5 Sensing Camera",
    "devMac": "5CC5638AE729",
    "alarm": "Low power"
  }
}
```

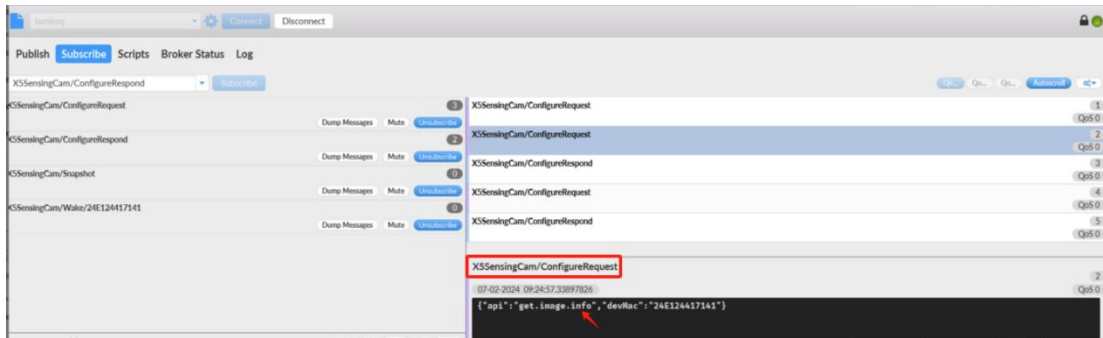
### 4. Remote Configure Topic

- Ensure work mode of device is “Full Function Capture”, otherwise this device will not support remote configuration.
- Remote configuration only takes effect when the device is not in sleep mode. Please wake up this device via Bluetooth, call or MQTT to exit the sleep mode first. Besides, when the firmware version is 3x.1.0.2 and later, the device will not go to sleep mode if you power the device via Type-C port.
- Client sends message to the “Configure Request Topic” to enquire the information or configure the device settings, and subscribes the “Configure Response Topic” to receive the response after sending message.
- It is suggested to send get command to enquire the settings before sending configure commands.
- For more information about API, please refer to [API document](#).

#### Get Example:

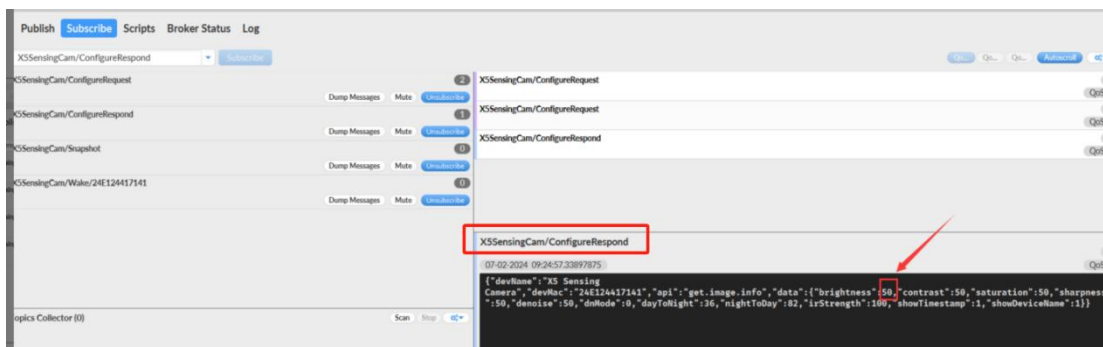
- Client sends API command “get.image.info” to the “Configure Request Topic” to enquire image configuration.

```
{
  "api": "get.image.info",
  "devMac": "24E124417141"
}
```



- Client subscribes the “Configure Response Topic” to receive the image information.

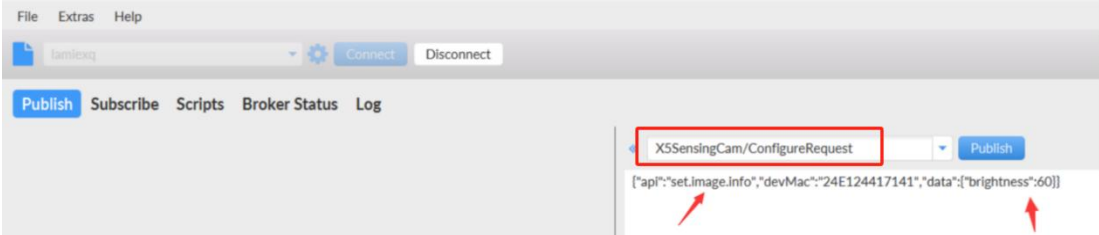
```
{
  "devName": "X5 Sensing Camera",
  "devMac": "24E124417141",
  "api": "get.image.info",
  "data": {
    "brightness": 50,
    "contrast": 50,
    "saturation": 50,
    "sharpness": 50,
    "denoise": 50,
    "dnMode": 0,
    "dayToNight": 36,
    "nightToDay": 82,
    "irStrength": 100,
    "showTimestamp": 1,
    "showDeviceName": 1
  }
}
```



### Set Example:

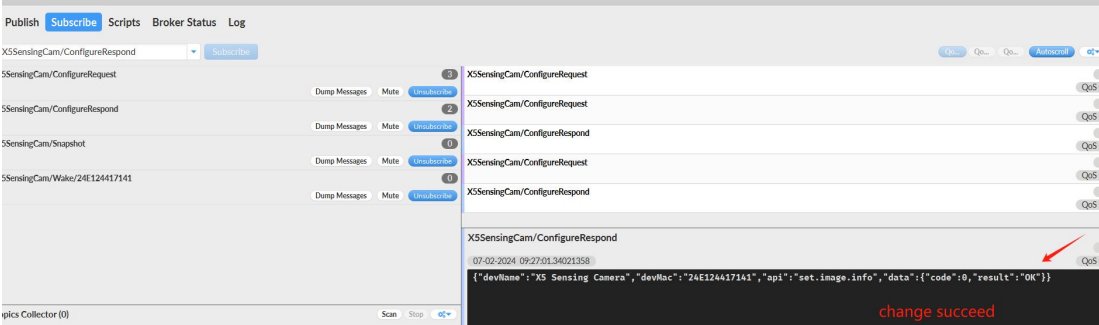
- Client sends API command “set.image.info” to the “Configure Request Topic” to set the device image configuration.

```
{
  "api": "set.image.info",
  "devMac": "24E124417141",
  "data": {
    "brightness": 60
  }
}
```



- Client subscribes the “Configure Response Topic” to check if the configuration takes effect.

```
{
  "devName": "X5 Sensing Camera",
  "devMac": "24E124417141",
  "api": "set.image.info",
  "data": {
    "code": 0,
    "result": "OK"
  }
}
```



## 5. Wake

- When work mode of device is “Low Power Timed Capture”, this device does not support wake up by any way.
- When the camera is in sleep mode, Client sends any content to the “Wake Topic”, “X5SensingCam/Wake/5CC5638AE24C”, of which "5CC5638AE24C" is MAC address, to wake up the corresponding camera.
- After the camera wakes up, it will automatically turn on Wi-Fi and 4G cellular, then you can log in the web page.



# HTTP Authentication

The permission levels column in each parameter table shows the required permission level to operate parameters.

To be able to perform an action on a parameter the user needs to have a permission level equal to or higher than the corresponding permission level of the parameter.

Security level	Description
Admin	Top access right.

Each API call needs to be accompanied with **Basic Authentication** as the following picture shows.

Overview **Authorization** • Scripts Variables • Runs

This authorization method will be used for every request in this collection. You can override this by specifying one in the request.

**Auth Type**

Basic Auth

The authorization header will be automatically generated when you send the request.  
Learn more about [Basic Auth](#) authorization.

**Heads up!** These parameters hold sensitive data. To keep this data secure while working in a collaborative environment, we recommend using variables.  
Learn more about [variables](#).

Username: admin

Password: ms123456

# APIs Document - X5 Sensing Camera

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## system

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### Get system info

#### Basic Information

**HTTP API Path:** /api/sys

**Method:** GET

**MQTT API Command:** get.sys.info

#### Return Data

Name	Type	Required	Default	Description	Note
resetButtonEnable	number	Yes		Whether to enable the reset button to reset device to factory default	0: Off 1:On
gpsEnable	number	Yes			

### Set system info

#### Basic Information

**HTTP API Path:** /api/sys

**Method:** POST

**MQTT API Command:** set.sys.info

#### Request Parameter

##### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

##### Body

---

Name	Type	Required	Default	Description	Note
deviceName	string	No	sun_device	device name	
gpsEnable	integer	No			

## Get security info

### Basic Information

**HTTP API Path:** /api/security

**Method:** GET

**MQTT API Command:** get.security.info

### Return Data

Name	Type	Required	Default	Description	Note
sshEnable	number	No			
sshPort	number	No			

## Set security info

### Basic Information

**HTTP API Path:** /api/security

**Method:** POST

**MQTT API Command:** set.security.info

### Request Parameter

#### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

#### Body

Name	Type	Required	Default	Description	Note
------	------	----------	---------	-------------	------

Name	Type	Required	Default	Description	Note
sshEnable	integer	Yes	0		Max: 1 Min: 0 Enumeration: 0,1
sshPort	integer	Yes	6022		Min: 0

## Get wifi info

### Basic Information

**HTTP API Path:** /api/wifi

**Method:** GET

**MQTT API Command:** get.wifi.info

### Return Data

Name	Type	Required	Default	Description	Note
enable	number	No			
module	number	No			
mode	number	No			
protocol	number	No			
bandwidth	number	No			
channel	number	No			
encryption	number	No			
clipher	number	No			
ipMode	number	No			
ssid	string	No			
key	string	No			
country	string	No			

# Set wifi info

## Basic Information

**HTTP API Path:** /api/wifi

**Method:** POST

**MQTT API Command:** set.wifi.info

## Request Parameter

### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

### Body

Name	Type	Required	Default	Description	Note
module	number	No			
mode	number	No			
protocol	number	No	0		Max: 2 Min: 0 Enumeration: 0,1,2 EnumerationDescription: 0: 802.11b (2.4G) 1: 802.11g (2.4G) 2: 802.11n (2.4G)
bandwidth	number	No	0		Max: 1 Min: 0 Enumeration: 0,1 EnumerationDescription: 0: 20MHz 1: 40MHz
channel	number	No	0	0=auto	Max: 14 Min: 0

Name	Type	Required	Default	Description	Note
encryption	number	No	0	Encryption Mode	Max: 5 Min: 0 Enumeration: 0,1,2,3,4,5 EnumerationDescription: 0: No Encryption 1: WEP Open System 2: WEP Shared Key 3: WPA-PSK 4: WPA2-PSK 5: WPA-PSK/ WPA2-PSK
clipher	number	No	0	WPA Encryption Method	Max: 2 Min: 0 Enumeration: 0,1,2 EnumerationDescription: 0: AES 1: TKIP 2: AES/TKIP
ipMode	number	No			
ssid	string	No			
key	string	No			
country	string	No			

## Return Data

Name	Type	Required	Default	Description	Note
------	------	----------	---------	-------------	------

## Get dhcp info

### Basic Information

**HTTP API Path:** /api/dhcp

**Method:** GET

**MQTT API Command:** get.dhcp.info

## Return Data

Name	Type	Required	Default	Description	Note
leaseTime	number	No			
interface	string	No			
ipAddr	string	No			
startIpAddr	string	No			
stopIpAddr	string	No			
netmask	string	No			
firstDns	string	No			
secondDns	string	No			

## Set dhcp info

### Basic Information

**HTTP API Path:** /api/dhcp

**Method:** POST

**MQTT API Command:** set.dhcp.info

### Request Parameter

#### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

#### Body

Name	Type	Required	Default	Description	Note
leaseTime	number	No			
interface	string	No			
ipAddr	string	No			
startIpAddr	string	No			
stopIpAddr	string	No			
netmask	string	No			

Name	Type	Required	Default	Description	Note
firstDns	string	No			
secondDns	string	No			

## Return Data

Name	Type	Required	Default	Description	Note
------	------	----------	---------	-------------	------

## Get image info

### Basic Information

**HTTP API Path:** /api/image

**Method:** GET

**MQTT API Command:** get.image.info

### Request Parameter

### Return Data

Name	Type	Required	Default	Description	Note
brightness	number	No			
contrast	number	No			
saturation	number	No			
sharpness	number	No			
denoise	number	No			
dnMode	number	No			
dayToNight	number	No			
nightToDay	number	No			
irStrength	number	No			
captureMode	number	No		0:motion object ,1:static object	



# Set image info

## Basic Information

**HTTP API Path:** /api/image

**Method:** POST

**MQTT API Command:** set.image.info

## Request Parameter

### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

### Body

Name	Type	Required	Default	Description	Note
brightness	integer	No			
contrast	integer	No			
saturation	integer	No			
sharpness	integer	No			
denoise	integer	No			
dnMode	integer	No		0: auto, 1: day, 2: night, 3: schedule	
dayToNight	integer	No			
nightToDay	integer	No			
irStrength	integer	No			
showTimestamp	integer	No		OSD Timestamp	0: off, 1: on
showDeviceName	integer	No		OSD Device Name	0: off, 1: on
captureMode	integer	No		0:motion object, 1:static object	

## Return Data

Name	Type	Required	Default	Description	Note
code	number	No			
result	string	No			

## Get day night switch mode schedule

### Basic Information

**HTTP API Path:** /api/day/section

**Method:** GET

**MQTT API Command:** get.day.section

### Return Data

Name	Type	Required	Default	Description	Note
daySection	object []	No			item Type: object
├─ month	number	Yes		0~11	
├─ hourStart	number	Yes			
├─ minStart	number	Yes			
├─ hourStop	number	Yes			
├─ minStop	number	Yes			

## Set day night switch mode schedule

### Basic Information

**HTTP API Path:** /api/day/section

**Method:** POST

**MQTT API Command:** set.day.section

## Request Parameter

### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		
<b>Body</b>				

Name	Type	Required	Default	Description	Note
daySection	object []	No			item Type: object
├─ month	number	Yes			
├─ hourStart	number	Yes			
├─ minStart	number	Yes			
├─ hourStop	number	Yes			
├─ minStop	number	Yes			

### Return Data

Name	Type	Required	Default	Description	Note
------	------	----------	---------	-------------	------

## Get capture info

### Basic Information

**HTTP API Path:** /api/capture

**Method:** GET

**MQTT API Command:** get.capture.info

### Request Parameter

### Return Data

Name	Type	Required	Default	Description	Note
------	------	----------	---------	-------------	------

Name	Type	Required	Default	Description	Note
imageType	number	No	0	Image Type	0: full image 1: Cropping Region
maxqp	number	No			
workMode	number	No		0: Full Function Capture; 1: Low Power Timed Cupture	
width	number	No		Resolution Width	
height	number	No		Resolution Height	
triggerConfig	object	No		Trigger capture settings	
└─ sourceEnable	number	No	1	Whether to enable PIR & Radar capture	0: off 1: on
└─ indicator	number	No		Indicator	0: off 1: on
└─ source	number	No	0	Trigger source	0: auto 1: radar 2: pir
└─ interval	number	No	1	Trigger interval (unit: s)	Max: 60 Min: 1
└─ BySensor	number	No	0	Whether to trigger capture by sensor	0: off, 1: on
└─ ByDI	number	No		Whether to trigger capture by DI	0:Off, 1:On

Name	Type	Required	Default	Description	Note
├ sensorConditions	object	No		sensor trigger condition	
├─ lafDetect	number	No	0	Whether to enable noise trigger	0: Off 1: On
├ tempDetect	number	No	0	Whether to enable temperature trigger	0: Off 1: On
├─ lafThre	number	No	60	Noise minimum threshold, unit:dBA	Max: 120 Min: 31
├ lafLimitThre	number	No		Noise maximum threshold, unit:dBA	Max: 120 Min: 31
├─ tempThre	string	No	35	Temperature minimum threshold, unit:°C	Max: 100 Min: -100
├ tempLimitThre	string	No		Temperature maximum threshold, unit:°C	
├─ lafInterval	number	No	1	Noise interval trigger time, unit: min	Max: 60 Min: 1
├ lafContInterval	number	No		Noise continuous trigger interval, unit: min	Max: 60 Min: 1
├ tempInterval	number	No		Temperature interval trigger time, unit: min	Max: 60 Min: 1

Name	Type	Required	Default	Description	Note
tempContInterval	number	No		Temperature continuous trigger interval, unit: min	Max: 60 Min: 1
continuous	number	No			
intervalUnit	number	No		Interval unit, 0: minute, 1: hour	
interval	number	No		Unit: min	
algoEnable	number	No		Whether to enable algorithm validation	0: Off 1: On
debugCapture	number	No		Whether to enable debug capture	0: Off 1: On
timedCapture	number	No		Whether to enable timed capture	0: Off 1: On
uploadMode	number	No			
frequency	number	No		1: once a day; 2: twice a day	
time1	string	No			
time2	string	No			
postEnable	number	No		Whether to post data	0: Off 1: On
postType	number	No		Post type	0: MQTT 1: HTTP
postContent	number	No		Post content	0: all content 1:snapshot
heartInterval	number	No		Heartbeat Interval unit:h	Max: 72 Min: 1

Name	Type	Required	Default	Description	Note
heartTestMode	number	No		Whether to enable heartbeat test mode	0: Off 1: On
heartTestInterval	number	No		Heartbeat test interval unit: min	Max: 4320 Min: 1
heartLpowerInterval	number	No		Heartbeat interval when low power captured mode unit:h	Max: 72 Min: 24
platformEnable	number	No		AIoT platform enable:1 disable:0	
platformPort	number	No		AIoT platform http port	
host	string	No			
port	string	No			
userName	string	No			
password	string	No			
tlsEnable	number	No			0: Off 1: On
tlsType	number	No			0: CA signed 1: Self signed
httpUrl	string	No			
httpPort	number	No			
httpUserName	string	No			
httpPassword	string	No			
status	number	Yes		MQTT Connection status	0:Disconnected; 1: Connected
clientId	string	Yes		MQTT client ID	

Name	Type	Required	Default	Description	Note
wakeUpClientId	string	Yes		MQTT wakeup client ID	
caExist	boolean	No			
certExist	boolean	No			
keyExist	boolean	No			
caName	string	No		MQTT CA certificate name	
certName	string	No		MQTT client certificate name	
keyName	string	No		MQTT key name	
cropX	number	No		Coordinate X (0~100)	
cropY	number	No		Coordinate Y (0~100)	
cropW	number	No		Frame Width (0~100)	
cropH	number	No		Frame Height (0~100)	
snapshotEnable	number	No		Whether to enable post snapshot	0: Off 1: On
alarmEnable	number	No		Whether to enable post alarm	0: Off 1: On
statusEnable	string	No		Whether to enable heartbeat	0: Off 1: On
snapshotTopic	string	No			
alarmTopic	string	No			
statusTopic	string	No		Heartbeat topic	
configTopic	string	No			



Name	Type	Required	Default	Description	Note
configRespTopic	string	No			
postDelete	number	No	1	Delete picture after post	0: not delete 1: delete

## Set capture info

### Basic Information

**HTTP API Path:** /api/capture

**Method:** POST

**MQTT API Command:** set.capture.info

### Request Parameter

#### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

#### Body

Name	Type	Required	Default	Description	Note
imageType	number	No	0	Image Type	0: full image 1: Cropping Region
workMode	number	No		0: Full Function Capture; 1: Low Power Timed Capture	
width	number	No		Resolution Width	
height	number	No		Resolution Height	

Name	Type	Required	Default	Description	Note
triggerConfig	object	No		Trigger capture settings	
└─ sourceEnable	number	No	1	Whether to enable PIR & Radar capture	0: off 1: on
└─ indicator	number	No		Indicator	0: off 1: on
└─ source	number	No	0	Trigger source	0: auto 1: radar 2: pir
└─ interval	number	No	1	Trigger interval (unit: s)	Max: 60 Min: 1
└─ BySensor	number	No	0	Whether to trigger capture by sensor	0: off, 1: on
└─ ByDI	number	No		Whether to trigger capture by DI	0:Off, 1:On
└─ sensorConditions	object	No		sensor trigger condition	
└─ lafDetect	number	No	0	Whether to enable noise trigger	0: Off 1: On
└─ tempDetect	number	No	0	Whether to enable temperature trigger	0: Off 1: On
└─ lafThre	number	No	60	Noise minimum threshold, unit:dBA	Max: 120 Min: 31
└─ lafLimitThre	number	No		Noise maximum threshold, unit:dBA	Max: 120 Min: 31

Name	Type	Required	Default	Description	Note
└ tempThre	string	No	35	Temperature minimum threshold, unit:°C	Max: 100 Min: -100
└ tempLimitThre	string	No		Temperature maximum threshold, unit:°C	
└ Interval	number	Yes		Trigger interval, unit: min	Max: 60 Min: 1
continuous	number	No			
intervalUnit	number	No		Interval unit, 0: minute, 1: hour	
interval	number	No		Unit: min	
algoEnable	number	No		Whether to enable algorithm validation	0: Off 1: On
debugCapture	number	No		Whether to enable debug capture	0: Off 1: On
timedCapture	number	No		Whether to enable timed capture	0: Off 1: On
uploadMode	number	No			
frequency	number	No		1: once a day; 2: twice a day	
time1	string	No			
time2	string	No			
postEnable	number	No		Whether to post data	0: Off 1: On
postType	number	No		Post type	0: MQTT 1: HTTP

Name	Type	Required	Default	Description	Note
postContent	number	No		Post content	0: all content 1:snapshot
heartInterval	number	No		Heartbeat Interval unit:h	Max: 72 Min: 1
heartTestMode	number	No		Whether to enable heartbeat test mode	0: Off 1: On
heartTestInterval	number	No		Heartbeat test interval unit: min	Max: 4320 Min: 1
heartLpowerInterval	number	No		Heartbeat interval when low power captured mode unit:h	Max: 72 Min: 24
platformEnable	number	No		AIoT platform enable:1 disable:0	
platformPort	number	No		AIoT platform http port	
host	string	No			
port	string	No			
userName	string	No			
password	string	No			
tlsEnable	number	No			0: Off 1: On
tlsType	number	No			0: CA signed 1: Self signed
httpUrl	string	No			
httpPort	number	No			
httpUserName	string	No			

Name	Type	Required	Default	Description	Note
httpPassword	string	No			
clientId	string	No		MQTT client ID	
wakeUpClientId	string	No		MQTT wakeup client ID	
cropX	number	No		Coordinate X (0~100)	
cropY	number	No		Coordinate Y (0~100)	
cropW	number	No		Frame Width (0~100)	
cropH	number	No		Frame Height (0~100)	
snapshotEnable	number	No		Whether to enable post snapshot	0: Off 1: On
alarmEnable	number	No		Whether to enable post alarm	0: Off 1: On
statusEnable	string	No		Whether to enable heartbeat	0: Off 1: On
snapshotTopic	string	No			
alarmTopic	string	No			
statusTopic	string	No		Heartbeat topic	
configTopic	string	No			
configRespTopic	string	No			
pushNow	number	No		Push now	0: do not push 1: push snapshot once

Name	Type	Required	Default	Description	Note
postDelete	number	No	1	Delete picture after post	0: not delete 1: delete

## Return Data

Name	Type	Required	Default	Description	Note
------	------	----------	---------	-------------	------

## Get alarm ROI

### Basic Information

**HTTP API Path:** /api/roi

**Method:** GET

**MQTT API Command:** get.alarm.roi

```
{
  "mode": 1,
  "threshold": 8,
  "lineX1": 480,
  "lineY1": 270,
  "lineX2": 1440,
  "lineY2": 810,
  "region": [
    {
      "id": 1,
      "enable": 1,
      "point": [
        {
```

```
"x": 0.25,  
  
"y": 0.25  
  
},  
  
{  
  
"x": 0.75,  
  
"y": 0.25  
  
},  
  
{  
  
"x": 0.25,  
  
"y": 0.75  
  
},  
  
{  
  
"x": 0.75,  
  
"y": 0.75  
  
}  
  
]  
  
},  
  
{  
  
"id": 2,  
  
"enable": 0,  
  
"point": [  
  
  {  
  
    "x": 0.25,  
  
    "y": 0.25  
  
  },
```

```

{
  "x": 0.75,
  "y": 0.25
},
{
  "x": 0.25,
  "y": 0.75
},
{
  "x": 0.75,
  "y": 0.75
}
]
}
]
}

```

## Request Parameter

### Return Data

Name	Type	Required	Default	Description	Note
mode	number	No		Alarm Trigger Mode Max: 1 Min: 0 Enumeration: 0,1 Enumeration Description: 0: roi 1: line	
threshold	number	No		AI Confidence Max: 10 Min: 1	
interval	number	No		Capture Interval (100~15000)ms	



Name	Type	Required	Default	Description	Note
lineX1	number	No			
lineY1	number	No			
lineX2	number	No			
lineY2	number	No			
region	object []	No			Item Type: object
└ id	number	Yes			
└ enable	number	Yes			
└ point	object []	Yes		Clockwise: leftTop -> rightTop -> rightBottom -> leftBottom	Item Type: object
x └	number	Yes		Range 0~1	
y └	number	Yes		Range 0~1	

## Set alarm ROI

### Basic Information

**HTTP API Path:** /api/roi

**Method:** POST

**MQTT API Command:** set.alarm.roi

```
{
```

```
  "mode": 1,
```

```
  "threshold": 8,
```

```
  "lineX1": 480,
```

```
  "lineY1": 270,
```

"lineX2": 1440,

"lineY2": 810,

"region": [

{

"id": 1,

"enable": 1,

"point": [

{

"x": 0.25,

"y": 0.25

},

{

"x": 0.75,

"y": 0.25

},

{

"x": 0.25,

"y": 0.75

},

{

"x": 0.75,

"y": 0.75

}

]

},

```
{  
  "id": 2,  
  "enable": 0,  
  "point": [  
    {  
      "x": 0.25,  
      "y": 0.25  
    },  
    {  
      "x": 0.75,  
      "y": 0.25  
    },  
    {  
      "x": 0.25,  
      "y": 0.75  
    },  
    {  
      "x": 0.75,  
      "y": 0.75  
    }  
  ]  
}
```

## Request Parameter

### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/x-www-form-urlencoded	Yes		

### Return Data

Name	Type	Required	Default	Description	Note
mode	number	No		Alarm Trigger Mode Max: 1 Min: 0 Enumeration: 0,1 EnumerationDescription: 0: roi 1: line	
threshold	number	No		AI Confidence Max: 10 Min: 1	
interval	number	No		Capture Interval (100~15000)ms	
lineX1	number	No			
lineY1	number	No			
lineX2	number	No			
lineY2	number	No			
region	object []	No			item Type: object
└ id	number	Yes			
└ enable	number	Yes			
└ point	object []	Yes		Clockwise: leftTop -> rightTop -> rightBottom -> leftBottom	Item Type: object
x └	number	Yes		Range: 0~1	
y └	number	Yes		Range: 0~1	

# Get cellular info

## Basic Information

**HTTP API Path:** /api/cellular

**Method:** GET

**MQTT API Command:** get.cellular.info

## Request Parameter

## Return Data

Name	Type	Required	Default	Description	Note
enable	number	No			
apn	string	No			
userName	string	No			
password	string	No			
pinCode	string	No			
accessNum	string	No			
authType	number	No			
networkType	number	No			
mtu	number	No			
redial	number	No			
billDay	number	No			
reset	number	No			
lastBill	number	No			
traffic	number	No			
ipAddr	string	No			
gateway	string	No			
dns	string	No			
remoteWake	number	No			
revision	string	No			
idleTime	number	No			
callWake	number	No			

Name	Type	Required	Default	Description	Note
phone	string []	No			
┌		No			
pingEnable	number	No		ping detection enable or not	
pingAddr	string	No		ping IP	

## Set cellular info

### Basic Information

**HTTP API Path:** /api/cellular

**Method:** POST

**MQTT API Command:** set.cellular.info

### Request Parameter

#### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

#### Body

Name	Type	Required	Default	Description	Note
enable	number	No		0: disable; 1: enable	
apn	string	No		APN	
userName	string	No		user name	
password	string	No		password	
pinCode	string	No		PIN Code	
accessNum	string	No		access number	

Name	Type	Required	Default	Description	Note
authType	number	No	0	authentication type	0: Auto 1: PAP 2: CHAP 3: MS-CHAP 4: MS-CHAPv2
networkType	number	No	0	network type	0: Auto 1: 4G only 2: 3G only 3: 2G only
mtu	number	No		mtu (1200~1500)	
redial	number	No		redial interval(0-3600s)	
billDay	number	No		bill day	
redialInterval	number	No		redial interval(0-3600s)	
idleTime	number	No		max idle time(0-3600s)	
phone	string []	No		wakeup phone number	
└		No			
pingEnable	number	No		ping detection enable or not	
pingAddr	string	No		ping IP address	

## Return Data

Name	Type	Required	Default	Description	Note
code	number	No			
result	string	No			

# Get storage info

## Basic Information

**HTTP API Path:** /api/storage

**Method:** GET

**MQTT API Command:** get.storage.info

## Request Parameter

## Return Data

Name	Type	Required	Default	Description	Note
status	number	No	0	SD Card status	Max: 5 Min: 0 Enumeration: 0,1,2 EnumerationDescription: 0: not sd card 1: insert, not formate 2: formate
mode	number	No	0	Mode	Max: 2 Min: 0 Enumeration: 0,1,2 EnumerationDescription: 0: Delete After Upload 1: Circular storage 2: Stops Storing When Full SD
capacity	number	No		Capacity: Unit K	
freeSpace	number	No		Free space: Unit K	
saveAll	number	Yes		Whether to save all snapshot information	0: No, 1: Yes



# Set storage info

## Basic Information

**HTTP API Path:** /api/storage

**Method:** POST

**MQTT API Command:** set.storage.info

## Request Parameter

### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

### Body

Name	Type	Required	Default	Description	Note
mode	number	No	0		Max: 2 Min: 0 Enumeration: 0,1,2 EnumerationDescription: 0: Delete After Upload 1: Circular storage 2: Stops Storing When Full SD

## Return Data

Name	Type	Required	Default	Description	Note
code	number	No			
result	string	No			

## Get date&time

## Basic Information

**HTTP API Path:** /api/time

**Method:** GET

**MQTT API Command:** get.time.info

## Request Parameter

### Return Data

Name	Type	Required	Default	Description	Note
date	string	No			
time	string	No			
timezone	string	No			
zonename	string	No			
timeManual	string	No			
daylightSaving	number	No			
syncMode	number	No			
syncGps	number	No			

## Set date&time

### Basic Information

**HTTP API Path:** /api/time

**Method:** POST

**MQTT API Command:** set.time.info

### Request Parameter

#### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

#### Body

Name	Type	Required	Default	Description	Note
timezone	string	No		Timezone	

Name	Type	Required	Default	Description	Note
timeManual	string	No		Manually Setting	
daylightSaving	number	No	0	Daylight-saving Time	Max: 1 Min: 0 Enumeration: 0,1 EnumerationDescription: 1: Automatic 0: Disable
syncMode	number	No	0	Synchronization Mode	Max: 1 Min: 0 Enumeration: 0,1 EnumerationDescription: 0: GPS 1: Manual
syncGps	number	No		Enalbe GPS Synchronization	
zonename	string	No		Timezone Name	

## Return Data

Name	Type	Required	Default	Description	Note
code	number	No			
result	string	No			

## Get trigger capture schedule

### Basic Information

**HTTP API Path:** /api/schedule

**Method:** GET

**MQTT API Command:** get.schedule

## Request Parameter

### Return Data

Name	Type	Required	Default	Description	Note
trigger	string	No		00:00:08:00:0;09:00:12:00:1; Sectional format, 00:00:08:00 Means from 00:00 to 08:00 The last one is Status: 0->trigger on, 1->trigger off	

## Set trigger capture schedule

### Basic Information

**HTTP API Path:** /api/schedule

**Method:** POST

**MQTT API Command:** set.schedule

### Request Parameter

#### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

#### Body

Name	Type	Required	Default	Description	Note
trigger	string	No		00:00:08:00:1;09:00:12:00:1; Sectional format, 00:00:08:00 Means from 00:00 to 08:00 The last one is Status: 0->off, 1- >trigger	

### Return Data

Name	Type	Required	Default	Description	Note
code	number	No			
result	string	No			

# Get timed capture schedule

## Basic Information

**HTTP API Path:** /api/timedschedule

**Method:** GET

**MQTT API Command:** get.timed.schedule

## Request Parameter

### Return Data

Name	Type	Required	Default	Description	Note
trigger	string	No		00:00:08:00:0;09:00:12:00:1; Sectional format, 00:00:08:00 Means from 00:00 to 08:00 The last one is Status: 0->trigger on, 1->trigger off	

# Set timed capture schedule

## Basic Information

**HTTP API Path:** /api/timedschedule

**Method:** POST

**MQTT API Command:** set.timed.schedule

## Request Parameter

### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

### Body

Name	Type	Required	Default	Description	Note
------	------	----------	---------	-------------	------

Name	Type	Required	Default	Description	Note
trigger	string	No		00:00:08:00:1;09:00:12:00:1; Sectional format, 00:00:08:00 Means from 00:00 to 08:00 The last one is Status: 0->off, 1->trigger	

## Return Data

Name	Type	Required	Default	Description	Note
code	number	No			
result	string	No			

## Get interfaces info

### Basic Information

**HTTP API Path:** /api/interfaces

**Method:** GET

**MQTT API Command:** get.interfaces.info

### Request Parameter

### Return Data

Name	Type	Required	Default	Description	Note
digitInput	object	No		digital input settings	
└─ curStatus	number	No		0: low 1: high	
└─ norStatus	number	No		0: low 1: high	
digitOutput	object	No		digital output settings	
└─ curStatus	number	No		0: grounded 1: open	
└─ norStatus	number	No		0: grounded 1: open	
└─ outputConditions	object	No		output conditions settings	
└─ objectDetect	number	No		object detect,value=0:disable 1:enable	

Name	Type	Required	Default	Description	Note
└─lafDetect	number	No		nosie detect,value=0:disable 1:enable	
└─tempDetect	number	No		temperature detect,value=0:disable 1:enable	
└─lafThre	number	No		dbA	
└─tempThre	string	No		temperature in °C	
rs485	object	No		rs485 settings	
└─baudrate	number	No		0: BAUDRATE_2400, 1: BAUDRATE_4800,2: BAUDRATE_9600, 3: BAUDRATE_19200, 4: BAUDRATE_38400	
└─dataBit	number	No		fixed: 8	
└─stopBit	number	No		0: stopbit=1, 1: stopbit=2	
└─parity	number	No		0: none, 1: ODD, 2: EVEN	
└─flowControl	number	No		0: none, 1: hard, 2: soft	
└─outputConditions	object	No		rs854 output conditions settings	
└─lafDetect	number	No		nosie detect,value=0:disable 1:enable	
└─tempDetect	number	No		temperature detect,value=0:disable 1:enable	
└─lafThre	number	No		dbA	
└─tempThre	string	No		temperature in °C	

# Set interfaces info

## Basic Information

**HTTP API Path:** /api/interfaces

**Method:** POST

**MQTT API Command:** set.interfaces.info

## Request Parameter

### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

### Body

Name	Type	Required	Default	Description	Note
digitInput	object	No		digital input settings	
└─ norStatus	number	No		0: low 1: high	
digitOutput	object	No		digital output settings	
└─ norStatus	number	No		0: grounded 1: open	
└─ outputConditions	object	No		output conditions settings	
└─ objectDetect	number	No		object detect,value=0:disable 1:enable	
└─ lafDetect	number	No		nosie detect,value=0:disable 1:enable	
└─ tempDetect	number	No		temperature detect,value=0:disable 1:enable	
└─ lafThre	number	No		dbA	
└─ tempThre	string	No		temperature in °C	
rs485	object	No		rs485 settings	



Name	Type	Required	Default	Description	Note
└─ baudrate	number	No		0: BAUDRATE_2400, 1: BAUDRATE_4800,2: BAUDRATE_9600, 3: BAUDRATE_19200, 4: BAUDRATE_38400	
└─ dataBit	number	No		fixed: 8	
└─ stopBit	number	No		0: stopbit=1, 1: stopbit=2	
└─ parity	number	No		0: none, 1: ODD, 2: EVEN	
└─ flowControl	number	No		0: none, 1: hard, 2: soft	
└─ outputConditions	object	No		rs854 output conditions settings	
└─ lafDetect	number	No		nosie detect,value=0:disable 1:enable	
└─ tempDetect	number	No		temperature detect,value=0:disable 1:enable	
└─ lafThre	number	No		dbA	
└─ tempThre	string	No		temperature in °C	

## Return Data

Name	Type	Required	Default	Description	Note
------	------	----------	---------	-------------	------

## Get wakeup info

### Basic Information

**HTTP API Path:** /api/wakeup

**Method:** GET

**MQTT API Command:** get.wakeup.info

## Request Parameter

### Return Data

Name	Type	Required	Default	Description	Note
wakeupByBLE	number	No		wakeup by Bluetooth, 0: disable, 1: enable	
wakeupByCell	number	No		wakeup by cellular, 0: disable, 1: enable	
wakeupByMQTT	number	No		wakeup by MQTT, 0: disable, 1: enable	

## Set wakeup info

### Basic Information

**HTTP API Path:** /api/wakeup

**Method:** POST

**MQTT API Command:** set.wakeup.info

### Request Parameter

#### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

#### Body

Name	Type	Required	Default	Description	Note
wakeupByBLE	number	No		wakeup by Bluetooth, 0: disable, 1: enable	
wakeupByCell	number	No		wakeup by cellular, 0: disable, 1: enable	
wakeupByMQTT	number	No		wakeup by MQTT, 0: disable, 1: enable	

## Return Data

Name	Type	Required	Default	Description	Note
------	------	----------	---------	-------------	------

## Get Milesight Development Platform info

### Basic Information

**HTTP API Path:** /api/mip

**Method:** GET

**MQTT API Command:** get.mip.info

**Note:** this only works with firmware version 3x.1.0.3-r1 and later.

### Request Parameter

#### Return Data

Name	Type	Required	Default	Description	Note
autoProvision	number	No	1	Whether to enable auto provision 1:On 0:Off	
takeOverPlatform	number	No	1	Whether to be taken ove by platform 1:On 0:Off	
dataReportTakeover	number	No	1	Whether to enable data report takeover 1:On 0:Off	

## Set Milesight Development Platform info

### Basic Information

**HTTP API Path:** /api/mip

**Method:** POST

**MQTT API Command:** set.mip.info

## Request Parameter

### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

### Body

Name	Type	Required	Default	Description	Note
autoProvision	number	No	1	Whether to enable auto provision 1:On 0:Off	
takeOverPlatform	number	No	1	Whether to be taken ove by platform 1:On 0:Off	
dataReportTakeover	number	No	1	Whether to enable data report takeover 1:On 0:Off	

### Return Data

Name	Type	Required	Default	Description	Note
code	number	No			
result	string	No			

# login

---

## Get login info

### Basic Information

**HTTP API Path:** /login/info

**Method:** GET

**MQTT API Command:** get.login.info

## Request Parameter

### Return Data

Name	Type	Required	Default	Description	Note
company	string	No			
software	string	No			
oemTitle	string	No			
oem	number	No			

## check auth

### Basic Information

**HTTP API Path:** /login/check

**Method:** POST

**MQTT API Command:** check.auth

### Request Parameter

#### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

#### Body

Name	Type	Required	Default	Description	Note
name	string	No			
password	string	No		MD5	

### Return Data

Name	Type	Required	Default	Description	Note
lockCount	number	No		Lock Countdown	
lockTime	number	No		Lock Time: ms	

# live

---

# Get IR light sensor value

## Basic Information

**HTTP API Path:** /live/ir

**Method:** GET

**MQTT API Command:** get.ir.value

## Request Parameter

## Return Data

Name	Type	Required	Default	Description	Note
sensorValue	number	No		1~100	

# Get cellular status

## Basic Information

**HTTP API Path:** /api/status/cellular

**Method:** GET

**MQTT API Command:** get.cellular.status

## Request Parameter

## Return Data

Name	Type	Required	Default	Description	Note
isp	string	No		ISP Type	
connectStatus	string	No		0: disconnect; 1: connect	
simStatus	string	No		0: No SIM; 1: Invalid; 2: Valid	
signalStrength	number	No		Signal Strength (dBm)	
imei	string	No		IMEI	
imsi	string	No		IMSI	
iccid	string	No		ICCID	

Name	Type	Required	Default	Description	Note
ipAddr	string	No		IP Address	
subMask	string	No		Mask	
gateway	string	No		Gateway	
dns	string	No		DNS	
dataMonthly	number	No		Data Consumption This Month (MB)	

## Get device status

### Basic Information

**HTTP API Path:** /api/status/device

**Method:** GET

**MQTT API Command:** get.device.status

### Request Parameter

### Return Data

Name	Type	Required	Default	Description	Note
uptime	string	No		XXXX-XX-XX XX:XX:XX	
batteryLevel	number	No		Percentage (0~100)	
batteryHealth	number	No		Percentage (0~100)	
powerSupply	number	No		Power Source (0: internal; 1: external)	
latitude	string	No		Latitude	
longtitude	string	No		Longtitude	
altitude	number	No		Altitude	

## Get iot sensor status

## Basic Information

**HTTP API Path:** /api/status/sensor

**Method:** GET

**MQTT API Command:** get.sensor.status

## Request Parameter

## Return Data

Name	Type	Required	Default	Description	Note
LAF	number	No		dBA	
temperature	string	No		°C	

## Snapshot

### Basic Information

**HTTP API Path:** /live/snapshot

**Method:** GET

**MQTT API Command:** cmd.snapshot

### Request Parameter

### Return Data

Name	Type	Required	Default	Description	Note
------	------	----------	---------	-------------	------

# cmd

---

## Cellular open

### Basic Information

**HTTP API Path:** /api/cmd/cellular

**Method:** GET

**MQTT API Command:** cmd.cellular



## Request Parameter

### Return Data

Name	Type	Required	Default	Description	Note
code	number	No			
result	string	No			

## HTTP URL Test

### Basic Information

**HTTP API Path:** /api/httpptest

**Method:** POST

**MQTT API Command:** cmd.httpptest

### Request Parameter

#### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

#### Body

Name	Type	Required	Default	Description	Note
url	string	Yes		URL	

### Return Data

Name	Type	Required	Default	Description	Note
code	number	Yes		0:success 1:fail	

## Reboot

## Basic Information

**HTTP API Path:** /api/cmd/reboot

**Method:** GET

**MQTT API Command:** cmd.reboot

## Request Parameter

## Return Data

Name	Type	Required	Default	Description	Note
code	number	No			
result	string	No			

## Reset

## Basic Information

**HTTP API Path:** /api/cmd/reset

**Method:** GET

**MQTT API Command:** cmd.reset

## Request Parameter

## Return Data

Name	Type	Required	Default	Description	Note
code	number	No			
result	string	No			

## Upgrade reset

## Basic Information

**HTTP API Path:** /api/upgrade/reset

**Method:** GET

**MQTT API Command:**

## Request Parameter

### Return Data

Name	Type	Required	Default	Description	Note
code	number	No			
result	string	No			

## Upgrade check

### Basic Information

**HTTP API Path:** /api/cmd/checkupgrade

**Method:** GET

**MQTT API Command:** upgrade.check

### Request Parameter

### Return Data

Name	Type	Required	Default	Description	Note
updateState	number	No		0: It's the latest version; 1: Update Availabe;	
softversion	string	No		Software Version	
url	string	No		Image URL	
fileSize	number	No		File Size	
description	string	No		Description	

## Upgrade online

### Basic Information

**HTTP API Path:** /api/upgrade/online

**Method:** POST

**MQTT API Command:** upgrade.online

## Request Parameter

### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

### Body

Name	Type	Required	Default	Description	Note
url	string	No		Image URL	

### Return Data

Name	Type	Required	Default	Description	Note
code	number	No			
result	string	No			

## Upload image

### Basic Information

**HTTP API Path:** /upload/image

**Method:** POST

**MQTT API Command:**

### Request Parameter

### Return Data

Name	Type	Required	Default	Description	Note
code	number	No			
result	string	No			

## Format SD card

## Basic Information

**HTTP API Path:** /api/cmd/sdformat

**Method:** GET

**MQTT API Command:** cmd.sd.format

## Request Parameter

### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/x-www-form-urlencoded	Yes		

## Return Data

Name	Type	Required	Default	Description	Note
code	number	No			
result	string	No			

# storage

---

## Storage export

### Basic Information

**HTTP API Path:** /storage/export

**Method:** POST

**MQTT API Command:** storage.export

## Request Parameter

### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		
<b>Query</b>				

Parameter Name	Required	Example	Description
----------------	----------	---------	-------------

---

Parameter Name	Required	Example	Description
path	Yes	/mnt/mmc	File Path
name	Yes	CV197001011258387T.jpg	File Name
size	Yes	24301	File Size
<b>Body</b>			

Name	Type	Required	Default	Description	Note
------	------	----------	---------	-------------	------

## Return Data

Name	Type	Required	Default	Description	Note
------	------	----------	---------	-------------	------

## Storage search

### Basic Information

**HTTP API Path:** /storage/search

**Method:** POST

**MQTT API Command:** storage.search

### Request Parameter

#### Headers

Parameter Name	Parameter Value	Required	Example	Description
Content-Type	application/json	Yes		

#### Query

Parameter Name	Required	Example	Description
startTime	Yes	1970-01-01+00:00:00	
endTime	Yes	2022-08-13+19:40:30	
start	Yes	0	Start of Index
length	Yes	30	Length
type	Yes	3	Type (3: all, 1: Continue, 2: Trigger)

## Return Data

Name	Type	Required	Default	Description	Note
list	object []	No			
└ file	string	Yes			
└ startTime	string	Yes			
└ type	number	Yes			
└ size	number	Yes			
└ upload	number	Yes		Snapshot Upload Status 1:Success 0:Failed	
total	number	No			