



Face Recognition

HTTP Interface Protocol

V2.8

Revision record

| Date | Revision version | Revision Description | Author | Verify |
|------------|------------------|--|--------|---------|
| 2019/01/11 | V1.0 | | HF Lin | ZH Wang |
| 2019/01/21 | V1.1 | Add ID card swiping reporting interface | HF Lin | ZH Wang |
| 2019/01/22 | V1.2 | Modify and report the curl data to use application / Josn transmission, add the report record Idnum field, synchronous ID card reporting; | HF Lin | ZH Wang |
| 2018/05/04 | V1.3 | Add person registration synchronization success and failure flag, add Add device ID. | HF Lin | |
| 2019/07/02 | V1.4 | Add failure type of personnel registration synchronization end; | CW guo | |
| 2019/07/08 | V1.5 | Add time synchronization interface with server; | | |
| 2019/08/09 | V1.6 | Add equipment parameter configuration interface and equipment upgrade Remote door opening of equipment; | CW guo | |
| 2019/08/26 | V1.7 | Personnel synchronization interface: modify the content returned after - 8 registration failure, add - 10 return error code, add device restart interface, query device list interface, and query equipment The parameter return type is unified as string | CW guo | |
| 2019/09/05 | V1.8 | New platform personnel distribution interface, personnel synchronization interface Remarks can be used as the equipment heartbeat interface; | CW guo | |
| 2019/09/16 | V1.9 | New device screen content display interface | CW guo | |
| 2019/10/18 | V2.0 | 1. Query and update the device parameter interface, and add parameter setting fields such as the cumulative number of failures, intelligent fill light, whether the screen saver is enabled, screen saver start up time, Wigand type, whether to report strangers, and app title; 2. Add query and update time period setting interface; 3. Set the device time interface; | CW guo | |
| 2019/12/10 | V2.1 | 1.. new consumption mode, consumption amount, online consumption Off line consumption mode field record submission 2. Add / delete specified personnel interface | CW guo | |
| 2020/03/04 | V2.2 | Record and report the interface to add human body temperature measurement data field | CW guo | |
| 2020/03/04 | V2.3 | Improve the personnel information query interface and add the personnel complete information query interface | Dai bs | |
| 2020/05/26 | V2.4 | The validity period field and permission classification field are added to the personnel synchronization interface | CW guo | |
| 2020/07/09 | V2.5 | 1. Add equipment version number and equipment type fields to personnel synchronization interface 2. Delete the specified personnel interface and add the delete field to delete all Personnel Remove old application upgrade request interface | CW guo | |

| | | | | |
|------------|------|--|--------|--|
| 2020/08/28 | V2.7 | <ol style="list-style-type: none">1. Add temperature sensor settings, HTTP remote server address parameter configuration fields, screen saver configuration2. Add new personnel access rights configuration interface | CW guo | |
| 2020/09/26 | V2.8 | <ol style="list-style-type: none">1. New access device information (firmware, camera, software version)2. Add voice broadcast setting parameter query and update interface | CW guo | |

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1. Introduction

1.1 purpose and scope of the document

This document defines the HTTP interface of the face recognition all-in-one machine, which is used for the docking of personnel access system and third-party system. The expected readers are project managers, developers, testers and project verifiers related to the recognizer. Unless otherwise stated elsewhere, all requirements specified here are of high priority and will be implemented in this release.

This document only deals with the detailed description of the functional characteristics, and does not involve the specific implementation technology, algorithm, logic, etc.

1.2 Reference

2. Personnel Interface

Using the same set of interfaces to add, delete, modify and check Personnel, the following interfaces need to be implemented on the system / server side.

2.1 Personnel synchronization (this interface can also function as heartbeat interface separately)

- ☒ Address: <http://ip:port/basic/Employee/GetDeviceEmployeeForSync>
- ☒ Type: POST
- ☒ Status code: 200

Request parameters

| Name | Type | Generation rule | Initial value | Introduction |
|------------------|--------|-----------------|---------------|---|
| Id | string | | | device Id |
| totalEmp | string | | | Number of existing lists of devices |
| deviceVersionNum | string | | | Equipment version number |
| deviceModel | string | | | Device type (0: monocular 1: binocular) |

Parameter model

QueryBox {

Id (string, optional): Primary key ID,

Parameter sample value

```
{
  "Id": "string",
```

```
}
```

Sample Curl

```
curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' -d '{\
  "Id": "string", \
```

```
'https://import/basis/Employee/GetDeviceEmployeeForSync'
```

Response content

| Name | Type | Ascription | Initial value | Brief introduction |
|------------|------------|------------|---------------|---|
| code | int | | | Server returns status code, 0: success;-1: Failure |
| msg | string | | | Prompt when the server returns a status other than - 1 |
| data | list<item> | | | Data list |
| id | string | item | | Primary key Id |
| IsRegister | integer | item | | Whether to register to the current device (1: noted Volume; 2: delete registration) |
| empld | string | item | | Personnel Id |
| realName | string | item | | Name |
| deptName | string | item | | Department |
| sex | Integer | item | | Gender (1: male; 0: female; 2: unknown) |
| birthday | string | item | | Date of birth |
| enCode | string | item | | Stuff No |
| cardNum | string | item | | Stuff card No |
| idNum | string | item | | ID number |
| mobile | string | item | | phone number |
| headImgId | string | item | | Head image Id |

| | | | | |
|--------------|--------|------|--|---|
| headImgPath | string | item | | Head image path |
| headImgData | string | item | | Head image data Base64 |
| auth | string | item | | Authority levels a > admin, P > personnel, b > Bank |
| expTimeStart | string | item | | Effective time start |
| expTimeEnd | string | item | | End of effective time |

Note: the device client first judges whether headingdata has data. If it does, it will convert it into the corresponding image and extract the characteristic value. If not, it will obtain the image from the network path pointed by headingpath. This second type of data will improve the efficiency of the interface and reduce the load.

Personnel deletion

When register is 2, the device selects to delete the Personnel.

ITEM Model

Inline Model [

 Inline Model 1

]

Inline Model 1 {

```

empld(string,optional):Personnel Id
,
realName(string,optional):name,
deptName (string, optional):
Department,

sex (integer, optional): Gender (1: male; 0: female; 2: unknown),

birthday (string, optional): date of birth,

enCode (string, optional): Employee
number ,
cardNum (string, optional): Employee card
No, idNum (string,
```

ITEM Sample value

```
[  
  
  {  
  
    "Id": "string",  
    "IsRegister": 0,  
    "empld": "string",  
    "realName": "string",  
    "deptName": "string",  
    "sex": 0,  
  
    "birthday": "2019-01-11T03:32:46.147Z",  
  
    "enCode": "string",  
  
    "cardNum": "string",  
  
    "idNum": "string",  
  
    "mobile": "string",  
    "headImgId": "string",  
  
    "headImgPath": "http://ip:port/abcdefghijkl.jpg",
```

Response template

```
{  
  
  "code": "",  
  
  "msg": "",  
  
  "data": ""
```

Response data

```
{  
  
  "code": 0
```

```
  "msg": "success",  
  
  "data": []
```


Response code

200

2.2 End of synchronization

Address: <http://ip:port/basic/Employee/DeviceEmployeeSyncFinished>

Type: POST

Status code: 200

Note: when the equipment updates the personnel information, call the update completion interface

Request parameters

| Name | Type | Ascription | Initial value | Brief introduction |
|------------|---------|------------|---------------|--|
| Id | string | | | Personnel Id |
| DeviceId | string | | | Equipment Id |
| ResultCode | integer | | | <p>If it is greater than or equal to 0, the device registration personnel is successful; otherwise, it is failure</p> <p>Failure type:</p> <ul style="list-style-type: none"> -1 is that the face image file is too large (limited to 2MB) -2 is no face detected -3 face pupil distance is less than 128 pixels (not enabled at present) -4. The quality of face image is too poor -5. Failed to delete old registered photos -6 face image registration failed -7. There is no such deleted personnel information -8 the face has been registered, and the empid of the existing empidexist person is returned Empidduplicate duplicate duplicate employee empid Realnameexist person name already exists Realnameduplicate duplicate person name -9 is not registered and there is no face picture -10 is not saved successfully <p>At the same time, empidexist is returned</p> <p>Empid of person at</p> |

Parameter model

```

QueryBuilder {
  Id (string, optional): Personnel Id ,
  DeviceId (string, optional): Device Id,
  ResultCode (integer, optional): Success flag

```

Parameter sample value

```

{
  "Id": "string",
  "DeviceId" : "string" ,
  "ResultCode" : 0,

```

Sample Curl

```

curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' -d '{\
  "Id": "string", \
  "DeviceId": "string", \
  "ResultCode": 0,\
}' 'http://ip:port/basic/Employee/DeviceEmployeeSyncFinished'

```

Response content

| Name | Type | Ascription | Initial value | Brief introduction |
|------|------------|------------|---------------|--|
| code | integer | | | Server returns status code, 0: success; -1: Failure |
| msg | string | | | Prompt when the server returns a status other than - 1 |
| data | list<item> | | | Empty or fill in by yourself |

Response template

```
{  
  "code": "",  
  "msg": "",  
  "data": ""
```

Response data

```
{  
  "code": 0,  
  "msg": "success",  
  "data": false
```

Response code

```
200
```

3. Record interface

When the equipment uploads the identification record, it needs to realize the automatic report of the receiving equipment of this interface at the system / service end; the human card mode supports the comparison between the ID card and the on-site face, and the comparison will produce the identification record and the ID card information record, wherein the image data recorded by the ID card information can be used as the visiting database or the dispatching database, and the realization of this interface at the system / service end can complete the visitor record.

3.1 Record reporting

- 🔗 Address: <http://ip:port/basic/Employee/UploadRecoRecord>
- 🔗 Type: POST
- 🔗 Status code: 200
- 🔗 remarks: Device client updates SQLite database upload status according to the returned status.

Request parameters

| Name | Model | Ascription | Initial value | brief introduction |
|--------------|---------|------------|---------------|---|
| Id | string | | | record Id |
| deviceId | string | | | Device Id |
| empld | string | | | Personnel Id |
| compareTime | string | | | Comparison time |
| isLive | integer | | | Living or not |
| similarity | number | | | Similarity |
| isFrontFace | integer | | | Face or not |
| recolmgld | string | | | Identification head ID Id |
| fromType | integer | | | Source (0: face database comparison; 1: body Comparison of certificates; 2 Comparison of strangers) |
| idNum | string | | | ID number |
| recolmgData | string | | | Identify the head image data Base64 Base64 |
| chargeMode | string | | | Consumption mode (0: unit price mode; 1: Quota method) |
| chargeAmount | string | | | Consumption amount (online default is blank) |
| online | string | | | Online mode or offline mode (1: Line, 0) |
| temp | string | | | (unit °C) data range: 33-42 |

Note: when it is detected that the source is ID card comparison, an identification record is generated according to idnum, provided that the system has built a database of ID card

information.

Parameter model

Dto_RecoRecord {

Id (string, optional): Record Id

deviceId (string, optional): Device Id ,

empld (string, optional): Personnel Id ,

compareTime (string, optional):

Comparison time,

isLive (integer, optional): Living or not ,

similarity (number, optional): Similarity,

isFrontFace (integer, optional): Face or

not,

recolmgId (string, optional): Identify head

imageld ,

Parameter sample value

```
{
  "id": "string",
  "deviceId": "string",
  "empld": "string",
  "compareTime": "2019-01-11 03:32:46.162",
  "isLive": 0,
  "similarity": 0,
  "isFrontFace": 0,
  "recolmgld": "string",
  "fromType": 0,
  "idNum": "string",
```

Sample Curl

```
application/json' -d '{\
  "Id": "string", \
  "deviceId": "string", \
  "empld": "string", \
  "compareTime": "2019-01-11 03:32:46.162", \
  "isLive": 0, \
  "similarity": 0, \
  "isFrontFace": 0, \
  "recolmgld": "string", \
  "fromType": 0, \
  "idNum": "string", \
  "chargeAmount": " string "
```

```
'http://import/basic/Employee/UploadRecoRecord'
```

Response content

| Name | Model | ascription | Initial value | brief introduction |
|------|---------|------------|---------------|--|
| code | integer | | | Server returned status code, 0: success; - 1: failure |
| msg | string | | | Prompt when the server returns a status other than - 1 |
| data | string | | | Empty or fill in by yourself |

Response template

```
{
  "code": "",
  "msg": "",
  "data": ""
}
```

Response data

```
{
  "code": "-1",
  "msg": "Base-64 字符数组的无效长度。",
  "data": ""
}
```

Response code

```
200
```

3.2 Report of ID card information

- ⓧ Address: <http://ip:port/basic/Employee/IdNumEmployeeSave>
- ⓧ Type: POST
- ⓧ Status code: 200
- ⓧ Note: the reported image data is the internal head image of ID card, and the system can record the visitors by combining the record and report picture.

Request parameters

| Name | Type | Ascription | Initial value | Brief introduction |
|-------------|---------|------------|---------------|---|
| libraryType | integer | | | 1: Staff library; 2: Visitor library; 3: assignment Library |
| idNum | string | | | ID number |
| realName | string | | | Name |
| address | string | | | Address |
| headImgData | string | | | Base64 Head image data |

Note: gender and date of birth are analyzed according to ID card ID. the background must build a database of ID card. The equipment has records of ID card, and only transmits ID card information and pictures once (current version, that is, the same person only uploads and reports records when swiping ID card next time).

model reference

```
{
  "LibraryType" : 0,
  "idNum" : "string" ,
  "realName" : "string" ,
  "address" : "string" ,
  "headImgData" : "string"
```

Response content

| name | Type | Ascription | Initial value | Brief introduction |
|------|---------|------------|---------------|--|
| code | integer | | | Server returned status code, 0: success; - 1: failure |
| msg | string | | | Prompt when the server returns a status other than - 1 |
| data | string | | | Empty or fill in by yourself |

Response template

```
{
  "code": "",
  "msg": "",
  "data": ""
```

Response data

```
{
  "code": "-1" ,
  "msg": "Base-64 字符数组的无效长度。",
  "data": ""
```

Response code

200

4. Synchronize server time

- 📄 Address: <http://ip:port/basic/date/serviceDateForSync>
- 📄 Type: POST
- 📄 Status code: 200

Note: server time synchronization

Request parameters

| name | Type | Ascription | Initial value | Brief introduction |
|------|------|------------|---------------|--------------------|
|------|------|------------|---------------|--------------------|

Response content

| name | Type | Ascription | Initial value | Brief introduction |
|------|---------|------------|---------------|---|
| code | integer | | | Server returnStatus code, 0: success; -1: fail |
| msg | string | | | Prompt when the server return status is not - 1 |
| data | date | | | Server time. Reference format 2019-07-08 20:35:42 |

Response template

```
{
  "code": "",
  "msg": "",
  "date": ""
}
```

Response data

```
{
  "code": 0,
  "msg": "",
  "date": ""
}
```

5. Equipment parameter configuration interface

The device parameter configuration interface enables the device to actively open the server, and the platform actively requests the service of the device. Through this interface, the platform can realize remote query, update, device program upgrade, remote open door, restart equipment, and query the number of equipment list.

Please note: all device parameter configuration requests need to fill in the encoding format in the content type, for example: application / ISO; charset = UTF-8. Otherwise, there will be Chinese garbled code, resulting in the request failure.

5.1 Query device parameters

- ☐ Address: http://ip :8090/basic/Employee/GetDeviceConfig
- ☐ Type: POST
- ☐ Status code: 200
- ☐ Device service port number: 8090
- ☐ Note: query equipment parameters

Request parameters

| name | Type | Ascription | Initial value | Brief introduction |
|------------|--------|------------|---------------|--------------------|
| deviceCode | String | | | Equipment coding |

Parameter sample value

```
{
  "deviceCode": " 863424400227155 "
```

Response content

| name | Type | Ascription | Initial value | Brief introduction |
|-------------------|--------|------------|---------------|--|
| discernThreshold | String | | 65 | Recognition threshold (adjustment range: 5-95) |
| idCardThreshold | String | | 40 | ID card threshold (adjustment range: 35-95) |
| livingSensitivity | String | | 3 | In vivo sensitivity (0: off 8: slow 5: moderate 3: fast) |
| livingThreshold | String | | 65 | In vivo threshold (adjustment range: 45-95) |
| discernMode | String | | 0 | Recognition pattern (0: face verification 1: person or authentication 2: Person card verification 3: person certificate verification) |

| | | | | |
|-----------------|--------|--|---------------------|---|
| minPixel | String | | 120 | Minimum pixel setting (adjustment range: 80px - 512px) |
| detectThreshold | String | | 90 | Detection threshold setting (adjustment range 60-100) |
| discernInterval | String | | 1500 | Identification interval setting (adjustment range 500ms- 5000ms) |
| cameraMode | String | | 2 | Camera mode setting (adjustment range 0: indoor mode 1: outdoor mode 2: intelligent mode) |
| rebootTime | String | | 2019-07-08 03:00:00 | Custom daily restart time adjustment range: 0:00-23:59 |
| wiegandOut | String | | 0 | Wigand output (adjustment range: 0: positive sequence, 1: reverse order) |
| wiegandIn | String | | 0 | Wigand input (adjustment range: 0: positive sequence 1: reverse order) |
| deviceCode | String | | | Equipment code |
| password | String | | 123456 | Account security management password |

| | | | | |
|----------------|--------|--|-------------------|--|
| appTitle | String | | | Identify interface title |
| recoFailCount | String | | 0 | Number of recognition failure prompts (between 0-10) |
| ledOn | String | | 1 | Whether the intelligent fill light is on (0 off, 1 on) |
| screenOn | String | | 1 | Whether the screen saver is enabled (0 off, 1 on) |
| screenTime | String | | 3 | Screen saver time (minutes as unit, valid range 1-15) |
| wiegandType | String | | 26 | Wigan type (26 or 34) |
| reportStranger | String | | 0 | Whether to report stranger record (0 off, 1 on) |
| reqAddress | String | | 119.23.74.20 0 | HTTP remote server address (report address) |
| reqPort | String | | | HTTP service communication port |
| screenUrl | String | | | URL address of screen saver |
| screenTime | String | | | Enter screen saver time |
| keepAlpha | String | | | Clock transparency |
| keepColor | String | | | Screen saver clock font color |
| pointColor | int | | | Temperature measurement alignment point color |
| pointRectColor | String | | | Temperature measurement forehead |

| | | | | |
|--------------------|--------|--|-------|--|
| | | | | color |
| tempRectColor | String | | | Color of temperature measuring frame |
| tempRectColorAlpha | String | | | Transparency of temperature measuring frame |
| tempMode | String | | 0 | Temperature measurement on and off |
| enMakeup | String | | false | Adaptive loop temperature compensation switch |
| enableTemp | String | | false | Temperature measurement 16a and 32A versions are on by default |
| tempAlarm | String | | 37.3 | Alarm temperature value (unit: °C / F) |
| tempFilter | String | | 35.8 | Minimum measured body temperature (in °C / F) |
| isTempF | String | | false | Do you want to turn on Fahrenheit Conversion |
| speakSpeed | String | | 1.5 | Voice broadcast speed value (TTS to voice valid) |

Response template

```
{
  "code": "0",
  "data": {
    },
}
```

Response data

```
{
  "code": "0",
  "data": {
    },
  "msg": ""
}
```

5.2 update equipment parameters

📄 address: <http://ip:8090/basic/Employee/updateDeviceConfig>

📄 type: POST

- ☐ Status code: 200
- ☐ Device service port number: 8090
- ☐ Note: query equipment parameters

Request parameters

| name | Type | Ascription | Initial value | Brief introduction |
|-------------------|--------|------------|---------------------|---|
| discernThreshold | String | | 65 | Recognition threshold (adjustment range: 5-95) |
| idCardThreshold | String | | 40 | ID card threshold (adjustment range: 35-95) |
| livingSensitivity | String | | 3 | In vivo sensitivity (0: off 8: slow 5: moderate 3: fast) |
| livingThreshold | String | | 65 | In vivo threshold (adjustment range: 45-95) |
| discernMode | String | | 0 | Recognition pattern (0: face verification 1: person or authentication 2: person card verification 3: person certificate verification) |
| minPixel | String | | 120 | Minimum pixel setting (adjustment range: 80px-512px) |
| detectThreshold | String | | 90 | Detection threshold setting (adjustment range 60-100) |
| discernInterval | String | | 1500 | Identification interval setting (adjustment range: 500ms-5000ms) |
| cameraMode | String | | 2 | Camera mode setting (adjustment range 0: indoor mode 1: outdoor mode 2: intelligent mode) |
| rebootTime | String | | 2019-07-08 03:00:00 | Custom daily restart time adjustment range: 0:00-23:59 |
| wiegandOut | String | | 0 | Wigand output (adjustment range: 0: positive sequence, 1: reverse order) |
| wiegandIn | String | | 0 | Wigan input (adjustment range: 0: positive sequence, 1: reverse order) |
| deviceCode | String | | | Equipment coding |
| password | String | | 123456 | Account security management password |

| | | | | |
|------------|--------|--|---------------------|---|
| rebootTime | String | | 2019-07-08 03:00:00 | Custom daily restart time adjustment range: 0:00-23:59 |
| wiegandOut | Number | | 0 | Wigan output (adjustment range: 0: positive sequence, 1: reverse order) |
| wiegandIn | Number | | 0 | Wigan input (adjustment range: 0: positive sequence, 1: reverse order) |
| deviceCode | String | | | Equipment coding |
| password | String | | 123456 | Account security management password |
| appTitle | String | | | Identify interface title |

| | | | | |
|----------------|--------|--|----|--|
| recoFailCount | Number | | 0 | Number of failed identification prompts (between 0-10) |
| ledOn | Number | | 1 | Is the intelligent fill light on (0 off, 1 on) turn off at 6:30 and turn on at 18:30 |
| screenOn | Number | | 1 | Whether the screen saver is enabled (0 off, 1 on) |
| screenTime | Number | | 3 | Screen saver time (minutes as unit, valid range 1-15) |
| wiegandType | Number | | 26 | Wigan type (26 or 34) |
| reportStranger | Number | | 0 | Whether to report stranger record (0 off, 1 on) (start) |

Parameter sample value

```
{
  "deviceCode": "",
  "data": [
    "appTitle": "Guocw test machine",
    "cameraExposure": "160",
    "cameraMode": "2",
    "detectThreshold": "90",
    "discernInterval": "1000",
    "discernMode": "0",
    "discernThreshold": "52",
    "enMakeup": "true",
    "enableTemp": "true",
```

```

"ledOn": "0",
  "livingSensitivity": "3",
  "livingThreshold": "46",
  "mask": "true",
  "minPixel": "120",
  "password": "123456",
  "pointColor": "-10822410",
  "pointColorAlpha": "255",
  "pointRectColor": "-1",
  "pointRectColorAlpha": "155",
  "rebootTime": "04:00",
  "recoFailCount": "1",
  "reportStranger": "0",
  "reqAddress": "119.23.74.200",
  "reqPort": "16560",
  "screenMsgSize": "2",
  "screenOn": "1",
  "screenTime": "1",
  "screenUrl":
"http://172.16.3.1:8090/mnt/internal_sd/RecoFaceData/KeepBg/keep_bg.png",
  "speakSpeed": "1.5",

```

Response content

| name | Type | Ascription | Initial value | Brief introduction |
|------|--------|------------|---------------|--------------------|
| code | String | | | |
| msg | String | | | |
| data | String | | | |

Response template

```
{
  "code": "",
  "msg": "",
  "data": ""
}
```

Response data

```
{
  "code": "",
  "msg": "",
  "data": ""
}
```

5.3 equipment upgrade procedure

- ☐ Address: <http://ip:8090/basic/Employee/upgradeDevice>
- ☐ Type: POST
- ☐ Status code: 200
- ☐ Device service port number: 8090

Note: query equipment parameters

Request parameters

| Name | Type | Ascription | Initial value | Brief introduction |
|------------|--------|------------|---------------|---|
| packageUrl | String | | | Apk download address |
| verCode | Number | | | The version number of the corresponding APK |

Parameter sample value

```
{
  "packageUrl": "",
  "verCode": 1
}
```

Response content

| name | Type | Ascription | Initial value | Brief introduction |
|------|--------|------------|---------------|--------------------|
| code | String | | | |
| msg | String | | | |
| data | String | | | |

Response template


```
{
  "code": "",
  "msg": "",
  "data": ""
}
```

Response data

```
{
  "code": "",
  "msg": "",
  "data": ""
}
```

5.4 Remote door opening

- ⓧ Address: <http://ip:8090/basic/Employee/openMode>
- ⓧ Type: POST
- ⓧ Status code: 200
- ⓧ Device service port number: 8090

Note: query equipment parameters

Request parameters

| name | Type | Ascription | Initial value | Brief introduction |
|---------------|--------|------------|---------------|---|
| remoteRelayIO | String | | | Remote control relay IO 5 (remote door opening command 1: on, 0: off) |

Parameter sample value

```
{
  "remoteRelayIO": ""
}
```

Response content

| name | Type | Ascription | Initial value | Brief introduction |
|------|--------|------------|---------------|--------------------|
| code | String | | | |
| msg | String | | | |

| | | | | |
|------|--------|--|--|--|
| data | String | | | |
|------|--------|--|--|--|

Response template

```
{
  "code": "",
  "msg": "",
  "data": ""
}
```

Response data

```
{
  "code": "",
  "msg": "",
  "data": ""
}
```

5.5 Restart the device

- 🔗 Address: <http://ip:8090/basic/Employee/devReboot>
- 🔗 Type: POST
- 🔗 Status code: 200
- 🔗 Device service port number: 8090
- 🔗 Remark: Query device parameters

Request parameters

| name | Type | Ascription | Initial value | Brief introduction |
|------------|--------|------------|---------------|--------------------|
| deviceCode | String | | | Equipment code |
| | | | | |

Parameter sample value

```
{
  "deviceCode": ""
}
```

Response content

| name | Type | Ascription | Initial value | Brief introduction |
|------|------|------------|---------------|--------------------|
|------|------|------------|---------------|--------------------|

| | | | | |
|------|--------|--|--|--|
| code | String | | | |
| msg | String | | | |
| data | String | | | |

Response template

```
{
  "code": "",
  "msg": "",
  "data": ""
}
```

Response data

```
{
  "code": "",
  "msg": "",
  "data": ""
}
```

5.6 query equipment list

- ⓘ Address: <http://ip:8090/basic/Employee/getEmpList>
- ⓘ Type: POST
- ⓘ Status code: 200
- ⓘ Device service port number: 8090
- ⓘ Note: query equipment parameters. Only personnel information can be inquired, but not personnel head picture

Request parameters

| name | Type | Ascription | Initial value | Brief introduction |
|------------|--------|------------|---------------|---|
| deviceCode | String | | | Equipment coding |
| page | String | | | Page number, control page * num offset, starting from 0 |
| num | String | | | Set the number of single page queries. If it exceeds 1000, the maximum return will be 1000 (including version 35.9 and below is not supported at present) |

```
{
  "deviceCode": "",
  "page": "",
  "num": ""
}
```

Parameter sample value

Response content

| name | Type | Ascription | Initial value | Brief introduction |
|------|--------|------------|---------------|--------------------|
| code | String | | | |

| | | | | |
|-------|--------|--|--|---|
| msg | String | | | |
| data | Array | | | Personnel empid string array. Empid is the unique ID of the person assigned when registering a person |
| total | String | | | Total Personnel |

Response data

```
{
  "code": "",
  "msg": "",
  "data": "[ "empid" ." empid" ." empid" ]".
}
```

5.7 query complete information of equipment list

- 🔗 Address: <http://ip:8090/basic/Employee/getEmpListFull>
- 🔗 Type: POST
- 🔗 Status code: 200
- 🔗 Device service port number: 8090
- 🔗 Remarks: query the details of equipment personnel

Request parameters

| name | Type | Ascription | Initial value | Brief introduction |
|------------|--------|------------|---------------|---|
| deviceCode | String | Yes | | Equipment coding |
| page | String | Yes | | Page number, control page * num offset, starting from 0 |
| num | String | Yes | | Set the number of single page queries. If it exceeds 50, it will return to the maximum value of 50 (including version 36.7 and below, which is not supported temporarily) |
| name | String | No | | Person name is a filter condition, which supports fuzzy query of initials and Chinese |
| enCode | String | No | | Employee number, which is a filter condition, supports character fuzzy query |
| cardNum | String | No | | Card number, is a filter condition, support character fuzzy query |
| mobile | String | No | | Telephone number, is a filter condition, support character fuzzy query |
| idNum | String | No | | ID card number, is a filter condition, support character fuzzy query |
| dept | String | No | | Department, is a filter condition, support character fuzzy query |
| sex | String | No | | Gender is a screening condition |
| auth | String | No | | Authorization level is a screening condition |

```
{
  "deviceCode": "",
  "page": "0",
  "num": "50",
  "name": "zs",
  "enCode": "",
  "cardNum": "",
  "mobile": "",
  "idNum": ""
}
```

Parameter sample value

Response content

| name | Type | Ascription | Initial value | Brief introduction |
|-------|--------|------------|---------------|-----------------------------|
| code | String | | | |
| msg | String | | | |
| data | Array | | | Personnel information array |
| total | String | | | Total Personnel |

Response data

```
{
  "code": "",
  "msg": "",
  "data": "[object.object.object]"
}
```

Object content in data

| name | Type | Required | Initial value | brief introduction |
|-----------|--------|----------|---------------|---|
| imagePath | String | Yes | | Getting the address of the person's Avatar is a get request |
| empld | String | Yes | | Unique identification of Personnel |
| name | String | Yes | | Name of Personnel |
| enCode | String | No | | Employee ID, not necessarily, |

| | | | | |
|-----------|--------|-----|--|---|
| | | | | but when registered |
| cardNum | String | No | | Employee card number, not necessarily, when registered |
| mobile | String | No | | Employee's mobile phone number may not be available. It is available when registering |
| idCard | String | No | | The ID card number of the employee may not be available, but it will be available at the time of registration |
| sex | String | Yes | | Employee gender: 0: female, 1: male, 2: other |
| auth | String | Yes | | Employee authorization, authority level a > admin (administrator), P > person (normal employee), b > band (blacklist) |
| beginTime | String | No | | Valid time start, format: yyyy MM DD HH: mm: SS: SSS |
| endTime | String | No | | Valid time end, format: yyyy MM DD HH: mm: SS: SSS |

5.8 distribution of platform personnel

- 🔗 Address: <http://ip:8090//basic/Employee/syncEmp>
- 🔗 Type: POST
- 🔗 Status code: 200
- 🔗 Device service port number: 8090
- 🔗 Note: interface issued by platform personnel

Request parameters

| name | Type | Ascripti on | Initial value | Brief introduction |
|------------|--------|----------------|---------------|------------------------------------|
| deviceCode | String | | | Equipment coding |
| data | Array | | | |
| empld | String | Require d | 12345 | Unique person Id |
| name | String | Require d | XX | full name |
| sex | Number | | 0 | Gender (1 male 0 female 2 unknown) |
| age | Number | | | Age |

| | | | | | |
|--|--------------|--------|----------|---|--|
| | birthday | String | | | Birthday (not enabled) |
| | enCode | String | | | Job number |
| | cardNum | String | | | Card number |
| | mobile | String | | | phone number |
| | idNum | String | | | ID number |
| | employeeType | Number | Required | 0 | List type (0 permanent list, 1 temporary list (not enabled)) |
| | expTimeStart | String | | | Effective time start |
| | expTimeEnd | String | | | End of effective time |

| | | | | | |
|--|-------------|--------|----------|--|---|
| | headImgData | String | Required | | Avatar Base64 data (Base64 string without avatar) |
| | feature | String | | | Signature (not enabled) |
| | headImgPath | String | | | Avatar download path (this field is invalid when there is avatar data in headingdata) (not enabled) |

Parameter sample value

```

{
  "deviceCode": "860961637514156",
  "data": [
    {
      "empld": "12345",
      "name": "XX",
      "sex": 0,
      "age": 1,
      "birthday": "",
      "enCode": "",
      "cardNum": "",
      "mobile": "",
      "idNum": "",
      "employeeType": "",
      "expTimeStart": "",
      "expTimeEnd": ""
    }
  ]
}

```

Response content

| name | Type | Ascription | Initial value | Brief introduction |
|------|------------|------------|---------------|---|
| code | String | | | |
| msg | String | | | |
| data | Object | | | |
| | Id | String | | ID issued this time |
| | Deviceld | String | | Equipment coding |
| | ResultCode | String | | If it is greater than or equal to 0, the device registration personnel is successful; otherwise, it is failure failure type: - 1 is that the face image file is too large (the limit is not more than 2MB)) |

| | | | | |
|--|-------------------|--------|--|--|
| | | | | <p>-2 is no face detected</p> <p>-3 face pupil distance is less than 128 pixels (currently Not enabled)</p> <p>-4. The quality of face image is too poor</p> <p>-5. Failed to delete old registered photos</p> <p>-6 face image registration failed</p> <p>-7. There is no such deleted personnel information</p> <p>-8 the face has been registered (if the empid is the same, then</p> <p>- 8) if you want to override or update </p> <p>-9 is not registered and there is no face picture</p> <p>-10 is not saved successfully</p> |
| | EmpldExist | String | | <p>Returned when the resultcode is - 8 or - 10</p> <p>Returned when the resultcode is - 8 or - 10</p> |
| | EmpldDuplicate | String | | <p>Duplicate employee empid, returned when resultcode is - 8</p> <p>Duplicate employee empid, returned when resultcode is - 8</p> |
| | RealNameExist | String | | <p>Name of an existing person, returned when resultcode is - 8</p> <p>Name of an existing person, returned when resultcode is - 8</p> |
| | RealNameDuplicate | String | | <p>Duplicate personnel name, returned when resultcode is - 8</p> <p>Duplicate personnel name, returned when resultcode is - 8</p> |

Request template

```
{  
  "code": "",  
  "msg": "",  
  "data": {  
    "Id": "",  
    "DeviceId": "",  
    "ResultCode": "",  
    "EmpIdExist": "",  
    "EmpIdDuplicate": "",  
    "RealNameExist": "",  
    "RealNameDuplicate": ""  
  }  
}
```

Response data

```
{  
  "code": "",  
  "msg": "",  
  "data": {  
    "Id": "",  
    "DeviceId": "",  
    "EmpIdDuplicate": "",  
    "RealNameExist": "",  
    "RealNameDuplicate": ""  
  }  
}
```

5.9 setting screen display content

- 🔗 Address: <http://ip:8090/basic/Employee/displayMessages>
- 🔗 Type: POST
- 🔗 Status code: 200

- 🔗 Device service port number: 8090
- 🔗 Screen content display interface

Request parameters

| name | Type | Generating rules | Initial value | Brief introduction |
|------------|--------|------------------|---------------|--------------------|
| deviceCode | string | | | Equipment coding |
| msg | string | | | show contents |

Parameter sample value

```
{
  "deviceCode": "",
  "msg": ""
}
```

Response content

| name | Type | Ascription | Initial value | Brief introduction |
|------|--------|------------|---------------|---|
| code | int | | | Server returns status code, 0: success; -1: Failure |
| msg | string | | | Prompt when the server returns to a state other than -1 |
| data | string | | | 0: display success - 1: other internal errors |

Request template

```
{
  "code": "",
  "msg": "",
  "data": ""
}
```

Response data

```
{
  "code": 0,
  "msg": "success",
  "data": "0"
}
```

Response code

200

5.10 query period setting

- 🔗 Address: <http://ip:8090/basic/device/getFrameSettings>
- 🔗 Type: POST
- 🔗 Status code: 200
- 🔗 Device service port number: 8090
- 🔗 Note: query period setting

Request parameters

| name | Type | Ascription | Initial value | Brief introduction |
|------------|--------|------------|---------------|--------------------|
| deviceCode | String | Required | | Equipment coding |

```
{
  "deviceCode": ""
}
```

Parameter sample value

Response content

| name | Type | Ascription | Initial value | Brief introduction |
|------|--------|------------|---------------|--------------------|
| code | String | Required | | |
| msg | String | | | |

| data | | Array | Required | | When this field has never been set to an empty period: |
|------|-----------------|--------|----------|-----|--|
| | cameraMode | Number | | 2 | Camera mode (0 indoor, 1 outdoor, 2 intelligent) |
| | cameraExposure | Number | | 136 | Camera exposure intensity (0-255) |
| | liveSensitivity | Number | | 3 | In vivo sensitivity (0 off live, 3 fast, 5 moderate, 8 slow) |
| | liveThreshold | Number | | 65 | Live threshold (25-95) |
| | detectThreshold | Number | | 90 | Detection threshold (56-100) |
| | startTime | String | | | Start time (03:00) |
| | endTime | String | | | End time (03:00) |
| | settingType | String | Required | | Time period setting type (1-4), corresponding to morning/ |

Response template

```
{  
  "data": [  
    {  
      "cameraMode": 2,  
      "cameraExposure": 136,  
      "liveSensitivity": 3,  
      "liveThreshold": 65,  
      "detectThreshold": 90,  
      "startTime": "",  
      "endTime": "",  
      "settingType": ""  
    }  
  ]  
}
```

Response data

```
{  
  "data": [  
    {  
      "cameraMode": 2,  
      "cameraExposure": 136,  
      "liveSensitivity": 3,  
      "liveThreshold": 65,  
      "detectThreshold": 90,  
      "startTime": "",  
      "endTime": "",  
      "settingType": ""  
    }  
  ]  
}
```

5.11 update period settings

- 🔗 Address: <http://ip:8090/basic/device/frameSettings>
- 🔗 Type: POST
- 🔗 Status code: 200
- 🔗 Device service port number: 8090
- 🔗 Note: update time period settings

Request parameters

| name | Type | Ascription | Initial value | Brief introduction |
|-----------------|--------|------------|---------------|--|
| deviceCode | String | Required | | |
| data | Array | Required | | Time period setting array |
| cameraMode | Number | | | Camera mode (0 indoor, 1 outdoor, 2 intelligent) |
| cameraExposure | Number | | | Camera exposure intensity (0-255) |
| liveSensitivity | Number | | | In vivo sensitivity (0 off live, 3 fast, 5 moderate, 8 slow) |
| liveThreshold | Number | | | Live threshold (25-99.5) |
| detectThreshold | Number | | | Detection threshold (56-100) |
| startTime | String | | | Start time (03:00) |
| endTime | String | | | End time (03:00) |
| settingType | Number | Required | | Time period setting type (1-4), corresponding to morning / afternoon / evening / night |

Parameter sample value

```
{  
  "deviceCode":  
  "", "data": [  
    {  
      "cameraMode": 1,  
      "cameraExposure": 1,  
      "liveSensitivity": 1,  
      "liveThreshold": 1,  
      "detectThreshold":  
      1, "startTime": "",  
      "endTime": "",
```

Response template

```
{}
```

Response data

```
{}
```

5.12 setting device system time

📄 Address: <http://ip:8090/basic/device/syncTime>

- 🔗 Type: POST
- 🔗 Status code: 200
- 🔗 Device service port number: 8090
- 🔗 Note: set the system time of the equipment

Request parameters

| name | Type | Ascription | Initial value | Brief introduction |
|------------|--------|------------|------------------------|--------------------|
| deviceCode | String | Required | | Equipment coding |
| data | String | Required | 2019-07-08 17:22:29 | Time format |

Parameter sample value

```
{
  "deviceCode": ""
}
```

Response template

```
{
  "code": "",
  "msg": ""
}
```

Response data

```
{
  "code": "",
  "msg": ""
}
```

5.13 delete designated person

- 🔗 Address: <http://ip:8090/basic/Employee/delEmp>
- 🔗 Type: POST
- 🔗 Status code: 200

- 🔗 Device service port number: 8090
- 🔗 Note: delete designated person

Request parameters

| name | Type | Ascription | Initial value | Brief introduction |
|------------|--------|------------|---------------|---|
| deviceCode | string | Required | | Equipment coding |
| delete | string | | | Delete field is not empty, delete all Personnel |
| data | array | Required | empld | Array of person unique IDs |

Parameter sample value

```
{
  "deviceCode": "",
  "data": ["", "", ""]
}
```

Request template

```
{
  "code": "",
  "msg": "",
  "..."
}
```

Response data

```
{
  "code": "",
  "msg": "",
  "..."
}
```

5.14 personnel access rights configuration

- 🔗 Address: <http://ip:8090/basic/Employee/accessPermissions>
- 🔗 Type: POST
- 🔗 Status code: 200

- 🔍 Device service port number: 8090
- 🔍 Remarks: access rights of Personnel issued by the platform

Request parameters

| name | Type | Ascription | Initial value | Brief introduction |
|--------------------|--------|------------|---------------|---|
| empids | String | | | Empid collection, supporting multiple EMPIDS |
| data | Array | | | |
| effectiveTimeStart | String | Required | 12345 | Effective start time (yyyy MM DD HH: mm: SS) |
| effectiveTimeEnd | String | Required | XX | Effective end time (yyyy MM DD HH: mm: SS) |
| repetitionCycle | Number | | 0 | Recurrence period (1-7 for Monday to Sunday, separated by commas) |
| period1TimeStart | Number | | | Start time 1 (HH: mm) |
| period1TimeEnd | String | | | End time 1 (HH: mm) |
| period2TimeStart | String | | | Start time 2 (HH: mm) |
| Period2TimeEnd | String | | | End time 2 (HH: mm) |
| Period3TimeStart | String | | | Start time 3 (HH: mm) |
| Period3TimeEnd | String | | | End time 3 (HH: mm) |
| accessType | Number | Required | 0 | Type of access (0: allowed 1: no access) |

Parameter sample value

```
{  
  
  "emplds":"d017f308c5ec4e44b7cfa7d0423d24d7",  
  
  "accessPeriod":{  
  
    "effectiveTimeStart":"2020-05-07 18:25:00",  
  
    "effectiveTimeEnd":"2020-07-07 18:25:00",  
  
    "repetitionCycle":"1,3,4,5,7",  
  
    "period1TimeStart":"05:00",  
  
    "period1TimeEnd":"09:34",  
  
    "period2TimeStart":"10:47",  
  
    "period2TimeEnd":"14:00",  
  
  },  
  
}
```

Request template

```
{  
  
  "code": "0",  
  
  "data": {  
  
    },  
  
}
```

Response data

```
{  
  
  "code": "0",  
  
  "data": {  
  
    },  
  
}
```

5.15 getting device information (firmware, version)

📄 Address: <http://ip:8090/basic/device/getDeviceInfo>

- 🔗 Type: POST
- 🔗 Status code: 200
- 🔗 Equipment service port number:8090
- 🔗 Note: query equipment parameters

Request parameters

| name | Type | Ascription | Initial value | Brief introduction |
|------------|--------|------------|---------------|--------------------|
| deviceCode | String | | | Equipment coding |
| | | | | |

```
{
  "deviceCode": " 863424400227155"
}
```

Parameter sample value

Response content

| name | Type | Ascription | Initial value | Brief introduction |
|-------------|--------|------------|---------------|----------------------------------|
| code | String | | | |
| msg | String | | | |
| data | Array | | | |
| deviceCode | String | | | Unique device ID code |
| appVer | String | | | Internal software version number |
| appVerName | String | | | Software version number |
| buildTime | String | | | Software compilation time |
| cameraVer | String | | | Camera firmware version |
| firmwareVer | String | | | System firmware version |
| lang | String | | | Device language |

Response template

```
{
  "code": "",
  "msg": "",
  "data": ""
}
```

Response data



```
{  
  "code": "",  
  "msg": "",  
  "data": ""
```

5.16 query voice broadcast period setting

- 🔗 Address: <http://ip:8090/basic/device/getTimeVoiceConfig>
- 🔗 Type: POST
- 🔗 Status code: 200
- 🔗 Device service port number:8090
- 🔗 Note: query period setting

Request parameters

| Name | Model | Ascription | Initial value | brief introduction |
|------------|--------|------------|---------------|--------------------|
| deviceCode | String | Required | | Equipment coding |

```
{
  "deviceCode": ""
}
```

Parameter sample value

Response content

| Name | Type | Ascription | Initial value | Brief introduction |
|-------|--------|------------|---------------|--|
| code | String | Required | | |
| msg | String | | | |
| data | Array | Required | | When this field has never been set to an empty period: |
| start | Number | | 00: 00 | start time |
| end | Number | | 00: 00 | End time |
| msg | Number | | | Voice broadcast text content |

Response template

```
{  
  "code": "",  
  "msg": "",  
  "data": [  
    {  
      "startTime": "",  
      "endTime": "",  
      "msg": ""  
    }  
  ]  
}
```

Response data

```
{  
  "code": "",  
  "msg": "",  
  "data": [  
    {  
      "startTime": "",  
      "endTime": "",  
      "msg": ""  
    }  
  ]  
}
```

5.17 update voice broadcast period settings

ⓧ Address: <http://ip:8090/basic/device/updateTimeVoiceConfig>

- 🔗 Type: POST
- 🔗 Status code: 200
- 🔗 Device service port number:8090
- 🔗 Note: query period setting

Request parameters

| Name | Model | Ascription | Initial value | brief introduction |
|------------|--------|------------|---------------|---|
| deviceCode | String | Required | | Unique device ID code |
| data | Array | Required | | When the device has never set a time period setting, this field is an empty array: [] |
| startime | Number | | 00: 00 | start time |
| endtime | Number | | 00: 00 | End time |
| msg | Number | | | Voice broadcast text content |

```

{
  "deviceCode": "",
  "data": [
    {
      "startime": "",
      "endtime": "",
      "msg": ""
    }
  ]
}

```

Parameter sample value

Response content

| Name | Model | Ascription | Initial value | brief introduction |
|------|--------|------------|---------------|--------------------|
| code | String | Required | | |
| msg | String | | | |
| data | Array | Required | | |

Response template

```
{  
  "deviceCode": "",  
  "data": [  
    {  
      "startTime": "",  
      "endTime": "",  
      "msg": ""  
    }  
  ]  
}
```