

2023

# SETP\_Label\_V13 System Developer's Manual

V1.2

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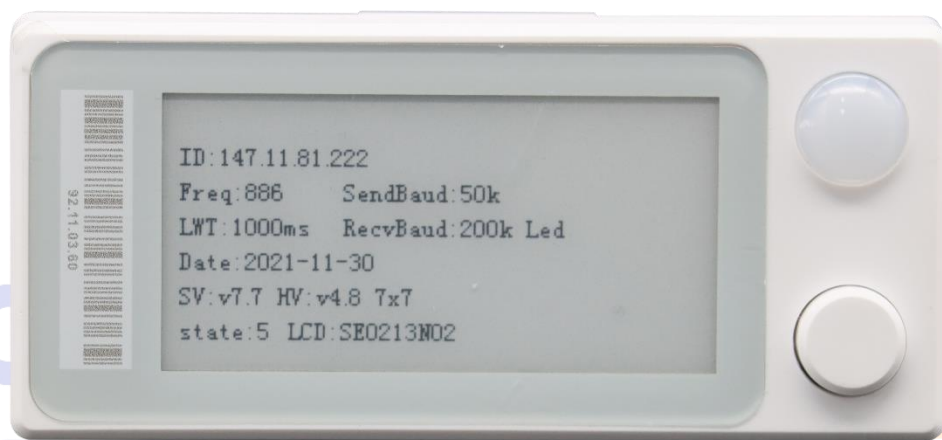
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## 1. Electronic label registration

By manually triggering the registration of the electronic label to the system, the functional test can be carried out after the registration is successful.

Successful registration: display rssi:-xxdB, xx is greater than 0, the smaller the xx, the better the signal.

### 1.1. Warehousing 13 generation registration



Successful registration shows rssi:-xxdB as follows:



The smaller the absolute value, the worse the signal, generally 0 ~ -75dB can communicate normally

## 2. Query electronic label information API

### 2.1. API description

Query the information of electronic tags registered in the system.

### 2.2. API information

API address: *192.168.1.200/wms/associate/queryTagsInRouterId*

request type: *application/json*

request method: *post*

API Remarks: Query the electronic label information according to the base station id

Debugging tool: ApiPost

Description of request body parameters:

| Parameter Name | Example Value | Type | Parameter Description                                 |
|----------------|---------------|------|-------------------------------------------------------|
|                |               |      | A collection of base station ids, if empty, check all |

request example:

```
[1]
```

Return parameter description: (200) success

| Parameter Name           | Example Value | Type   | Parameter Description             |
|--------------------------|---------------|--------|-----------------------------------|
| datalist                 |               | Object | A collection of label information |
| datalist.hardwareVersion | 4.5           | String | hardware version number           |
| datalist.height          | 128           | Number | High-resolution)                  |
| datalist.mac             | 99.26.17.85   | String | tag id number                     |
| datalist.manufacture     | CoreWind31    | String | model identification              |
| datalist.power           | 100           | Number | Label power                       |
| datalist.productionBatch | 20-08-29      | String | production batch                  |

|                          |                                   |        |                               |
|--------------------------|-----------------------------------|--------|-------------------------------|
| datalist.routerId        | 1                                 | Number | Binding base station ID       |
| datalist.rssi            | -21                               | Number | signal strength               |
| datalist.screenType      | 1                                 | Number | screen type                   |
| datalist.serialNumber    | CNSHZH1000                        | String | serial number                 |
| datalist.shopNumber      | A0015                             | String | Affiliated store              |
| datalist.showStyle       | Picking Template<br>Single Column | String | use template name             |
| datalist.softwareVersion | 7.0                               | String | software version number       |
| datalist.state           | true                              | String | online status                 |
| datalist.status          | 4                                 | Number | update status                 |
| datalist.tagRegisterEN   | 1                                 | Number | Allow tag registration switch |
| datalist.width           | 296                               | Number | resolution (wide)             |
| resultCode               | 10                                | Number | return code                   |
| resultMsg                | success                           | String | APIresponse information       |

Return example: (200) success

```
{
  "datalist": [
    {
      "hardwareVersion": "4.5",
      "height": 128,
      "mac": "99.26.17.85",
      "manufacture": "CoreWind31",
      "power": 100,
      "productionBatch": "20-08-29",
      "routerId": 1,
      "rssi": -21,
      "screenType": 1,
      "serialNumber": "CNSHZH1000",
      "shopNumber": "A0015",
      "showStyle": "拣货模板单列",
    }
  ]
}
```

```
"softwareVersion": "7.0",
"state": true,
"status": 4,
"tagRegisterEN": 1,
"width": 296
},
{
"hardwareVersion": "4.5",
"height": 128,
"mac": "99.26.18.21",
"manufacture": "CoreWind31",
"power": 87,
"productionBatch": "20-08-29",
"routerId": 1,
"rssi": -19,
"screenType": 1,
"serialNumber": "CNSHZH1000",
"shopNumber": "A0015",
"showStyle": "拣货模板单列",
"softwareVersion": "7.0",
"state": true,
"status": 4,
"tagRegisterEN": 1,
"width": 296
},
{
"hardwareVersion": "4.5",
"height": 128,
"mac": "99.26.18.36",
"manufacture": "CoreWind31",
"power": 100,
"productionBatch": "20-08-29",
"routerId": 1,
"rssi": -25,
"screenType": 1,
"serialNumber": "CNSHZH1000",
"shopNumber": "A0015",
"showStyle": "拣货模板单列",
"softwareVersion": "7.0",
```

```

    "state": true,
    "status": 4,
    "tagRegisterEN": 0,
    "width": 296
  }
},
"resultCode": 10,
"resultMsg": "success"
}

```

Return parameter description: (201) failed

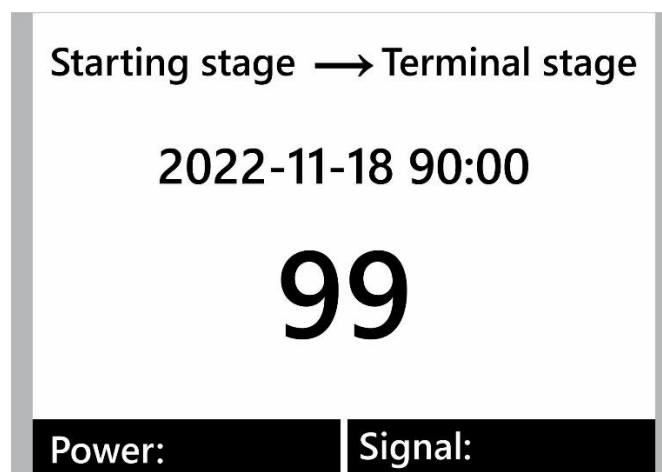
| Parameter Name                      | Example Value | Type | Parameter Description |
|-------------------------------------|---------------|------|-----------------------|
| No request parameter KEY/VALUE type |               |      |                       |

### 3. Refresh the screen API according to the template

#### 3.1. API description

The ink screen management system configures the template, and then calls the API according to the designed template

#### 3.2. API information



API address:

<http://192.168.1.200/wms/associate/updateScreen>

request type: *application/json*

request method: *post*

APIRemarks: No description yet

Debugging tool: ApiPost

Description of request body parameters:

| Parameter Name | Example Value | Parameter Type | Is it required ? | Parameter Description                                                                                                                                                                                                                                                                              |
|----------------|---------------|----------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mac            | 99.26.17.85   | String         | Yes              | tag id number                                                                                                                                                                                                                                                                                      |
| mappingtype    | 694           | Number         | No               | Mapping type, optional                                                                                                                                                                                                                                                                             |
| styleid        | 30            | Number         | Yes              | template id                                                                                                                                                                                                                                                                                        |
| ledrgb         | 0             | String         | Yes              | Lighting color<br><b>red</b> , ledrgb="ff0000";<br><b>green</b> , ledrgb="ff00";<br><b>blue</b> , ledrgb="ff";<br><b>yellow</b> , ledrgb="ffff00";<br><b>white</b> , ledrgb="ffffff";<br><b>purple</b> , ledrgb="ff00ff";<br><b>light blue</b> , ledrgb="ffff";<br>no color, ledrgb="0"<br>不需要亮灯传0 |
| ledstate       | 0             | String         | Yes              | Lighting mode:<br>0, always on;<br>1, fast flash;<br>2, Slow flash;<br>3, Turn off the lights;                                                                                                                                                                                                     |
| outtime        | 0             | String         | Yes              | Automatic time-out time when the light is on,<br>0: always on;<br>n: Automatically turn off after n seconds;                                                                                                                                                                                       |



|                 |                 |        |     |                                                   |
|-----------------|-----------------|--------|-----|---------------------------------------------------|
| startMachine    | PE1-01          | String | No  | Custom addition, starting point process table     |
| endMachine      | PE2-05          | String | No  | Custom Addition, End Process Bench                |
| taskStartTime   | 2022-11-11 9:00 | String | No  | Custom add, task start time                       |
| basketsQuantity | 20              | number | No  | Customized addition, the number of flower baskets |
| arrow           | null            | string | Yes | Arrow icon, just do not pass a value              |
| power           | null            | number | No  | Automatically display optional                    |
| rss             | null            | number | No  | Automatically display optional                    |

Request example:

```
[
  {
    "mac": "99.29.3.22",
    "mappingtype": 791,
    "styleid": 44,
    "ledrgb": "0",
    "ledstate": "0",
    "outtime": "0",
    "startMachine": "PE1-01",
    "endMachine": "PE2-05",
    "taskStartTime": "2022-11-18 9:00",
    "basketsQuantity": "99",
    "arrow": "",
    "rss": "",
    "power": "",
  },
  {
    "mac": "99.29.3.22",
    "mappingtype": 791,
    "styleid": 44,
```

```

"ledrgb":"0",
"ledstate":"0",
"outtime":"0"
"startMachine":"PE1-01",
"endMachine":"PE2-05",
"taskStartTime":"2022-11-18 9:00",
"basketsQuantity":"99",
"arrow":"",
"rssi":"",
"power":"",
}
]

```

Return parameter description: (200) success

| Parameter Name                      | Example Value | Type | Parameter Description |
|-------------------------------------|---------------|------|-----------------------|
| No request parameter KEY/VALUE type |               |      |                       |

Return example: (200) success

```
true
```

Return parameter description: (201) failed

| Parameter Name                      | Example Value | Type | Parameter Description |
|-------------------------------------|---------------|------|-----------------------|
| No request parameter KEY/VALUE type |               |      |                       |

## 4. Update screen result callback

### 4.1. API description

Update the result feedback of the screen, asynchronously

## 4.2. API information

Callback request type: application/json

Callback request method: post

Callback request note: the ink server is the caller, and the client software receives the callback

Callback request parameter example:

```
{"cmdtoken":"cmdtoken","lednum":0,"mac":"99.88.29.82","message":"数据成功","power":100,"result":true}
```

Description of callback request body parameters:

| Parameter Name | Example Value | Type   | Parameter Description                                  |
|----------------|---------------|--------|--------------------------------------------------------|
| mac            | 99.89.40.57   | string | ID number of the tag that triggered the button         |
| result         | true          | int    | true, the update is successful<br>false, update failed |
| power          | 100           | int    | The current battery level of the ink screen            |
| message        | data success  | string | prompt information                                     |
| lednum         | 0             | int    | not deal with                                          |
| cmdtoken       |               | string | not deal with                                          |

## 4.3. Setting of Callback API

Third-party configuration statistics and more

Third-party configuration > Third-party configuration

| ordinal | description             | address                                    | Authorization | operation |
|---------|-------------------------|--------------------------------------------|---------------|-----------|
| 1       | updateTagResult         | http://192.168.1.167:9091/screen           |               | ✎ 🗑       |
| 2       | enterKey                | http://192.168.1.167:9091/input            |               | ✎ 🗑       |
| 3       | ctrShelfIndicatorResult | http://127.0.0.1/wms/associate/printMsgRes |               | ✎ 🗑       |
| 4       | pickButton              | http://127.0.0.1/wms/associate/printMsgRes |               | ✎ 🗑       |
| 5       | storeRecord             | http://127.0.0.1/wms/associate/printMsgRes |               | ✎ 🗑       |
| 6       | tagRegisterAck          | http://127.0.0.1/wms/associate/printMsgRes |               | ✎ 🗑       |
| 7       | routerLoginAck          | http://127.0.0.1/wms/associate/printMsgRes |               | ✎ 🗑       |

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| Description     | URL                              |
|-----------------|----------------------------------|
| updateTagResult | Client's own callback APIaddress |

## 5. API of control the LED

### 5.1. API description

Individual light interface

### 5.2. API information

URL: <http://192.168.1.200/wms/associate/lightTagsLed>

Callback request type: application/json

Callback request method: post

Callback request note: the ink server is the caller, and the client software receives the callback

Description of callback request body parameters:

| Parameter Name | Example V Balue | Type   | Require | Parameter Description                                                                                                                                                                               |
|----------------|-----------------|--------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mac            | 99.26.17.85     | string | Yes     | Mac of Tag                                                                                                                                                                                          |
| lednum         | 694             | int    | No      | Default 0 or 255                                                                                                                                                                                    |
| timeout        | 30              | int    | Yes     |                                                                                                                                                                                                     |
| ledrgb         | 0               | string | Yes     | led color:<br>red, ledrgb="ff0000";<br>green, ledrgb="ff00";<br>blue, ledrgb="ff";<br>yellow, ledrgb="ffff00";<br>white, ledrgb="ffffff";<br>purple, ledrgb="ff00ff";<br>light blue, ledrgb="ffff"; |

|          |        |        |     |                                                                                                                                    |
|----------|--------|--------|-----|------------------------------------------------------------------------------------------------------------------------------------|
|          |        |        |     | no color, ledrgb="0"                                                                                                               |
| ledmode  | 0      | int    | Yes | lightint mode;<br>0, always on<br>1, quick flash<br>2, slow flash<br>n, n ms period flash<br>3: turn off;<br>4: turn off all leds; |
| cmdtoken | 0      | string | Yes | reserve                                                                                                                            |
| reserve  | PE1-01 | string | No  | reserve                                                                                                                            |

Request example:

```
[
  {
    "mac": "99.88.64.65",
    "lednum": 2,
    "timeout": 0,
    "ledrgb": "ff00",
    "ledmode": 0,
    "reserve": "reserve",
    "cmdtoken": "Inve123ntec"
  },
  {
    "mac": "99.88.64.65",
    "lednum": 2,
    "timeout": 0,
    "ledrgb": "ff00",
    "ledmode": 0,
    "reserve": "reserve",
    "cmdtoken": "Inve123ntec"
  }
]
```

Return parameter description: (200) success

| Parameter Name                      | Example Value | Type | Parameter Description |
|-------------------------------------|---------------|------|-----------------------|
| No request parameter KEY/VALUE type |               |      |                       |

Return example: (200) success

```
true
```

Return parameter description: (404) fail

| Parameter Name                      | Example Value | Type | Parameter Description |
|-------------------------------------|---------------|------|-----------------------|
| No request parameter KEY/VALUE type |               |      |                       |

## 6. Callback API of Control Led Result

### 6.1. API description:

Callback API of Control Led Result;

### 6.2. API information

Callback request type: application/json

Callback request method: post

Callback request note: the ink server is the caller, and the client software receives the callback

Callback request parameter example:

```
{"mac":"99.99.08.51","result":true,"power":100,"lednum":1,"cmdtoken":"55555",
,"message":"数据成功"}
```

Description of callback request body parameters:

| Parameter Name | Example Value | Type   | Parameter Description |
|----------------|---------------|--------|-----------------------|
| mac            | 99.99.08.51   | string | Tag ID                |

|          |                 |        |                                                                                                                                                                                                                                                        |
|----------|-----------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| power    | 100             | int    | surplus power (0~100)                                                                                                                                                                                                                                  |
| result   | true            | bool   | true: Light on<br>false: Light failed                                                                                                                                                                                                                  |
| lednum   | 1               | int    | Led num                                                                                                                                                                                                                                                |
| cmdtoken |                 | string |                                                                                                                                                                                                                                                        |
| message  | Data successful | string | 数据成功; Data successful<br>数据失败; Data failed<br>数据发送超时; Data send timeout<br>唤醒失败; wakeup failed<br>基站不在线; route offline<br>数据异常; send data exception<br>数据格式不正确, 解析失败; data fomat error<br>参数格式不正确或参数不全, 无法执行; parameter format<br>标签不存在; tag not exist |

### 6.3. Setting of Callback API

智能分拣电子标签分拣系统

第三方配置 statistics and more

第三方配置 > 第三方配置

数据列表 + 添加 刷新

| 序号 | 描述                       | 联系地址                                       | Authorization | 操作  |
|----|--------------------------|--------------------------------------------|---------------|-----|
| 1  | enterKey                 | http://192.168.1.167:9091/input            |               | ✎ ✕ |
| 2  | ctrlShelfIndicatorResult | http://127.0.0.1/wms/associate/printMsgRes |               | ✎ ✕ |
| 3  | pickButton               | http://127.0.0.1/wms/associate/printMsgRes |               | ✎ ✕ |
| 4  | storeRecord              | http://127.0.0.1/wms/associate/printMsgRes |               | ✎ ✕ |
| 5  | updateTagResult          | http://192.168.1.167:9091/screen           |               | ✎ ✕ |
| 6  | tagRegisterAck           | http://192.168.1.167:9091/tagRegisterAck   |               | ✎ ✕ |
| 7  | routerLoginAck           | http://192.168.1.167:9091/routerLoginAck   |               | ✎ ✕ |

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| Description              | URL                                    |
|--------------------------|----------------------------------------|
| ctrlShelfIndicatorResult | The URL of customer's own callback API |

## 7. Key event callback

### 7.1. API description:

Introduction to the callback API of the 24th generation electronic label button event callback;

### 7.2. API information

Callback request type: application/json

Callback request method: post

Callback parameter format: json object

Callback request note: the ink server is the caller, and the client software receives the callback

Example callback request parameters:

```
{"mac": "92.91.34.99", "result": 0}
```

| Parameter Name | Example Value | Type   | Parameter Description                                                                                              |
|----------------|---------------|--------|--------------------------------------------------------------------------------------------------------------------|
| mac            | 92.91.34.99   | string | ID number of the tag that triggered the button                                                                     |
| result         | 0             | int    | result=0, the lower right button;<br>result=1, the middle right button;<br>result=3, press the upper right button; |



### 7.3. Setting of Callback API

| ordinal | description              | address                                     | Authorization | operation |
|---------|--------------------------|---------------------------------------------|---------------|-----------|
| 1       | updateTagResult          | http://192.168.1.167:9091/screen            |               |           |
| 2       | enterKey                 | http://192.168.1.167:9091/input             |               |           |
| 3       | ctrlShelfIndicatorResult | http://127.0.0.1/awms/associate/printMsgRes |               |           |
| 4       | pickButton               | http://127.0.0.1/awms/associate/printMsgRes |               |           |
| 5       | storeRecord              | http://127.0.0.1/awms/associate/printMsgRes |               |           |
| 6       | tagRegisterAck           | http://127.0.0.1/awms/associate/printMsgRes |               |           |
| 7       | routerLoginAck           | http://127.0.0.1/awms/associate/printMsgRes |               |           |

| Description | URL                               |
|-------------|-----------------------------------|
| enterKey    | Client's own callback API address |

## 8. Callback of Report Router status

### 8.1. API description:

Callback of report Router status;

### 8.2. API information

Callback request type: application/json

Callback request method: post

Callback parameter format: json object

Callback request note: the ink server is the caller, and the client software receives the callback

Callback request parameter example:

```
{
  "frequency": 460, //频率
```

```

"hardVersion": "8.1.2", //硬件版本
"id": 1844, //基站地址
"ip": "192.168.1.244", //IP地址
"longPeriod": 1, //长周期
"masterRouterMac": 0,
"productBatch": "2021-11-01",
"serialNumber": "CNSHZH1844",
"shortPeriod": 0.5, //短周期
"softVersion": "8.3.3", //软件版本
"state": 1, // 1在线 , 0 离线
"tagRegisterEN": 1 //注册开关,1开启,0关闭
}

```

Description of callback request body parameters:

| Parameter Name  | Example Value   | Type   | Require | Parameter Description                             |
|-----------------|-----------------|--------|---------|---------------------------------------------------|
| id              | 1820            | int    |         | Router ID                                         |
| ip              | "192.168.1.244" | string |         | Router IP                                         |
| frequency       | 460             | int    |         | Router communication frequency                    |
| hardVersion     | "8.1.2"         | string |         | HW version                                        |
| masterRouterMac | 0               | int    |         |                                                   |
| productBatch    | "2021-11-01"    | string |         | productBatch                                      |
| serialNumber    | "CNSHZH1844"    | string |         | serialNumber                                      |
| shortPeriod     | 0.5             | float  |         | shortPeriod                                       |
| softVersion     | "8.3.3"         | string |         | SW version                                        |
| state           | 1               | int    |         | Router state                                      |
| tagRegisterEN   | 1               | int    |         | allow tag registration<br>1: enable<br>0: disable |

### 8.3. Setting of CallbackAPI

| ordinal | description              | address                                    | Authorization | operation |
|---------|--------------------------|--------------------------------------------|---------------|-----------|
| 1       | updateTagResult          | http://127.0.0.1/wms/associate/printMsgRes |               |           |
| 2       | enterKey                 | http://127.0.0.1/wms/associate/printMsgRes |               |           |
| 3       | ctrlShelfIndicatorResult | http://127.0.0.1/wms/associate/printMsgRes |               |           |
| 4       | pickButton               | http://127.0.0.1/wms/associate/printMsgRes |               |           |
| 5       | storeRecord              | http://127.0.0.1/wms/associate/printMsgRes |               |           |
| 6       | tagRegisterAck           | http://127.0.0.1/wms/associate/printMsgRes |               |           |
| 7       | routerLoginAck           | http://127.0.0.1/wms/associate/printMsgRes |               |           |

| Description    | URL                                    |
|----------------|----------------------------------------|
| routerLoginAck | The URL of customer's own callback API |

## 9. Callback event of Tag Registration

### 9.1. API description:

Callback event of Tag Registration introduce

### 9.2. API information

Callback request type: application/json

Callback request method: post

Callback parameter format: json object

Callback request note: the ink server is the caller, and the client software receives the callback

Callback request parameter example:

```
{
```

```

"hardwareVersion": "4.7", //硬件版本
"height": 300, //高度
"mac": "99.88.29.86", //标签地址
"manufacture": "CoreWind24",
"power": 100, //电量
"productionBatch": "20-11-05",
"routerId": 1844, //基站地址
"rssi": -24, //信号强度
"screenType": 1, //屏幕类型
"serialNumber": "CNSHZH1000",
"shopNumber": "A0001",
"showStyle": "默认模板46", //样式名称
"softwareVersion": "7.2", //软件版本
"state": true,
"status": 4,
"tagRegisterEN": 1, //注册开关
"width": 400 //宽度
}

```

Description of callback request body parameters:

| Parameter Name | Example Value | Type   | Require | Parameter Description   |
|----------------|---------------|--------|---------|-------------------------|
| mac            | "99.88.29.86" | int    |         | ID of TAG               |
| power          | 100           | int    |         | surplus power(1~100)    |
| routerId       | 460           | int    |         | Router ID that TAG bind |
| rssi           | "8.1.2"       | string |         | signal intensity        |
| screenType     | 1             | int    |         | Screen type             |
| height         | 300           | string |         | Screen height           |
| width          | 400           | string |         | Screen width            |
| status         | 4             | int    |         | Update status           |
| state          | true          | int    |         | Router stte             |
| showStyle      | "默认模板46"      | string |         | Template name           |

|                 |              |        |  |                                                   |
|-----------------|--------------|--------|--|---------------------------------------------------|
| softwareVersion | "7.2"        | string |  | SW Version                                        |
| hardwareVersion | "4.7"        | string |  | HW Version                                        |
| serialNumber    | "CNSHZH1000" | string |  | serialnumber                                      |
| shopNumber      | "A0001"      | string |  | shopnum                                           |
| productionBatch | "20-11-05"   | string |  | productionBatch                                   |
| manufacture     | "CoreWind24" | string |  | manufacture                                       |
| tagRegisterEN   | 1            | int    |  | allow tag registration<br>1: enable<br>0: disable |

### 9.3. Setting of Callback API

The screenshot shows the 'Third-party configuration' page in the system. The 'Data List' table contains the following data:

| ordinal | description              | address                                    | Authorization | operation |
|---------|--------------------------|--------------------------------------------|---------------|-----------|
| 1       | updateTagResult          | http://127.0.0.1/wms/associate/printMsgRes |               |           |
| 2       | enterKey                 | http://127.0.0.1/wms/associate/printMsgRes |               |           |
| 3       | ctr/ShelfIndicatorResult | http://127.0.0.1/wms/associate/printMsgRes |               |           |
| 4       | pickButton               | http://127.0.0.1/wms/associate/printMsgRes |               |           |
| 5       | storeRecord              | http://127.0.0.1/wms/associate/printMsgRes |               |           |
| 6       | tagRegisterAck           | http://127.0.0.1/wms/associate/printMsgRes |               |           |
| 7       | routerLoginAck           | http://127.0.0.1/wms/associate/printMsgRes |               |           |

| Description    | URL                                    |
|----------------|----------------------------------------|
| tagRegisterAck | The URL of customer's own callback API |