Short Message Function

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1. General

This is the extend function in WECON HMI, the alarm information could be sent to users by short message, and users could control HMI by sending short message.

Note:

This function requires an extend module for sending and receiving short message.

2. GSM module test

WECON HMI requires AT command for short message function, so please check the short message module before making a communication between HMI and module.

2.1 Testing tool

1) Serial debugging software;
2) RS232 cable, the pin defined as following shows;

PC	Device
2	3
3	2
5	5

2.2 Steps

This section introduces how to test module.

Operating Procedure

1) Connect GSM module to PC via RS232 cable.
2) Open debugging software, and select right COM port for module.
3) Enter the AT command in software one by one. The command as 2.3 says.

2.3 AT command

This section introduces how to test module by AT command.

Operating Procedure

1) Enter “AT” in debugging software; the module should reply “OK”.
2) Enter “AT+CSQ” to test signal value of GSM module.

```
at+csq
+CSQ: 19,99

OK
```

3) Enter “AT+COPS?” to get the name of the service provider

```
AT+COPS?
+COPS: 0,0,"China Mobile"

OK
```

4) Enter “AT+CSCA?” to get SMS center number

```
AT+CSCA?
+CSCA: "+8613800591500",145

OK
```

5) Set Message Format

   Set “AT + CMGF = 0” to make the message format is PDU;

   Set “AT + CMGF = 1” to make the message format is TEXT;

3. Project setting

This chapter mainly introduces how to set up the SMS function on PIStudio software.

3.1 Select the protocol

This section introduces how to select a protocol for SMS function.

Operating Procedure

1) Create a new project, as Figure 1 shows;
2) Select HMI model, using PI8070 as an example;
3) Select connection mode, using COM1 as an example;
4) Select PLC type, please select [Other protocol];

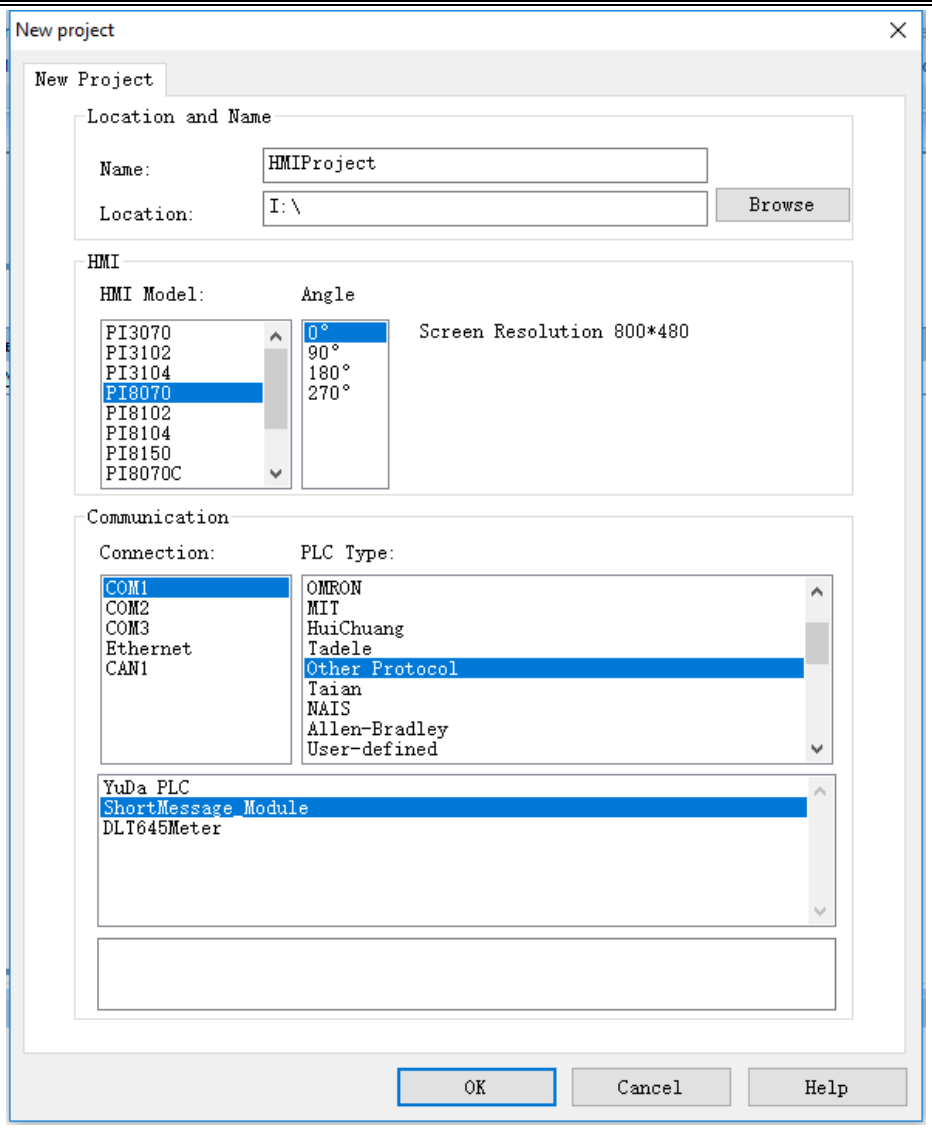

Figure 1

3.2 Short message setting

This section introduces how to set SMS function.

Operating Procedure

1) Please click “Project” –> “Communication” and please click “SMS module setting”, to open the setting screen, as Figure 2 shows.
   - **Send:** Editing the sending parameters
   - **Recipient:** Editing the receiving parameters
   - **Saving path:** select the saving storage
   - **Display:** it is for displaying all short message items
   - Operation buttons
   - Importing and export setting files

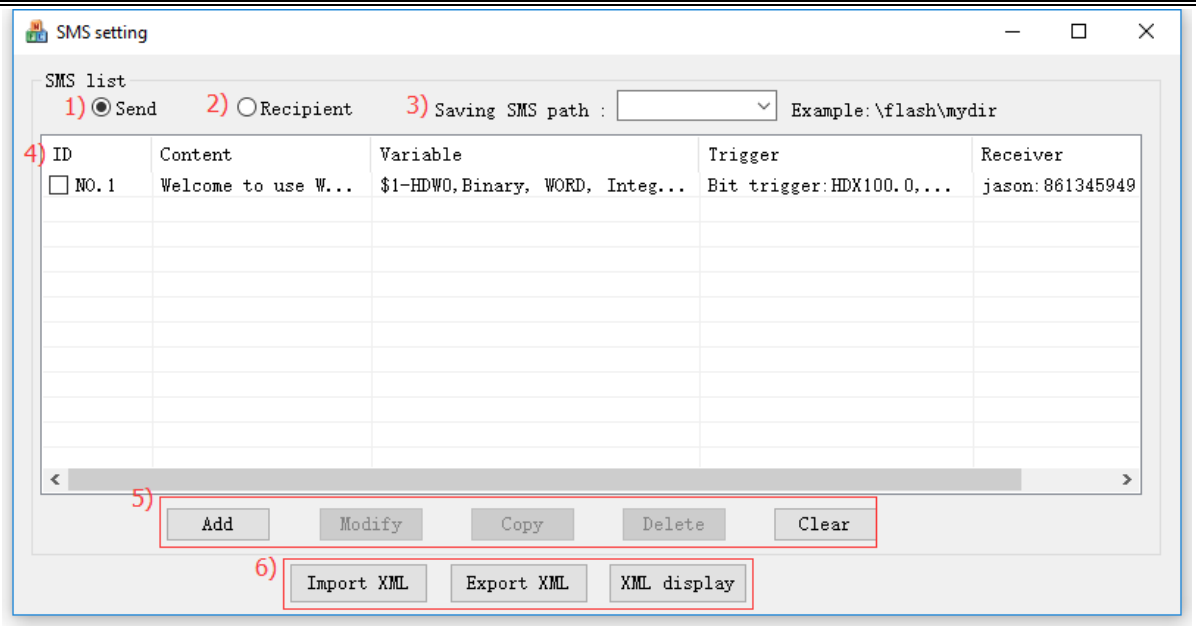

Figure 2

2) Set the sending message;

- Select the [Send];
- Click [Add] to open the sending setting windows as Figure 3 shows;

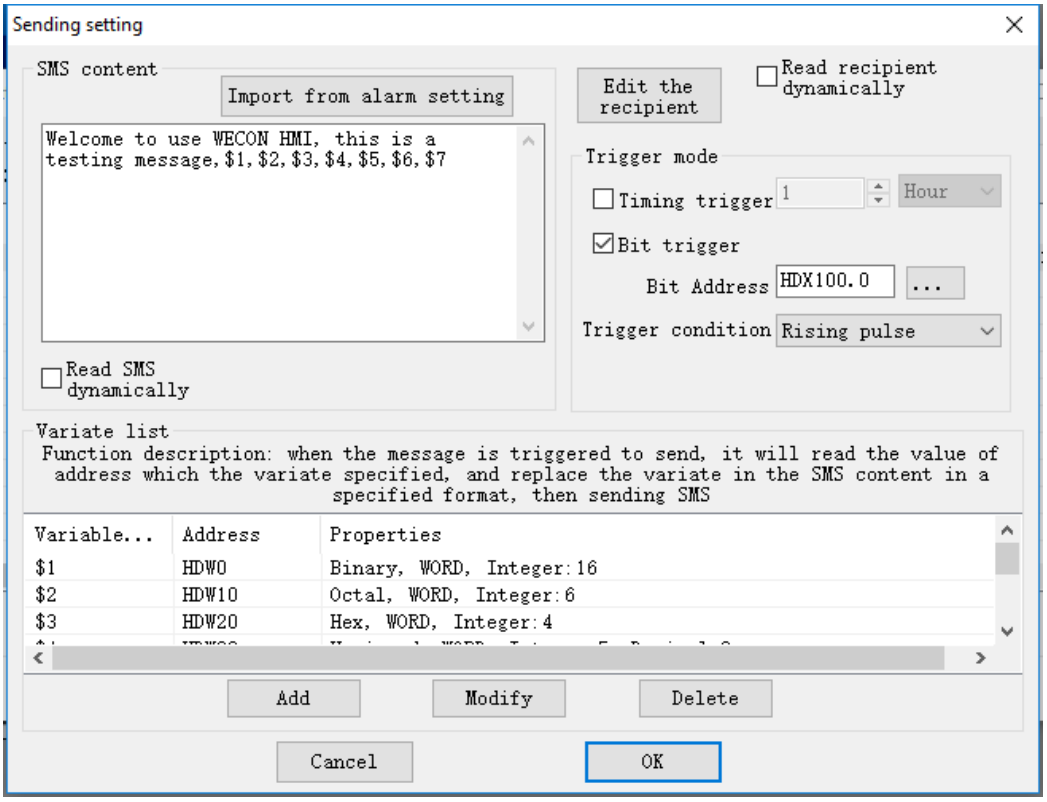

Figure 3

- **SMS content:** user could input the text directly or read the content from alarm text, also it could support read content from some registers, like the FIG 3 shows, use “$1”, “$2”…

"$X" to define the registers;

- **Edit the recipient:** edit the receiver, as figure 4 shows, also use could import receiver from csv files. Also it could support "read recipient dynamically", please use a text input/display object for phone number input, and the length for object is 8. In this mode, the SMS module will send to the default receiver and dynamical receiver. As FIG 3 shows.

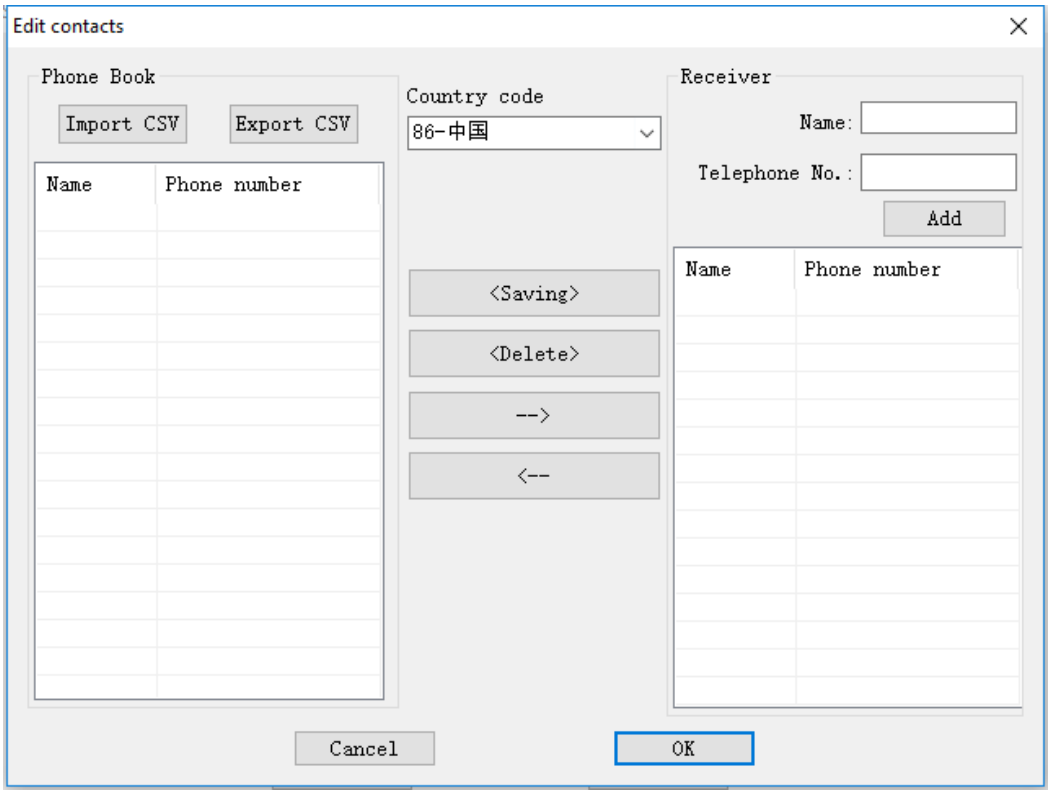

Figure 4

- **Trigger mode:** there are 2 modes for user, one is sending circularly, and the other is bit trigger.
- **Variety list:** it is for editing variable for SMS content. There are a lot of data formats, like binary, octal, hex, unsigned, signed, BCD, string.

- Click [OK] to save the setting;

3) Receiving setting

- Select the [Recipient];
- Click [Add] to open the sending setting windows as Figure 5 shows;
  - **Display setting:** user could enable it for displaying content of SMS. Please use text input/display object for it.
  - **Edit the sender:** It is same as receiver setting.
  - **Action setting:** It could support Bit and Word. User could control bit addresses and word address by send command.

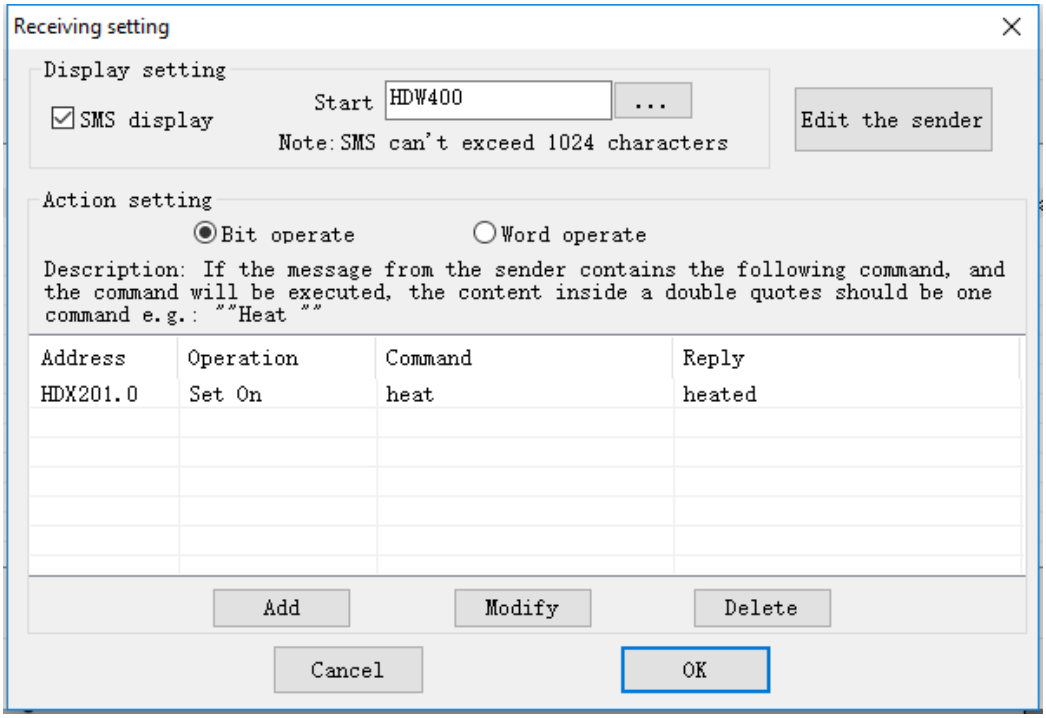

Figure 5

3.3 Read recipient dynamically

This section introduces how to use [Read recipient dynamically] function.

Operating Procedure

1) Put [Character input/display] object in HMI screen;
2) Edit the address;

Phone number format

If users use the [read recipient dynamically] function, please note the it requires the fix format for entering phone number

Format: ";"+"country code"+ "phone number"

For example

1) Signal number
   ;8615859715428
2) Multi-number
   ;8615859715428;8615859715429.....;8615859715423

4. Example

This project has 2 screens, one is for sending short message, there are 7 addresses for inputting the content of short message, and the other is for receiving short message, there are 2 addresses, one is bit address and the other is word address.

Figure 6

Figure 7

Version: V1.0.0

Date: Dec 2016