

# APB-SMS Module

## Structure of APB-SMS Module



1. Input of power Supply
2. Input wiring terminal
3. Mode knob switch
4. Antenna
5. Communication interface
6. Red and green indicator
7. Software download interface
8. Output wiring terminal

## 2. The Specifications of APB-SMS

### APB-SMS

Quad Band: GSM 850/EGSM 900/DCS 1800/PCS 1900

## 3. Work modes

The work mode can be switched by the mode knob (3) in SMS module.

Mode 0:

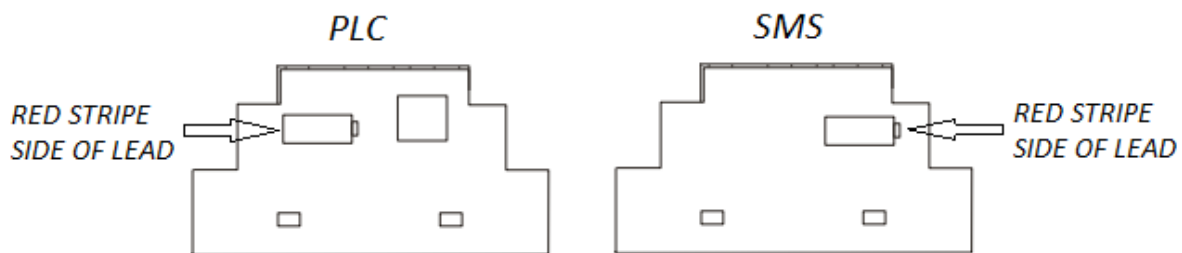
Short message alarming function, mode indicator light is off.

When GSM network has not been detected the red indicator flickers quickly (200ms) and will flicker at 2 - 4 /s when GSM network has been detected. The green indicator is used to

indicate the communication status, when it has communication between PLC & SMS, when fast flicker (200 mS) there is no communication and when flicker cycle is 2 /s there is.

Mode 1:

Receiving and sending short message by configuring software. Green mode light is on. The green indicator flashes fast and the red indicator is normally on.



Connecting SMS to PLC

#### 4. Functions of APB-SMS

When APB SMS is used independently.

The SMS is in mode 0. Input signal SI1 (Input 1) has message alarming function. When input level is high, the message “I1ON” will be sent to the sending number. The input and output state can be queried and SQ1 can be set by sending the Mobile phone instruction. Input signal SI0 controls the output SQ0 directly. The SQ0 delay ON OFF time can be set by GSMMODULE software.

#### SMS connected to PLC

When SMS works in mode 0 APB PLC input & output state can be queried, also time and count parameters. Analog parameter can be queried and set by sending a mobile phone instruction. The alarm message can be sent to any user mobile phone by programming SMS function block in APB software.

Note: SMS able to turn output Q01 on/off when attached to PLC when texted.

When SMS works in mode 1. The short message can be sent and received by GSMMODULE software.

## 5. Technical parameters

- \* Operation power: 12~24VDC
- \* Operation temperature: -10~55 C
- \* Operation humidity: 0~90% RH
- \* Interface rate: 9600Bps
- \* Interface standard: RS232
- \* Overall dimensions: 126mm x 90mm x 47.5mm
- \* Weight: 450g

## 6. Configure SMS

Knob in SMS rotates to mode 0. Open the SMS parameter configuring software GSMMODULE .exe and configure the parameters.

- \* Double click to open SMS setting tool. (download from array website)
- \* Choose the proper COM port, and click (use APB program cable, driver from array website)
- \* Input old password first and then input new password (must be done to work) when the password is set (8bits at most). If the password is forgotten, please use “Restore factory “settings” to clear all parameters (default 0001). Click to download new password to SMS module.
- \* Click “Set centre code and phone code” Input SMS centre number and SMS (sim) mobile number.

SMS centre number is 20 bits at most (examples below). It is the operating agencies message service centre number of SIM card in SMS module, e.g.: 64220227672 . Phone code = sim

number”: 20 bits at most. If it is not set, no message will be sent when there is an alarm.

\*Click, input correct password and download the SMS centre and phone code to SMS module.

\*Click, input correct password to read SMS centre number from SMS module. (check)

\*Click, input correct password to read mobile number from SMS module. (check)

\* (if needed) Click “Set SQ0 delay ON OFF time, Input SQ0 Delay ON time Click and download Delay ON time to SMS module. Input SQ0 Delay OFF time Click and input correct password download Delay ON time to SMS module.

\* Click “Read SQ0 delay ON OFF time” Input SQ0 Delay ON time Click and download Delay ON time to SMS module. Input SQ0 Delay OFF time Click and input correct password download Delay ON time to SMS module.

\*Centre code is the number of the sim card provider. (NZ)

\*64220227672 = 2 Degrees

\*64277439010 = Telecom

\*61415011501 = Vodafone

\*61418706700 = Telstra

Mode 1

\*Click “Query Record”, select “Receive” or “Send” to query history record.

## 8.SMS module Sent/Received data format in mode 0

\* To send data format when SMS module is used independently:

Description for SMS control instruction: \* is used as separator case-insensitive; “Section1, Section2” are relevant control codes.

## Section1

:xxxxxxx is the password for the SMS module, which is set through the software of host machine. The password has 8 bits at most. If there is no password, Section1 can be omitted.

## Section2:

Instruction type; 3bits. The first bit R/W represents read or write. The last two bits represent the corresponding type.

00: Input SI0

01: Input SI1

10: Output SQ0

11: Output SQ1

\*xxxxxxx\*R00\* Read SI0; Returned message: 0 or 1

\*xxxxxxx\*R01\* Read SI1; Returned message: 0 or 1

\*xxxxxxx\*R10\* Read SQ0; Returned message: 0 or 1

\*xxxxxxx\*R11\* Read SQ1; Returned message: 0 or 1

\*xxxxxxx\*W11\* Set SQ1 to 1; If it is set successfully, the returned message will be OK;

\*xxxxxxx\*W10\* Set SQ1 to 0; If it is set successfully, the returned message will be OK;

Example \*1111\*w11\* (turn Q01 on)

\* The sent data format when SMS is connected with PLC:

Description for SMS control instruction: \* is used as a separator; case-insensitive; “Section1~Section4” are relevant control codes.

## Section 1:

the password part for APB PLC machine; the password has 14 bits at most.

If there is no password set by main machine, Section1 can be omitted.

## Section 2:

Instruction type: 2 bits. The first bit R/W represents read or write. The second represents corresponding register type.

Corresponding register type

R/WD Read/Write register DW

R/WQ Read/Write output Q

RI Read Input I

R/WM Read/Write intermediate relay M

R/WA Read/Write intermediate value (Analog) A

RB Read analogue input AI

R/WC Read/Write analogue output AQ

Section3:

The serial number of the register; 4 bits at most

Section4:

The set value; 10 bits at most; please note that the set value should stay within the valid range of the register value (used in the write instruction). It is necessary to program SMS function block in APB software when SMS module is used with APB

Example:

Data format \*111\*RI0\* indicates the password is 111; read input I0 state; If I0 is ON, 000000001 will be returned when the I0 state has number of the returned value indicates the switch state. ON: 1; OFF: 0.

Example:

Data format \*111\*RQ0\* indicates the password is 111; read input Q0 state; If Q0 is OFF, 000000000 will be returned when the Q0 state has been successfully read.

Example:

Data format \*111\*WQ01\* indicates the password is 111; write output Q0 state; The returned message will be OK if Q0 state has been successfully set.

Example: Data format \*111\*WD0023\*1234567890\* indicates the password is 111; set the value of register DW23 to 1234567890. The returned message will be OK if the register value is successfully set. Example: Data format \*111\*RD0023\* indicates the password is 111 the value of register DW23 The

corresponding value will be returned when the value has been successfully read.