SMS-531

Quick Start

Jan. 2013 Version 1.0

Package checklist

The package includes the following items:

- One SMS-531 hardware module
- One GSM Antenna (ANT-421-02)
- One RS-232 cable (CA-0910)
- One Quick Start
- One software utility CD
- One screw driver
- One Micro SD card

Note:

If any of these items are missed or damaged, contact the local distributors for more information. Save the shipping materials and cartons in case you want to ship in the future.

● Appearance and pin assignments

Power Input		
Terminal No.	Pin	Assignment
N/A	01	N/A
	02	N/A
	03	N/A
GND	04	GND
Initial	05	Init
Power Input: 10 ~ 30 VDC	06	DC.+VS
	07	DC.GND
Frame Ground	08	F.G

COM Port		
Terminal No.	Pin	Assignment
COM3 RS-485	01	DATA-
	02	DATA+
COM2 RS-232	03	TxD2
	04	RxD2
	05	GND
N/A	06	N/A
COM1 RS-232	07	TxD1
	08	RxD1
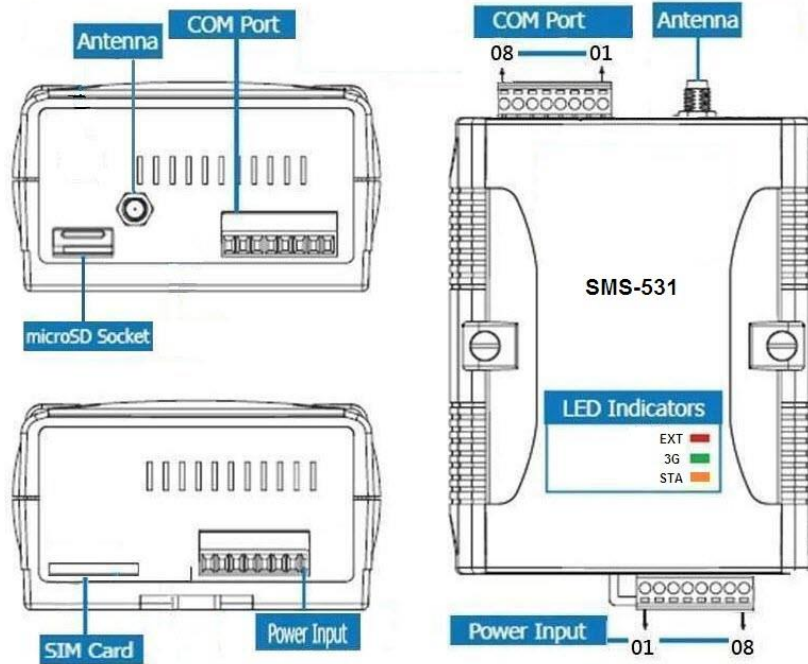
LED indicators

LED	Description		
EXT (red)	on	The external Power is active	
	off	The external Power is not active	
3G (green)	Blinking*2 2 sec	3G module normal (After modem registered.) Use 3G SIM card.	
	Blinking*1 2 sec	3G module normal (After modem registered.) Use 2G SIM card.	
	off	3G module fail (or Blinking(not 2 sec))	
STA (orange)	Normal	3G Fail	PIN code is wrong
	Blanking (1 sec)	Always on or off	Blinking per 50 ms

Note: When the SMS-531 sends voice alarm, the 3G LED is continuous on.

● Installation

If users want to start SMS-531 normally, it needs to follow these steps to install the SMS-531 below:

1. **Install the antenna**
2. **Plug in the normal SIM card (Before apply the SIM card, confirm it is OK by mobile phone.)**
3. **Install the micro SD (Option, for the voice alarm files)**
4. **Pin06 and Pin07 of the power input connect to the DC.+VS and DC.GND of the power supply.**
5. **It is needed to wait for 30 ~ 50 seconds to search the 3G base and register to the ISP. After finishing the process, SMS-531 would be in normal operation mode and the STA LED would blank per 1 sec. The start time of SMS-531 depends on the strength of 3G signal.**

Install GSM Antenna

Install Micro SD

Install SIM Card

LED Indicators
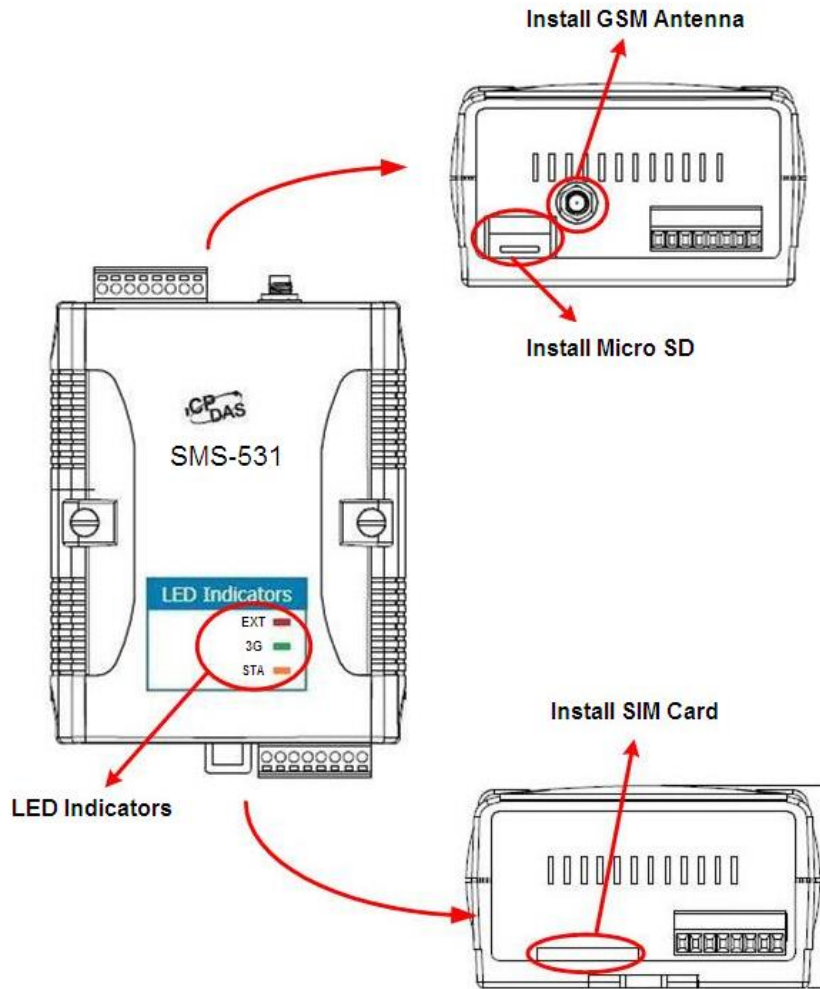
● GT-531 Series Utility

It needs the runtime environment with .NET Framework 2.0 or above to execute the GT-531 Series Utility in the PC.

| Install .NET Compact Framework	Install GT-531 Series Utility
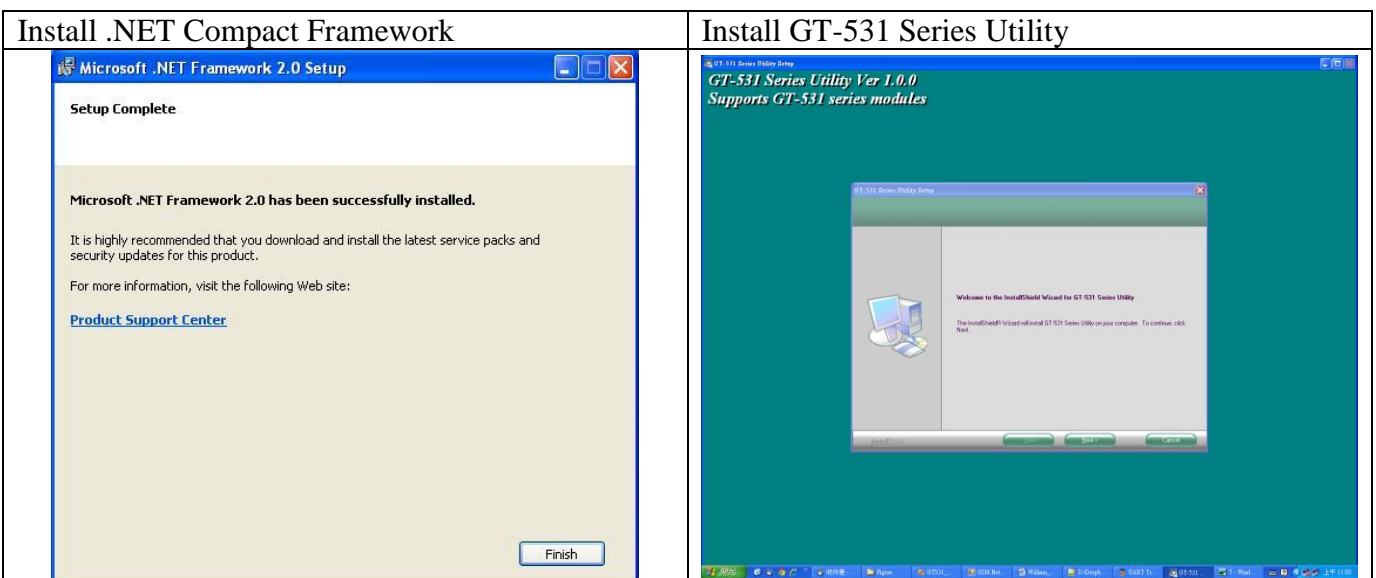
Operation

Before GT-531 Series Utility is connected to the PC correctly, please confirm these following steps:
1. The STA LED is blanking. There are 2 kinds of blanking in SMS-531.

STA LED	Description
Blanking per 1 sec	Normal mode
Blanking per 50 ms	The pin code is wrong. The users need to set PIN/PUK code in the GT-531 Series Utility.

2. Confirm the RS232 connection between SMS-531 and PC is correct. Users can refer to the following figure.
3. During the setting procedure, the external power must be turn on.

Note: If the STA LED is always on, please reset SMS-531.
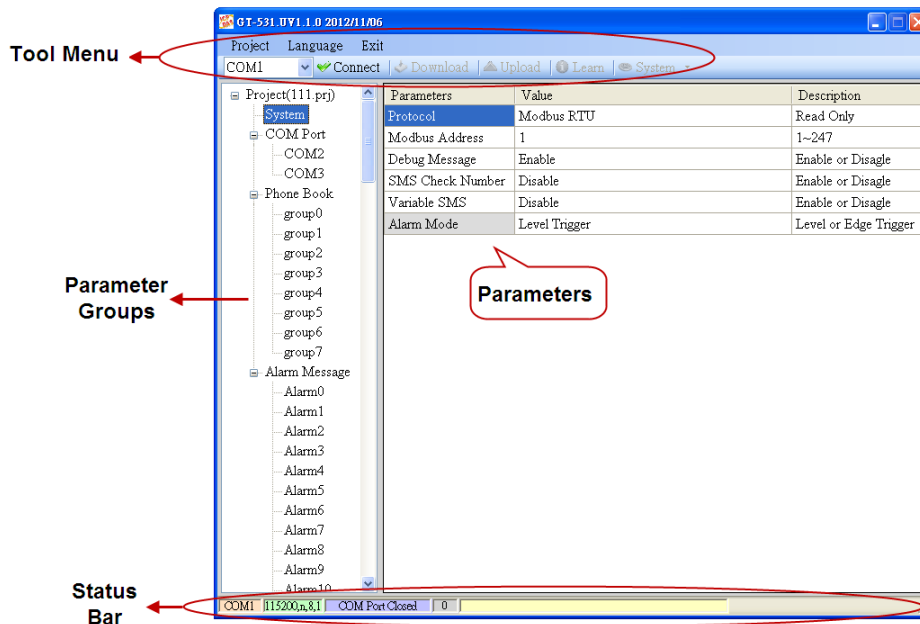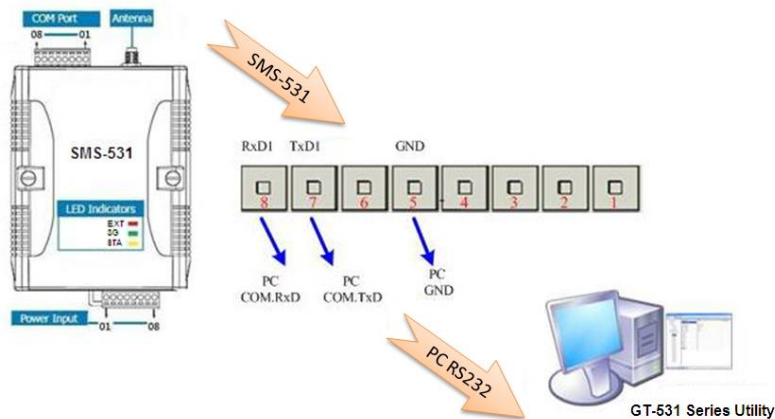
1. Tool Menu

These tools include all the function operation of the GT-531 Series Utility. The description is as follows.

(1) Project：

The parameters of the SMS-531 can be saved as the project file. The operation functions

include "New", "Open", "Save", "Save as…", and ...etc.
(2) Language：
The GT-531 Series Utility only support English interface now.
(3) Exit：
Exit the GT-531 Series Utility
(4) COM Port：
The COM number of the host PC connecting to the SMS-531
(5) Connect：
Connecting to the SMS-531
(6) Download：
Downloading the setting to the SMS-531
(7) Upload：
Uploading the parameters from the SMS-531 to GT-531 Series Utility
(8) Learn：
Providing the simple way for users to learn the Modbus RTU commands to operate SMS-531
(9) System：
Providing some system operations include "Signal Quality", "Reboot SMS-531", "Recover Default Settings", "Firmware Version", "Input PIN/PUK" and "Voice File Management"
2. Parameter Groups：
There are four parameter groups in the GT-531 Series Utility including "System", "COM Port", "Phone Book" and "Alarm Message".
3. Parameters：
Showing or setting the parameters
4. Status Bar
Showing the operation procedure of the GT-531 Series Utility
From left to right, they are:
(1) The used com port number
(2) Communication configuration of the COM Port
(3) The current status of the COM port
(4) The Modbus address of the SMS-531
(5) The result for operating the functions

● SMS-531 Modbus address Table

The Modbus function codes supported in the SMS-531 are 1, 2, 3, 4, 5, 6 and 16. The Modbus address distribution is as the following table.

Coil Status (Function Code:1, 5)

Address	Data Address	Description	Attribute
00001 ~ 00128	0x0 ~ 0x7F	Transmitting the alarm SMS and voice according 0~127 alarm	R/W
00129	0x80	Transmitting the SMS dynamically	R/W
00200	0xC7	=1, clearing the received SMS buffer	R/W
00201	0xC8	=1, clearing the transmitting SMS buffer	R/W
00210	0xD1	=1, saving the data of the holding Registers (40001~40256) to Flash	R/W

Discrete Input (Function Code: 2)

Address	Data Address	Description	Attribute
10001	0x0	The status of transmitting SMS buffer 0：No 1：Overflow	R
10002	0x1	The indication of the received SMS 0：No received SMS 1：Having received SMS	R
10003	0x2	The status of SD card 0：No SD card or Error 1：Normal	R

Input Register (Function Code: 4)

Address	Data Address	Description	Attribute
30001 ~ 30016	0x0 ~ 0xF	The status of transmitting SMS buffer 0~15 (1) High Byte: Buffer status 　0-> Idle 　1-> Waiting for transmitting 　2-> Transmitting 　3-> Transmitting OK 　4-> Transmitting fault (2) Low Byte : Error code	R
30017	0x10	The last transmitting SMS buffer number	R
30018	0x11	The status of transmitting dynamic SMS (1) High Byte: Status 　0-> Idle 　1-> System busy or waiting for transmitting 　2-> Transmitting 　3-> Transmitting OK 　4-> Transmitting fault (2) Low Byte: Error code	R
30019	0x12	The 3G signal strength 0~31s or 99(Error)	R
30031 ~ 30040	0x1E ~ 0x27	The SMS transmitter's phone number. ASCII code by end char 0x00.	R

6/8

30041 ~ 30047	0x28 ~ 0x2E	The date and time of receiving SMS	R
30048	0x2F	The format of the received SMS 0x0000=ASCII , 0x0001=Unicode	R
30049 ~ 30128	0x30 ~ 0x7F	The content of the received SMS ASCII：By end char 0x00 , Unicode：By end char 0x0000	R

Holding Register(Output Register) (Function Code: 3, 6, 16)

Address	Data Address	Description	Attribute
40200	0xC7	Module Address(Modbus Net ID)，1~247	R/W
40201	0xC8	COM2 (1)High Byte | Code	0x04	0x05	0x06	0x07
Baud	2400	4800	9600	19200
Code	0x08	0x09	0x0A	
Baud	38400	57600	115200		 (2)Low Byte Bit 2:0 (Data Bit) 　011：8 Data Bits Bite 4:3(stop bit) 　00：1 stop bit 　01：2 stop bit Bite 6:5(parity) 　00：no parity 　01：odd parity 　10：even parity	R/W
40202	0xC9	COM3 setting. The data format is as COM2	R/W
40207	0xCE	Enabling or Disabling the debug message 0x0000=Disable , 0x0001=Enable	R/W
40208	0xCF	Enabling or Disabling the SMS with the check code 0x0000=Disable , 0x0001=Enable	R/W
40384 ~ 40399	0x17F ~ 0x18E	The variable content of the SMS (Unicode by the end char 0x0000)	R/W
40400 ~ 40469	0x18F ~ 0x1D4	The dynamic transmitting SMS content (Unicode by the end char 0x0000)	R/W
40470 ~ 40479	0x1D5 ~ 0x1DE	The phone number for the dynamic transmitting SMS (ASCII by the end char 0x00)	R/W

● **Troubleshooting**

Item	Trouble state	Solution
1	EXT LED is off	Please check the external power and wire connection.
2	STA is always on	1. Check SIM card. 2. Check Antenna. 3. Check the 3G signal strength.
3	The GT-531 Series Utility can not connect to SMS-531	1. Check STA LED blinking every 1 sec. 2. Check COM port wire connection.
4	Can not receive the SMS	Please confirm the transmitter's phone number is in the groups.
5	The defined phone received an abnormal SMS	The SMS-531 support only Unicode SMS. Confirm the defined SMS content is Unicode.
6	The SMS-531 is not replied by Modbus command.	1. Confirm the wire connection. 2. Confirm the Modbus ID of the SMS-531. 3. Confirm the COM Port settings.
7	Can not hear the voice alarm from the SMS-531	Confirm the SD card is normal and the voice file is in it.
8	SMS DBS could not received the SMS from SMS-531	User must add "ALARM;" to the start of the short message.

● **Technical Support**

If you have problems about using the SMS-531, please contact ICP DAS Product Support.

Email: Service@icpdas.com