



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:

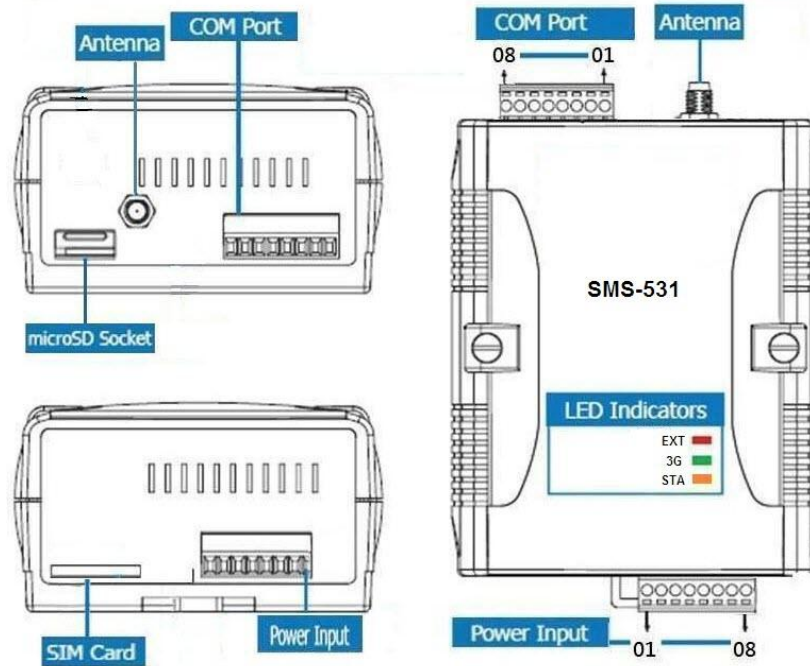
If any of these items are missed or damaged, contact the local distributors for more information. Save the shipping materials and cartons in case you want to ship in the future.



● 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

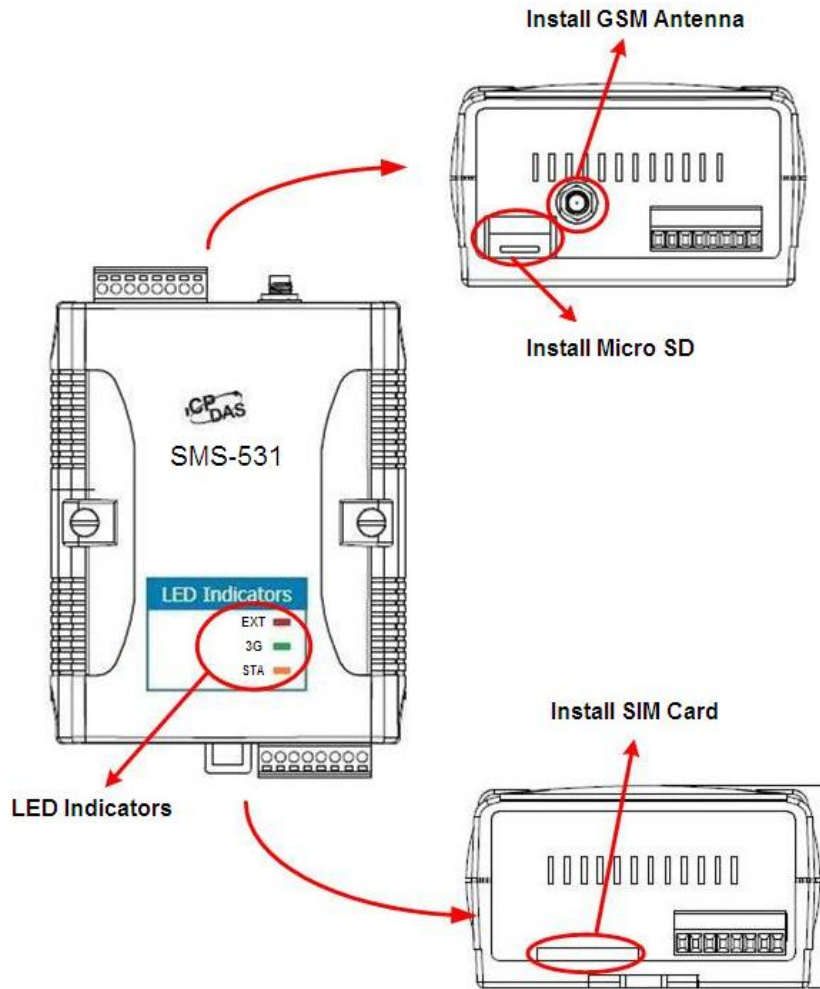
LED	Description		
EXT (red)	on	The external Power is active	
	off	The external Power is not active	
3G (green)	Blinking*2 2 sec	3G module normal (After modem registered.) Use 3G SIM card.	
	Blinking*1 2 sec	3G module normal (After modem registered.) Use 2G SIM card.	
	off	3G module fail (or Blinking(not 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

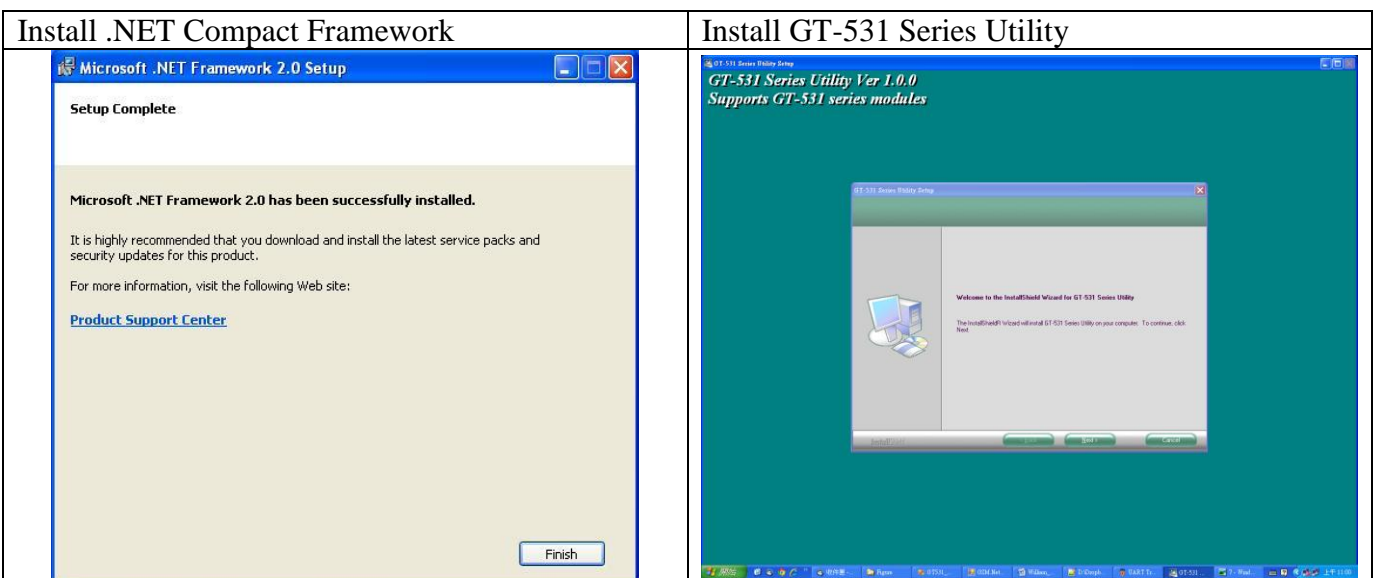
If users want to start SMS-531 normally, it needs to follow these steps to install the SMS-531 below:

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.**



● 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.



Operation

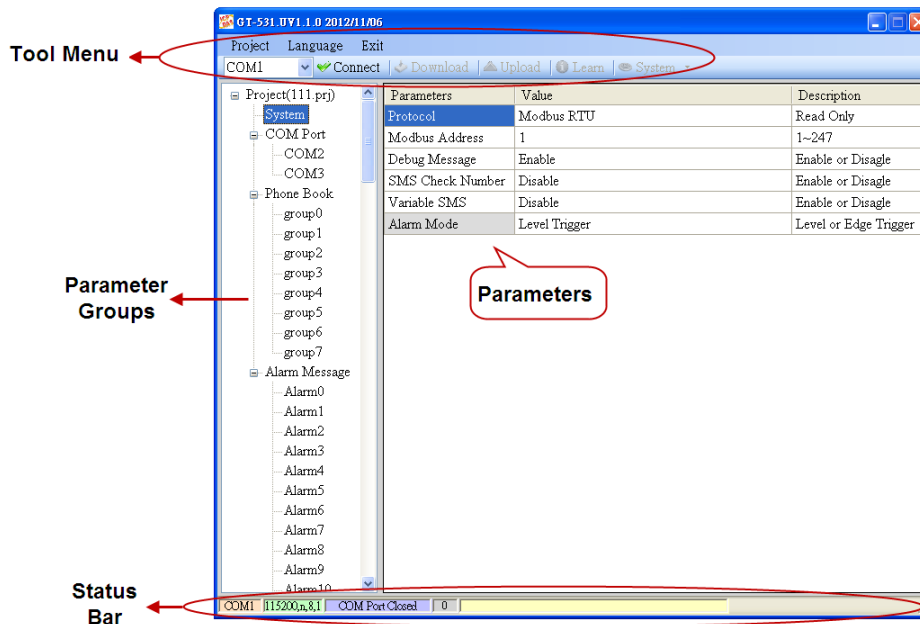
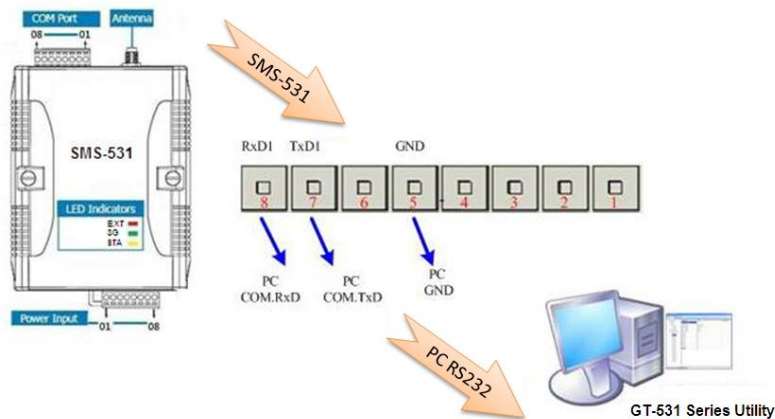
Before GT-531 Series Utility is connected to the PC correctly, please confirm these following steps:

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

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 <table border="1" style="margin-left: 20px;"> <tr> <td>Code</td> <td>0x04</td> <td>0x05</td> <td>0x06</td> <td>0x07</td> </tr> <tr> <td>Baud</td> <td>2400</td> <td>4800</td> <td>9600</td> <td>19200</td> </tr> <tr> <td>Code</td> <td>0x08</td> <td>0x09</td> <td>0x0A</td> <td style="text-align: center;">/</td> </tr> <tr> <td>Baud</td> <td>38400</td> <td>57600</td> <td>115200</td> <td style="text-align: center;">/</td> </tr> </table> (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	Code	0x04	0x05	0x06	0x07	Baud	2400	4800	9600	19200	Code	0x08	0x09	0x0A	/	Baud	38400	57600	115200	/	R/W
Code	0x04	0x05	0x06	0x07																			
Baud	2400	4800	9600	19200																			
Code	0x08	0x09	0x0A	/																			
Baud	38400	57600	115200	/																			
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	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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.	<ol style="list-style-type: none"> 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