



# GT-530

## Quick Start Manual

Jul 2010 Version 1.2

### Package checklist

The package includes the following items:

- One GT-530 hardware module
- One Quick Start Manual
- One software utility CD
- One screw driver

#### Note:

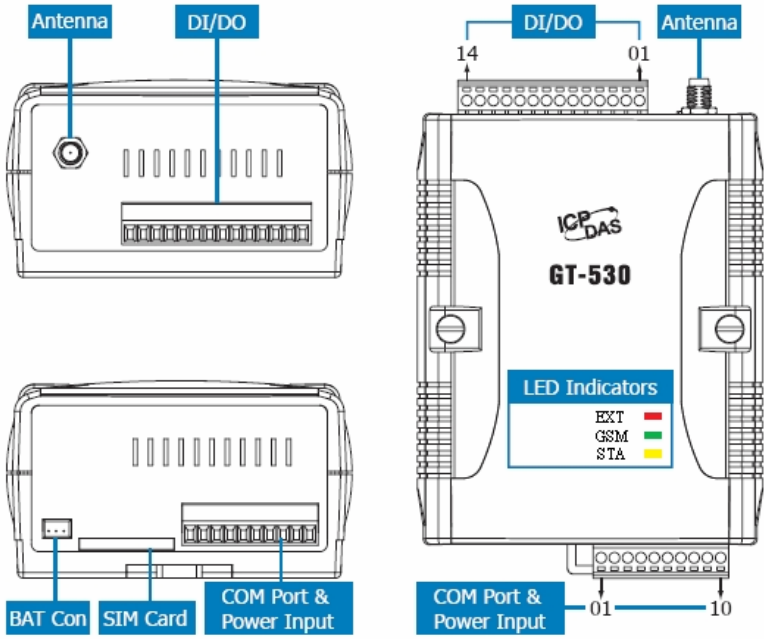
If any of these items are missed or damaged, contact the local distributors for more information. Save the shipping materials and cartons in case you want to ship in the future.



## ● Appearance and pin assignments

| DIO          |                |         |
|--------------|----------------|---------|
| Terminal No. | Pin Assignment |         |
| DI           | 01             | DI0     |
|              | 02             | DI1     |
|              | 03             | DI2     |
|              | 04             | DI3     |
|              | 05             | DI4     |
|              | 06             | DI5     |
|              | 07             | DI6     |
|              | 08             | DI7     |
|              | 09             | DI8     |
|              | 10             | DI9     |
| DO           | 11             | DO0     |
|              | 12             | DO1     |
|              | 13             | DO.PWR  |
| DI/DO        | 14             | Ext.GND |

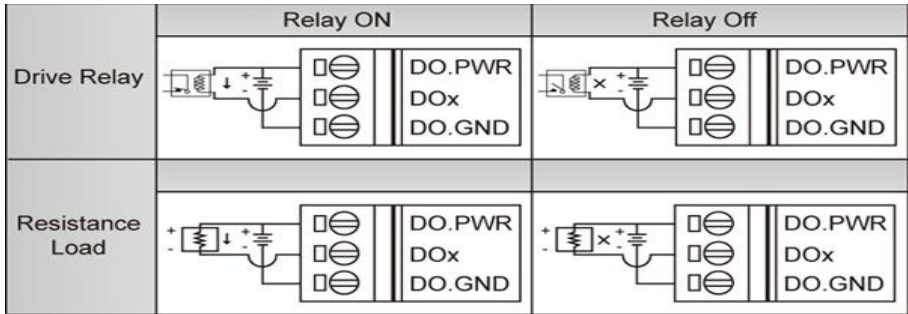
| DIO                          |                |        |
|------------------------------|----------------|--------|
| Terminal No.                 | Pin Assignment |        |
| COM3<br>RS-232               | 01             | GND    |
|                              | 02             | RxD3   |
|                              | 03             | TxD3   |
| COM2<br>RS-232               | 04             | GND    |
|                              | 05             | RxD2   |
|                              | 06             | TxD2   |
| N/A                          | 07             | N/A    |
| Power Input:<br>+10 ~ 30 Vdc | 08             | DC.+VS |
|                              | 09             | DC.GND |
| Frame Groudn                 | 10             | F.G    |



**I/O Connection**  
DI hardware connection

| NC(Normal Close) mode |  |   | NO (Normal Open) mode |  |   |
|-----------------------|--|---|-----------------------|--|---|
| Input Type            | Not Trigger<br>ReadBack as 1                 | Trigger<br>ReadBack as 0                        | Input Type            | Trigger<br>ReadBack as 1                     | Not Trigger<br>ReadBack as 0                    |
| Relay Contact         | Relay ON<br>                                 | Relay Off<br>                                   | Relay Contact         | Relay ON<br>                                 | Relay Off<br>                                   |
| TTL/CMOS Logic        | Voltage < 1V<br>Logic Level Low<br>Logic GND | Voltage > 3.5V<br>Logic Level High<br>Logic GND | TTL/CMOS Logic        | Voltage < 1V<br>Logic Level Low<br>Logic GND | Voltage > 3.5V<br>Logic Level High<br>Logic GND |
| Open Collector        | Open Collector On<br>                        | Open Collector Off<br>                          | Open Collector        | Open Collector On<br>                        | Open Collector Off<br>                          |

**DO hardware connection**



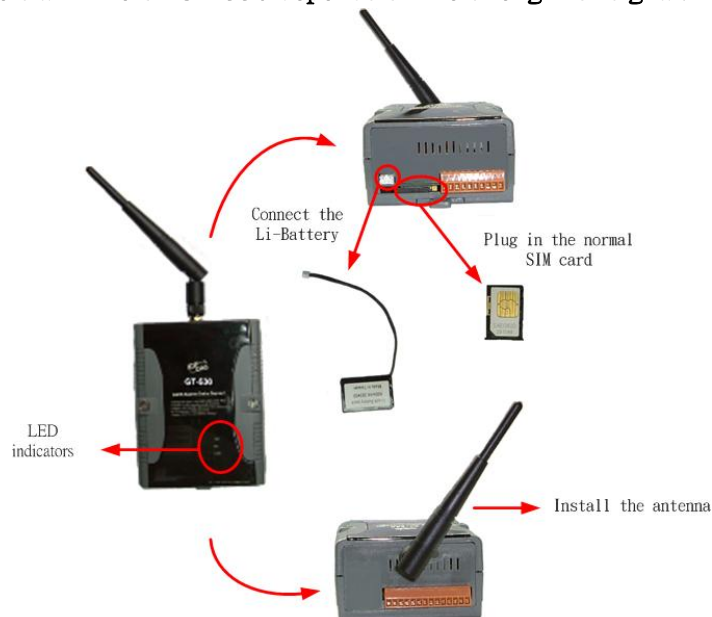
## LED indicators

| LED             | Description    |   |                  |                    |
|-----------------|----------------|---|------------------|--------------------|
| EXT(red)        | on             | The external Power is active                  |                  |                    |
|                 | off            | The external Power is not active              |                  |                    |
| STA<br>(orange) |                | Normal  | GSM Fail         | PIN code is wrong  |
|                 | EXT on         | Blanking (1 sec)                              | Always on or off | Blinking per 50 ms |
|                 | EXT off        | Off (sleep mode)<br>Blanking (1 sec)(wake up) | Always on        | Blinking per 50 ms |
| GSM(green)      | Blinking 3 sec | Modem normal                                  |                  |                    |
|                 | off            | Modem fail (or Blinking(not 3 sec))           |                  |                    |

## ● Installation

If users want to start GT-530 normally, it needs to follow these steps to install the GT-530 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. Pin08 and Pin09 connect to the DC.+VS and DC.GND of the power supply.
4. Follow the section 2.3 to wire the I/O connection.
5. If you want to use the backup power, please connect the Li-battery(Optional) to GT-530.
6. It is needed 30 ~ 50 seconds for GT-530 to search the GSM base and register to the ISP. After finishing the process, GT-530 would be in normal operation mode and the STA LED would blank (3 sec). The start time of GT-530 depends on the strength of signal.



## ● How to reset GT-530

- ◆ The Li-Battery is applied :
  - (1) Remove Li-Battery from GT-530.
  - (2) Turn off the external power and confirm the EXT LED is off.
  - (3) Turn on the external power.
  - (4) Re-install the Li-Battery.
- ◆ The Li-Battery is not applied
  - (1) Turn off the external power and confirm the EXT LED is off.
  - (2) Turn on the power.

## ● Charge and discharge of Li-Battery

If users apply the Li-Battery on GT-530, the Li-battery would be charged by the external power automatically. When the external power is removed from GT-530, the power supplying to GT-530 is from Li-Battery. If the voltage of Li-Battery is lower than the preset limit, GT-530 can send the SMS message to inform the users.

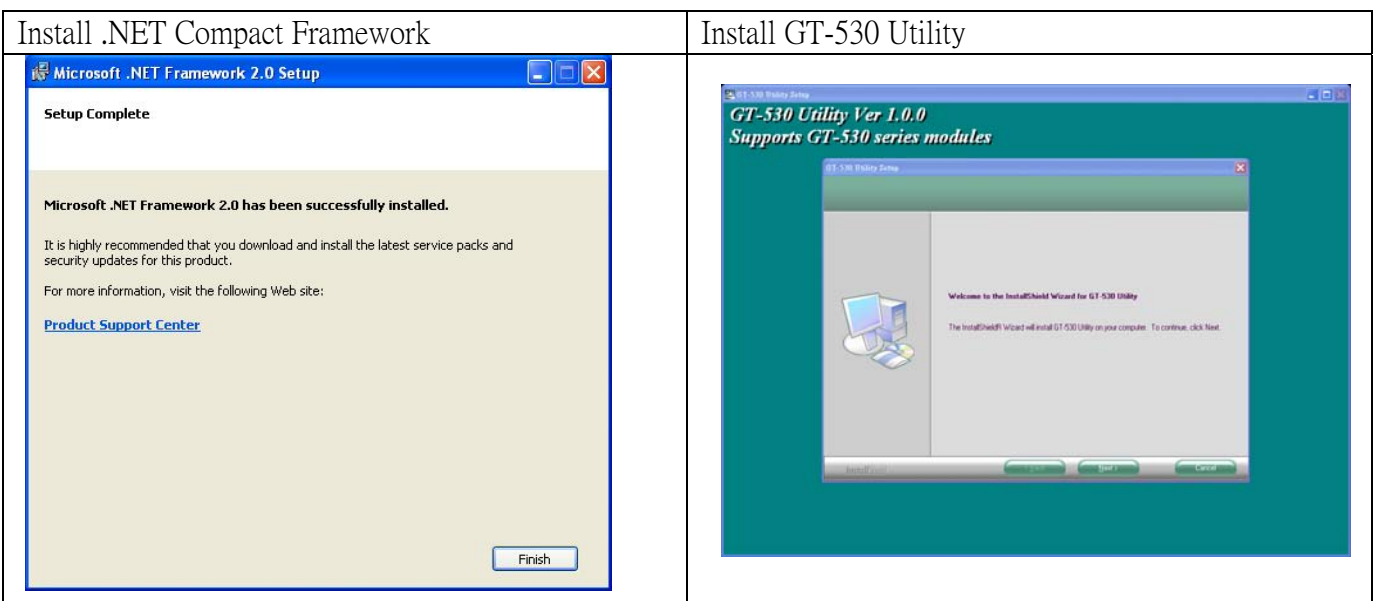
**Note:** A new Li-Battery can supply power to GT-530 for 36 hours without the external power. The power volume of Li-Battery would be decreased by the applying time. It is recommended to change the Li-Battery every 6 months.

Li-Battery ordering information:

|               |                       |
|---------------|-----------------------|
| <b>BT600</b>  | 3.7V 600 mAh Battery  |
| <b>BT1200</b> | 3.7V 1200 mAh Battery |

## ● GT-530 Utility

It needs the runtime environment with .NET Framework 2.0 or above to execute the GT-530 Utility in the PC.



**Operation**

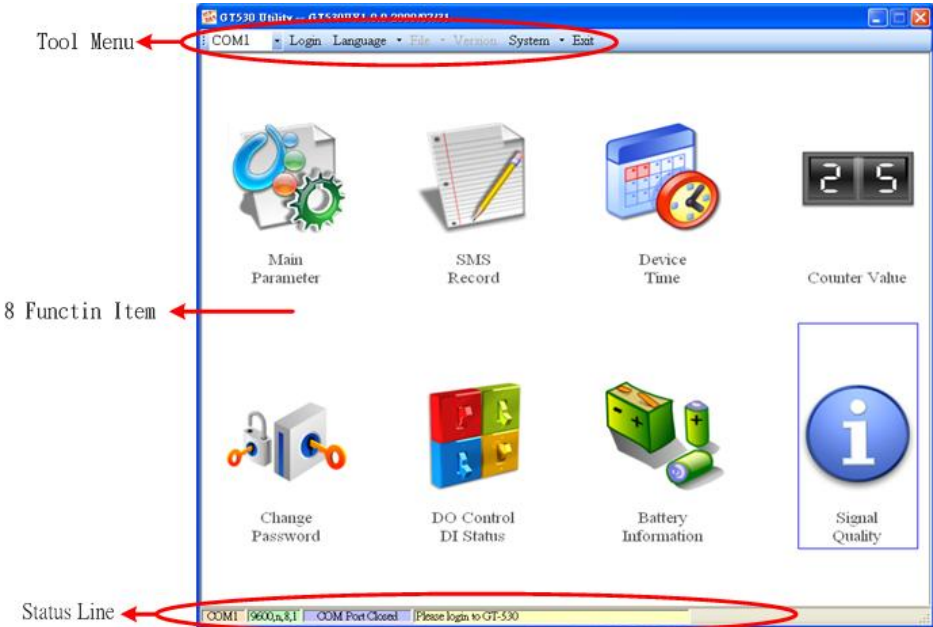
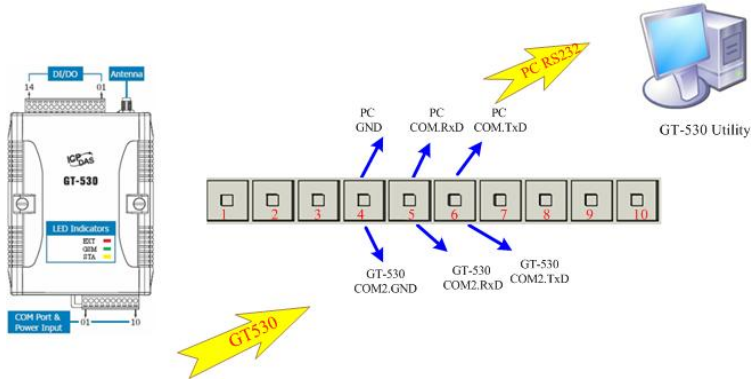
Before GT-530 utility is connected to the PC correctly, please confirm these following steps:

1. The STA LED is blanking. There are 2 kinds of blanking in GT-530.

| STA LED            | Description  |
|--------------------|--|
| Blanking per 1 sec | Normal mode  |
| Blanking per 50 ms | The pin code is wrong. The login windows would show the field to input pin or PUK code |

2. Confirm the RS232 connection between GT-530 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 GT-530.



1. Tool menu
  - (1) COM port number: Set the COM port number in PC connecting to GT-530.
  - (2) Login/Logout

Before operating GT-530, users need to login to GT-530 Utility. After login the system successfully, the

menu item “login” would become “logout” and the GT-530 Utility would be operated normally. Once the power is reset, the login procedure needs to do again. The default password is “111111”

### (3) Language

GT-530 Utility supports English, Tradition and Simplified Chinese interface. Users can select which language they want from the “Language” item. The language setting would be influencing on the encode of SMS.

### (4) File

There are import and export functions in “File” item. These functions would be enabled when “Main parameters” window is open.

Export Parameters: The function can export the parameters as .par file from the “Main parameters” windows.

Import Parameters : The parameters would be shown in “Main parameters” window from the specific .par file.

(5) Version: Including the firmware and Utility version information.

(6) System : Provide users to recovery GT-530 to factory and reset GT-530.

(7) Exit: To exit GT-530 utility

## 2. 8 function item :

(1) Main parameter : The main parameter setting of GT-530 includes ID, SIM number, 10 phone number authority, counter return report, event, DI mode and SMS message.

(2) SMS recorder : inquire the report recorder of event and counter value. The maximum number of recorder in GT-530 is 64.

(3) Device Time : Display and set the RTC time of GT-530. It is also can get the information of the last and next time of the return report.

(4) Counter Value : Inquire and set the counter value.

(5) Change Password : change the login password

(6) DO Control/DI status : Display the status of I/O and control the DO output.

(7) Battery information : Show the voltage and volume of Li-Battery

(8) Signal Quality : Show GSM signal strength in GT-530

## 3. Status Line

Show the related information during the operation procedure including:

(1) The com port number of PC

(2) The communication setting of COM Port

(3) The status of COM Port

(4) The result of Utility operation

## ● SMS Command

| SMS command | Description           |
|-------------|-----------------------|
| @TIME       | Time set and inquiry  |
| @DOCn       | DO control            |
| @ACTV       | Counter value inquiry |
| @DIV        | DI/DO inquiry         |
| @BAT        | Battery inquiry       |
| @PASS       | Password inquiry      |

## ● Send/Receive SMS by COM3

GT-530 provides sending/receiving SMS function from com port. This function can provide PLC or PAC to send or receive SMS through GT-530. That can extend GT-530 to various application.

COM port setting

- ◆ Baud rate : 9600 bps
- ◆ Data bit : 8
- ◆ Parity check : none
- ◆ Stop bit : 1
- ◆ Flow control : none

### Send data to COM3 of GT-530 by SMS command

It is possible to use SMS to send data to com port of GT-530. The command header is "+++". The first setting phone number just has the authority to use this function with the "Allowed" enabling. The command support 7 Bits format

Command :

+++Message

Message : The message is sent to com3 of GT-530 (Maximum 130 char)

Exmaple

SMS content : +++Hello

To com port : Hello

### Send SMS by COM3

This function is used to send SMS to the first setting phone number by this command "+++". This command supports ASCII code, not Unicode

Request :

+++Message,

Message : The user-defined SMS content, and the end of the message have to add ASCII code

0x0d.

Example :

Command from com3 : +++Hello

Received SMS content : Hello

## ● Troubleshooting

| Item | Trouble state                                      | Solution   |
|------|--|--|
| 1    | EXT LED is off without Li-battery                  | Please check the external power and wire connection.   |
| 2    | STA is always on                                   | 1.Check SIM card<br>2.Check Antenn<br>3.Check the GSM signal strength  |
| 3    | GT-530 Utility can not connect to GT-530           | 1.Check STA LED blinking every 1 sec<br>2.Check com port connection and baud rate setting  |
| 4    | After event triggering, users can not receive SMS. | 1.Check DI connection<br>2.Check phone number and format<br>3.Check DI event is enabled in GT-530 Utility  |
| 5    | Counter value is abnormal                          | 1.Check wire connection<br>2.Check the counter signal is at 5~40Hz.<br>3.Check the DI mode setting. Must be counter mode.  |
| 6    | The content of received SMS is abnormal.           | Please select the correct language to set the content of SMS in utility. If you want to transfer Unicode char, select the language supporting UCS2.  |
| 7    | The time of receiving SMS is abnormal.             | 1. The time in GT-530 is abnormal. Setup the time of GT-530 by utility.<br>2. The battery of RTC is low. Change the silver battery of RTC. After changing the battery, set the time of GT-530. |
| 8    | STA led is blanking per 50 ms                      | The pin code is wrong. The login windows would show the field to input PIN or PUK code   |
| 9    | Forget Password                                    | Use SMS command to get the password.   |

## ● Technical Support

If you have problems about using the GT-530, please contact ICP DAS Product Support.

Email: [Service@icpdas.com](mailto:Service@icpdas.com)