



GT-540(P)

Quick Start

Jan 2011 Version 1.1

Package checklist

The package includes the following items:

- One GT-540(P) hardware module
- One Quick Start
- One software utility CD
- One screw driver
- One 2G micro SD card
- One GSM Antenna and GPS Antenna(GT-540P)
- One RS-232 cable (CA-0910)



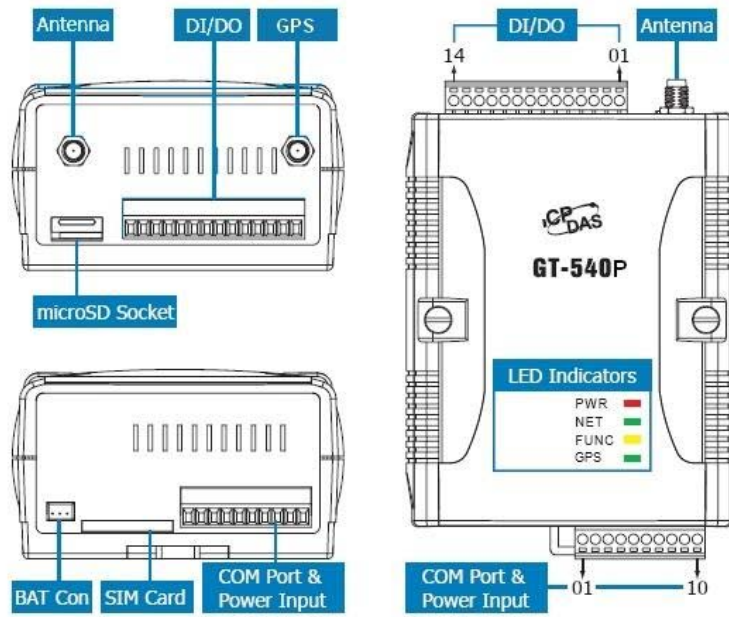
Note:

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

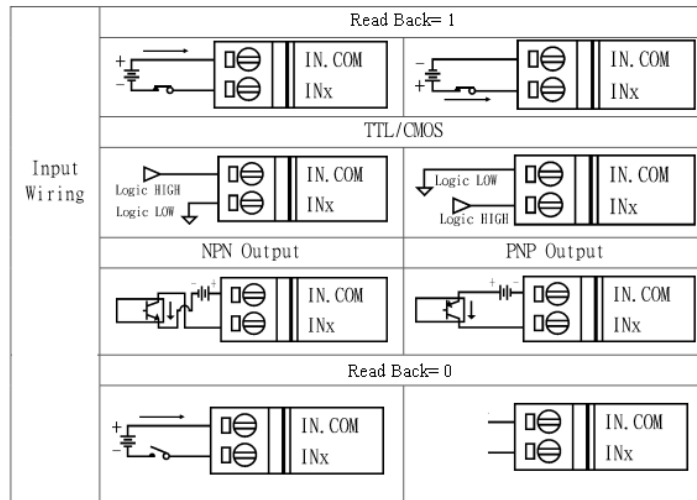
DI/DO		
Terminal No.		Pin Assignment
DI	01	DI0
	02	DI1
	03	DI2
	04	DI3
	05	DI4
	06	DI5
DI COM	07	DI COM
DO PWR	08	DO PWR
DO	09	DO0
	10	DO1
DO GND	11	DO GND
N/A	12	N/A
Ain+	13	Ain+
Ain-	14	Ain-

COM Port & Power Input		
Terminal No.		Pin Assignment
Ground for COM	01	GND
COM1	02	RxD1
RS-232	03	TxD1
COM2	04	D+
RS-485	05	D-
Reset	06	RST+
	07	RST-
Power Input: +10 ~ 30V _{DC}	08	DC.+VS
	09	DC.GND
Frame Ground	10	F.G

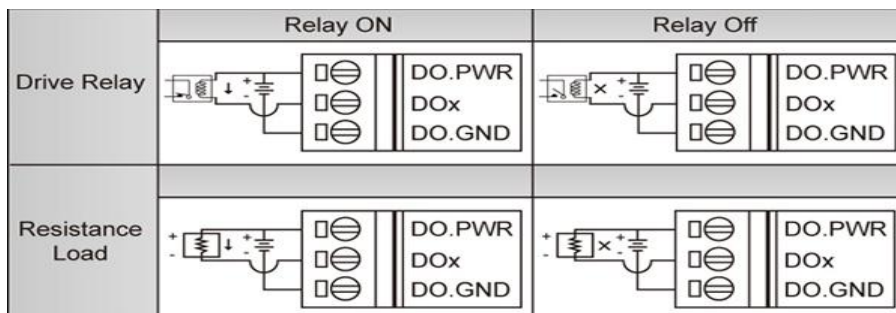


I/O Connection

DI hardware connection



DO hardware connection



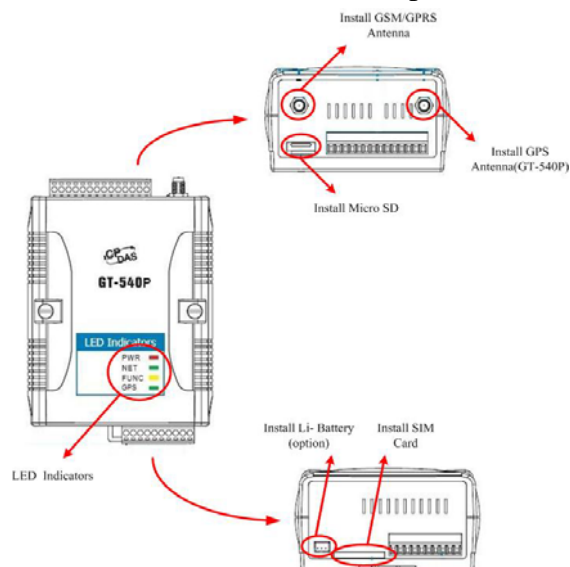
LED indicators

LED	Description	
EXT(red)	on	The Power is active
	off	The Power is not active
STA (orange)	Blanking (1 sec)	GT-540 normal
	Always on or off	GSM Fail
	Blinking per 50 ms	PIN code is wrong
GSM(green)	Blinking 3 sec	Modem normal
	off	Modem fail (or Blinking(not 3 sec))
GPS (green)	Blinking per 1 sec	GPS normal
	Always on or off	GPS fail

● Installation

If users want to start GT-540 normally, it needs to follow these steps to install the GT-540 below:

1. Install the GSM antenna. GT-540P must install GPS antenna additionally.
2. Plug in the normal SIM card (Before apply the SIM card, confirm it is OK by the mobile phone.)
3. Pin08 and Pin09 connect to the DC.+VS and DC.GND of the power supply.
4. Follow the section 2.4 to wire the I/O connection.
5. If you want to use the backup power, please connect the Li-battery to the GT-540 series.
6. It is needed to wait for 30 ~ 50 seconds to search the GSM base and register to the ISP. After finishing the process, GT-540 would be in normal operation mode and the STA LED would blank per 3 sec. The start time of GT-540 depends on the strength of signal.



● How to reset GT-540

- ◆ The Li-Battery is applied :
 - (1) Remove Li-Battery from GT-540.
 - (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.
- ◆ Reset Pins
 - (1) Connect CON1.6 to DC.+VS
 - (2) Connect CON1.7 to DC.GND

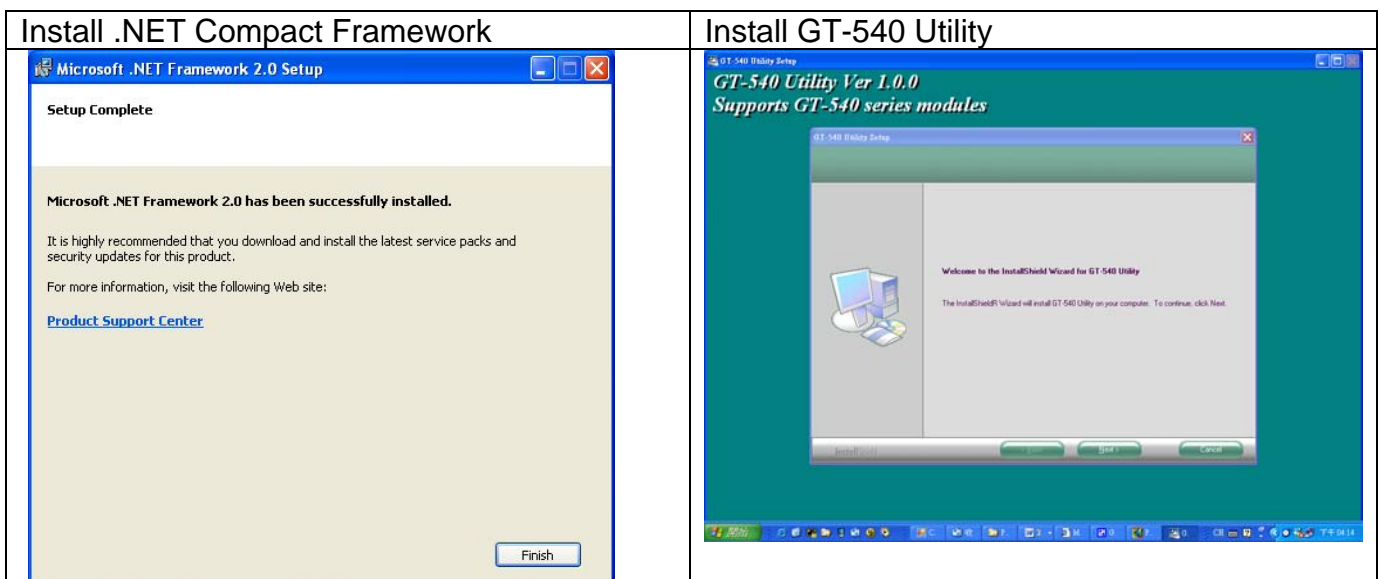
● Charge and discharge of Li-Battery

If users apply the Li-Battery on GT-540, the Li-battery would be charged by the external power automatically. When the external power is removed from GT-540, the power supplying to GT-540 is from Li-Battery. If the voltage of Li-Battery is lower than the preset limit, GT-540 can send the SMS message to inform the users.

When the power is only from Li-Battery, the running time of the GT-540 series is depended on the frequency of transmission and the volume of Li-battery. It is recommended that users exchange the Li-Battery every 6 months.

● GT-540 Utility

It needs the runtime environment with .NET Framework 2.0 or above to execute the GT-540 Utility in the PC.



Operation

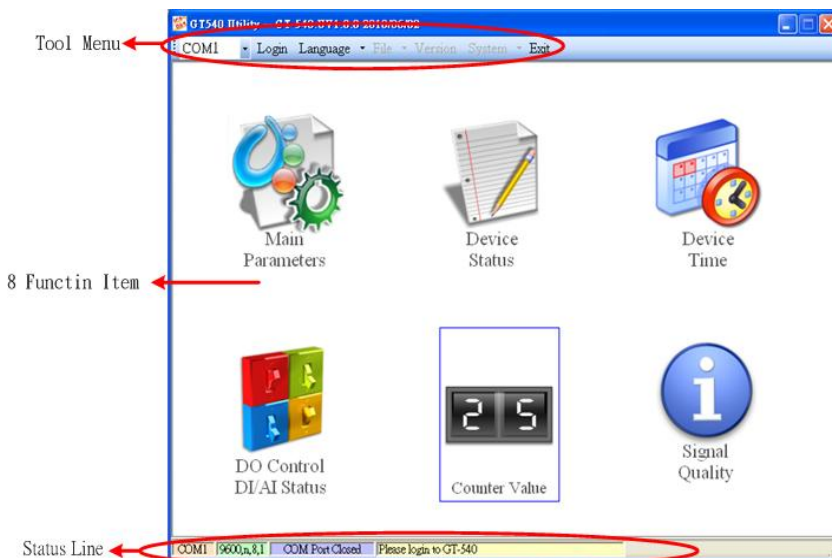
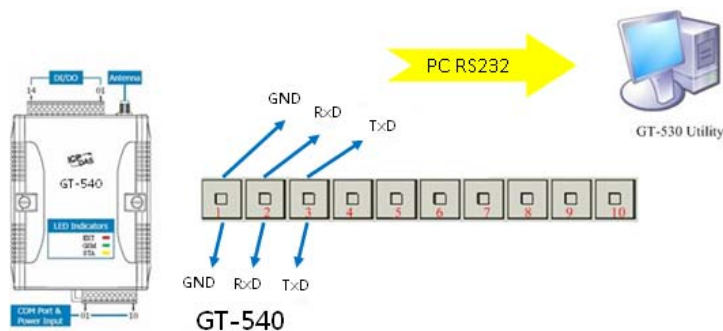
Before GT-540 utility is connected to the PC correctly, please confirm these following steps:

1. The STA LED is blanking. There are 2 kinds of blanking in GT-540.

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-540 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-540.



1. Tool menu

- (1) COM port number: Set the COM port number in PC connecting to GT-540.
- (2) Login/Logout

Before operating GT-540, users need to login to GT-540 Utility. After login the system successfully, the menu item "login" would become "logout" and the GT-540 Utility would be operated normally. Once the power is reset, the login procedure needs to do again.

(3) Language

GT-540 Utility only supports English interface.

(4)File

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

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

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

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

(6) System : Provide users to recovery GT-540 to factory and reset GT-540.

(7) Exit: To exit GT-540 utility

2. 6 function item :

(1) “Main parameter”: The main parameter setting of GT-540 includes ID, SIM number, operation mode, data logger period and GPS item.

(2) Device Status: Display these peripheral devices status including microSD, GPRS, GPS and Modbus RTU.

(3) “Device time”: Display or set the RTC time of GT-540 in this item. It is also can get the information of the last and next time of the return report in E-mail mode.

(4) “DO Control/DI, AI status”: Display the status of DI and AI, and control the DO output.

(5) “Counter Value”: Inquire and set the counter value.

(6) Version: Inquire the versions of Firmware and Utility.

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

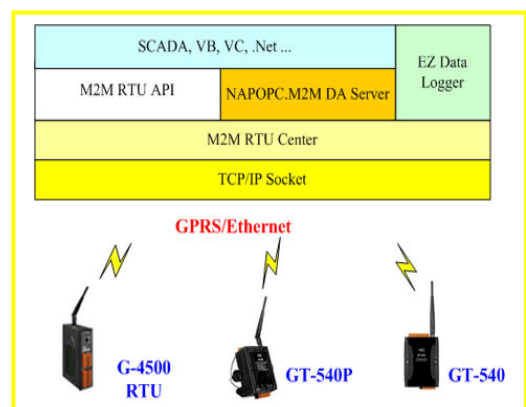
(4) The result of Utility operation

● Software support

M2M RTU management software- M2M RTU Center

The M2M RTU Center provided by ICP DAS is a M2M (Machine to Machine) management software that has a strong core technology for handling data and lets the user save the trouble of dealing with large IO data.

http://ftp.icpdas.com/pub/cd/usbcd/napdos/m2m/rtu/rtu_c enter



M2M RTU SDK- M2M RTU API

ICP DAS M2M RTU Library is a software tool package for M2M RTU products. It provides the seamless connection with M2M RTU products (G-4500 RTU, GT-540...) of ICP DAS for the user-designed system. With the APIs in this library, programmer can access M2M RTU devices by public software development environments, like VC, VB, BCB, visual studio.Net... It is easy to integrate these GPRS RTU devices to various applications including real the remote data, database management system.

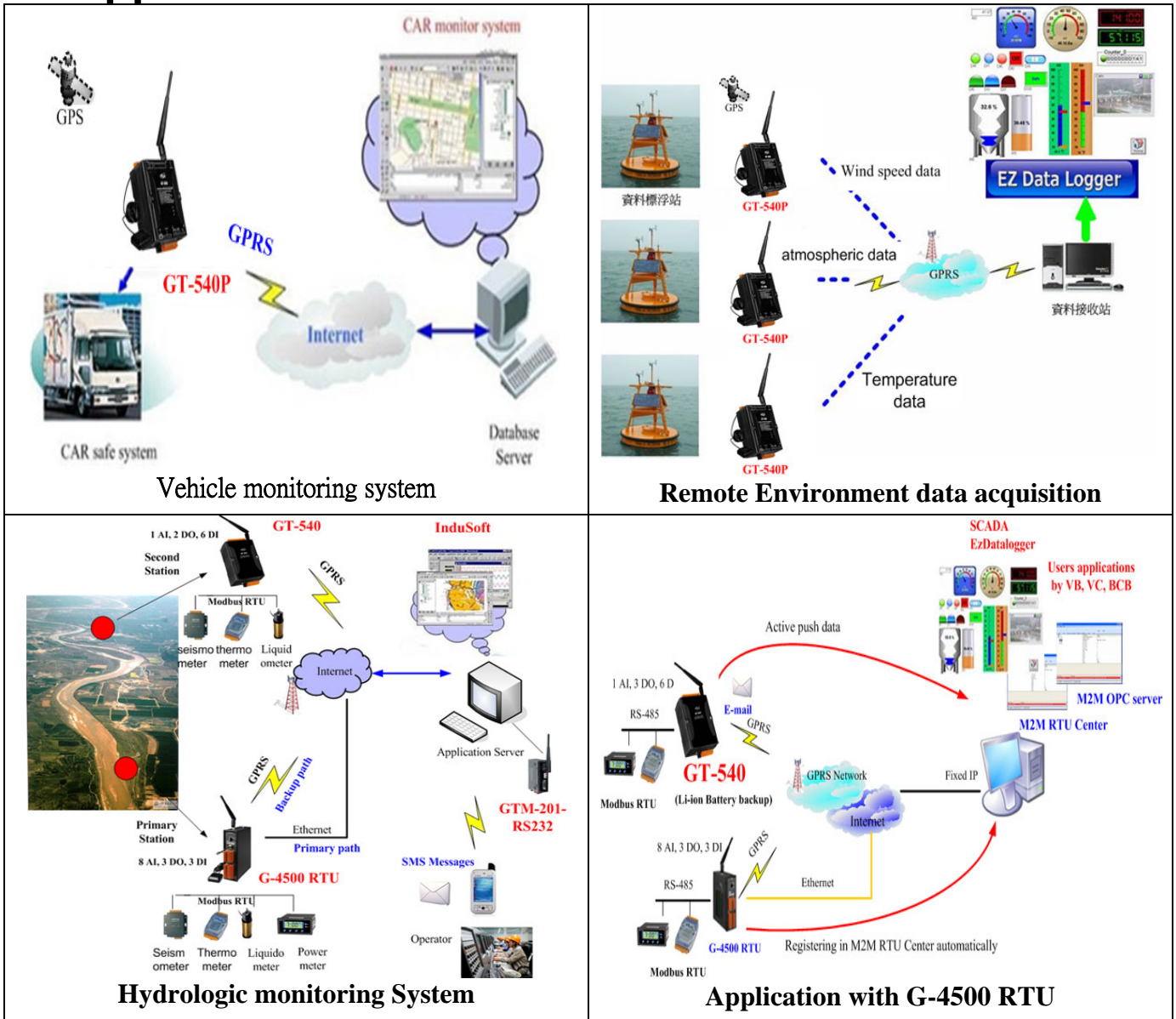
http://ftp.icpdas.com/pub/cd/usbcd/napdos/m2m/rtu/m2m_rtu_win32_api

OPC server for RTU series of ICP DAS- NAPOPC.M2M DA Server

ICP DAS NAPOPC.M2M DA Server is an OPC software package operated as an OPC driver of a HMI or SCADA system. It provides seamless connection with GPRS RTU products (G-4500 RTU, GT-540...) from ICP DAS to SCADA system (InduSoft, Wonderware, iFix, Citec, LabView and etc) following OPC 1.0, OPC 2.0 Data Access Standards.

<http://ftp.icpdas.com/pub/cd/usbcd/napdos/m2m/rtu/napopc.m2m>

● Applications



● Troubleshooting

Item	Trouble state	Solution
1	EXT Led is off.	The external power has problem. Please check the wire is connected correctly and the power voltage is 10~30VDC.
2	STA is always on.	Check SIM card Check GSM Antenna Check the GSM signal strength
3	GPS Led is off or always on (GT-540P)	Check the setting of GPS is enabled. Check the antenna is connected correctly The antenna must be outside.
4	Utility can not connect to GT-540	Confirm STA Led is flashing per second. If no, refer to Item 2 for trouble shooting. Check the wire connection of COM ports in PC and the GT-540 is correct. Check the com port of PC is normal.
5	Counter function is error.	Check the wiring of DI channel. Check the frequency of counter is 5~40 hz. Check the DI setting in Utility is set as counter.
6	STA LED director is flashing per 50 ms.	This condition shows the SIM card needs PIN/PUK code or PIN/PUK code is wrong. You can apply Utility to input the correct PIN/PUK code.

● Technical Support

If you have problems about using the GT-540 (P), please contact ICP DAS Product Support.

Email: Service@icpdas.com