G-4514-4G FAQ

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Tables of Content

Q01：I want to use the module to receive the specified message after the DO output, and confirm by DI, if the DI has a short circuit, it will return a successful SMS, and otherwise it will return the failed SMS. In addition, the phone number transmitted must be approved by me. 3

Q02：I already have an executable running on the G-4513. Now I want to use the G-4514. Can this executable be transferred directly to the G-4514 use? 5

Q03：I connected the power supply to the G-4514. Why does the G-4514 shut down immediately after it starts, the power light goes out? 6

Q04：If I made sure my status is registered and the signal strength is good, why does it still fail to send data? 9

Q05：I want to reboot the whole G-4514, but there is no Function for me to use? ... 11

Q06：I burned the RTU Firmware into the G-4514, why can't RTU Center see my device after the setup? 12

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Q01：I want to use the module to receive the specified message after the DO output, and confirm by DI, if the DI has a short circuit, it will return a successful SMS, and otherwise it will return the failed SMS. In addition, the phone number transmitted must be approved by me.

A01：

The application flow chart is as follows:



Filter phone number:

```
for(i=1; i<argc; i++)
{
    if(argv[i][0]=='-' && argv[i][2]=='p')
    {
        switch(argv[i][1])
        {
            case '0':
            sprintf(sendNumber0, "%s",argv[i]+3);
            printCom1("[Phone Number0=%s]\r\n",sendNumber0);
            break;
            case '1':
            sprintf(sendNumber1, "%s",argv[i]+3);
            printCom1("[Phone Number1=%s]\r\n",sendNumber1);
            break;
            case '2':
            sprintf(sendNumber2, "%s",argv[i]+3);
            printCom1("[Phone Number2=%s]\r\n",sendNumber2);
            break;
        }
    }
}
```


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DO can be executed through the X305IO_Write_One_DO function:

```
if ( (ptr = strstr(report_data, "DO;")) != NULL )
{
    result = sscanf(ptr, "DO;%d;%s,", &do_id, &action_string);
    printCom1("DO ID=%d\r\n", do_id);
    printCom1("ON or OFF: %s\r\n",action_string);
    if (do_id == 0 && strcmp(action_string, "ON")==0)
    {
        printCom1("DO 0 ON\r\n");
        X305IO_Write_One_DO(0, 1);
```

DI can be checked by X305IO_Read_One_DI:

```
//Return 0 => close to GND
if (X305IO_Read_One_DI(0) == 0)
{
    //printCom1("DI0 ==> ON\r\n");
    diTriCount++;
```

Send a successful SMS:

```
strcpy(SendMsg.phoneNumber, RecMsg.phoneNumber);
SendMsg.mode = GSM_7BIT;
sprintf(SendMsg.msg, "DO;0;OK");
SendMsg.dataLen = strlen(SendMsg.msg);
GM_SMS_SendMsg(SendMsg);
```


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Q02：I already have an executable running on the G-4513. Now I want to use the G-4514. Can this executable be transferred directly to the G-4514 use?

A02：G-4514 need using dedicated Library and recompiler.

The following table is the Library used by G-4513 and G-4514 respectively.

Machine	G-4513	G-4514
Library	GSM_U2.lib	GSM.lib
Using header	GSM_U2.h	GSM.h

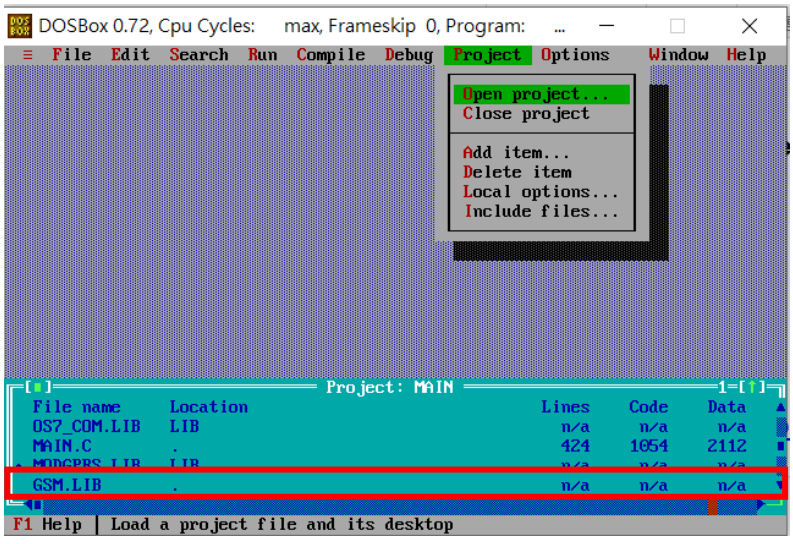
※Here GSM.LIB is not G-4500-2G GSM.lib.

GSM.LIB download link:
http://ftp.icpdas.com/pub/cd/usbcd/napdos/g-4514-4g/software/lib/GSM/
GSM.LIB Demo download link:
http://ftp.icpdas.com/pub/cd/usbcd/napdos/g-4514-4g/software/demo/

Modify the name of the include header (GSM_U2.h is modified to GSM.h):

```
//#include "lib\GSM_U2.h"
#include "lib\GSM.h"
```

Reassign LIB and compile the program:

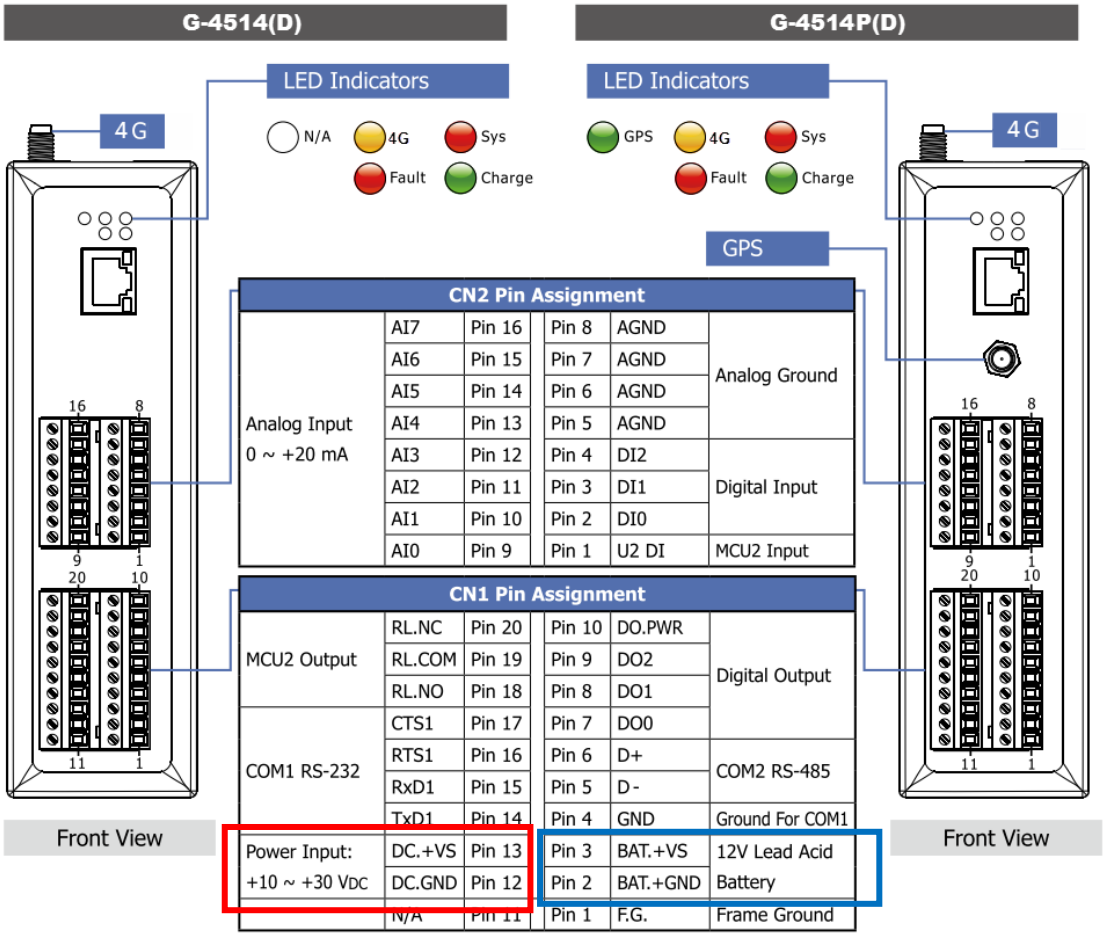


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Q03：I connected the power supply to the G-4514. Why does the G-4514 shut down immediately after it starts, the power light goes out?

A03：Please follow the steps below to confirm.

Step 1: Please confirm that the input terminal is the power terminal (at the red frame line)



The blue frame line is the battery end and only accepts 12V voltage input.

Step 2: Please confirm the input voltage

Please refer to the pin assignment and input the compliance voltage. Do not exceed the acceptable voltage range.

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Step 3: Confirm the input power terminal, confirm that the input voltage is within the acceptance range, raise the voltage to 24V, and turn off the low voltage protection.

Due to the low voltage protection, when the voltage is lower than a certain voltage, the protection mechanism will be activated. Please raise the voltage and turn off the function first, than reduce to the original voltage use.

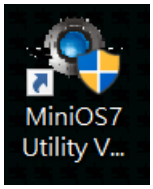
Power Saving Demo download link：

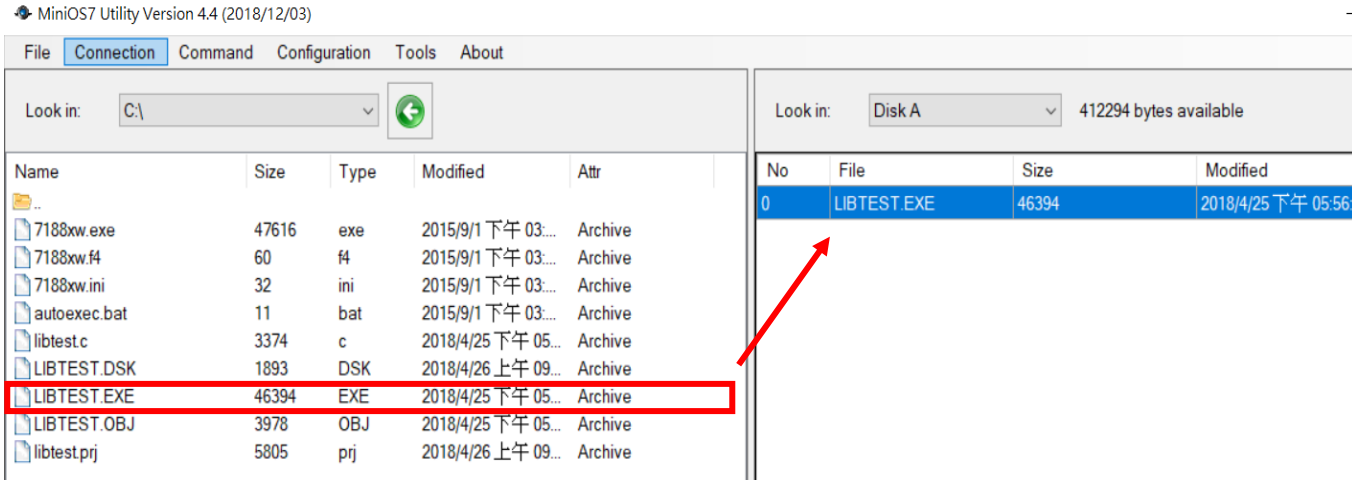
http://ftp.icpdas.com/pub/cd/usbcd/napdos/g-4514-4g/software/demo/basic/power_saving/basic_demo/

MiniOS7 Utility download link：

http://ftp.icpdas.com/pub/cd/8000cd/napdos/minios7/utility/minios7_utility/

Via MiniOS7 Utility, then select LIBTEST.exe to burn to G-4514-4G





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Run and select number 8: Disable Battery Protecting

```
==========================
1>set DO ON or OFF
2>get DIO status, VBat
3>Sleep test.
4>Deep Sleep test.
5>Power On GSM
6>Power Off GSM
7>Enable Battery Protecting
8>Disable Battery Protecting
q>quit
==========================
```

Enable/Disable Battery Protecting function

```
#include "MCU2LIB.h"

MCU2_BatteryProtect(0);
```


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Q04：If I made sure my status is registered and the signal strength is good, why does it still fail to send data?

A04 : Please modify the APN and re-register the connection to the remote side.

Step 1: Verify that your registration status is registered and your signal strength is 15 or higher.

Use the following Function to confirm:

```
Test = GM_SYS_CheckReg();       //Confirmation of Registration Status
Test2 = GM_SYS_CheckSignal();   //Confirmation of Registration Singal
```

- GM_SYS_CheckReg() should return 1 or 5, and GM_SYS_CheckSignal() should return 15 or more, below which a wire break problem may occur.

Step 2: Write the APN into the network settings according to the customer's request to the telco.

(The default APN for the telco is internet.)

```
char APN[30]="internet";
```

```
strcpy(netProfile.APN, APN);        //APN for network provided by your cellular provider
strcpy(netProfile.pw, password);    //username for network provided by your cellular provider
strcpy(netProfile.user, user);      //password for network provided by your cellular provider
//The most basic task of DNS is to translate hostnames such as www.icpdas.com to IP address such as 96.9.41.131
strcpy(netProfile.DnsServerIP,dns); //empty string = system default value
Print("APN : %s , username : %s , pw : %s , dns : %s\r\n",netProfile.APN,netProfile.user,netProfile.pw,dns);
GM_NET_SetNet(netProfile);
```

Step 3: Re-register the remote connection.

```
//--(1) install link[0], GM_NET_InstallLink(0, 0, serverIP, serverPort) for UDP
GM_NET_InstallLink(0, 1, serverIP, serverPort);
```


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Modbus TCP Master Demo Download URL：

http://ftp.icpdas.com/pub/cd/usbcd/napdos/g-4514-4g/software/demo/modbus_tcp_master/modbustcpmaster_gsm/

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Q05：I want to reboot the whole G-4514, but there is no Function for me to use?

A04 : Please follow the steps below to reboot module.

Step 1: Include MCU2LIB.h

```
#include "lib/mcu2lib/MCU2LIB.h"
```

MCU2LIB.h Download URL：

http://ftp.icpdas.com/pub/cd/usbcd/napdos/g-4514-4g/software/lib/PowerSaving/

Step 2: Use MCU2_Enable(0) to turn off Module power, and MCU2_DeepSleep() to boot up instead of Reset.

- If only MCU2_Enable() is used to turn the machine on/off, the Function is "only" to turn the Module power on/off, and does not include the whole G-4514.

```
MCU2_EnableGSM(0); //Modem Power off
MCU2_DeepSleep(5); //Restart the Module after 5 seconds of deep sleep.
```

Step 3: Add MCU2_Enable(1) to the starting point of the program to power on the Module and make sure the Modem works properly.

```
MCU2_EnableGSM(1);  //Enable GSM ON
```

Power Saving Demo Download URL：

http://ftp.icpdas.com/pub/cd/usbcd/napdos/g-4514-4g/software/demo/basic/power_saving/basic_demo/

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Q06：I burned the RTU Firmware into the G-4514, why can't RTU Center see my device after the setup?

A05：Please follow the steps below to confirm.

Step 1：Please check if the LED Modem indicator on the G-4514 is blinking every 3 seconds.

4G 模組正常	4G 模組異常	資料傳輸中
亮 2 秒暗 1 秒	不亮或亮 1 秒暗 2 秒	每 0.2 秒閃爍 1 次

If the 4G module is abnormal, it means the registration with the base station is abnormal. Please make sure the antenna is connected and the signal is good. (You can check through Utility)

Step 2：Make sure the APN setting is correct. If you are not sure about the APN setting, please ask your local telecom provider.

Parameter	Value	Message
Station ID	4	1 ~ 65535
Update Time	1	1 ~ 999999, Unit: sec
Heartbeat Time	0	1 ~ 3600, 0: Disable, Unit: sec
Connect Method	0	0: Only GPRS, 1: Only Ethernet...
Enable GPS	0	1: Enable, 0: Disable,it will retur...
GPRS Username	GUEST	GPRS Username
GPRS Password	GUEST	GPRS Password
GPRS APN	INTERNET	GPRS APN (Access Point Name)
DNS Server	168.95.1.1	DNS Server
Remote Server	61.221.131.37	Please fill in your Remote's IP o...
Remote Server Port	10000	Default: 10000
Modbus BaudRate	9600	2400 ~ 115200 bps

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