GTM-203M-3GWA Industrial Quad-band 3G Modem

操作手冊 V1.0



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HOT SURFACE DO NOT TOUCH

此符號用於警告使用者,產品外殼可能處於高溫狀態, 在外殼冷卻以前,請勿觸摸,否則可能會被燙傷



USB

本產品支援 USB 2.0

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1. 簡介

GTM-203M-3GWA 是一款具有 USB 及 RS-232 介面的工業級 M2M 數據機。支援 WCDMA 850/900/1900/2100 MHz 和 GSM 850/900/1800/1900 MHz 頻 段。 GTM-203M-3GWA 利用便利的 2G/3G 網路來監控遠端設備、各種流量計或即時的遠端控 制。內建 TCP/IP stack,只需搭配簡單的控制命令即可連線上網。GTM-203M-3GWA 的特 色在於支援標準 AT 指令,可以輕易搭配多種 PLC 和 PC 來實現簡訊的收送和 3G/GPRS 連線。



2. 硬體規格

型號	GTM-203M-3GWA
GSM / GPRS 系統	
頻段	GSM 850/900/1800/1900 MHz
GPRS 連結	GPRS class 12; GPRS station class B
000	GSM max. 9.6 kb/s
CSD	UMTS max. 64 kb/s
編碼	CS 1, CS 2, CS 3, CS 4
3G 系統	
頻段	WCDMA 850/900/1900/2100 MHz
SMS	
SMS	MT, MO, CB, Text, and PDU mode
Comm. 介面	
COM Port	RxD, TxD, GND
COM Port Baud Rate	9600 bps ~ 115200 bps (default : 115200 bps)
USB	USB 2.0 (high speed)
USB Driver Support	Windows XP/Vista/7/8, Linux
LED 指示燈	
電源	紅色
3G/GSM	綠色
電源	
保護	Power reverse polarity protection (極性反接保護)
接地保護框架	ESD, Surge, EFT, Hi-Pot
電源輸入範圍	+10 V _{DC} ~ +30 V _{DC}
額定電流	30 ~ 15 mA / 10 ~ 30 V _{DC}
重置輸入	
輸入類型	Isolated, 3750 V _{rms}
開啟電壓	+3.5 V _{DC} ~ +30V _{DC}
斷開電壓	+1 V _{DC} max.
輸入電阻	3 kΩ, 0.25W
機構	
外殼	金屬
尺寸 (W x L x H)	28 mm x 78.5 mm x 100 mm
導軌	DIN-Rail
環境	
作業溫度	-25°C to 70°C
存放溫度	-40°C to 80°C
濕度	5~90% RH, non-condensing

3. 硬體外觀

3.1 GTM-203M-3GWA 外觀視圖



3.2 腳位定義





GTM-203M-3GWA 有 2 顆 LED 指示燈, 幫助使用者判斷系統目前的狀態, 其說明如下:

A. PWR(Red): 電源指示燈

電源正常	電源異常
恆亮	恆滅

B. 3G (Green): 顯示 3G 運作狀況

	3G 模組正常	3G 模組異常	資料傳輸中
2G 模式	約2秒閃一次	不宣武明維頓家不對	柘吉
3G 模式	約2秒閃兩次	个元以内床如华个到	四方亡

4. I/O 接線圖

4.1 重置腳位接線方式



Reset	Input
ON Voltage Level	+3.5 V_{DC} ~ +30 V_{DC}
OFF Voltage Level	+1 V _{DC} max.



4.2 安裝方式

GTM-203M-3GWA 該由賦予適當授權的技術人員進行安裝,安裝的位置應該在一般人不 會碰觸的地方。

➢ SIM 卡及天線安裝



警告!表面發燙,請勿碰觸



安全指令說明



此裝置的電源輸入腳位(DC.+VS/DC.GND)與直流電源(SELV,有限電源)連接時,應該要符合 EN60950-1 的要求。請務必確認接線是否正確。

4.3 快速測試

4.3.1 硬體安裝



GTM-203M-3GWA

4.3.2 軟體安裝 (超級終端機)

步驟 1:開始 → 所有程式 → 附屬應用程式 → 通訊 → 超級終端機



步驟 2: 若跳出 "Default Telnet Program?" 的詢問視窗,請選擇 "是"



步驟 3:輸入新的連線名稱 → 按 "OK"

Rew Connection - HyperTerminal
File Edit View Call Transfer Help
06 60 8 10 10 10 10 10 10 10 10 10 10 10 10 10
- Connection Description
New Connection Enter a name and choose an icon for the connection: Name: TEST I. Icon: Name: Name: TEST Name: Name: TEST Name: Na
Cancel

步驟 4:選擇電腦串列埠 → 按 "OK"

🗞 TEST - HyperTerminal
File Edit View Call Transfer Help
D 🗳 🎯 🍶 🗈 🖰 🖀
Connect To
TEST 🔨
Enter details for the phone number that you want to dial:
Country/region: United States (1)
Area code: 07
Phone number
. 1.

步驟 5:請參考下列設定值

Bits per second	115200
Data bits	8
Parity	None
Stop bits	1
Flow control	None

Rie Edit	H <mark>yperTerminal</mark> View Call Transfe	er Help
0 🖨 🗧	8 3 ∎ 8	۲. The second s
сом1	Properties	? 🛛
Port S	Settings	
	Bits per second:	115200
	Data bits:	8
	Parity:	None
1.	Stop bits:	1
	Flow control:	None
		Restore Defaults
-	2.	K Cancel Apply

步驟 6:File \rightarrow Properties



驟 7:Settings \rightarrow 黑	指擊 "ASCII Setup…"按鈕
2	TEST - HyperTerminal
Fi	le Edit View Call Transfer Help
C) 📽 🍘 🔏 🗈 🎦 😭 👘
	TEST Properties
	Connect To Settings
	Backspace key sends Ctrl+H O Del O Ctrl+H, Space, Ctrl+H
	Emulation:
	Auto detect Terminal Setup
	Telnet terminal ID: ANSI
	Backscroll buffer lines: 500
	Play sound when connecting or disconnecting
< Co	Input Translation ASCII Setup 2.
	OK Cancel

步驟 8:勾選"Echo typed characters locally" → 按"OK"

🍫 TEST - HyperTerminal	
File Edit View Call Transfer Help	
0 🗳 🐵 🕉 💷 🎦 😭	
TEST Properties	? ×
Connect To Settings	
ASCII Setup	
ASCII Sending	
Cond in conde mili fine foode	
Character delay: U milliseconds.	
ASCII Receiving	
E Append line feeds to incoming line ends	
Force incoming data to 7-bit ASCII	
Wrap lines that exceed terminal width	
Conr OK Cancel	

步驟 9:鍵盤輸入 "AT" 按 "Enter" , 會收到 "AT OK" 的回應

ale Edit			
nie calc	View Call	Transfer	Help
ጋ 🚅 👔	3	0 79 (P
BATT			
OK			
- Starte Col			

5. GPRS 連線

5.1 XPAC-8000 (Microsoft Windows XP)

5.1.1 GTM-203M-3GWA 硬體需求

- A. GTM-203M-3GWA (請先安裝 USB 驅動程式)
- B. XPAC-8000
- C. USB cable



GTM-203M-3GWA

5.1.2 建立新數據機

步驟 1: Control Panel → 雙擊 "Phone and Modem Options"



步驟 2:設定區碼 → 點擊 "OK"

Location Information	? 🗙
	Before you can make any phone or modem connections, Windows needs the following information about your current location. What country/region are you in now?
	United States
	Villas area a de (or city code) are you in now? U you need to specify a carrier code, what is it? If you dial a number to access an outside line, what is it?
	The phone system at this location uses:
	© Tone dialing C Pulse dialing 2. OK Cancel

步驟	3:	Control	Panel \rightarrow	雙擊	"Phone	and	Modem	Options"	\rightarrow	Modem \rightarrow	點擊
"Ad	d"										



步驟 4:勾選"Don't detect my modem; I will select it from a list." → 點擊"Next"



步驟 5:左邊欄位選取"Standard Modem Types" → 右邊欄位選取"Standard 19200 bps Modem" → 點擊"Next"



步驟 6: 選取連接數據機的 COM Port → 點擊 "Next"

Add Hardware Wizard	
Install New Modem Select the port(s) you	want to install the modem on.
	You have selected the following modem:
	Standard 19200 bps Modem
	On which ports do you want to install it?
	C All ports
	COM2
	0
	< Back Next > Cancel

步驟 7:點擊 "Finish"完成安裝

Add Hardware Wizard	
Install New Modem Modem installation is fi	inished!
	Your modem has been set up successfully. If you want to change these settings, double-click the Phone and Modem Options icon in Control Panel, click the Modems tab, select this modem, and then click Properties.
	K Back Finish Cancel

步驟 8 : Control Panel → 雙擊 "Phone and Modem Options" → Modem → 選取 "Standard 19200 bps Modem" → 點擊 "Properties"

hone and Modem Options	?
Dialing Rules Modems Advanced	
The following modems are installed:	1.
Modem	Attached To
🔇 🎯 Standard 19200 bps Modem	COM1
	2.
	emove Properties

Port: C)M1	•			
эреак	Low U		High		
Maxim	m Peri Opeeu				
-				2.	
Dial Co	ntrol				
	Wait for d	ial tone before (dialing		

步驟 9: Modem → 於 Maximum Port Speed 欄位選取 115200

步驟 10: Advanced → 輸入額外的撥號指令 備註: GPRS 的 APN 由您當地的電信業者提供 在台灣輸入: AT+CGDCONT=1,"IP","INTERNET" 在大陸輸入: AT+CGDCONT=1,"IP"," CMNET"

Standard 19200 bps Modem Properties	? 🗙
General Modem Diagnosics Advanced Driver	
Extra Settings	
Extra initialization commands:	
2.	
Change Default Preferences	
OK Can	;el

備註:如果出現錯謬	訊息,請再試一次	
	Standard 19200 bps Modem Properties	? 🗙
	General Movem Diagnostics Advanced Driver	
	Modem Information	
	Field Value	
	Command Besponse	
	Query Modem	2.) ^{2.}
	Append to Log	3.

步驟 11: Diagnostics \rightarrow Query Modem \rightarrow 點擊 "OK"

步驟 12:點擊 "OK"



5.1.3 建立新網路連線

步驟 1: Control Panel → Network Connections → 點擊 "Create a new connection"







步驟 3: 選取"Connect to the Internet" → 點擊"Next"

New Connection Wizard
Network Connection Type Image: Conne Image: Connection Type
© Connect to the Internet Connect to the Internet so you can prowse the Web and read email.
Connect to the network at my workplace Connect to a business network (using dial-up or VPN) so you can work from home, a field office, or another location.
Set up a home or small office network Connect to an existing home or small office network or set up a new one.
Set up an advanced connection Connect directly to another computer using your serial, parallel, or infrared port, or
set up this computer so that other computers can connect to it.
< Back Next > Cancel

步驟 4: 選取 "Connect using a dial-up modem" → 點擊 "Next"



步驟 5: ISP Name → 填入您的 GPRS 名稱→ 點擊 "Next"

New Connection Wizard	
Connection Name What is the name of the service that p	rovides your Internet connection?
Type the name of your ISP in the followi	ng box.
The name you type here will be the nam	e of the connection you are creating.
	2
	< Back Next > Cancel

步驟 6:請輸入您的電話號碼 → 點擊 "Next"

備註:電話號碼由您當地的電信業者提供,例如台灣為*99***1#



步驟 7: 請輸入您 GPRS 的帳號及密碼 → 點擊 "Next" 備註: GPRS 的帳號密碼您當地的電信業者提供

New Connection Wizard
Internet Account Information You will need an account name and password to sign in to your Internet account.
Type an ISP account name and password, then write down this information and store it in a safe place. (If you have forgotten an existing account name or password, contact your ISP.) Ver name: Password: Password: Confirm password: Substitution of the password when anyone connects to the Interconnom this computed. Make this the default Internet connection Turn on Internet Connection Firewall for this connection
< Back Next > Cancel

步驟 8:點擊 "Finish"完成新增

New Connection Wizard	
New Connection Wizard	Completing the New Connection Wizard You have successfully completed the steps needed to create the following connection: Dial-up Connection • Make this the default connection • This connection is firewalled • Share with all users of this computer • Use the same user name & password for everyone The connection will be saved in the Network Connections folder. • Add a shortcut to this connection to my desktop
	K Back Finish Cancel

步驟 9: Control Panel → Network Connections → 點選 "Your GPRS' s name" → File → Properties



步驟 10: General → 選擇 "Standard 19200 bps Modem" → 點擊 "Configure"

irea code: Phone number:
Alternates
Country/region code:
Use dialing rules

步驟 11:Maximum speed(bps)選擇"115200",取消勾選 "Enable hardware flow control"(備註) → 點擊"OK"

備註:請勿勾選"Enable hardware flow control"

Modem Configuration	? 🔀
Standard 19200 bps Modem (COM1)	
Maximum speed (bps): 115200	~
Hardware features	
Enable nardware now control	
Show terminal window	
Enable modem speaker	ncel

步驟	12	:	點擊	"OK"
----	----	---	----	------

Modem -	». Standard 19:	200 bps Moder	m (COM1)
			Configure.
Phone numl	ber		
Area code	Phone	number:	
	~		Alternates
Country/re	gion code;		
			Y
🔲 Use dia	aling rules		Dialing Rules



步驟 13: Control Panel → Network Connections → 雙擊 "Your GPRS' s name"

步驟	14	:	點擊	"Dial"
- mm			100 L	

Connect Dial	-up Connection 🛛 🛛 🛛 🔀
User name:	guest
Password:	••••
Save this Me only Anyone	user name and password for the following users: v a who uses this computer
Dial:	*99***1#
Dial	Cancel Properties Help

步驟 15: 當您連線成功時, 右下角工具列會顯示新的連線成功圖示

🗾 🖉 🧶 👜 3:49 PM

步驟 16:您可以連點兩下這個圖示 → 選擇 "Details" → 取得您的 IP 位址

Property	Value
Device Name	Standard 19200 bps Modem #2
Device Type	modem
Server type	PPP
Transports	TCP/IP
Authentication	PAP
Compression	(none)
PPP multilistic framing	04
Server IP address	18.0.0.1
Client IP address	114.137.175.2

6. USB 驅動程式安裝

6.1 XPAC-8000 (Microsoft Windows XP)

步驟 1: 雙擊 "GTM-203-3GWA USB driver V1.00.exe" 開始安裝驅動程式 步驟 2: 點擊 "Next"



步驟 3: 點擊 "Next"

📴 Setup - GTM-203-3G WA
Select Destination Location Where should GTM-203-3GWA be installed?
Setup will install GTM-203-3GWA into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\ICPDAS\GTM-203-3GWA Browse
At least 1.2 MB of free disk space is required.
< Back Next > Cancel

步驟 4:點擊 "Next"

j∰ Setup - GTM-203-3GWA	
Select Additional Tasks Which additional tasks should be performed?	
Select the additional tasks you would like Setup to perform while installing GTM-203-3GWA, then click Next. Additional icons:	
< <u>B</u> ack <u>N</u> ext >	Cancel

步驟 5: 點擊 "Install"

i Setup - GTM-203-3GWA	
Ready to Install Setup is now ready to begin installing GTM-203-3GWA on your computer.	
Click Install to continue with the installation, or click Back if you want to review or change any settings.	
Destination location: C:\ICPDAS\GTM-203-3GWA	
X	
< <u>Back</u>	Cancel

步驟 6: 點擊 "Finish"



步驟 7:透過 USB 連接線連接 GTM-203M-3GWA 及 PC

步驟 8:彈出 "Found New Hardware Wizard" 視窗要您安裝 "ICPDAS GTM-203-3GWA MI" 的驅動程式,請點擊 "Next" 至下一步



- 30/35 -



步驟 8-1:若您接收到安裝成功的訊息,請點擊 "Finish"結束安裝

步驟 8-2:若您接收到安裝失敗的訊息,請點選"Install from a list or specific location",並 點擊"Next"至下一步

Found New Hardware Wizard				
	Welcome to the Found New Hardware Wizard			
	This wizard helps you install software for:			
	ICPDAS GTM-203-3GWA MI			
	If your hardware came with an installation CD or floppy disk, insert it now.			
	What do you want the wizard to do?			
	 Install the software automatically (Recommended) Install from a list or specific location (Advanced) 			
	Click Next to continue.			
	< Back Next > Cancel			

步驟 8-3:點擊 "Browse" 瀏覽與選擇您的安裝資料夾,點擊 "Next" 至下一步

Found New Hardware Wizard
Please choose your search and installation options.
 Search for the best driver in these locations. Use the check boxes below to limit or expand the default search, which includes local
paths and removable media. The best driver found will be installed. Search removable media (floppy, CD-ROM)
Include this location in the search: C:\ICPDAS\GTM-203-3GWA\x86 Browse Browse
O Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back Next > Cancel

步驟 9:彈出 "Found New Hardware Wizard" 視窗要您安裝 "ICPDAS GTM-203-3GWA Modem" 的驅動程式,請點擊 "Next"

Found New Hardware Wizard			
	Welcome to the Found New Hardware Wizard		
	This wizard helps you install software for:		
	ICPDAS GTM-203-3GWA Modem		
	If your hardware came with an installation CD or floppy disk, insert it now.		
	What do you want the wizard to do?		
	 Install the software automatically (Recommended) Install from a list or specific location (Advanced) 		
	Click Next to continue.		
	< Back Next > Cancel		

步驟 10:彈出 "Found New Hardware Wizard" 視窗要您安裝 "ICPDAS GTM-203-3GWA AT Command Port" 的驅動程式,請點擊 "Next"



步驟 11:彈出 "Found New Hardware Wizard" 視窗要您安裝 "ICPDAS GTM-203-3GWA Reserve Port" 的驅動程式,請點擊 "Next"



步驟 12:完成安裝步驟後,請開啟 "Device Manager",確認已新增 8 個裝置項目,如下 圖所示:



7. Revision History

Revision	Date	Author	Description
1.0	2015/06/12	William	First Release