i-com SERIES EXTERNAL GSM / GPRS MODEM & BATTERY MODULE

(Model : GM-2) (Model : GM-3) (Model : GMB1)



We thank you for choosing our product for protection of your electrical device.

GSM modem accesories are designed with care. In order to user the device properly you should read all the pages of this user's manual.

Environment

Our products are designed and manufactured according to environmental regulations.

• Does not contain CFC or HCFC

Recycling

All packaging material is choosen from recyclable material. Please, be sure to recycle all the packaging material.

- If you need to store the device, store it in a dry place.
- Storage temperature is -10 $^{\circ}$ C to +70 $^{\circ}$ C

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1. INTRODUCTION

1.1 Unpackaging

External GSM/GPRS Modem (GM-2 or GM-3)
9 Volt DC Power Adapter
RS232 cable for Modem - PC connection (CC01- gray cable) – for configuration
RS232 cable for UPS-Modem connection (CC05-green cable) – for regular opreration
CD containing user's manual

2

3

4

1.2 General Overview





- **1** RS232 connection (for UPS connection)
- 2 SIM card socket (push-push type)
- **3** DC power adapter connection (9Vdc 24Vdc 1A)
- 4 GM-2 GSM modem external battery unit connection
- 5 GSM antenna connection
- **6** GM-3 internal battery unit on/off switch
- 7 Display LEDs
- 8 Battery charge status LED

1.3 Functions

GSM/GPRS modem, gets information on alarms and warnings of the UPS via RS232 communication and informs user about these alarms and warnings with SMS. Device, adds ability to connect and communicate with UPS over a GSM network.

Note:

- GSM / GPRS modem can only be used with UPS models supporting TX301, TX300 and TX100 protocols.
- Local GSM network is used for operation. There is no GSM operator limitation.

1.4 Technical Specification

	Baud Rate	2400		
RS232 MODEM	Parity	None		
	Stop bit	1		
	UPS connection	RX, TX, Gnd		
	Protocol	Automatic(depends on UPS model)		
	Specification	Dualband EGSM900 / GSM1800 Controlled with AT commands SMS support Output performance: – Class 4 (2 W) for EGSM900 – Class 1 (1 W) for GSM1800		
MODEM	GPRS data	GPRS Class 10		
	SMS	Point-to-point MT and MO SMS cell broadcast Text and PDU mode		
	Data mode	Non-transparent mode		
	Certification	R&TTE approved GCF approved		
	Operation voltage	9Vdc ~ 24Vdc 1A		
GENERAL	Operation temperature	-10 °C-+70 °C		
	Supported UPS protocols	TX100, TX300, TX301		

2. INSTALLATION

In order to use GSM modem functionality, user phone numbers should be saved modem. **"GSM Configurator"** software is used for this operation. For configuration with software, user should user CC01 RS232 cable(gray cable) for modem – PC communication. During configuration, SIM card should not be inserted into modem.

GSM modem which is connected to UPS with CC04 RS232 cable(green cable), communicates with UPS and starts regular operation after configuration process.



MODEM – PC Connection (Configuration Mode)

• <u>CC01 cable pin structure</u>







7 0--0 5

3. Modem setup with GSM Configurator software

GND

This program used for configuring and testing GM2 and GM3 GSM modems from the RS232 port or USB port of PC. (with RS232 - USB converter).

GND

What you can configure :

- 1. You can set 8 telephone numbers to send sms when any alarm is occured on UPS.
- 2. You can set sms language when any alarm is occured on UPS.(Turkish and English)
- 3. You can set alarm report type. (Only SMS, Only GPRS, SMS & GPRS)
- 4. You can set Server IP and PORT numbers for GPRS reporting when any alarm is occured on UPS.
- 5. You can choose any alarm which starts the alarm process by setting alarm maskes.

SETUP

You should click the Tescom's setup icon double time for installing program.



Microsoft Framework 4.0 installation is required to run the program.

English language is selected in the window above and the "OK" button is clicked. If the Microsoft Framework 4.0 is not installed on your PC, the following window appears on your screen.

Kurulum	
?	This application requires Microsoft Framework 4.0 which is not yet installed on this computer. Would you like to download it now?
	<u>Evet</u> <u>H</u> ayır

When the button of "Yes" is clicked in the above window, it connects to Microsoft's link by using your active explorer program and the following window is opens.

Microsoft	
Download Center	
Shop + Products + Categories + Support + Secu	rity ~
Microsoft .NET Framework 4 (Web Installer)
Select Longuage: English	Download Free PC updates
	Software undates
ri i i i i i i i i i i i i i i i i i i	de la de déserve arreste arreste
The Microsoft .NET Framework 4 web installer pack Framework components required to run on the tar	age downloads and installs the .NET + Service pads get machine architecture and OS. An + Hardware drivers
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The Microsoft .NET Framework 4 web installer pack Framework components required to run on the tar internet connection is required during the installat run and develop applications to target the .NET Fra- Details System Requirements Install Instructions Additional Information	 sage downloads and installs the .NET get machine architecture and OS. An ionNET Framework 4 is required to arnework 4. Service pads: Hardware drivers. Run Microsoft Update Microsoft suggests Download free tools to build apps for Windows Develop apps that reach the entire family Windows
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You should click the Download button and after making necessary steps would be installed

Microsoft .NET Framework 4 on your PC. You can reach the next step if you repeat the above steps for installing.

If Microsoft Framework 4.0 installed on your PC, the following window appears in front of you.



Following window appears when clicking the next button.

etup - GSHI CONFIGURATOR		
Select Destination Location Where should GSM CONFIGURATOR	be installed?	10 L
Setup will install GSM CONFI	GURATOR into the following	g folder.
To continue, dick Next. If you would	like to select a different fol OR	der, dick Browse. B <u>r</u> owse
At least 1,7 MB of free disk space is r	equired.	

Following window appears when clicking the next button.

Setup - GSM CONFIGURATOR		- 🗆 🗙
Select Start Menu Folder Where should Setup place the program	n's shortcuts?	
Setup will create the program	's shortcuts in the following Start Menu folder	•
To continue, dick Next. If you would lik	ke to select a different folder, click Browse.	
GSM CONFIGURATOR	Browse	
	< <u>B</u> ack <u>N</u> ext > C	ancel

Following window appears when clicking the next button.

Setup - GSM CONFIGURATOR			
Select Additional Tasks Which additional tasks should be performed	d?		5
Select the additional tasks you would like S	etup to perform wh	ile installing GSM	
Additional icons:			
Create a desktop icon			
	1	10000000	0.0000000000

Following window appears when clicking the next button.

etup - GSM CONFIGURATOR	A REAL PROPERTY AND INCOME.	
Ready to Install Setup is now ready to begin installing G	SM CONFIGURATOR on your computer.	Call
Click Install to continue with the installa change any settings.	tion, or dick Back if you want to review o	r
Destination location: C: \Program Files \GSM CONFIGURA	ATOR	4
GSM CONFIGURATOR		
Additional icons: Create a desktop icon		
		¥
	< Back	Cancel

If "Install" button is clicked, the program would be installed on your PC.



"Done" button is clicked, the program will be established if the PC.

Between the device and your computer, connect your RS232 cable in the box. If you do not have any COMM-PORT input on your computer, you should provide USB - RS232 converter to connect your device to your computer.

🖳 Aygıt Yöneticisi	
Dosya Eylem Görünüm Yardım	
Ağ Bağdaştrıcıları Bağlantı Noktaları (COM ve LPT) J İletişim Bağlantı Noktası (COM1) Lantronix ComPort Redirector Device (COM6) Lantronix ComPort Redirector Device (COM7) Lantronix ComPort Redirector Device (COM8) Lantronix ComPort Redirector Device (COM9) USB Serial Port (COM5) Vazıcı Bağlantı Noktası (LPT1) Bilgisayar Disk sürücüleri Disket denetleyicileri	

When you plug the USB – RS232 converter, it may take a different COMM-PORT name on your PC. You should save this COMM port settings in the Comm Settings of the GSM CONFIGURATOR program.

USAGE

PC Adjust Tab

Run the GSM CONFIGURATOR program. The following window will appear when the program is executed.

GM02, GM03	GSM MODUL CO	NFIGURATOR					
PC SETTING	Sms Adjust	Gprs Adjust	General Adjust	Commands	About		
	Comm.Adj COM PORT		Search Open Close	P	ROGRAM L IGLISH APF	ANGUAGE	
		-		RE	AD FROM N	10DEM	CONNECT

From Com-setup section, click "Search" button, and then following window will appear when you click

on the COM PORT list.

PC SETTING	Sms Adjust	Gprs Adjust	General Adjust	Commands	About	
	Comm.Adj COM PORT	COM9 COM8 COM7 COM6 COM1	Search Open Close	P	ROGRAM LANGUAGE IGLISH APPLY	: •
		_		RE	AD FROM MODEM	CONNECT

📑 GM02, GM03	GSM MODUL CO	NFIGURATOR		14		
PC SETTING	Sms Adjust	Gprs Adjust	General Adjust	Commands	About	
	Comm.Adj COM PORT	COM1	Search Open Close	P EN	ROGRAM LANGUA NGLISH APPLY	GE
				RE	EAD FROM MODEM	CONNECT

After selecting the required COM port, you should click "Open" button.

should click red "CONNECT" button in the above window. If there would be no problem the connection between your PC and your device is provided, the following window appear.

🔤 GM02, GM03	GSM MODUL CO	NFIGURATOR		S.		
PC SETTING	Sms Adjust	Gprs Adjust	General Adjust	Commands	About	
	Comm.Adj — COM PORT	COM1 -	Search Open Close	P	ROGRAM LANGUAG IGLISH APPLY	SE
				RE	AD FROM MODEM	CONNECT

This connection remains active as long as data communication.. If there is no communication between PC program and GSM modem during 20 seconds, the connection will be lost. You should click "CONNECT" button to link back.

After this process, if you click "READ FROM MODEM" button, a window will appear as follows and the modem information (phone numbers, server ip and port 's, etc.) will transfer to the computer.

GM02, GM03 GSM MODUL CONFIGURATOR						
PC SETTING	Sms Adjust	Gprs Adjust	General Adjust	Commands	About	
	Comm.Adj COM PORT	СОМ1 💌 _	Search Open Close	P	ROGRAM LANGU/ IGLISH APPLY	AGE
			,,	R	AD FROM MODEM	CONNECT

Sms Adjust Tab

If you click the Sms Setting Tab, the following window will appear.

SETTING Sms	Adjust Gprs Adj	just General Adjust	Commands	About	
PHONE NUMBERS Phone No 1: Phone No 2: Phone No 3: Phone No 4: Phone No 5: Phone No 6: Phone No 7: Phone No 8:	-(ALARM SELECT Protocol A01 O/P A02 OVE A03 BAT A04 OUT A05 OUT A05 OUT A06 OVE A07 SHO A08 ON	TION TX301 OVERCURRENT RTEMP SHUT T HIGH PUT V.LOW PUT V.LOW PUT V.HIGH RLOAD SHUT RT CIRCUIT MAINTENANCE		SAVE TEST SMS
Alarm Lang.	ENGLISH 💌	ALL	c	LEAR	

In this tab;

- 1. In "Telephone Numbers" section, you can set 8 phone numbers and you can choose SMS language. The places of phone numbers left blank will not be saved.
- 2. In the "Alarm Select" section, you can choose alarms which trigger the sending sms process.
- 3. "SAVE" button, you can record the settings to the modem.
- 4. "TEST SMS" button sends test sms to the mobile numbers that is saved.

GPRS Adjust Tab

If you click "Gprs Adjust" tab, the following window appear.

C SETTING	Sms Adjust	Gprs Adjust	General Adjust	Commands	About	
	SER	VER IP	<u> </u>			
	SER	VER PORT	· <u>• · · · ·</u> · ·			
	SER	VER AYARI	Request F	Not Reques	t	
		SAVE	TES	T GPRS		
				RE	AD FROM MODEM	CONNEC

You can set the IP and PORT numbers of the server for GPRS reporting. When entering the IP and PORT numbers, the gap should be written to 0.

For example : 89-250-192-38 should be written 089-250-192-038.

After sending report , for taking report confirmation from the server, there are two options that are "Request" and "Not Request". If the response is not necessary, "Not Request" is recommended.

When the "READ FROM MODEM" button is clicked, it will read server IP and PORT which is registered from modem. When the "TEST GPRS" button is clicked, it will send test gprs report to the server.

GM02, GM03 GSM MODUL CONFIGURATOR							
PC SETTING	Sms Adjust	Gprs Adjust	General Adjust	Commands	About		
	SER	VER IP	089-250-192-038				
	SER		-00050-				
	JEN	VENTON	00050				
	SER	VER AYARI	Request	Not Reques	t		
		SAVE	TE	ST GPRS			
		SHITE					
1				R		CONNECT	

General Adjust Tab

General Settings tab, as shown in the following window "ALARM REPORT TYPE" and "USER PASSWORD" setting can be made.

ALARM REPORT TYPE USER PASSWORD Image: Only SMS OLD PASSW. Image: Only GPRS NEW PASSW. Image: SMS AND GPRS NEW PASSW. SAVE REPORT TYPE SAVE NEW PASSWORD	C SETTING	Sms Adjust	Gprs Adjust	General Adjust	Commands	About	
Image: Only SMS OLD PASSW.		ALARM	REPORT TYPE		USER PASSV	VORD	
Image: Conly GPRS NEW PASSW.		🔽 Only	SMS	OLD	PASSW.		
SMS AND GPRS NEW PASSW. SAVE REPORT TYPE SAVE NEW PASSWORD		Conly GPRS SMS AND GPRS SAVE REPORT TYPE		NEW	PASSW.		
SAVE REPORT TYPE SAVE NEW PASSWORD				NEW	PASSW.		
				s	AVE NEW PAS	SWORD	
	SAVE REPORT TYPE		s	AVE NEW PAS	SWORD		

In the ALARM REPORT TYPE section the alarm reporting type is selected to determine how modem conveys the alarms to the users.

"Only SMS" option sends an SMS to the phone number that was set when the alarm occurred. "Only GPRS" option sends an alarm report to the servers, which they have IP and PORT values when the alarm occurs.

"Both SMS and GPRS" also performs with the option of either reporting process when alarms occur.

Command Tab

📑 GM02, GM03	GM02, GM03 G5M MODUL CONFIGURATOR					
PC SETTING	Sms Adjust	Gprs Adjust	General Adjust	Commands	About	
				<u>16</u>		
			TEST SMS	1		
			1251 51415			
			TEST GPRS			
1				RE	AD FROM MODEM	CONNECT

Sms and gprs settings on the other tabs can be tested in this tab

4.GSM Modem Operation

GSM Modem starts regular operation by connecting modem to UPS with CC05 RS232 cable(green cable) after configuration process. **SIM card should be inserted before powering GSM modem.**

GSM modem automatically choses proper communication protocol for respetive UPS model. GSM modem supports TX100, TX300 and TX301 UPS communication protocols.

GM-3 models have internal battery unit. If GSM modem has external power, batteries will charge(if needed). If external power is cut off, device will operate on battery energy. This feature allows modem to send SMS to user even if batteries are empty. After powering GM-3 modem, switch the ON/OFF switch to "ON" position.

Connect power adapter to GM-2 modem during stand alone operation.

5.GMB1 external battery unit connection (for GM-2 modem)

There is no internal battery unit in GM-2 modems. Therefore, GM-2 modem is powered from UPS and if UPS output is closed GM-2 modem will not operate. For operation under such a situation, an external GMB1 battery unit is designed to work with GM-2 modems. Connection of GMB1 battery unit to GM-2 modem is shown below. When GMB1 battery unit is connected to GM-2 modem, DC power adapter should be connected to GMB1 battery unit instead of GM-2 modem. Also, ON/OFF switch of the GMB1 battery unit should be switch ON.



Connection should be made as shown, with 0.25mm cables

DC power adapter should be conncted to this connector

ON/OFF switch should be "ON" alınmalıdır.



If battery voltage is sufficient this LED will light up

6.Display LEDs



LEDs placed on the front panel of the Modem displays communication status.

Led durumu	Açıklama			
Comm (Rod)	Long blinking interval: UPS RS232 connection error			
comm (Red)	Short blinking interval: UPS RS232 connection established			
CSM (Croop)	Blinking : Searches for GSM signal			
GSWI (Green)	Continuous light : GSM signal OK			
SINA fault (Dad)	No light: SIM card inserted			
Sivi lault (Red)	Continuous light: SIM card not inserted			
SMS (Green)	Blinks on every SMS send operation			
	No light: GPRS not connected			
GPRS (Green)	Continuous light: GPRS connected			
Ready (Vallow)	Continuous light: battery charge is sufficient(for units with battery,			
Reduy (renow)	GM-2 with GMB1 battery unit and GM-3)			

