

RTU900-GM

Model: GM900

Applications

- Excellent for Telemetry
- Remote communication with stations
- Industry
- Meteorology
- Hydrology
- Traffic monitoring
- Intelligent monitoring of inaccessible places
- Alarm
- Data transmission

Features

- Use of all SIM cards
- Great signal level
- RS232 port
- RS485 Possibility
- Low power consumption
- Adjustable baud rate
- External antenna
- Auto connect to GPRS Network and Internet
- Possibility of setting IP address and Port number
- Possibility of setting RTU parameter remotely and by SMS
- Consecutive effort to connect network to obtain IP address
- LED indicator for network
- User friendly Software for configuration
- Protocol determination for TCP/UDP





| Specification | | | |
|-------------------|---------------------------------|--|--|
| Power supply | 1235VDC | | |
| Power consumption | normal mode: 20mA max | | |
| | operating mode: 60mA max | | |
| Connection | RS232 Port | | |
| LED | PWR/NET | | |
| Standard | GSM/GPRS | | |
| Band option | Quad band 850/900/1800/1900 MHz | | |
| Sim number | 1 | | |
| Sim control | 3V | | |
| Port number | 1 | | |
| Serial Standard | DB9 female connector | | |
| Serial Signal | TxD, RxD, GND, DTR, RTS | | |
| IP protection | IP55 | | |
| Weight | 200g | | |

Configuration software:

| 0 | RTU Configurator | | |
|---|------------------------|--------------------------------|-------------|
| | Connect Open Port | | |
| | Get Server IP : | 172.0.0.10 | |
| | Get Station Name : | Test 🔮 | |
| | Get Application Name : | MCINET | |
| | Get Station ID : | 27102 | |
| | Get Server Port : | 8083j | |
| | | Config Mode 🧽 Set Config 🔀 Clo | se Config 🕐 |

You can config this RTU by simple configurator software, hyper terminal or SMS.



How to use this RTU:

- Connect the RTU to PC by RS232 port.
- Open hyper terminal with setting of 9600, n, 8, 1

MCINET]

9600 8-N-1

[IP: 10.232.52.15] [CREATE TCP CONNECTION] [Data delay][GPRS Reactive]

Auto detect

[CSTT= [CIICR]

nnected 0:05:35

[Passed] [Passed]

[Passed] [Failed]

NUM

• Turn off/on the RTU to appear some information on hyper terminal (RTU hardware and software version)

In debug mode you can see the whole operation steps consecutive.

*to enter in debug mode you should use the command of **\$DBG** (explained on table below). Otherwise the serial port side is silent.

| Ø df - HyperTerminal (Unlicensed) | The second se | |
|---|---|----|
| <u>Eile Edit View Call Iransfer H</u> elp | | |
| C 🔗 🍘 🐉 🗠 🎦 🖀 | | |
| GPRS Module HW:1.0 SW:2.7 ==================================== | | |
| | | |
| Connected 0:04:24 Auto detect 9600 8-N-1 SCROLL | CAPS NUM Capture Print echo | // |
| | | |
| df - HyperTerminal (Unlicensed) | | |
| D 📚 😂 😨 🖽 兄 🖫 | | |
| GPRS Module HW:1.0 SW:2.7 | | |
| Station ID :40749 Station Name :Tehran APN Name :MCINET Server IP :79.127.98.14 Server Port :8093 | | |



If a new setting is needed, it is necessary to go to config mode. For this reason restart the RTU then press Enter key until to display Terminal Ready Config mode>. Now the RTU is ready to accept the commands.

*for config mode first go to the **properties** of hyper terminal and **setting** tab, then press the **ASCII setup** and check the **send line ends with line feeds**.

| Test Properties 2 | |
|---|---|
| Connect To Settings | |
| Function, arrow, and ctrl keys act as | 1 |
| Terminal keys Windows keys | |
| Backspace key sends | |
| © Ctrl+H ○ Del ○ Ctrl+H, Space, Ctrl+H Send line ends with line feeds | |
| Emulation: | |
| Auto detect Terminal Setup Line delay: 0 milliseconds. | |
| Telnet terminal ID: ANSI Character delay: 0 milliseconds. | |
| Backscroll buffer lines: 500 | |
| Revenue when connecting or disconnecting | |
| Append line feeds to incoming line ends | |
| ASCII Setup | |
| Virap lines that exceed terminal width | |
| | |
| OK Cancel | |
| File Edit Yiew Call Iransfer Help GPRS Module HW:1.0 SW:2.7 Station ID :40749 Station Name :Tehran APN Name :MCINET Server IP :79.127.98.14 Server Server: :127.98.14 Server: Server: :127.98.14 SERVERP70RT: :129.33 #GNAME? :127.98.14 Tehran :40749 \$GRAME? :127.98.14 Server: :127.98.14 SERVERP10? :127.98.14 WOINE? :127.98.14 Server: :127.98.14 < | |
| Connected 0:11:42 Auto detect 9600 8-N-1 SCROLL CAPS NUM Capture Print echo | |



Commands list:

| | Command | Result | Explain | | |
|----|--|-------------|--|--|--|
| 1 | \$SERVERIP? | 79.12.10.19 | Read IP address of destination server | | |
| 2 | \$SERVERIP=79.12.10.19 | ОК | Set IP address of destination server | | |
| 3 | \$SERVERPORT? | 8092 | Read software port of destination server | | |
| 4 | \$SERVERPORT=8092 | ОК | | | |
| 5 | \$APN? | MCINET | Read operator access point | | |
| 6 | \$APN=MCINET | ОК | Set operator access point | | |
| 7 | \$GNAME? | Tehran | Read station name | | |
| 8 | \$SNAME=Tehran | ОК | Set station name | | |
| 9 | \$GID? | 12740 | Read station ID | | |
| 10 | \$SID=12740 | ОК | Set station ID | | |
| 11 | \$DBG? | 0 or 1 | Read operation mode 0=operational 1= debug | | |
| 12 | Enter/exit to debug mode | 0 or 1 | Exit \$DBG=0 Enter \$DBG=1 | | |
| | Obviously, after the desired settings and exit from debug mode, just connect the serial port of RTU to datalogger or other devices and restart the RTU to begin the data transmission. | | | | |

Send command by SMS to RTU:

| 🌯 df - HyperTerminal (Unlicensed) | - | | to and the second data | |
|--|---|-------------|------------------------|-------------|
| <u>File Edit View Call Transfer Help</u> |) | | | |
| | | | | 1. |
| [SET BUADRATE] [SET CMGF=1] SMS Content1:+CMGR: " SMS Content2:\$SERVER] Source No.:+989123779 +CMGS: 27 Reseting GPRS Module HW:1.0 SM | [Passed] [Passed] REC UNREAD","+98 P? 527 | 9123779527" | ,"","15/06/10,14 | ÷:37:06+14" |
| Station ID :40749 Station Name :Tehran APN Name :MCINET Server IP :79.127. Server Port :8093 Wait For CR :1 | 98.14 | | | |
| | | | | E |
| Connected 0:08:45 Auto detect | 9600 8-N-1 SCROLL | CAPS NUM | Capture Print echo |] • |

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Send command to RTU by SMS and display answer on phone:





Communication diagram

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