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

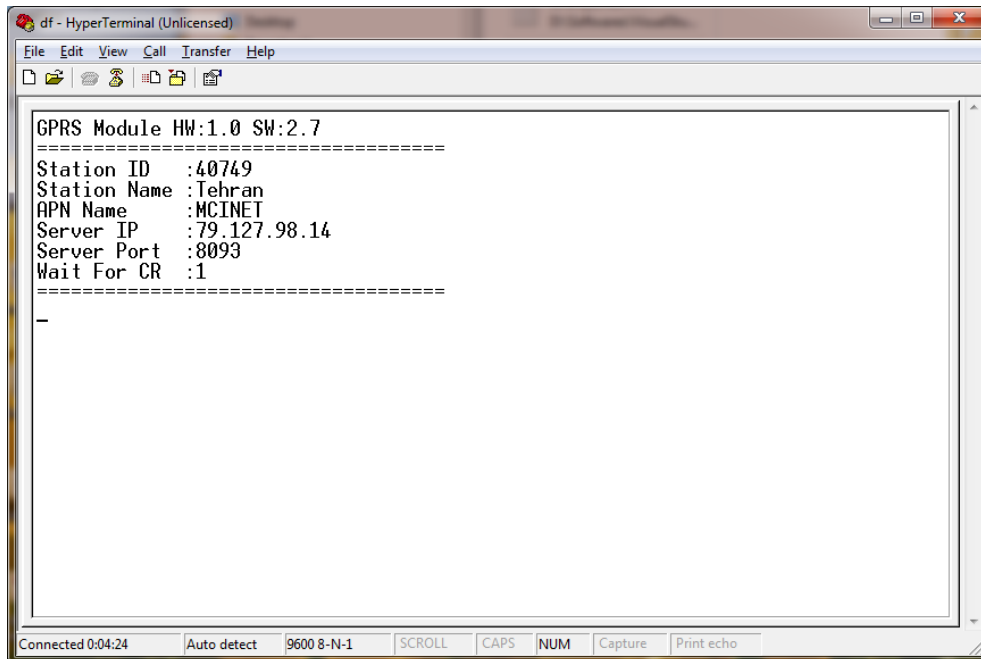| Specification	
Power supply	12…35VDC
Power consumption	normal mode: 20mA max operating mode: 60mA max
Connection	RS232 Port
LED	PWR/NET
Standard	GSM/GPRS
Band option	Quad band 850/900/1800/1900 MHz
Sim number	1
Sim control	3V
Port number	1
Serial Standard	DB9 female connector
Serial Signal	TxD, RxD, GND, DTR, RTS
IP protection	IP55
Weight	200g

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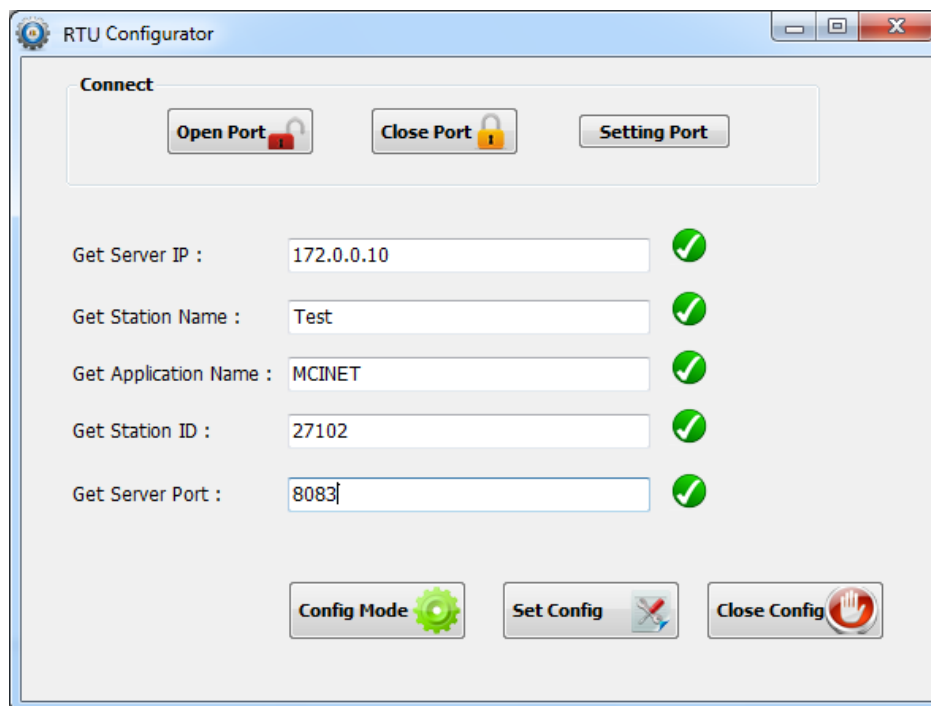
You can config this RTU by simple configurator software, hyper terminal or SMS.

How to use this RTU:

- Connect the RTU to PC by RS232 port.
- Open hyper terminal with setting of 9600, n, 8, 1
- Turn off/on the RTU to appear some information on hyper terminal (RTU hardware and software version)
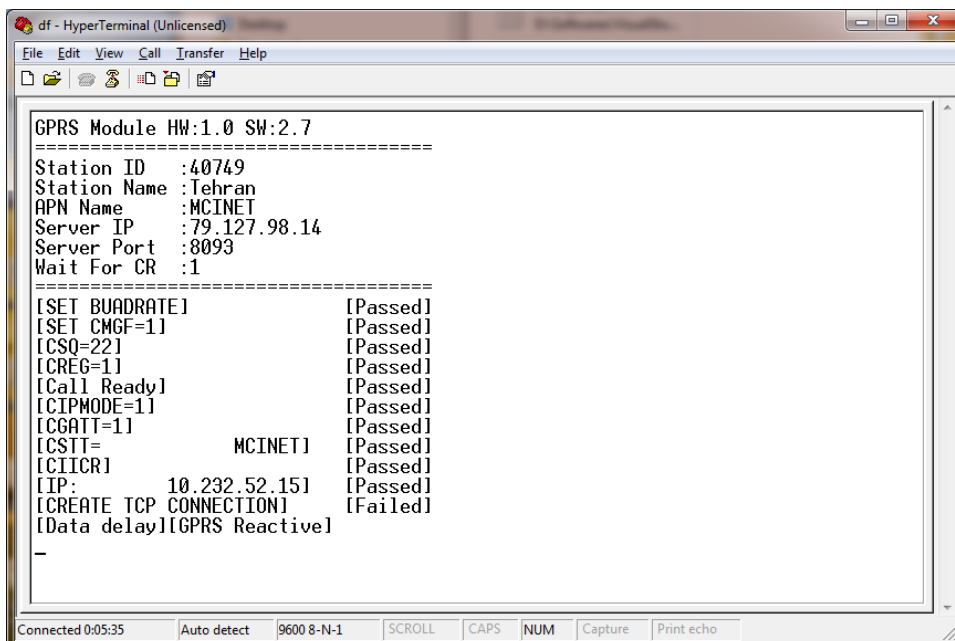
In debug mode you can see the whole operation steps consecutive.

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

```
df - HyperTerminal (Unlicensed)
File  Edit  View  Call  Transfer  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 Port  :8093
Wait For CR  :1
===================================
_

Connected 0:04:24    Auto detect    9600 8-N-1    SCROLL   CAPS   NUM   Capture   Print echo
```

```
df - HyperTerminal (Unlicensed)
File  Edit  View  Call  Transfer  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 Port  :8093
Wait For CR  :1
===================================
[SET BUADRATE]              [Passed]
[SET CMGF=1]                [Passed]
[CSQ=22]                    [Passed]
[CREG=1]                    [Passed]
[Call Ready]                [Passed]
[CIPMODE=1]                 [Passed]
[CGATT=1]                   [Passed]
[CSTT=         MCINET]      [Passed]
[CIICR]                     [Passed]
[IP:       10.232.52.15]    [Passed]
[CREATE TCP CONNECTION]     [Failed]
[Data delay][GPRS Reactive]
_

Connected 0:05:35    Auto detect    9600 8-N-1    SCROLL   CAPS   NUM   Capture   Print echo
```

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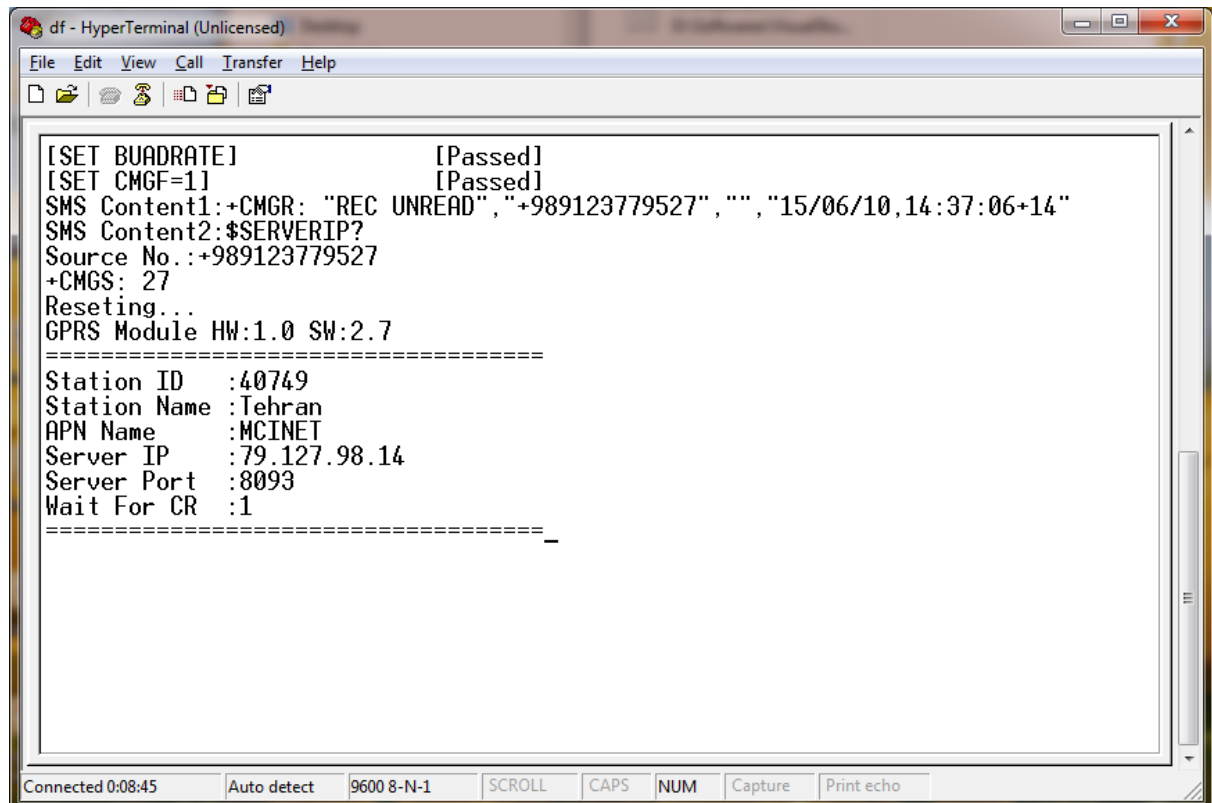
*for config mode first go to the **properties** of hyper terminal and **setting** tab, then press the **ASCII setup** and check the **send line ends with line feeds**.
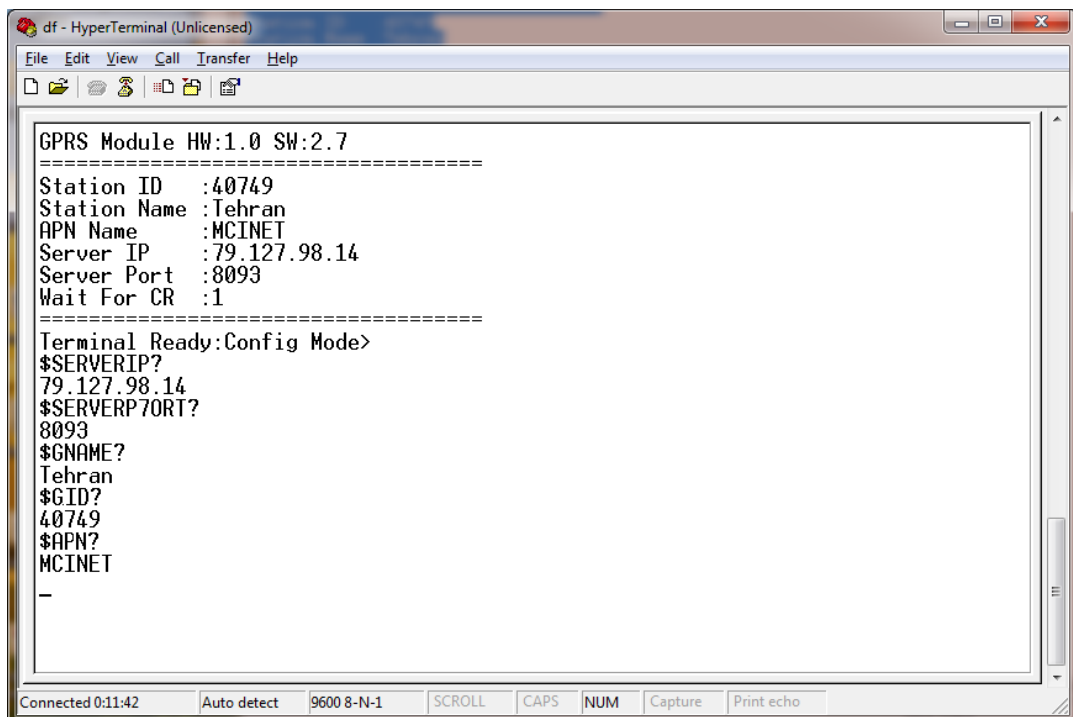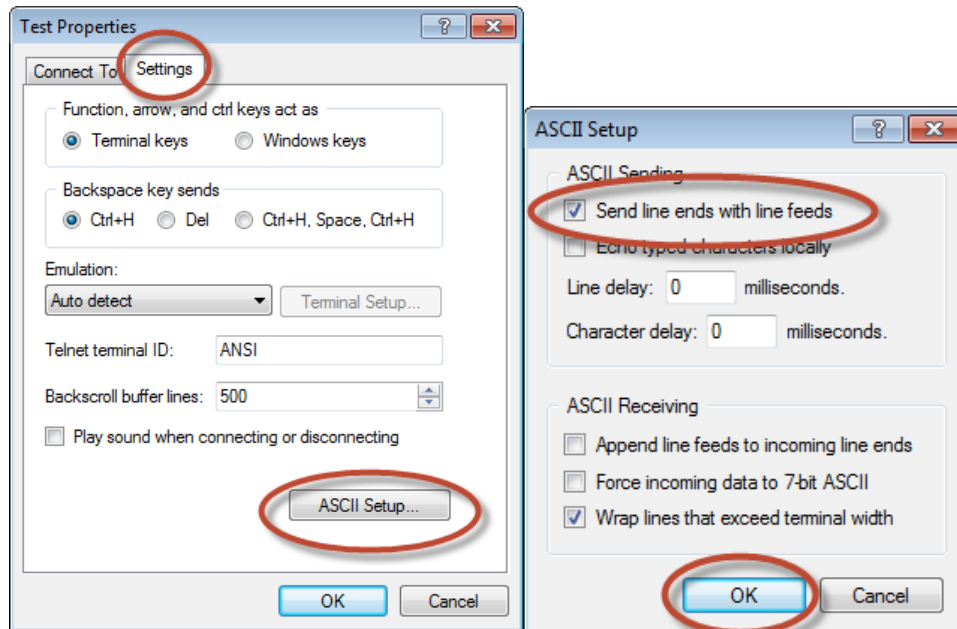
Commands list:

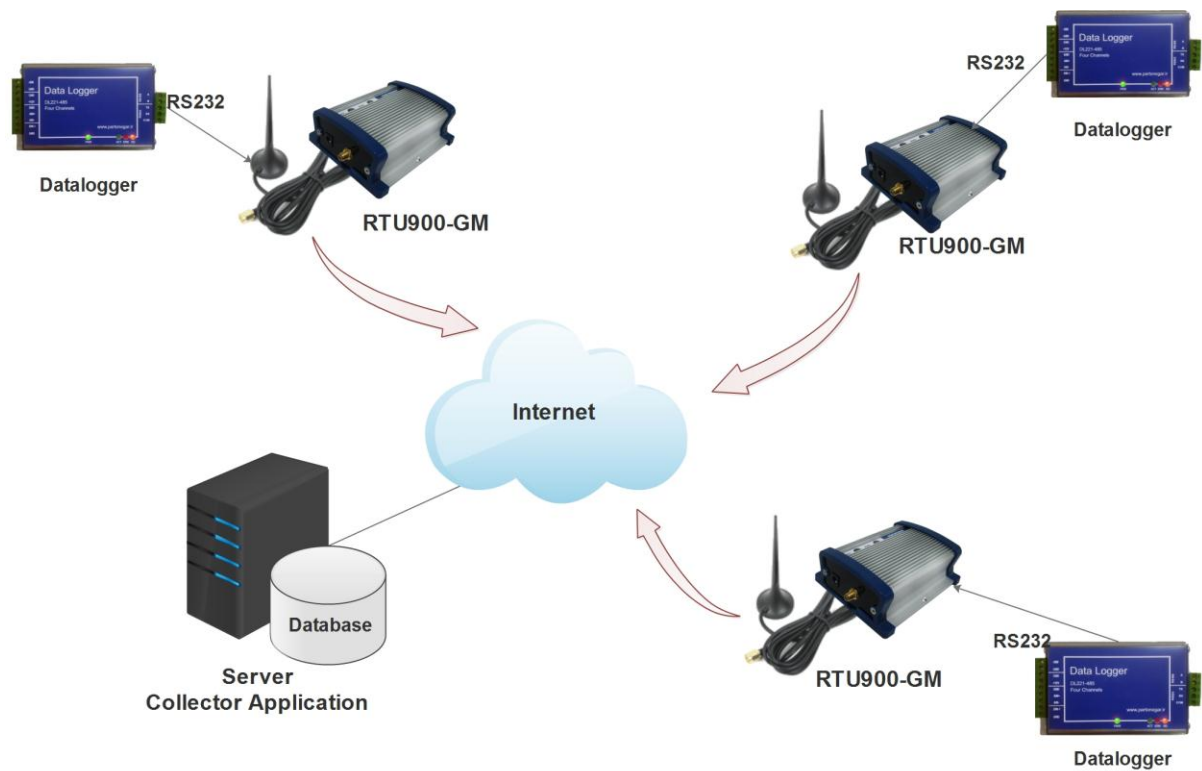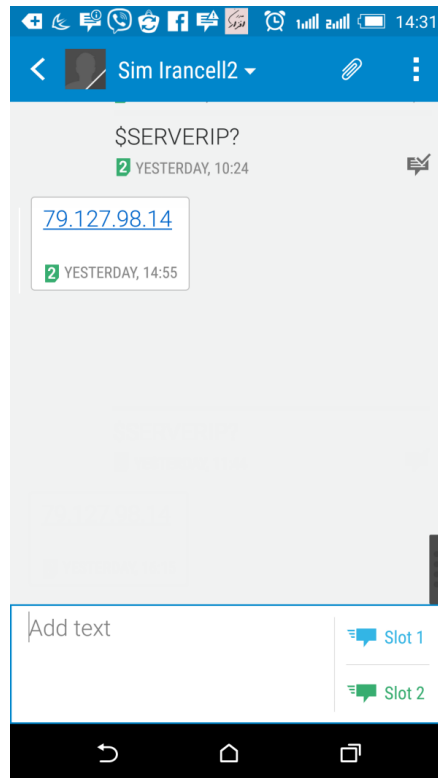|	Command	Result	Explain
1	$SERVERIP?	79.12.10.19	Read IP address of destination server
2	$SERVERIP=79.12.10.19	OK	Set IP address of destination server
3	$SERVERPORT?	8092	Read software port of destination server
4	$SERVERPORT=8092	OK	
5	$APN?	MCINET	Read operator access point
6	$APN=MCINET	OK	Set operator access point
7	$GNAME?	Tehran	Read station name
8	$SNAME=Tehran	OK	Set station name
9	$GID?	12740	Read station ID
10	$SID=12740	OK	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:

```
[SET BUADRATE]              [Passed]
[SET CMGF=1]                [Passed]
SMS Content1:+CMGR: "REC UNREAD","+989123779527","","15/06/10,14:37:06+14"
SMS Content2:$SERVERIP?
Source No.:+989123779527
+CMGS: 27
Reseting...
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
Wait For CR  :1
==================================
```

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

Communication diagram