



iLOG

Internet enabled RTU/Data loggers

iLog-GSM/EDM: Internet connectivity

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1. Modem control

iLOG-GSM contains a GSM/GPRS modem (Wavecom A406B). iLOG-EDM supports external PSTN and GSM/GPRS modems and provides an internal relay contact for switching the modem power supply. The MODEM supply switching serves following two purposes:

- Saving power in the case of a battery supplied operation.
- Recover operation if the modem hangs up.

iLOG-GSM controls the modem supply internally. In the case of iLOG-EDM communication reliability can only be assured by wiring the modem supply through the internal power switch (see iLOG Manual V2.2, Section 2.3.2).

2. Requirements & limitations

2.1 Dial up GSM

What you need:

- An iLOG-GSM unit or iLOG-EDM unit with external GSM/GPRS modem.
Recommended modems are:
 - Wavecom FASTRACK & Multitech MTCBA modems
 - Siemens TC35
- A valid GSM SIM card with data/fax services enabled, so that the device will be capable of establishing data calls to an ISP provider.
- A valid internet account with dial up connectivity service.
- A valid email or ftp account for data transfer.

2.1.1 Email account

The email account must have no restrictions such as:

- Spam filtering
- POP3 authentication
- Secure connection
- IP filtering

A typical webmail type account should function appropriately.

Required settings are:

- SMTP address
- Email username
- Email password
- In certain cases where SMTP authentication is required:
 - Authentication user name
 - Authentication password

By default all SMTP communications are carried out using port 25 (this cannot be changed) and with standard format types (Email with binary attachment files for data transfer, plain text format Email for alarms).

2.1.2 FTP

The FTP account must have no restrictions such as:

- IP filtering.
- Passive mode FTP is not yet supported.
- A typical FTP account should function appropriately.

Needed settings include:

- FTP address
- FTP username
- FTP password
- Default FTP directory path e.g. \ilog01\

By default all FTP communications are carried out in binary format using port 21 (The port number can be changed. See iLOG Manual V2.2, Section 3.6.7).

2.2 GPRS

What you need:

- iLOG-GSM unit or iLOG-EDM unit with external GSM/GPRS modem.
- A valid GSM SIM card with GPRS data internet services (not simple WAP) enabled so that the device will be capable of internet communications.
- A valid email or FTP account for data transfer.

2.2.1 Email

Same requirements & limitations as 2.1.1.

2.2.2 FTP

Same requirements & limitations as 2.1.2.

3. Device Setup

Before starting to set the device, it is recommended to execute the Factory Settings procedure, so that all device parameters are reset.

(Menu) > Commissioning > Factory Settings

With the device not powered, install the SIM card. If the SIM card has a pin number set then power up the device without SIM, and set the pin number. Enter the menu by pressing **MAIN** and entering the default password <2466>.

(Menu) > Setup > Communication > GSM > GSM PIN

Alternatively, disable the PIN number using a mobile phone.

3.1 Dial up GSM connection parameters

Power up the device and make the following settings:

(Menu) > Setup > Communication > TCP/IP Parameters

1. Set the modem type:

- ILOG-GSM: Factory set to GSM P2
- iLOG EDM: Set 'Hayes' for a PSTN modem, GSM P2 for a Wavecom GSM modem, GSM P1 for a Siemens GSM modem.

2. Set the appropriate ISP phone number to dial:

ISP Phone No **eg. 8962555555**

3. Enter the internet account username required for user login:

ISP Username **eg. infinite**

4. Enter the internet account password required for connection authentication.

ISP Password **eg. Indinf2005**

Having performed the actions described above, the device is set to communicate over the internet using a typical ISP account.

3.2 GPRS connection parameters

Power up the device and make the following settings:

(Menu) > Setup > Communication > TCP/IP Parameters

1. Set the modem type:

- ILOG-GSM: Already set to GSM P2
- iLOG EDM: Set 'Hayes' for a PSTN modem, GSM P2 for a Wavecom or a Multitech GSM modem, GSM P1 for a Siemens GSM modem.

2. Set the appropriate ISP phone number to dial

ISP Phone No **eg. *99**1#**

3. Enter the GPRS account username required for user login

ISP Username **eg. internet**

4. Enter the GPRS account password required for connection authentication.

ISP Password **eg. none**

5. Set the modem init string to include the GPRS apn number. Eg. If the APN name is 'internet':

Modem Init String **AT+CGDCONT=1,\"IP\",,\"internet\"**

Having performed the actions described previously, the device is set to connect to the internet using GPRS.

3.3 Data transfer parameters

3.1 Send rate

Set the data transfer rate (see iLOG Manual V2.2, Section 3.6.1):

(Menu) > Setup > Communication > Send rate

Send rate **eg. 10 (every 10 minutes)**

3.2 Data send mode

Set the desired data transfer mode by selecting Email, FTP, or both (see iLOG Manual V2.2, Section 3.6.3):

(Menu) > Setup > Communication > Data send mode

3.3 Email parameters

Set up all Email account related parameters (see iLOG Manual V2.2, Section 3.6.6):

(Menu) > Setup > Communication > e-mail

e-mail SMTP **eg. mail.isp.com**

e-mail POP3

e-mail Username **eg. thomas@indinf.gr**

e-mail Password **eg. 4554**

e-mail Recievers **eg. george@indinf.gr**

3.4 FTP parameters

Set up all FTP account related parameters (see iLOG Manual V2.2, Section 3.6.7):

(Menu) > Setup > Communication > Ftp > Ftp Server 1

Server 1 Address **eg. ftp.isp.com**

User Name **eg. thomas@indinf.gr**

User Password **eg. 4554**

Path **eg. ilog01**

Port Number **eg. 21**

Having performed all the above, the device will connect to the internet and send logged data at the specified transfer rate.

4. Communication functionality

4.1 Dial up GSM

- **Email**
 - Send: Data, alarms
 - Receive: Not supported
- **FTP**
 - Send: Data
 - Receive: Not supported
- **HTTP– Web Server**
 - Web page: Usually through dynamic IP assignment by the ISP provider
- **TCP Socket**
 - In/Out: Commands/responses on port 14473 and through a dynamic IP assigned by the ISP provider
- **SMS**
 - Send: Alarms, command responses
 - Receive: TCP commands

4.2 GPRS

- **Email**
 - Send: Data, Alarms
 - Receive: not supported
- **FTP**
 - Send: Data
 - Receive: Not supported
- **HTTP– Web Server**
 - Web page: Although published, it is not possible to view it because a non internet IP is assigned by the Mobile Telephony provider.
- **TCP socket**
 - In/Out: Not possible to use it for the same reason as above (non internet IP).
- **SMS**
 - Send: Alarms, command responses
 - Receive: Commands

5. Device Communications Testing

There are numerous ways to test the functionality of a configured iLOG GSM/EDM device. Only the simplest procedures will be described.

5.1 Dial up or GPRS connection verification

Internet connectivity can be tested as follows:
Set the parameter '**Internet connect**' to '**ON**',

(Menu) > Setup > Communication > Internet connect → ON

and exit the menus. The device will connect to the internet by starting the web server. After a short while and a couple of relative messages:

If "Opening TCP Port ..." message is displayed, then the device is connected. The dynamic connection IP can be viewed either from within the respective menu item (Setup > View IP address) or by pressing the **SHIFT (0)** button and then the **ESC** button.

Enter the device IP in a web browser on a PC connected to the Internet to view the iLOG web page.

An alternative way to verify the connection, is to issue a ping command: eg. at a DOS prompt window, type "ping IP" and enter. The answer should be:

```
Reply from <IP address> bytes 32 time= xxx ms TTL= xxx
```

Note that using GPRS the iLOG web page cannot be viewed remotely (non internet IP). Similarly no ping function can be performed.

5.2 Email sending verification

Prior to setting the Email parameters on an iLOG device, it is recommended to test the Email account functionality using a PC Email client as Outlook Express by sending a test email.

To test Email send functionality select the respective test function after setting the appropriate parameters:

(Menu) > Test Comms > Email

Enter the menu item and press **OK**.

The iLOG device will connect to the ISP and send a data Email. If the resulting message is 'OK', then everything is set correctly.

If an error message is displayed, review the settings configured on the device and refer to section 8.7 of iLOG Manual V2.2 to review error description.

You can receive the Email using a normal Email client (eg. Outlook Express, Eudora, etc.) and view the data.

5.3 FTP verification

Prior to setting the FTP parameters on an iLog device, it is recommended to test the FTP account functionality using a normal FTP client such as windows FTP. A simple FTP connect and a send/receive procedure of a text file is enough.

To test FTP send functionality select the respective test function after setting the appropriate parameters:

(Menu) > Test Comms > FTP

The iLOG device will connect to the ISP and send data via FTP. If the resulting message is 'OK', then everything is set correctly.

If an error message is displayed, review the settings configured on the device and refer to section 8.7 of iLOG Manual V2.2 to review error description.

An FTP file can be viewed/retrieved by using any normal FTP client (eg. WsFtp, Windows Explorer, etc.).