



iLOGGER DATALOGGER

iLogger model Datalogger Control Unit



PRODUCT DESCRIPTION

Backed by its more than 25 years of experience in the field of environmental monitoring, ETG has developed a new control unit specially studied for environmental monitoring, remote control and alert stations. Its engineering and the protocols used make it an open and at the same time flexible and modular solution.

The iLogger control units can be configured with non-proprietary software and they present data uncoded both on CSV files and through web interface. The purpose of this new product is to obtain modular, reliable, innovative, easy to maintain instruments with low consumption, that can be interfaced with any type of card on the market. iLogger has also been designed and built according to the dictates of the W.M.O. (World Meteorological Organization), certified based on the current CE rules for electromagnetic emissions conducted and irradiated in a residential environment.

OPERATION

The basic unit of the system and core of the entire iLogger architecture is the gateway. It is made up of 2 cards:

- **CPU card**
- **Interface card**

The gateway supervises acquisition of the field data both through its internal channels and through the external expansion cards, in this way achieving the most extensive configuration modularity.

The communication system is based on the ISSNET bus on which a consistent and open self consistent protocol transits, the information (data and commands) exchanged in all iLogger Dataloggers is uncoded. ISSNET is used both for communication between the iLogger cards and for exchanging centre-station data, thus achieving full openness of the network and modularity of the system architecture.

Data can be extracted:

Locally:

- Laptop connected directly to the iLogger via wireless or RS232
- Reading of the internal memory card
- Download of files through USB port

Remotely:

- Radio modem
- GPRS–UMTS modem
- Ethernet

SELF CONSISTENT PROTOCOL

The protocol ETG uses is open and self consistent, meaning it is a protocol in which:

- the commands from and to the stations are simple and transparent
- there is no proprietary software for updating and configuring the stations; these functions can be simply performed using the web browser
- no proprietary software is needed to interpret, use and display data

The open and uncoded protocol and the presence of the Linux operating system on board also allow customised applications to be developed by the user.

GATEWAY

The core of the iLogger platform is the base unit or gateway, i-GW, an authentic industrial double processor computer consisting of a CPU board and an interface card.

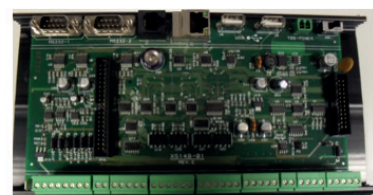
The CPU has these characteristics:

- 400 MHz microprocessor
- TFT 3.5" colour graphic display in TFT technology and 320x240 resolution
- Touchscreen keyboard on graphic display
- DRAM 64 MB DDR2 dynamic memory
- FLASH NAND 64MB non-volatile memory
- 4 GB micro-SD external memory module
- Embedded GNU/Linux operating system
- SQLite database
- Integrated web server



The interface card has these characteristics:

- Full modem RS232/485 port for connection with radio modem or UMTS
- RS232 service port
- Integrated GPRS modem
- Double USB 2.0 for PC, PDA or pen drive connection
- Ethernet 10/100 MB controller for TCP/IP connectivity
- RS232/485 port for smart sensor input
- 4 analogue input channels
- 1 rain gauge input
- 3 inputs in frequency for anemometric sensors
- 8 photo-coupler channels for digital inputs
- 1 one-wire input
- 4 TTL digital outputs



EXPANSION CARDS

Connected to the gateway on the ISSNNet bus and equipped with a 24 bit DIP Switch that allows assigning them a logic address, these cards functionally constitute the acquisition and field interface modules and allow the structure to be modularly expanded. All cards have a high performance microprocessor and are engineered to be mounted on a DIN bar.

The gateway can manage communication up to a maximum of 16 cards that leads to getting:

- **132 analogue inputs**
- **266 digital inputs**
- **68 digital outputs**

i-TLM

Expansion card able to acquire and process up to 8 single-ended analogue inputs or 4 differential inputs. Chainfor measurement made with with PGA variable gain amplifier The card has a 16 bit AD converter

i-TLS

Expansion card able to manage up to 16 galvanically isolated remote signals with isolation voltage 2.5KV.

i-TLC

Expansion card equipped with 250V 5A clean contact relay outputs. The relays are double exchange to allow the microprocessor to reread the contact.

i-HRF

The most innovative card for remote control, making it possible to build wireless monitoring systems with free band radio communication with the datalogger of reference.

FUNCTIONAL BENEFITS

- **Modular structure made to meet the real and current system requirements, adaptable and expandable as needed.**
- **Non-proprietary transmission protocol**
- **Can be interfaced with sensors of every world manufacturer**
- **Can be configured simply via web browser, both locally and remotely**
- **SQLite database for efficient remote control and simple and immediate access to data**
- **Data archiving in CSV file format and storage on extractable memory card, micro-SD model**
- **User-friendly interface that can be used with a 3.5" touchscreen**
- **Automatic updating and configuration of the system if other sensors are added**
- **On-board web server for consulting and downloading data via web browser**
- **Integrated Linux operating system**
- **Messaging with SMSs sent to predefined users in case of alarm**
- **Monitoring, display and data download from a dedicated website**
- **Data archiving, storage and backup on dedicated server**
- **Diagnostics, data archiving on dedicated server with daily analysis and validation**

SPECIFICATIONS

- Multi-card and multiprocessor structure
- Low-Power, absorbed power $<1\text{W}@12\text{ Vdc}$
- Embedded GNU/Linux operating system
- Integrated GPRS modem
- Extractable 4GB micro-SD memory card
- Ethernet 10/100 MB controller
- Wireless connectivity
- 3.5" touchscreen colour graphic display
- Integrated Apache web server
- SQLite database