

# EnviroMon

## DATA LOGGING SYSTEM

Loggers

Converters

Sensors

Alarms



*Monitor the future*

### Flexible, low-cost monitoring

Monitor different parameters including:

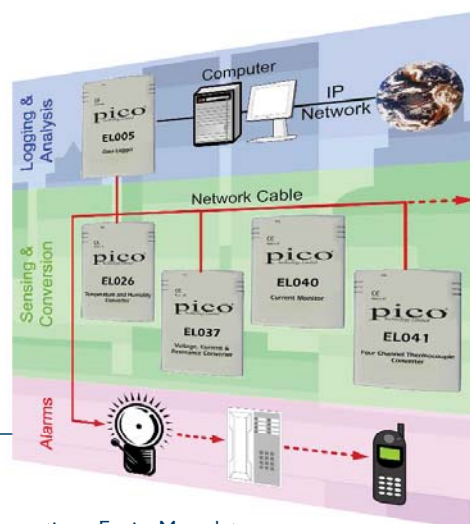
- Temperature
- Humidity
- Current
- Oxygen level
- Light level
- Pressure
- Voltage



## EnviroMon

EnviroMon is an extremely versatile, expandable data logging and alarm system. It is ideal for real-time monitoring of a wide range of parameters such as temperature, humidity and energy use. It can take measurements over large areas such as warehouses, greenhouses, cold rooms and factories. EnviroMon is made up of a number of different modules including sensors, converters, alarms and a logger.

You can network up to ten mixed converters to a logger using EnviroMon's own cabling, and add alarm options to the system if required.



### Data Logger EL005

#### What is a data logger?

A data logger is an electronic device that is used to record measurements over time. EnviroMon data loggers simply plug into a serial, USB or (with an adaptor) parallel port on your PC. The EnviroMon data logger uses sensor converters to enable a wide range of parameters to be measured and recorded.

#### What can I measure?

By connecting suitable sensors, EnviroMon products can be used to measure temperature, pressure, relative humidity, light, current, voltage, power, speed, vibration... in fact, anything that you need to measure.

#### What software do I need?

EnviroMon systems are supplied complete with the EnviroMon software for Windows for configuration and data recording. The live and archived data is viewable in spreadsheet or graphical format and can be readily exported to other applications for manipulation or trending.



### Three Channel Converter EL001

The three channels on the EL001 can measure any mix of temperature or switch position. The following

sensors are available:

- Temperature and door contact.
- Temperature sensors: -30 to +70 degrees Celsius.
- Door contact: uses reed switch and is supplied complete with magnet.



### Converter & Sensor EL026

#### Temperature & Humidity Converter

EnviroMon can measure humidity and temperature using the EL026 converter and EL030 temperature and humidity sensor. Each EL030 is calibrated for high-accuracy measurements.



### Current Monitor Converter EL040

With the present drive towards energy efficiency, the EL040 will find uses both at home and in industry. The EL040 enables an EnviroMon network to monitor three AC current signals. This can be used to find out exactly where the highest power consumption is in your system, enabling you to improve energy efficiency and save money. AC current clamps or current transformers are used to provide an input to the EL040. EnviroMon can then be used to monitor current consumption or produce alarm conditions when consumption rises above or falls below preset limits.



### Clamp TA011

#### 300 Amp AC Current Clamp

Not requiring battery power, the TA011 is ideally suited to applications where current consumption is being monitored over long periods of time.

Fixed current transformers are available for permanent installation. Please contact our sales office for further information.



## EL041

### Thermocouple Converter

The 4 channel EL041 thermocouple converter is designed to measure a wide range of temperatures with most popular thermocouples that use a miniature size thermocouple connector. Featuring built-in cold junction compensation (CJC), the EL041 has an effective temperature range of -270 to 1820°C. (The actual temperature range depends on the thermocouple being used.)

In addition to temperature measurement, the cold junction compensation can be switched off to enable the EL041 to measure  $\pm 60\text{mV}$  signals.



## EL037

### Voltage, Current, & Resistance Converter

The EL037 has four input channels. Each channel can be configured independently to measure a number of parameters, using the jumper next to each channel. The EnviroMon system will normally display the input value in millivolts. This can be renamed and rescaled into other units by adding the scaling information to the software.



## EL042

### Alarm and Relay Unit

The EL042 is an alarm and relay unit for the EnviroMon data logging system. When the EL042 detects an alarm condition, it can activate its built-in sounder, send a message by activating an external telephone dialler, or trigger up to three user-supplied alarm devices connected to its opto-isolated outputs.



## EL019

### Autodialler



If it is necessary to respond to alarms when the site is unmanned, the alarm dialler module can make telephone calls to several numbers and deliver a voice message.

The EL019 autodialler can be programmed with a list of emergency telephone numbers. When there is a problem, the dialler calls each of the telephone numbers in turn until someone answers, then it gives a message saying that there is a problem. The dialler behaves in the same way as any normal extension and does not affect the operation of other telephones connected to the same line.

The EL019 is only suitable for use with UK phone systems. Overseas customers should contact their local distributor for a suitable alternative.

Supplied with the autodialler is the EL018 adapter. The EL018 serves three purposes:

- it controls the dialler
- it provides power for the dialler and for the system
- it can provide battery backup for much longer periods than the logger's internal backup.

The dialler adapter is supplied in a grey plastic box with a clear lid. The box has a large hole each side for cables. There is space for a 1.2Ah battery inside the box which will provide backup for 12 to 24 hours, depending on the configuration. Alternatively the unit can be connected to a larger, 12V lead acid battery (for example a car battery) outside the box which could provide backup for many days.

The Speech Dialler can give three messages for different types of problem:

- temperature out of range or sensor fail
- mains fail for more than five minutes
- network fail for more than five minutes

## Cabling and accessories



Flat cable can be used for sensors and for small networks (1 or 2 converters). Round cable can be used for larger networks. For larger networks, wall-mounted sockets and fixed cabling are more suitable than using network cables to connect each converter.

- Network connectors (PP220) are used with all network cables and are attached using the MI068 crimp tool.
- Sensor connectors (PP221) are used with all sensor cables and are attached using the MI041 crimp tool.
- Sensors can also be extended by 3m using the EL032 extension cable and EL020 adapter.

EnviroMon accessories available include:

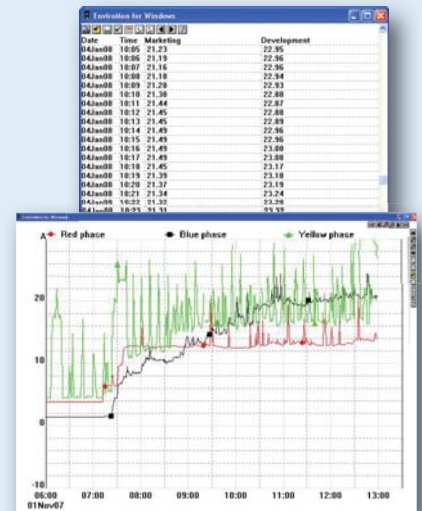
Wall Mount Sockets  
Network Connectors  
Modem Adaptor

Crimp Tool for Sensor Connectors  
Crimp Tool For Network Connectors  
Network/Sensor Flat Cable

## SOFTWARE

Each EnviroMon data logger is supplied with EnviroMon for Windows software, which is used for:

- System configuration - naming sensors, setting alarm thresholds etc.
- Download of data to a computer - for long-term storage.
- Graphical analysis of data - either using inbuilt features or by exporting data to other software applications.
- Publishing data (graphs and raw data) to a website — see Dynamic Web Link for more information.
- Computer print-outs - print graphs, raw data, summary reports (including min / max / average values, etc.) on any Windows compatible printer.



## DYNAMIC WEB LINK

Applications for this technology fall into two categories. The first is to publish data for the general public and your customers to view. For example, those users storing products or goods sensitive to heat, humidity or light may wish to publish measurements to demonstrate that the correct conditions have been maintained.

A second application area is the remote viewing of your own data. Examples include the remote monitoring of fridges, freezers and HVAC systems. Because the data is uploaded to a website, it is possible to view it from several different locations simultaneously.

Even with basic web authoring tools and software it is easy to build pages that contain dynamic data.

Example web pages show the data captured at our R&D facility. To view these pages and for more information on setting up your own dynamic web pages, including a simple installation guide, please visit: [www.picotech.com/dynamic](http://www.picotech.com/dynamic)

