

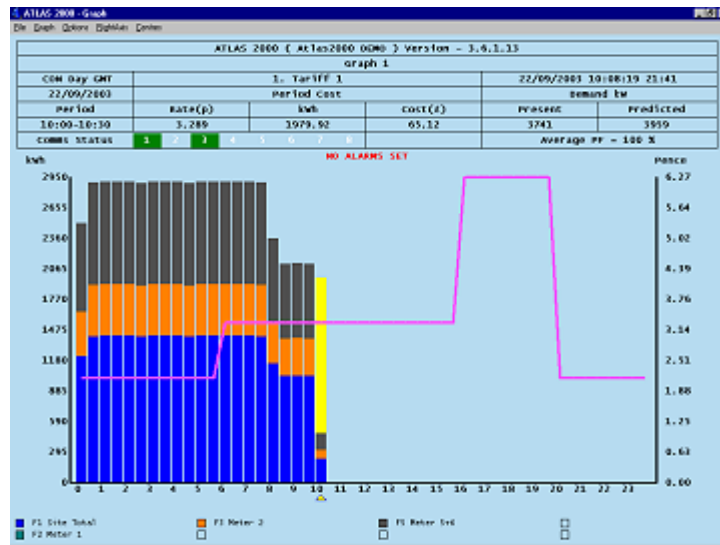


Authorised User No. 00443

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# ATLAS

## Energy Monitoring System



**ATLAS** is a powerful, easy to use, energy monitoring and reporting system for a Windows<sup>®</sup> 95, 98, ME, NT/2000 or XP environment. Created for those resource users looking to increase operational profitability by improved management of energy use the software uses a Microsoft Access<sup>®</sup> database providing for ease of data transfer .

The system can be used to monitor and record electricity and other resource usage for individual sites, for cost centres within these sites and even for widespread sites within a national or international group.

The accumulated information is permanently stored and can be used for tariff comparison, production of consumption and cost profiles, efficiency studies and give useful information on many aspects of plant operation. Furthermore **ATLAS** can with it's real time facility be used to provide full management capability, predictive including warnings of potential excessive use.

**ATLAS** can be easily re-configured to meet the changing needs of its users without expensive equipment replacement or the need to call in specialist engineers from Albar.

## THE SYSTEM

Designed to continuously monitor the pulsed outputs from energy meters such as electricity meters gas, water, effluent, steam or other meters if desired, the modules of the system are:

## LOGGER OUTSTATIONS

The full range of Albar ATLAS IV Loggers and ATLAS  $\mu$ -Loggers can be easily combined in ATLAS systems. Logger capacities from 4 to 104 inputs are available. ATLAS IV Loggers are housed in wall mounted steel IP55 enclosures and normally located adjacent to the meters being monitored or at some other convenient point to minimise plant cabling costs. A typical Logger will have 40 inputs in addition to the half-hour synchronisation pulse from the Electricity Supplier metering. Multiple Loggers can be readily accommodated and there is virtually no limit to the number of meters that can be monitored. These Loggers need not be at the same geographical location, telephone (and radio) modem communication is readily used.

The Loggers are normally mains powered. In the event of local power loss ATLAS  $\mu$ -Loggers will operate for up to 24 hours and ATLAS IV loggers will continue to operate fully for up to 5 days subject to the condition of their own trickle charged batteries. The system software provides a warning of battery operation to initiate user investigation.

For most applications pulses will be accumulated into half hour [15 minutes is an option] consumption periods, however real-time, minute by minute, monitoring of all inputs can be initiated for more detailed knowledge of plant operation. The Logger has memory capacity to provide for a minimum of one month of data before it is necessary for the System PC to copy this recorded data. A typical system will, however, operate with the System Computer collecting data several times each day from Loggers and probably each few minutes to provide regular updating of System displays.

## SYSTEM COMPUTER with ANALYSIS SOFTWARE

This unit is based on a personal computer with the following **minimum** specification:

- A Pentium [400MHz min] Personal Computer with 256 Mbytes RAM.
- A 10 Gbyte hard disc plus one 3.5" (1.44 Mbyte) floppy disc drives.
- A 15" SVGA colour monitor and graphics adaptor [min 800x600 resolution]
- 2 Serial Ports and 1 Parallel Port

In a basic system the System Computer could be located adjacent to the Logger but to derive the maximum benefit from the system it is recommended that this PC is located in a manned control room or similar location where the alarm and display facilities will provide clear information to operatives.

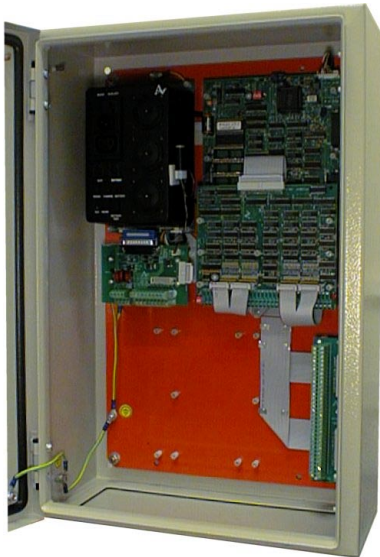
The System Computer need not be totally dedicated to **ATLAS** use and is available for other tasks with data collection operating as a background task.

## CONFIGURATIONS

As described above a standard **ATLAS** System will normally comprise a System Computer with Analysis Software plus one or more Loggers.

Some possible configurations are:

- a) System Computer remote from Logger Outstations on same site.
  - 1) Single Logger up to 50 metres, normal RS232. Multi-drop also possible for adjacent Loggers.
  - 2) Up to 4000 metres, with multiple Logger Outstation's, RS485 twisted pair network.
  - 3) Using your internal telephone system with dial-up modems.
  - 4) Using radio modems when internal telephone system not available.
  - 5) Using the site ethernet network with TCP/IP protocol.
- b) System Computer remote from Logger Outstations on different sites across the country.
  - 1) Private telephone line via modems.
  - 2) Normal subscriber lines via dial-up modems.
  - 3) Using wide area multi-site ethernet network.



| Index | Date/Time           | Message               |
|-------|---------------------|-----------------------|
| 2565  | 30/05/2002 15:08:35 | Finished Housekeeping |
| 2566  | 31/05/2002 09:15:19 | Finished Housekeeping |
| 2626  | 05/06/2002 13:18:08 | Finished Housekeeping |
| 2637  | 06/06/2002 09:21:18 | Finished Housekeeping |
| 2646  | 17/06/2002 15:01:27 | Finished Housekeeping |
| 2647  | 16/07/2002 03:17:25 | Finished Housekeeping |

| Block | Block | Input | Count | 1   | 2   | 3   | 4   | 5   | 6   | 7 | 8   | 9 |
|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|---|-----|---|
| Data  | 0     | Count | 439   | 439 | 439 | 439 | 439 | 439 | 439 | 0 | 439 | 0 |



## ATLAS SOFTWARE

For normal operation the System Computer will communicate with the Logger at regular, user set, intervals. This can be continuously if the Demand Management capability is selected. Collected data is stored on the PC hard disc and systematically backed-up each day to a user specified path to minimise the possibility of data loss due to computer malfunction.

The **ATLAS** software is designed to be easily used by persons familiar with Windows. It is extremely versatile allowing easy system configuration and includes a number of readily pre-formatted reports.

Some of the features **ATLAS** software are:

- a) The data can be organised into logical, named, Analysis Centres by adding or subtracting meter channels or a proportion of a channel (e.g. Meter 7 + Meter 9 + 60% of Meter 8 - Meter 2).
- b) Any number of Tariffs can be entered by the user, catering for multiple time bands, fixed charges, CCL etc.
- c) Daylight Saving Time (or equivalent) is automatically accounted for.
- d) User set analysis periods are catered for e.g. invoice months, accounting periods, production periods etc.
- e) Graphical and numerical reports on Period & Daily Consumption and Cost can be produced for any centre. Further reports include Tariff Analysis, Year by Month and Centre Comparison.
- f) Reports can be saved in several formats and, along with Display Graphs can be printed on the system printer.
- g) An extract from the Microsoft Access<sup>®</sup> database can be created for the user to operate his own queries.

Additional reporting capabilities are available with **ATLAS ReportXtra** software, see leaflet RepXtr02.

## PRODUCTION MANAGEMENT INTERFACE

By using suitable transducers to monitor production throughput, it is also possible to record numbers of items produced (e.g. bags of cement) or tonnes of material manufactured or consumed. Comparisons can then be made between energy consumption and production e.g. kWh/Tonne or Cost/Tonne. In addition accurate stock monitoring can be undertaken.

An enhanced data collection facility will provide automatic data transfer at each communication interval to a site Production Control system if required. This can be used in various ways e.g. site schematics/graphics with realtime updates.

## MULTIPLE USERS/ LOCAL AREA NETWORKS

It is very simple for the **ATLAS** System Computer to provide data to a LAN file server for sitewide analysis and reporting. Cost effective multiple user or sitewide software licences are available where required.

**NETA** tariff clients can use the optional **Load Prediction** software for modelling future daily load profiles for their supplier and then monitor performance, see leaflet LoadPred01.

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