

**Omniflex Process Automation Suite**

## Omniflex Process Automation Suite

The Process Automation Suite provides an easy to use, cost effective and expandable process control system. Integrated Control Software utilizing IEC61131 standard software languages, Data acquisition, Telemetry, Remote I/O systems capability and the ability to incorporate and integrate existing hardware systems makes this Omniflex Solution a System Integrators dream.

### Modular, "Buy only what you need"

The Process Automation Suite is a modular system comprises the following elements:

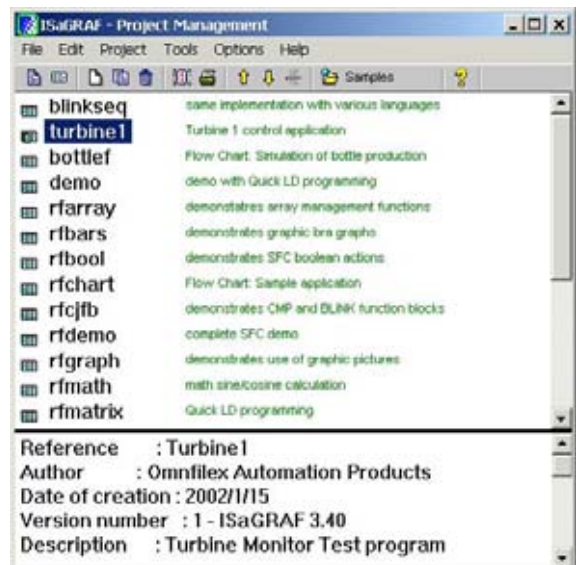
1. IEC 61131 Control Strategy Programming Environment with a Windows based PC Workbench
2. The Maxiflex Process Automation Controllers Series and associated I/O Hardware Platform
3. The Maxiflex Flexible Networking Environment and Networking hierarchy.
4. The Maxiflex Remote I/O Systems capability
5. Under the bonnet Data Acquisition and Telemetry functionality
6. Integrated Alarm and Events Services(Date and Time Stamp Queue)
7. OPC servers for a variety of Network Protocols including Ethernet.

## FEATURES

- **Modular and Scaleable "Buy what you need"**
- **Graphical User Programming**
- **IEC61131 Programming Languages**
- **Integrated Remote I/O sub systems**
- **Program-less Data Acquisition**
- **Powerful Built in Telemetry Functions**
- **Integrated Networking Architecture for Ethernet, Conet, Modbus**
- **OPC Servers for Windows Applications**
- **Easy SCADA and DCS access**
- **Easy to use Configuration and Diagnostic tools**

## IEC 61131 Workbenches Control Strategy Programming

The WorkBenches are price structured according to I/O capability, with a range from 32I/O to unlimited. This allows the user to pay according to the scale of the system. The workbench is a once off cost and can be used with many CPUs. The workbenches are Windows® operating systems based.



The Process Automation Suite positions Maxiflex fully into the Process Control Applications Arena. Users can use standard programming languages that they are comfortable with for their control strategies.



### Wide choice of programming languages

- Ladder,
- Function Block,
- Flow Chart,
- Sequential Function Chart,
- Structured Text,
- Instruction List.

### Maxiflex Process Automation Controllers

The PAC is based on the Maxiflex P3 CPU platform. The Maxiflex Process Automation Controllers (PAC) run the IEC 61131 Control Applications and are available in a number of variants to suit network preferences.

- Ethernet (with Modbus TCP)
- Ethernet (Conet)
- Modbus
- Conet/c
- Conet/m (Packet Radio Protocol)



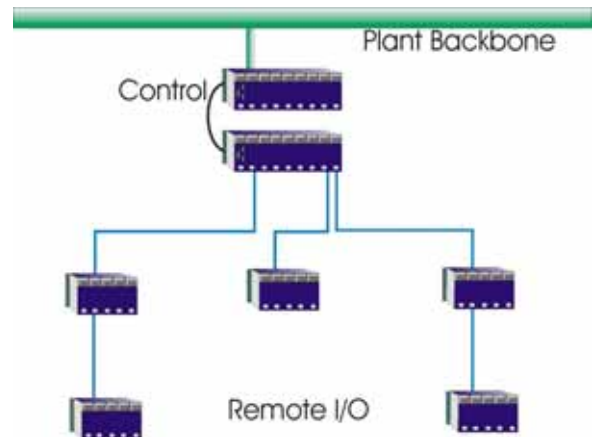
This provides a flexible Network environment satisfying most networked applications and plant topologies. Process Control Applications invariably involve the following functionality for effective implementation.

- Interlock Controls
- Analogue Signal Processing
- Control Algorithms - including PID with Auto-tune
- Network Communications
- Alarm and Events Monitoring
- Date and Time Stamping at source for Sequence of Events monitoring
- The ability to service Windows based SCADA systems.

The PACs deliver all the above functionality on the standard platform.

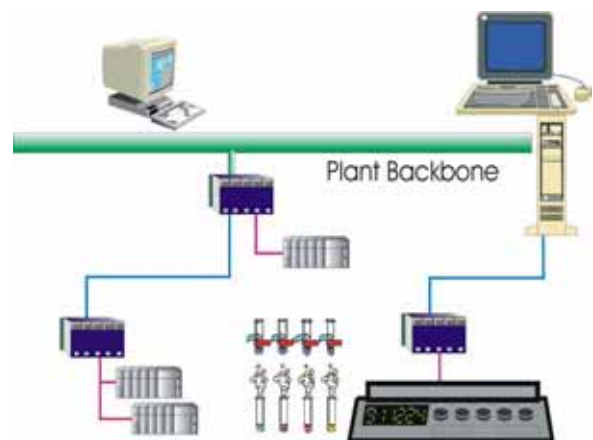
### Remote I/O Systems

Maxiflex is endowed with the ability to implement hierarchical networks with transparent linking from lowest to highest level and vice versa. The ability to configure seamless routing from Ethernet to a fieldbus network like Conet or even a packet radio system provides system integration tools few can compete with. Redundant communications can also be simply implemented using modular applications. Field I/O can be collected easily with Analogues Inputs such Temperature being accepted directly along with a wide variety of other analogue and digital inputs and outputs.



### Integrating Third Party devices

Maxiflex has direct serial inputs for which protocols can be developed to integrate other devices in the Omniflex Remote I/O system. Devices such as Analytical Instrumentation can be integrated into the system. Device protocols are developed and downloaded to Network Interface Modules which integrate the foreign device into the Maxiflex Network System.



### Flexible Integrated Applications and Services

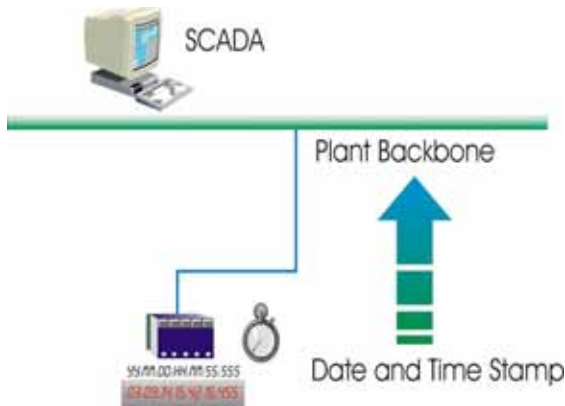
The Process Automation Suite offers many "under the bonnet" features like date and time stamped events, Telemetry, Auto I/O Scanning which are all standard offerings.

When combined together within a Control System the flexibility of the system becomes apparent, allowing the independent delivery of functionally different services all on a single system.



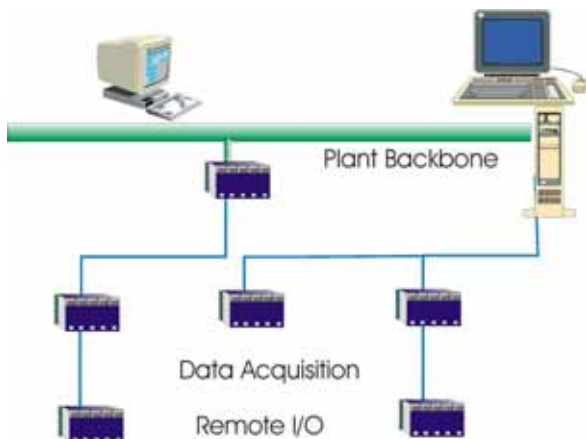
### Date and Time Stamp

This is a service available with Conet Protocol Network applications which provides an event stream i.e. (Each Input Change of State and the time and date it happened) from the front-end device. These events can then be collected and analyzed on a SCADA system with the events in chronological order. Pre and post event analysis can then be reviewed from the SCADA database. This service differs from the SCADA date and time stamp in that it is free from Network propagation errors which can affect time stamping done on the SCADA PC.



### Data Acquisition

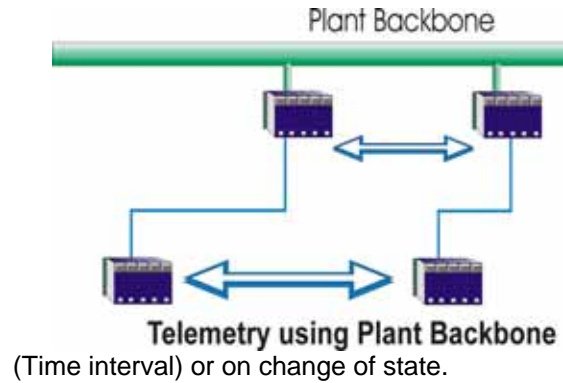
The Maxiflex PACs and CPUs have the ability to be used as program-less Data Acquisition devices as they automatically read their I/O without an application program resident. "Auto I/O Scanning" The Status of the inputs and outputs are reflected in a Data Interchange Table (DIT) which is accessible via the Networks. Any other device on the Network including SCADA or DCS has access to read those DIT Registers. This applies even when the CPU is running an application program to execute some other function.



### Telemetry

A range of Telemetry enabled CPUs the T series provide powerful remote I/O capabilities also with the user writing programs to transfer data from one node to

another. Network services such as subscriptions and datagrams are used a user to configure a telemetry applications. Data can be subscribed across a Network or even multiple networks by simply configuring some DIT registers. This service can be run on a cyclic basis



### OPC Servers



The link to PC based SCADA HMIs is implemented through OPC servers for Windows operating systems based SCADA packages. The OPC server facilitates the delivery of data to the OPC clients running on the Windows operating system and allows the control of field outputs. The OPC server uses a tag based I/O system, which is easily exchanged with the SCADA tag configuration.



### Configuration and Diagnostic Tools

Windows Based configuration and diagnostic tools allow the user to configure and interrogate any other node on the Network from any point on the Network or Networks.

