WINCON 8000

Windows CE.Net Compact Controller

We Wellcome a completely revolutionary concept in automation
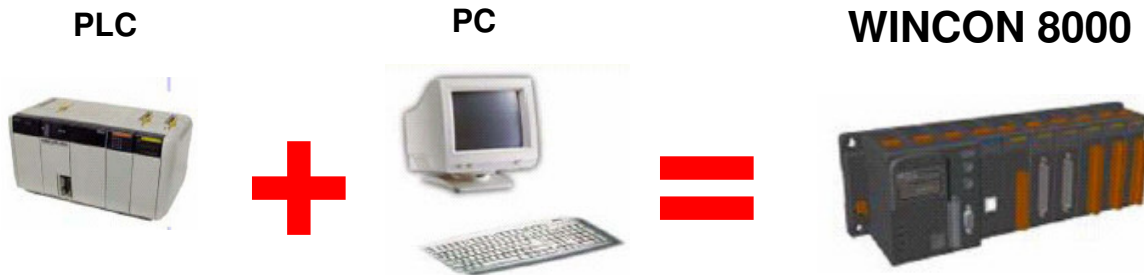
Integration of a PC and a PLC
To obtain the best of both worlds

If you need to buy…

✓ **A SCADA**
✓ **A PLC**
✓ **A Normal/Industrial Computer**
✓ **A Windows Licence**
✓ **Bring data to the company PC-network**

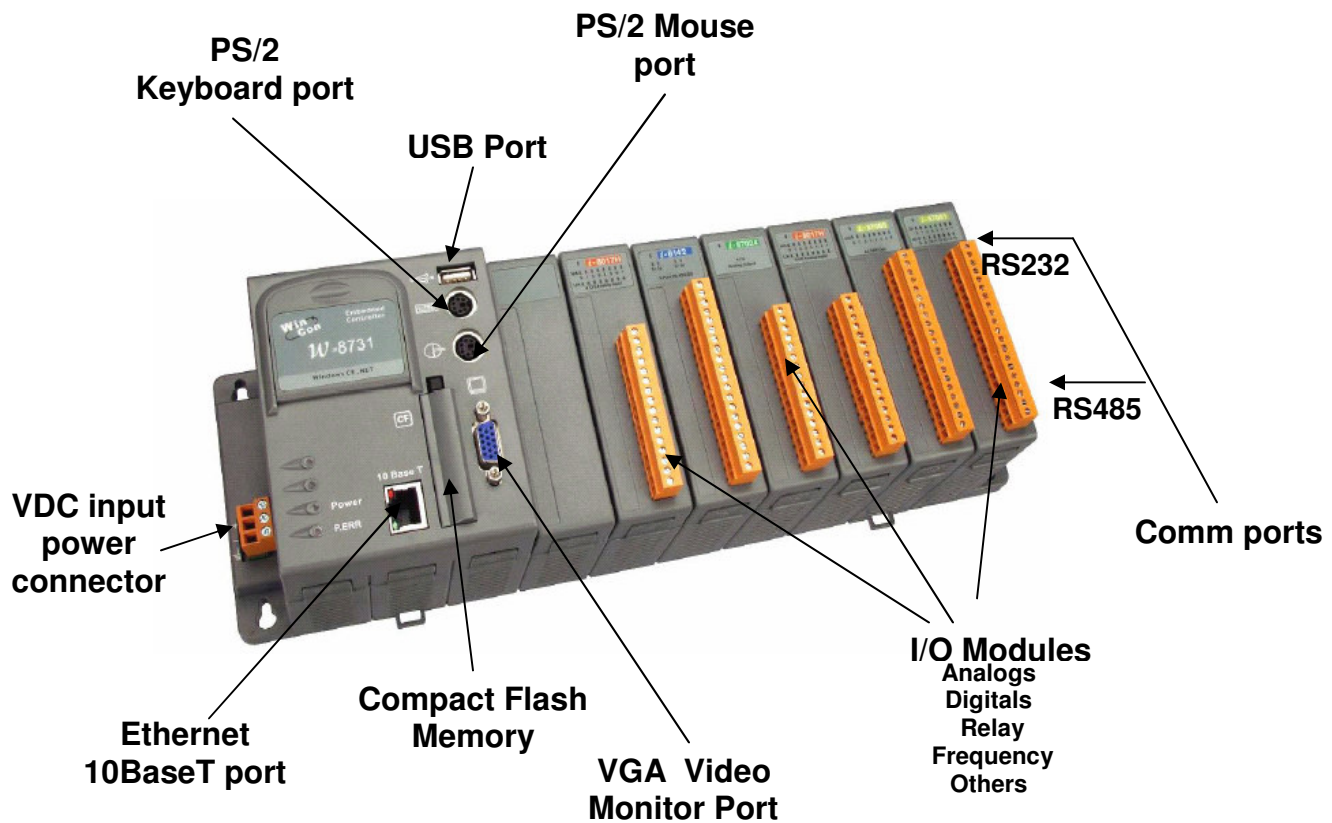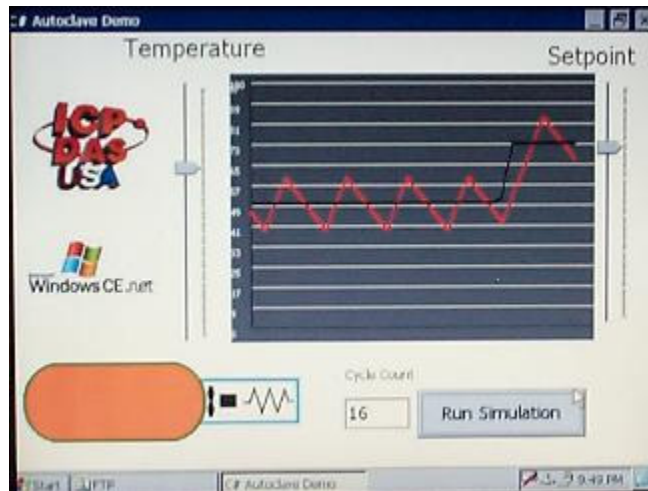## You just need a Wincon8000…
…to have it all!

A simple equation with a surprising result

PLC   **PC**   **WINCON 8000**

+   **=**

The users of PLCs will find a HMI, Control Logic and a SCADA… All under Windows environment

The users of PCs will find a rugged platform for harsh environments and the reliable Windows CE.net programming

PS/2 Keyboard port

PS/2 Mouse port

USB Port

RS232

RS485

VDC input power connector

Comm ports

I/O Modules
Analogs
Digitals
Relay
Frequency
Others

Ethernet 10BaseT port

Compact Flash Memory

VGA Video Monitor Port

Microsoft has started to promote our WinCON as a prime solution for Windows CE.net in automation industry. And they have showed our WinCON in many shows including this Microsoft Windows Embedded Developers' Conference 2004 in San Diego.

Reasons to buy?

Costs Reduction

➢ Operating System. Windows CE licence is cheaper than Windows.
➢ Reduce the additional hardware since it doesn`t require hard disk.
➢ Reduce maintennance cost since it can work without diskettes or drives increasing the MTBF.
➢ Reduce the costs and development time
➢ Reduce integration costs and offers high connectivity to maintenance and production systems (ERP and MES) already in operation. About 75% of automation costs are realted to support and integration.

Instant ON and OFF

➢ Windows CE starts inmediately.

Better Behaviour

➢ Ability to use high speed processors.
➢ Can use more memory if this is a need.
➢ Better behaviour than traditional PLCs, since a PLC can be up to 50 times slower than real time Windows CE versions

The wonderful skill of Windows CE to connect to other Windows platforms is already known.

➢ Managers can connect from their offices directly to the "factory floor" thru Ethernet and easily obtain data.
➢ Easyness to develop applications to transfer the data to other company software
➢ HTML data can be obtained thru any web browser, allowing a more modern control and better connectivity.
➢ Engineers can synchronize handheld devices.
➢ Growth thru multiple platforms under Windows NT or CE.

Windows CE is already supported by thousands of software applications and developers, familiarized with con C and Visual Basic programming.

➢ Reduce time and development cost
➢ Easy migration from Windows 98 y NT to Windows CE
➢ Easy programming and graph generation. In fact some of our Wincon models include SCADA software

Small and Compact Operating System

➢ The Operating systems is stored in FLASH memory (No moving parts)
➢ Ability for remote initialization.
➢ Able to work in harsh environments. Better shock and vibration resistance
➢ It doesn't require Windows NT in every part of the machinery along a manufacturing line. Windows CE can operate the equipment while another equipment with Windows NT can supervise a whole group.

To develop under WINDOWS CE. Net you can use the Microsoft's free libraries in:

http://msdn.microsoft.com/library/default.asp?url=/library/en-us/wcedsn40/html/cgconindustrialautomationdeviceconfiguration.asp

Going to where no other famous automation company has gone before.

Specifications

- ➢ **Intel Strong ARM CPU, 206MHz**
- ➢ **SRAM: 64M bytes**
- ➢ **Flash Memory: 32M bytes**
- ➢ **EEPROM: 16K bytes**
- ➢ **64-bit hardware unique serial number**
- ➢ **Built-in Watchdog Timer**
- ➢ **Real Time Clock**
- ➢ **10 Base T: NE2000 compatible**
- ➢ **1 VGA port: 320x240x16 to 1024x768x16**
- ➢ **Default is 640x480x16**
- ➢ **2 PS/2 port: Keyboard and Mouse**
- ➢ **Compact Flash slot: CF memory card with 128MB memory**
- ➢ **1 USB 1.1 Host: USB drive or USB mouse**
- ➢ **Reset button**
- ➢ **Power LEDs**
- ➢ **COM0: Internal use**
- ➢ **COM1: Serial Control for 87K Series Modules in Slots**

- ➢ **COM2: RS-232   COM3: RS-485**
- ➢ **Modbus TCP/ RTU protocol**
- ➢ **FRnet(Option)**
- ➢ **I/O Expansion Slots: 3-slot for W-8331 7-slot for W-8731**
- ➢ **Power Supply: 20W, Unregulated +10Vdc to +30Vdc**
- ➢ **Environment: Operating Temp.: -25°C to +75°C**
- ➢ **Storage Temp.: -30°C to +85°C**
- ➢ **Humidity: 5~95%**
- ➢ **Dimensions: 418x110x75.5mm(7 slot) 418x110x75.5mm(3 slot)**
- ➢ **I/O module (optional) I-8000 serial modules, which include DI, DO, AO, AI... I-87K serial modules, which include DI, DO, AO, AI... I-7000 serial modules, which include DI, DO, AO, AI... (external, via RS-485 port)**
- ➢ **Built in SQL Client, EXCEL and GPRS functions.**

Only 7 steps for a simple and successful operation.

Step 1. Make sure the bundled CF memory card is in the CF slot.
Step 2. Plug in your PS/2 keyboard and mouse.
Step 3. Plug in your VGA monitor.
Step 4. Connect the WinCon8000 to your LAN
Step 5. Insert your 8K/87K series I/O modules into the I/O expansion slots.
Step 6. Connect the COM ports to your external devices.
Step 7. Connect DC power and turn it on.
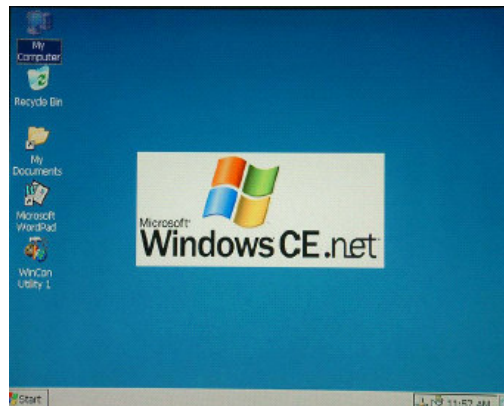
INPUT AND OUTPUT MODULES

Analog Modules

I-87013	4 RTD inputs
I-87015T	8 thermistor input
I-87016	2 load cell inputs
I-87017	8 analog V/ I inputs
I-87018	8 Thermocuple inputs
I-8017H	8 analog V/ I inputs, 14-bit 100KHz sampling rate
I-87019	Universal module 8 Analog V, I or thermocouple with high voltage protection
I-87022	2 analog outputs 0-10VDC , 4-20mA, 0-20mA 12bits
I-87024	4 analog outputs 0-5VDC 0-10VDC , 4-20mA, 0-20mA 14bits
I-87026	2 analog outputs 0-10VDC , 4-20mA, 0-20mA 16bits
I-8024	4 analog isolated outputs +/-10VDC , 4-20mA, 0-20mA 14bits

Timers/Counters

I-8080	4 inputs counter/frequency ,0.1Hz-5kHz
I-8081	4 inputs counter/frequency, 0.1Hz-100kHz
I-87082	2 inputs counter/frequency,1Hz-100kHz
I-8083	4 inputs counter/frequency,DC-100kHz

Digital input modules

I-87051	16 DC inputs
I-87052	8 isolated DC inputs
I-87053	16 isolated DC inputs
I-87054	8 DC inputs and 8 isolated DC outputs
I-87055	8 DC inputs and 8 isolated DC outputs
I-87057	16 DC open collector output
I-87058	8 isolated AC/DC inputs 250Volts
I-87063	4 isolated DC inputs y 4 isolated relay outputs
I-87064	8 five amps relay output
I-87065	8 solid state relay outputs (AC) 1 amp
I-87068	8 Relay outputs
I-87069	8 Photo Mos relay output N/A

I-8037	16 isolated open drain outputs
I-8040	32 isolated DC inputs
I-8041	32 isolated DC outputs . Open collector
I-8042	16 isolated DC inputs and 16 isolated DC outputs
I-8050	Universal 16 DC inputs/ outputs programmable DC
I-8051	16 DC inputs
I-8052	8 isolated DC inputs (Differential)
I-8053	16 Isollated DC inputs (Single termination)
I-8054	8 isolated DC inputs and 8 Isolated DC outputs. Open Collector
I-8055	8 DC inputs and 8 DC open Collector outputs
I-8056	16 DC outputs. Open Collector
I-8057	16 isolated DC outputs. Open Collector
I-8058	8 isolated AC/DC inputs 250Volts
I-8060	6 Relay outputs (2 contacts)
I-8063	8 Programmable DC input/output
I-8064	8 Relay outputs
I-8065	8 Solid state realy outputs (AC) 1 amp
I-8066	8 Solid state relay outputs(DC) 1 amp
I-8068	4 Relay outputs (2 contacts) and 4 Relay outputs(1 contact)
I-8069	8 Photo Mos relay output

Motion Control modules

I-8090	Three axis module, encoder 16 bit
I-8091	Stepper motor/servo control module, two axis.

Communication modules RS-232/RS-422/RS-485

I-8112	Two RS-232 ports
I-8114	Four RS-232 ports
I-8142	Two isolated RS-422/485 ports
I-8142I	Two isolated RS-422/485 ports
I-8144	Four isolated RS-422/485 ports

Others

I-8072	Printer port (Optional ,256 or 512K memory)
I-8073	Multimedia card (MMC) to store data

How to order a WINCON8000

All of our controllers with WindowsCE 4.1 pre-installed have the same configuration:
Intel Strong ARM 206MHz CPU, 64MB SRAM, 32MB Memory Flash   , 16KB EEPROM, Real time clock, Ethernet 10BaseT port, VGA Video port, two PS/2 ports for Mouse and Keyboard, a compact flash memory of 128MB , one port 1.1USB.

Then you select the CPU:

- **W-8331-G:** Windows CE Controller with three slots base
- **W-8731-G:** Windows CE Controller with seven slots base
- **W-8339-G:** Windows CE Controller with three slots base + Indusoft SCADA HMI 300 tags
- **W-8339-G1:** Windows CE Controller with three slots base + Indusoft SCADA HMI 1500 tags
- **W-8739-G:** Windows CE Controller with seven slots base + Indusoft SCADA HMI 300 tags
- **W-8739-G1:** Windows CE Controller with seven slots base + Indusoft SCADA HMI 1500 tags
- **W-8337-G:** Windows CE Controller with three slots base + ISAGRAF software
- **W-8737-G:** Windows CE Controller with seven slots base + ISAGRAF software
- **W-8036-G:** Windows CE Controller without base, Indusoft SCADA HMI 300 tags + ISAGRAF
- **W-8336-G:** Windows CE Controller with three slots base, Indusoft SCADA HMI 300 tags+ISAGRAF
- **W-8736-G:**   Windows CE Controller with seven slots base, Indusoft SCADA HMI 300 tags+ISAGRAF
- **W-8036-G1500:** Windows CE Controller without base , Indusoft SCADA HMI 1500 tags + ISAGRAF
- **W-8336-G1500:**   Windows CE Controller with three slots base, Indusoft SCADA HMI 1500 tags + ISAGRAF
- **W-8736-G1500:**   Windows CE Controller with seven slots base, Indusoft SCADA HMI 1500 tags +ISAGRAF

And the I/O expansion bases:

- **I-8430-G:**   Ethernet Expansion with four slots
- **I-8830-G:**   Ethernet Expansion with eight slots
- **I-87K4-G:** RS485 Expansion with four slots
- **I-87K5-G:** RS485 Expansion with five slots
- **I-87K8-G:** RS485 Expansion with eight slots
- **I-87K9-G:** RS485 Expansion with nine slots

Additionaly if you want to make the development by yourself, you should order a Development Licence / Software for Indusoft or ISAGRAF for only one single time. Pricing for Indusoft is and for IsaGRAF must be requested

You also can develop your own application using VB.net, VC.net or C++ for Windows CE.

How to program?
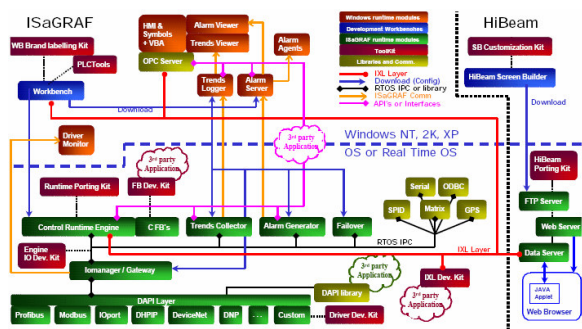
ISaGRAF product suite

ISaGRAF is composed of two main components.

The application development **Workbench** provides all of the internationally standard IEC61131 control languages. The output of the development environment is selectable as either portable "C" source code or TIC (target independent code). The ISaGRAF Virtual Machine is a powerful, optimized and very fast control engine that executes the TIC.

The **Virtual Machine** (or control target) and all options are offered ready to use on NT (2000), Linux RTAI, Windows CE 3.0 and QNX 4.25. Additionally, the virtual machine has been designed such that it's source code can be available in a toolkit format, providing portability to any OS, or even use it without an OS, and on any hardware platform.

Ideal for small embedded-applications, its robust design can handle a very large number of IO points. Multiple Virtual Machines can run on the same processor, at different scan rates. Multiple processors can be incorporated in a single project, allowing for different processors and different operating systems in a single application. Bindings provides for transparent use of other Virtual Machine data; local or across a network or communication link.

The ISaGRAF series of toolkits give you the ability to write your own I/O drivers, add market specific function blocks, connect to higher level systems, or conveniently brand label the product. This becomes a unique packaging or your own value added intellectual property.

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The Enhanced options for ISaGRAF transform this outstanding controller into a top of the line PLC, DCS or RTU. The controller gains features such as data quality, millisecond time stamping, sequence-of-events, trending, alarming, processor synchronization, GPS support and redundancy. It is no wonder that all of the major suppliers of automation solutions are using the ISaGRAF technology in their new generation of products.

Indusoft CEView

First Supervisory Control and HMI Software for Windows CE!

CEView is the world's FIRST complete supervisory control, process monitoring and operator interface software available for the Microsoft Windows CE® operating system platform. CEView operates in diskless handheld, pocket, mobile and embedded PCs, including industrial PDAs, making it ideal for end user or OEM applications.

CEView is based on InduSoft's full scale Windows-based supervisory control and monitoring system, currently being used in over 8,000 installations worldwide. CEView has almost all of the same features, including an object-oriented database, math functions, report generation, archiving, alarms, batch recipes, and interfaces for PLCs, remote I/O and TCP/IP networking. In other words, CEView is a full-function supervisory control and monitoring system that fits in the palm of your hand or can be embedded in the chip set of a low-cost operator interface.

Applications include embedded machine or process controls, servo drives, control panels, man-machine interfaces, SCADA and wireless SCADA, data collection, maintenance terminals, PLC interface panels, control panels, machine parameter adjustment, mobile process supervision and many others. CEView is ideal used in embedded systems, in mobile monitoring tools, and for instrumentation and laboratory automation applications.
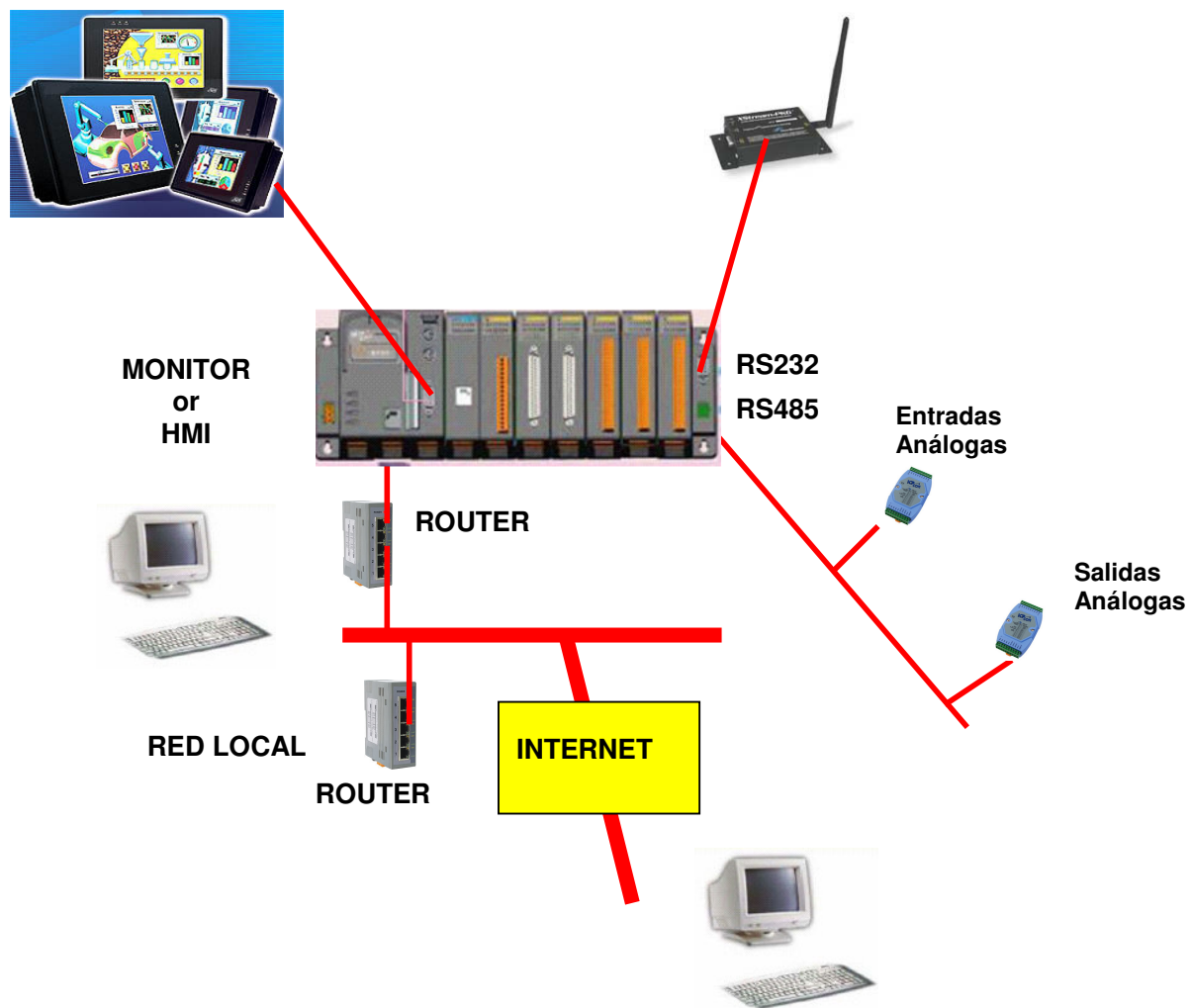
Highlights.

PC Development: Compatibility with InduSoft's Windows NT system allows development and test of applications in a desktop PC. When debugged, the application can be downloaded to the target machine. Maximizes productivity: the I/O screens, recipes, reports, alarms, and history files for a CEView system are created on a desktop PC with the same software tools used to develop full-blown InduSoft Windows NT systems.

Communication drivers: The same PLC and remote I/O communications drivers for InduSoft's Windows NT system are available with CEView, including TCP/IP communications with InduSoft NT systems and third-party SCADA packages.

Object oriented database: Tag definition supports arrays, classes and pointers, and reduces application size and development time. CEView does NOT require many megabytes of memory, as do many other PC-based MMI bloatware systems. In fact, one CEView application runs in only 700 Kbytes of memory in a palmtop computer.

GENERAL APPLICATION

**MONITOR
or
HMI**

RS232

RS485

**Entradas
Análogas**

ROUTER

**Salidas
Análogas**

RED LOCAL

INTERNET

ROUTER

Aximetrix ™ Utilizes Wincon Controllers

Aximetrix specializes in motion control technologies. Their technical staff utilizes servomotors, steppers, and servo hydraulic technologies in various applications including: CNC milling, motion base simulators, glue dispensing applications, and hydraulic presses. The motion control integration division requires modules that are compact. Using the Wincon8000, they are able to control a laser scanning system with two servo motor axes. The Wincon has a GUI interface that controls an X-Y scanning laser which is used to scan the surface of particular samples. The scan can then be uploaded into another software program for 3-D analysis. All of the servo control is done in software included with the Wincon8000. Rather than using a PC that would be connected to a PLC to control the system, the Wincon8000's duality allows it to do both jobs with one controller. Additionally it also replaces the servo motor controller as well. This benefits Aximetrix by providing a system that is more cost effective and less bulky.

Fast Food Chains Utilize our Wincon Controllers

In today's busy world, fast food chains are thriving as sources of quick and cheap meals. In order to accomplish quick turn-around time from the front desk to the kitchen and back, Pizza Hut utilizes the W-8337, or ISaGRAF Wincon controller. It is programmed in Ladder Logic. The need for extra personnel can be bypassed with the use of a WinCON controller connected to many devices including touch screens. The customer is then able to input his order into the computer. Additionally, the Wincon can be attached to a bill and coin acceptor so the customer can pay after making his selection. Only one serial printer is required to print the ordering number and selected dish. This information is simultaneously sent to the kitchen and can be set up to display on an LCD monitor. Not only does this reduce personnel expenses, daily sales reports can be saved automatically into the compact flash memory of the WinCON 8337. This information can later be downloaded via a USB pen drive and later be used to collect data such as menu preferences. While this ICP DAS technology is currently utilized in a pizza parlor, it lends itself to benefiting any fast food corporation. WinCON integrates PC and PLC together.
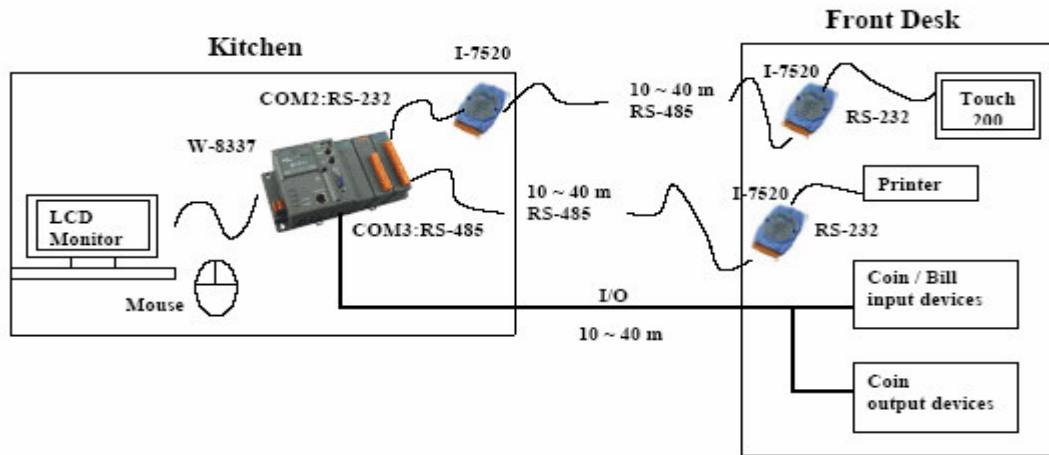
Battery Measurement Application with our Wincon 8000

Wincon 8000 controllers are powerful embedded controllers. With 40 MHz CPU and powerful features like PID control, motion control, local data logger, dial-up modems, it can be used in machine and process control. ISaGRAF is an robust IEC 1131-3 standard embedded software allowing the customers to program by their own favorite languages. This highly integrated hardware and software solution provides a technology foundation that facilitates accelerated application/product development and accelerates time to market. Designed to build for machine and process control applications, ISaGRAF version of controllers enable the development of multiple configurations and distributed systems in a networked environment. The customer chose our I-8817 controller, an ISaGRAF version of ICP DAS controller, because it surpassed the quality assurance tests for flexible communication, powerful features and proved to be the best priced solution. One of ICP DAS' customers is an SI company called HungYu Automation, located in Kaohsiung 350 kilometers South of Taipei. The company utilizes the module I-8817 to its full capacity and is very satisfied with its results. The telecom company's necessity to monitor power and security requires the use of the ICP DAS I-8817 for battery measurement. Forty (40) RTU Input Channels by 10 units of I-87013 to monitor temperature, four hundred and eighty (480) High Speed Analog Input Channels by 60 units of I-8017H to monitor voltage and fifty (50) D/I signals are continuously measured. The combined and gathered data is measured by thirteen I-8817 controllers in different locations. An "OPC Server" running on Windows 2000 Pro requests all data from these thirteen I-8817 controllers through RS485 Modbus Network. Via OPC Server, the data is sent to its remote PC running Iconics, HMI software. The next part of the process involves the battery temperature and voltage readings which are sent to two (2) I-8817 controllers via the Fbus, which is a controller to controller data exchange bus. Also the local data is displayed by two operating systems, Touch 506, beside the two (2) I-8817 controllers, which read out the temperature and voltage through RS 232 Modbus.
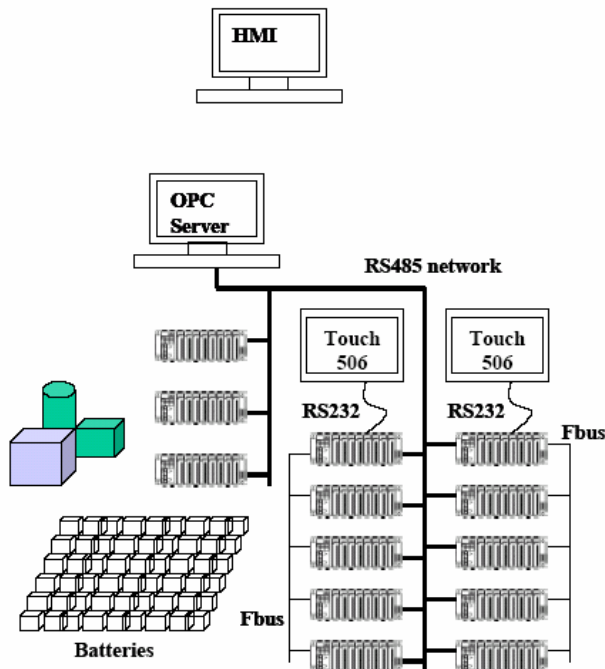
The battery measurement application's best features are:

- ✓ PID control
- ✓ Local data logger
- ✓ Dial-up modems
- ✓ Robust
- ✓ Programmable in different languages
- ✓ Enables multiple configurations

Milk Pasteurization Alarm System

This is a success story made for Harris Ranch in Coalinga; California. The application project was based on a Wincon with ISAGRAF performing the control task and Indusoft in charge of the HMI.
The big advantage is that the ranch didn't have to buy a Control system and a PC with Software licences separately. With our Wincon they have got everything on single equipment! And the systes includes recipes, alarms, trending and printing.