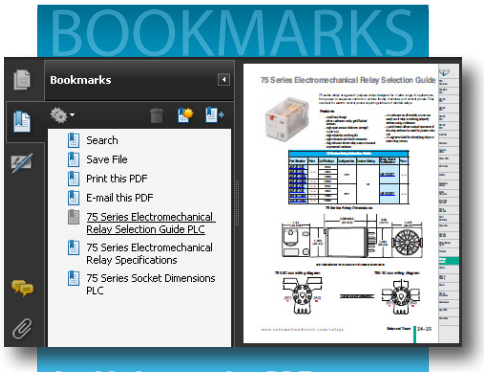
AUTOMATIONDIRECT.com Software



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BizWareDirect

DataWorx ETHERNET DATA LOGGING

DataLynx PLC MODEM DIAL UP SOFTWARE

DataNET™ WEB BASED SOFTWARE

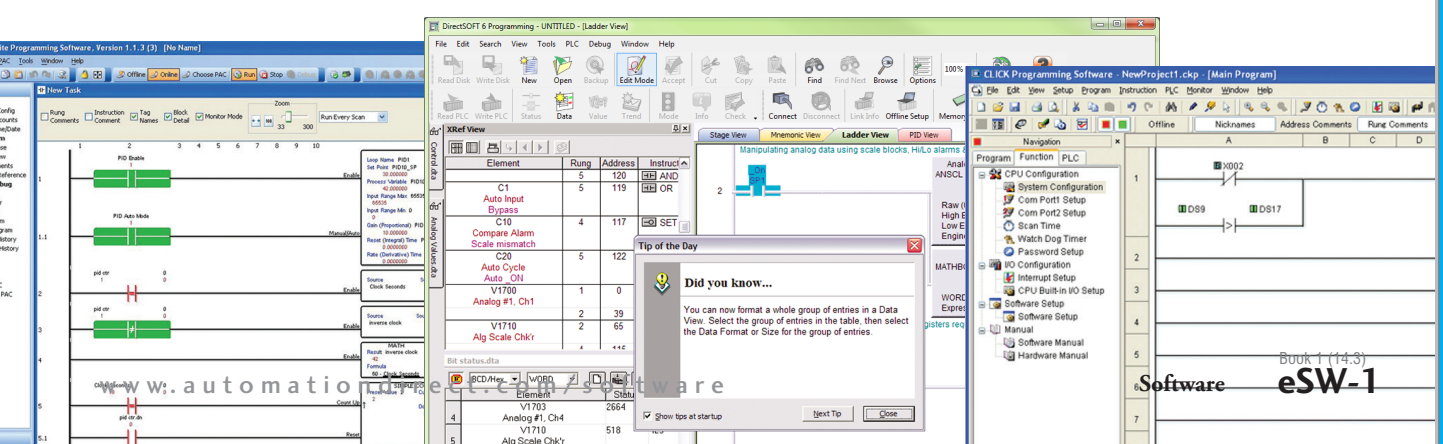
DirectSOFT 6

KEPDirect

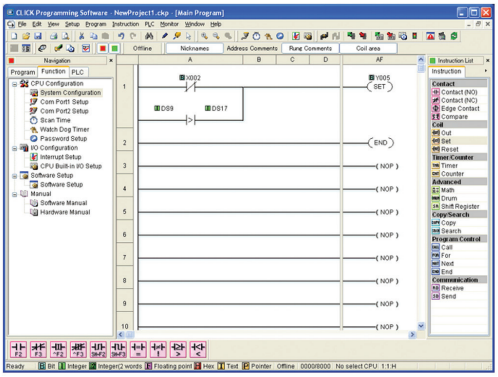
Think & Do

CLICK Koyo

Productivity Suite



Choose your (programming) weapon!



CLICK for simple programming, FREE!

CLICK micro-brick PLCs with stackable discrete and analog modules and free programming software are the lowest cost and easiest-to-use high-quality machine controllers on the market today. It is designed for first-time PLC customers as well as experienced users.

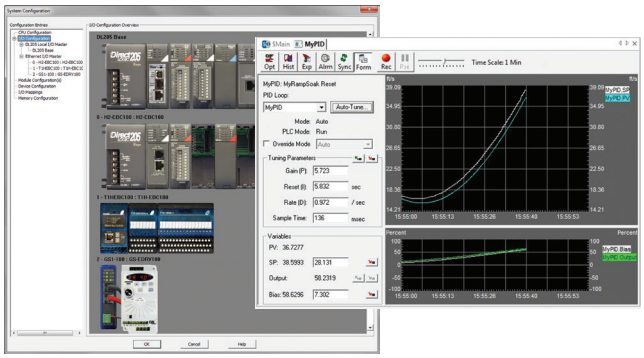
The free CLICK PLC programming tool simplifies the programming process to make it easier to learn, faster to program, and capable of completing most of your simpler application needs with only 21 instructions!

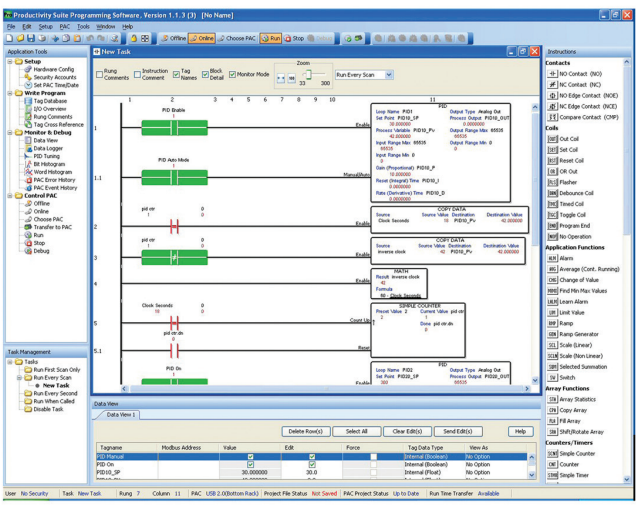
For more details on CLICK PLC software, see the CL section

Do-more with intuitive software (yes, FREE!)

The Do-more Designer software supports our newest generation of micro PLCs, the Do-more family. We listened to you to create a powerful, easy-to-use programming environment with all the features you expect - mix of ladder logic, program block and stage that simplifies code, support for 2,000 PID loops, spreadsheet-style math, efficient data typing, true bumpless run-time editing, and even a full program simulator built in.

For more details on Do-more software, see the DM section





Productivity Suite offers advanced tools that make your life easier (still ....FREE!)

A powerful controller needs a powerful programming package. With Productivity Suite for the Productivity series of Automation Controllers, we've created advanced yet transparent processes in the programming environment to reduce your development time.

Timesavers include combined ladder logic and function block programming; tag name database for easier documentation; task management that minimizes scan time; advanced instructions that simplify complex tasks, and an exhaustive HELP file that covers both hardware and software topics.

Run-time editing, hot-swappable I/O modules and onboard program documentation help you commission and troubleshoot your system more quickly and conveniently. ProductivitySuite is available FREE as an online download.

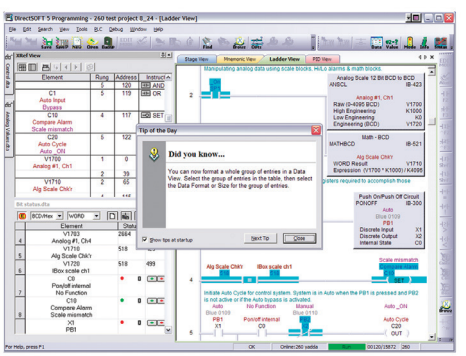
For more details on Productivity Suite, see the P3 or P2 section

DirectSOFT6 Programming Software for DirectLOGIC PLCs

DirectSOFT6 (PC-DSOFT6 $395.00 is our full-featured 32-bit Windows®-based programming software for the entire DirectLOGIC PLC family. This includes all DL05, DL06, DL105, DL205, DL305 and DL405 PLC product families.

The FREE version of DirectSOFT6 (PC-DS100), available for download from our Web site, allows you to program and download a project size of up to 100 words.

For more details on DirectSOFT6, see the DL section



Easy data acquisition & design

DataWorx
ETHERNET DATA LOGGING

DataLynx
PLC MODEM DIAL UP SOFTWARE

DataNET™
WEB BASED SOFTWARE

DataWorx™: Connect Ethernet-enabled controllers for data collection

DataWorx easily connects your Ethernet-enabled DirectLOGIC PLCs, Think & Do v8.0 or Live! WinPLC controllers to standalone PCs or network servers for simple data logging. Collect data without the need for special PC programming or any 3rd party HMI, SCADA, or DAQ software application.

AutomationDirect will no longer carry this package; this software is now available directly from the vendor, http://www.bizwaredirect.com/

DataLynx™: Remote data collection over modems

DataLynx is an inexpensive data logging and storage package for remotely located PLCs or other devices that support Modbus RTU and a modem connection. DataLynx can collect data from remote locations or relay data from multiple locations back to a single location to be stored. The software offers easy setup with no programming or SCADA system required.

AutomationDirect will no longer carry this package; this software is now available directly from the vendor, http://www.bizwaredirect.com/

DataNET™: Instant access to operational data from anywhere

DataNet OPC easily connects your PLC or other OPC enabled device to a live Web page.The data is then available for viewing, logging and printing reports. The data is displayed in an easy to read table format with color coded text (for alarming) and with absolutely no HTML programming required.

AutomationDirect will no longer carry this package; this software is now available directly from the vendor, http://www.bizwaredirect.com/

DataWorx P3K™

Connect Productivity3000 controllers to database servers

DataWorx™ P3K data logging software provides an easy and inexpensive way to collect data from the Productivity3000 controller by connecting it to enterprise database systems powered by Microsoft Access, SQL or ODBC compatible servers. Report-by-exception operation eases network traffic by sending information only when needed.

AutomationDirect will no longer carry this package; this software is now available directly from the vendor, http://www.bizwaredirect.com/

Should I use DataWorx, DataWorx P3K or KEPDirect?

DataWorx is for simple data logging. The PLC pushes data to DataWorx, DataWorx records the data to a file on the PC. If you just need to log your PLC variables to a file, this is the easiest way.

DataWorx P3K is database interface software for Productivity series. It puts the controller in full control of

database activities.

KEPDirect is an OPC server for AutomationDirect PLCs. What you connect on the other side of the server is up to you, the possibilities are wide open. The OPC client you choose controls when data moves to or from the PAC/PLC.

KEPDirect

KEPDirect OPC Server for easy data acquisition or control

KEPDirect OPC Server connects your favorite Windows client software to AutomationDirect I/O through our EBCs (Ethernet Base Controllers), to our DirectLOGIC PLCs through ECOM modules or serial ports, or the Productivity series Ethernet connectivity.

Any industrial HMI, SCADA, data historian, MES or ERP software package that includes an OPC client interface (most do) can connect to our PLC hardware for cost-effective data acquisition or control. You can even use Visual Basic® to create data logging or simple HMI screens. (Requires OPC DA Client Tool Kit to use OPC with Visual Basic.)

POINT OF VIEW

Point of View SCADA / HMI Software

Point of View (POV) is powerful software for developing HMI, SCADA, and OEE/Dashboard projects that can be deployed anywhere. Three software packages are available in 500, 1000, and 5000 tag count versions:

- Complete Packages - Development + Runtime;
- Development Packages - Development Only;
- Runtime Packages - Runtime Only.

For more details on Point of View, see the HM section

Think & Do

PC Control with Think & Do

Think & Do Version 8 software products, America's leading PC control software, bring you all the tools you need to easily handle complex applications. With intuitive flowcharting, powerful graphics tools, higher math functions and data types, serial and Ethernet communications and interfaces to specialty control modules, Think & Do software is right for applications that PLCs just can't handle alone. Think & Do Version 8: Advanced PC-based control with enhanced HMI development software and an SQL interface for more complex applications.

Data Collection Made Easy

BizWareDirect
www.bizwaredirect.com

AutomationDirect and BizWareDirect offer exceptional data collection software

AutomationDirect will no longer carry this package; this software is now available directly from the vendor, http://www.bizwaredirect.com/

AutomationDirect has teamed up with BizWareDirect to offer its customers data-collection and monitoring software for compatible DirectLOGIC PLCs, Think & Do v8.0 or Think & Do Live! WinPLCs, and Productivity series controllers. Previoiusly, it was necessary to purchase an OPC/DDE server, write code or buy an HMI package to program, in order to collect data from AutomationDirect controllers.

BizWareDirect's data collection software makes it simple and cost effective to collect valuable data to enable you to make better business decisions. BizWareDirect offers software products, and a variety of engineering services to assist manufacturers and utilities to automate, monitor, and collect data from their processes through the most productive and cost-effective means possible.

DataWorx™: Connect Ethernet-enabled controllers for data collection

DataWorx packages easily connect your Ethernet-enabled DirectLOGIC PLCs, Think & Do v8.0 or Live! WinPLCs, or Productivity series controllers to standalone PCs or network servers for simple data logging. Collect data without the need for special PC programming or any 3rd party HMI, SCADA, or DAQ software application.

Applications include:

- Log valuable production data to networked PCs or file servers for statistical process control decision making.
- Archive test data in a secure server file location with built-in date and time stamping features to satisfy quality assurance or audit procedures.
- Use in data acquisition applications as source content for historical trending to be used by ERP or other higher-level business system applications.

Three versions are available:

- DataWorx PLC for Ethernet-enabled ***Direct***LOGIC PLCs
- DataWorx WinPLC for Think & Do-based WinPLCs
- Dataworx P3K for the Productivity series controller

DataLynx™: Remote data collection over modems

DataLynx is an inexpensive data logging and storage package for remotely located PLCs or other devices that support Modbus and a modem connection. DataLynx can collect data from remote locations or relay data from multiple locations back to a single location to be stored. The software offers easy setup with no programming or SCADA system required.

Applications include:

- Log important data from remote processes, where Ethernet connections are unavailable, using a standard phone line.
- Monitor process data in other states and cities for trending history.
- Collect, and relay back to the plant, process history from machines in multiple locations for preventative maintenance and historical usage.

DataLynx vs. DataWorx Comparison	
DataLynx	***DataWorx***
• Modbus RTU / modem	• Ethernet
• Polling (dials & polls)	• Report-by-exception
• No PLC programming	• Uses PLC RX/WX
• No third-party programming software required	

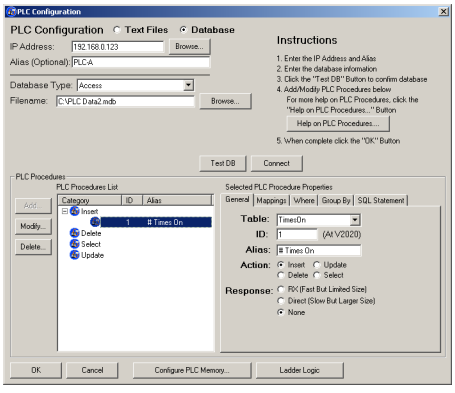
DataNET™: Instant access to operational data from anywhere

DataNet OPC easily connects your PLC or other OPC enabled device to a live Web page.The data is then available for viewing, logging and printing reports. The data is displayed in an easy to read table format with color coded text (for alarming) and with absolutely no HTML programming required.

- Quickly determine the status of plant operations at any given moment, with no time or distance restraints.
- Log and archive data to be used as source content for historical trend analysis.
- Archive data with built-in date and time stamping features to fulfill quality assurance procedures or to create reports for auditing processes.
- Log production data for record keeping and decision making.

BizWareDirect DataWorx PLC Professional software provides database access to collected data

DataWorx PLC Professional is an additional product offered by BizWareDirect that collects data from DirectLOGIC PLCs, Think & Do v8.0 or Think & Do Live! WinPLCs and other PLCs with the added feature of being able to store information into a database using SQL statements. The user can perform database operations such as storing PLC/WinPLC data and returning queries to the PLC/WinPLC. The user may configure database connectivity and operations in an easy to use GUI (as shown). Currently DataWorx PLC Professional supports Access and Microsoft SQL Server as well as ODBC connectivity. DataWorx PLC Professional is available through BizWareDirect. For more information, visit **www.bizwaredirect.com** or call **770-886-5878.**



DataWorx - Data Collection over Ethernet

AutomationDirect will no longer carry this package; this software is now available directly from the vendor, http://www.bizwaredirect.com/

DataWorx software: Connect Ethernet-enabled controllers for easy data collection at an affordable price

What is it?

DataWorx Software packages easily connect your Ethernet-enabled DirectLOGIC PLCs, Think & Do v8.0 or Think & Do Live! WinPLCs, or Productivity series controllers to standalone PCs or network servers for simple data logging. This means that any PC or server on the network can receive valuable controller data without the need for special PC programming or any 3rd party HMI, SCADA, or DAQ software application. DataWorx is easy to set up and use, and is priced right. Without a doubt, DataWorx will save you both time and money.

With the DataWorx P3K software, you can easily connect your Productivity series system to a Microsoft Access, SQL or ODBC compatible database server.

How do I use it?

Simply install the DataWorx software on a PC or file server on the same targeted Ethernet PLC network. Next, enable the controller logic to write data to your choice of delimited text files or CSV files onto the networked PCs or a file server.

Benefits of DataWorx

- Easy setup
- No SCADA software required
- At 96 bytes per device, store unlimited amounts of data
- Can receive data from an unlimited number of ***Direct***LOGIC PLCs, Think & Do v8.0 or Think & Do Live! WinPLCs, or Productivity series
- ***Direct***LOGIC PLCs, Think & Do v8.0 or Think & Do Live! WinPLCs, or Productivity series have complete control of storing the data
- DataWorx P3K Software connects any networked Productivityseries system to a supported database.

Applications

- Log valuable production data to networked PCs or file servers for Statistical Process Control decision making.
- Archive test data in a secure server file location with built-in date/time stamping features to satisfy quality assurance or audit trailing procedures.
- Use in data acquisition applications as source content for historical trending to be used by higher level business system applications.
- Transferring, updating and retrieving data into/from a network database.

DataWorx system requirements:

The PC hardware requirements for DataWorx include a Pentium II with 128 megabytes of RAM and at least 10 megabytes of hard disk space free. The Server application can run on Windows 2000/XP/Vista/7(32 and 64 bit). The Monitor application can run on Windows2000/XP/Vista/7(32 and 64 bit).

Product line-up

DataWorx PLC Software

Works with H0-ECOM100, H2-ECOM100/H2-ECOM-F or H4-ECOM100/H4-ECOM-F Ethernet modules

PC-DATPLC-1 $395.00
Support for one ***Direct***LOGIC PLC (with HX-ECOM100 module installed)
(also available in 3 and 7-node versions)

PC-DATPLC-UN $1,495.00
Support unlimited ***Direct***-LOGIC PLCs (with HX-ECOM100 modules installed)

DataWorx WinPLC Software

Works with H2-WPLC3-EN CPU

PC-DATWINPLC-1 $395.00
Support for one Think & Do v8.0 or Think & Do Live! WinPLC
(also available in 3 and 7-node versions)

PC-DATWINPLC-UN $1,495.00
Support unlimited Think & Do v8.0 or Think & Do Live! WinPLC

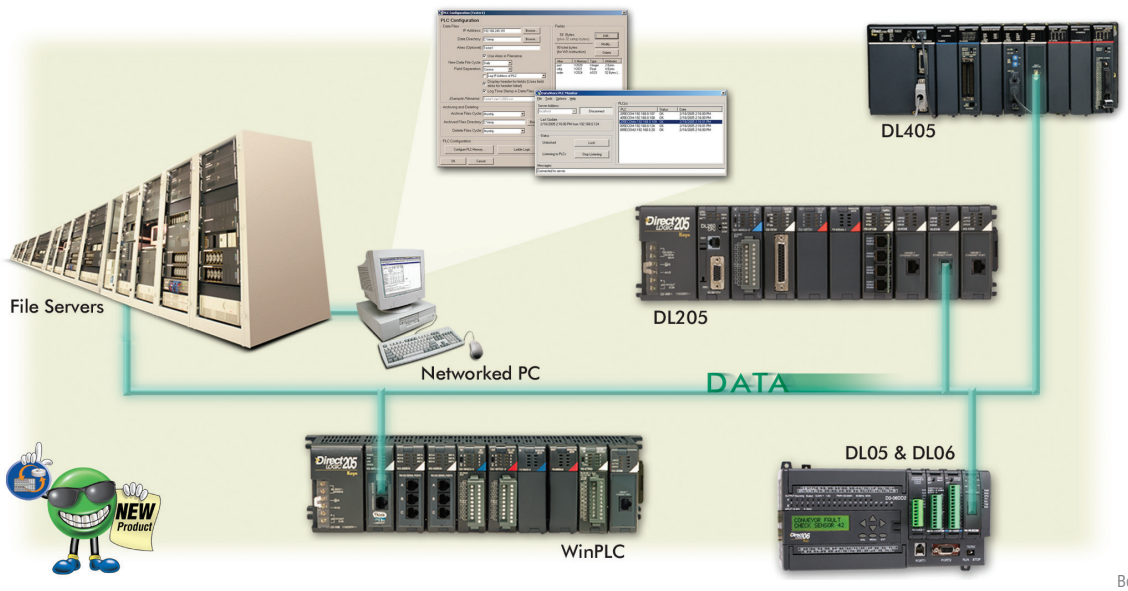
DataWorx P3K Software

Works with Productivity Series CPU

PC-DATP3K-1 $295.00
Support for one Productivity series system

PC-DATP3K-UN $795.00
Supports unlimited Productivity series systems

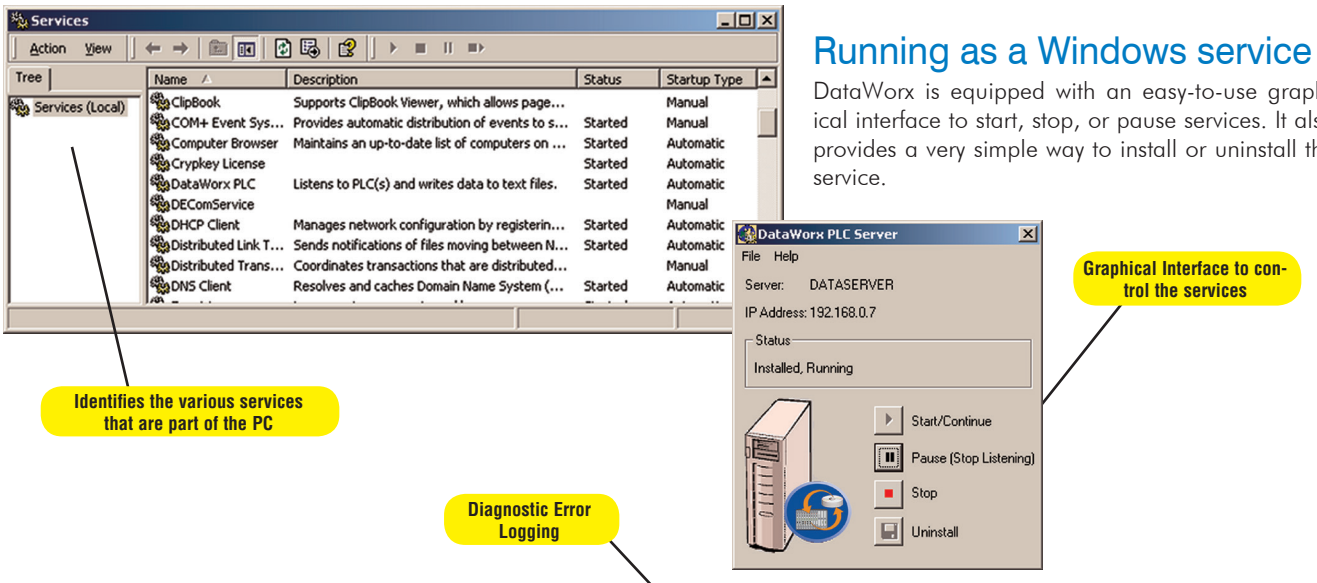
PC-DATP3K-UPG $500.00
Upgrade from a single license to unlimited



AutomationDirect will no longer carry this package; this software is now available directly from the vendor, http://www.bizwaredirect.com/

DataWorx PLC/WinPLC Server

The DataWorx software packages include a server application that runs as a Microsoft Windows "service". Running as a service means the DataWorx program runs whether or not anyone is presently logged in on the PC. Another advantage of the server running as a service is that the user does not need to manually start the logging every time the computer restarts. The application "listens" for information from the PLC/WinPLC and logs the data into a file configured from the Monitoring application. The server is capable of collecting up to 96 bytes of data from an unlimited number of PLCs/WinPLCs.

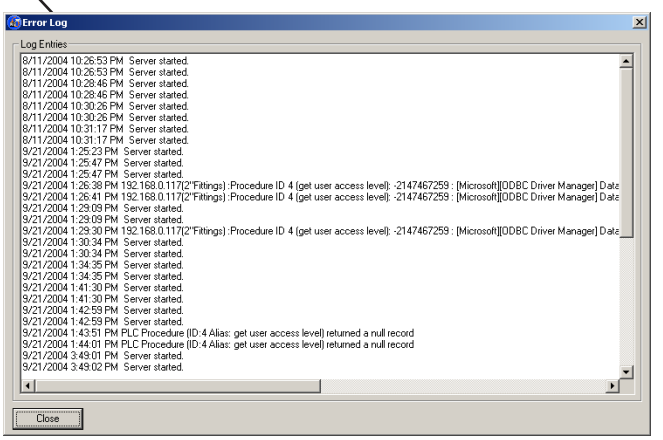


Running as a Windows service

DataWorx is equipped with an easy-to-use graphical interface to start, stop, or pause services. It also provides a very simple way to install or uninstall the service.

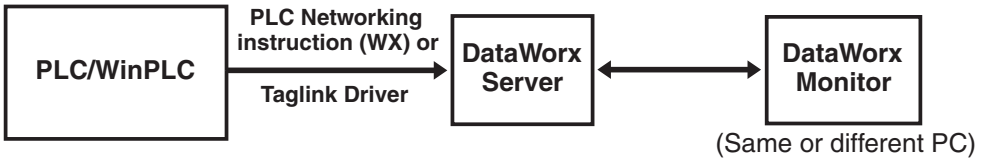
Error log

The Server has a useful Diagnostic Error Log window to help with troubleshooting the Server if a problem arises. The Error Log shows the status of the Server. The Error Log indicates whether the Server is started, stopped, or paused, and if the data received from the PLC/WinPLC matches the data configured in the Server.



RBE (Report by Exception) technology

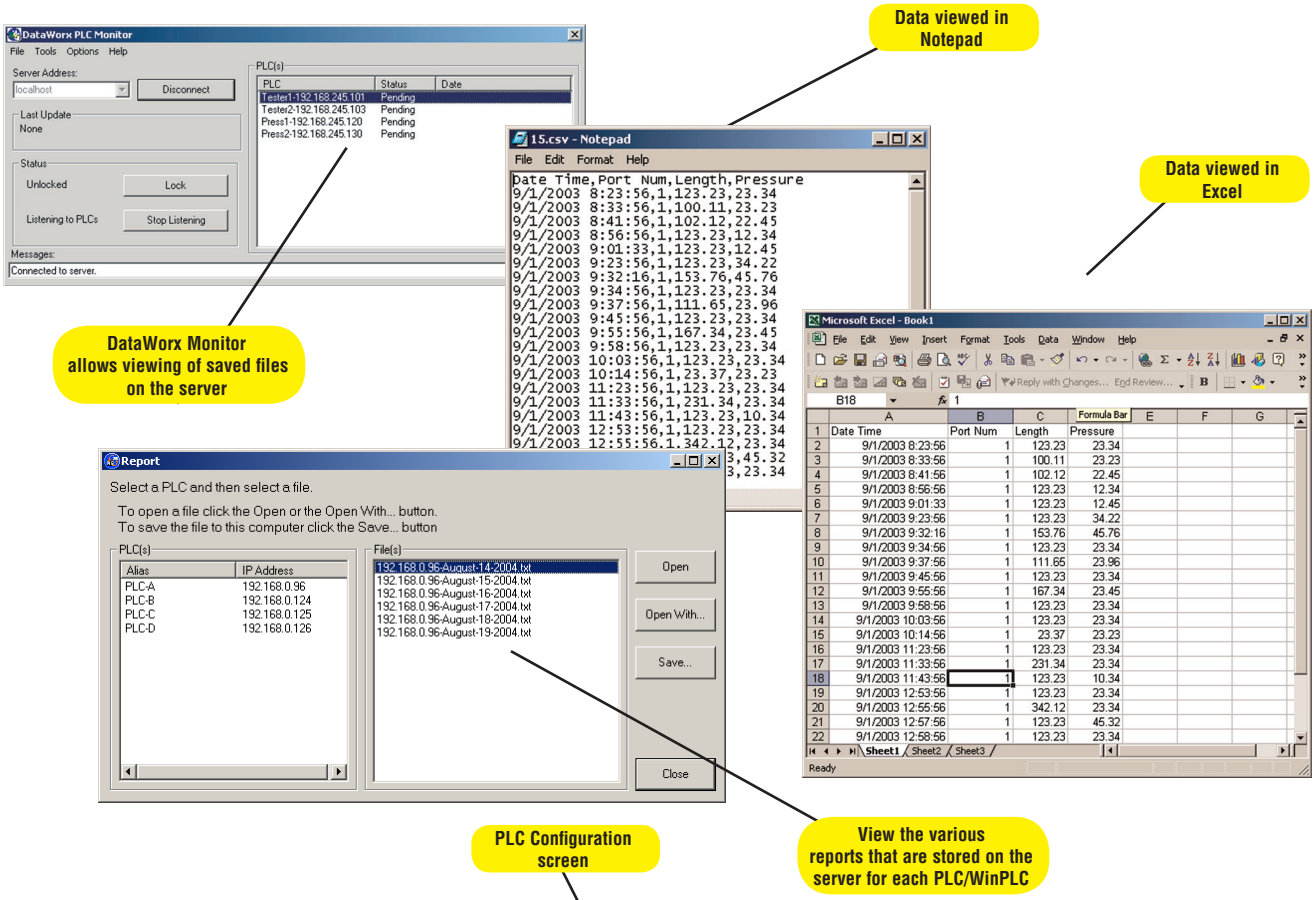
RBE technology is what makes DataWorx software unique. Rather than the usual data collection through polling PLCs/WinPLCs, RBE technology makes the Server "listen" for data that has changed before it stores the information. The PLC/WinPLC sends data ONLY when needed. The common method of collecting data by continuous polling adds a lot of network traffic, causes the CPU utilization to dramatically increase, and in most applications, requires a dedicated PC. In contrast, the RBE method gives the PLC/WinPLC complete control to store data to a networked PC or file server hard drive and store the data locally if the network is down.



AutomationDirect will no longer carry this package; this software is now available directly from the vendor, http://www.bizwaredirect.com/

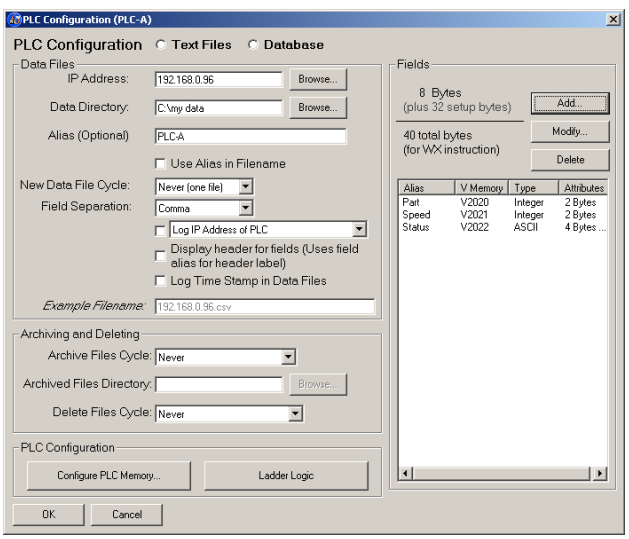
DataWorx PLC/WinPLC Monitor

The Monitor application included in the DataWorx package configures the server's file creation cycle, and PLC/WinPLC listings. The Monitor also allows the user to view or save the data files stored on the server. Files can be opened and viewed in Notepad, Excel, or another chosen program. The user may select to create files on a daily, monthly, or yearly basis. The Monitor application is able to conveniently run from any PC that is networked with the server.



Configuration

Using the Monitor application, users can configure the server to log data to the server's hard drive in a comma or tab delimited text file. Users can also include a date and time stamp in the file, and an alias for each data item sent. The alias can be used as the file's header.



Archiving

The server can be configured to archive the log files into a zip file that can be copied to an archive directory for easy management. In the directory, files can be deleted automatically according to the parameters set by the user. Archiving can occur daily, monthly, or yearly as needed.

AutomationDirect will no longer carry this package; this software is now available directly from the vendor, http://www.bizwaredirect.com/

DataWorx Productivity3000 Server

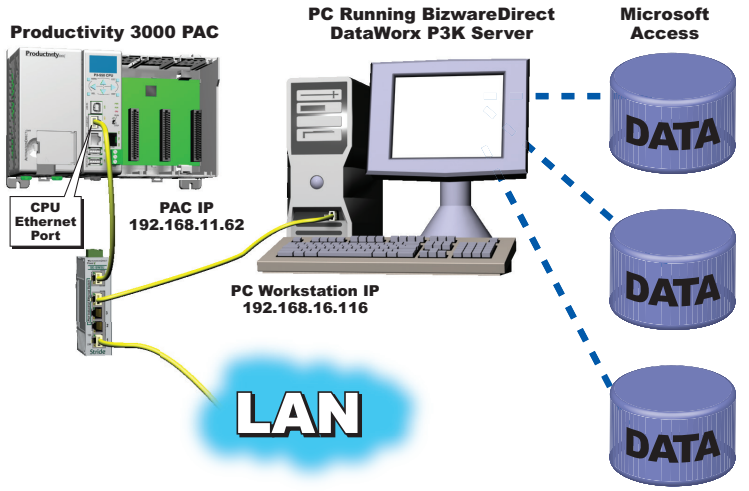
The DataWorx P3K server software maximizes the value of your industrial data by allowing you to collect data and connect your Productivity3000 or Productivity 2000 system to networked database servers. Collect real-time data from the plant floor and store it into a standard Microsoft Access, SQL server or ODBC compatible database.

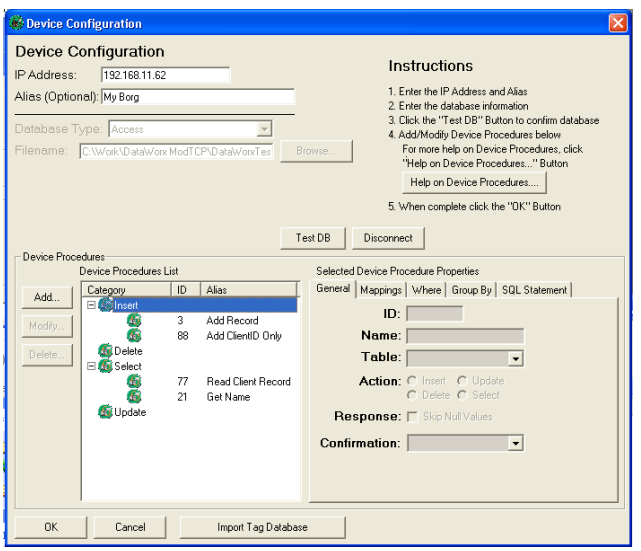
The unique report-by-exception technology allows direct communication between the Productivity3000/2000 and the database(s). It gives control of the data logging and storage to the CPU so it can send data only when needed, greatly reducing the amount of network traffic.

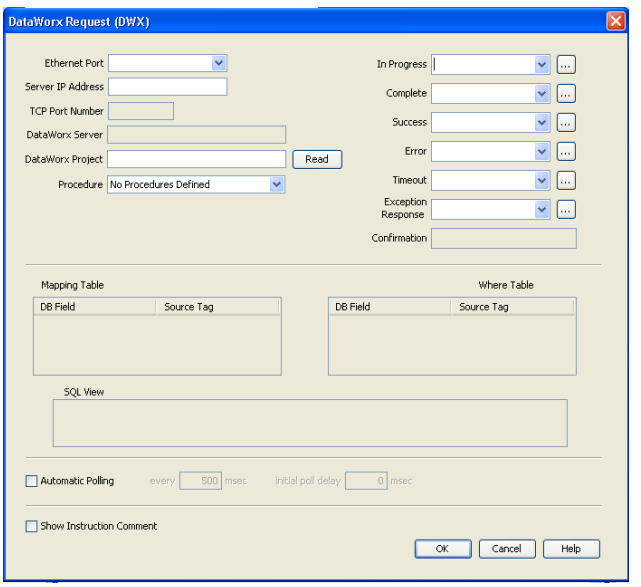
Connect your Productivity3000/2000 to your Enterprise system

What is it?

DataWorx P3K gives you an inexpensive solution for connecting your Productivity3000 or Productivity2000 controller to enterprise systems by providing direct database interaction. Productivity3000/2000 is able to conduct its own database operations, so records are always accurate and up-to-date. DataWorx P3K connects people to the plant, putting valuable information in the hands of those who need it to make crucial decisions.





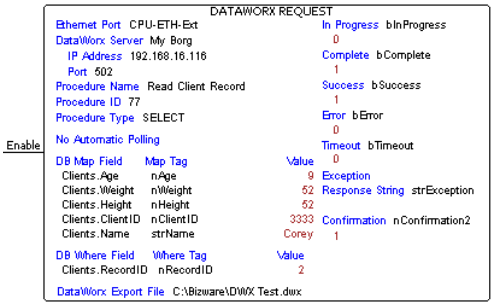


Benefits of DataWorx P3K

- Makes industrial data directly and readily available to those who need it to make organizational decisions
- Allows data to flow freely between plant floor and your IT enterprise system
- Report-by-exception technology eases network traffic
- Gives PAC/PLC complete control over data storage and retrieval
- Easy installation, no database programming necessary
- No SCADA system needed
- Store unlimited amounts of data

Built-in Ladder Instruction

The Productivity3000/2000 has incorporated a DataWorx instruction to simplify the configuration and data transfer between the controller and enterprise network.



Practical Applications

- Enable your industrial devices to track plant-floor progress and maintain a precise inventory to increase efficiency and accuracy.
- Store, set and change recipes to improve reliability in operations using multiple formulas and set-points.
- Log valuable production data into a data base for convenient storage, easy retrieval and organized displays.
- Archive test data in a secure database with built-in date/time stamping features to satisfy quality assurance or audit procedures.

AutomationDirect will no longer carry this package; this software is now available directly from the vendor, http://www.bizwaredirect.com/

DataNet OPC Data Management Software

Innovative software that gives you instant access to operational data - from anywhere.

What is it?

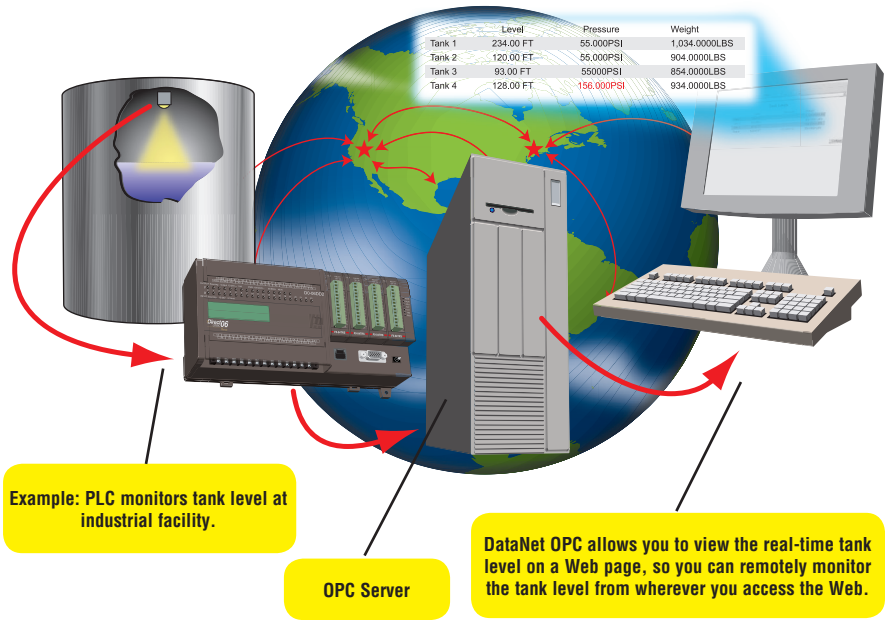
DataNet OPC uses OPC technology to display real-time data from industrial devices on a live Web page. The data is then available for viewing and printing reports from any computer, anywhere the Internet or company intranet is accessible. The data is displayed in an easy-to-read table format. Absolutely no HTML programming is required to take advantage of DataNet OPC's many practical features, all of which allow users to determine the status of their plant operations quickly - from anywhere their business might lead them.

How do I use it?

With DataNet OPC, setup is quick and easy. Simply install the software on a PC or file server (an OPC server, such as our KepDirect Server, is required to use this product). DataNet OPC can be installed as a standalone Web server or as a Microsoft IIS add-on. Next, configure the Web page and, if applicable, the data-logging function. To setup or make changes to the configuration, use the configuration facility that is conveniently provided via the DataNet OPC Web page.

Benefits of DataNet OPC

- Data is available on any computer, any where the Web page is accessible
- There is no limit on the number of simultaneous viewers, so management always has instant access to the data
- Packages are available to log an unlimited amount of data for archival purposes
- Dynamic colors allow users to determine the status of plant operations at a glance
- A useful math tool performs calculations on data before displaying
- Absolutely no HTML programming is required
- Installation and setup is quick and easy



Practical Applications

- Make the Web page available over the company intranet to monitor plant operations from anywhere in the plant or administrative offices, while keeping internal data private
- Publish data to the Internet to allow instant access to organizational data - from anywhere. Publish to a hidden address to allow access by management and plant personnel only; or keep others informed by allowing public access to the page
- Log and archive valuable data to create reports for process control decision making or for historical trend analysis

DataNet OPC fits your organizational needs

DataNet OPC can work within your existing infrastructure to increase the connectivity between management and plant floor operations.

DataNet OPC makes data more accessible

The DataNet OPC Web page is capable of displaying and logging an unlimited amount of data, from an unlimited number of devices.

Data is displayed in a table format and can be refreshed at any interval, as specified by the user. A column-configuration page allows the user to control the Web page's appearance, while a row-configuration page allows the user to designate and manipulate the data being displayed. A password-protected security feature is included, which when activated, prevents any unauthorized changes from being made to the configuration.

BizWareDirect

www.bizwaredirect.com

Make industrial data more accessible and useful to those who need it!

AutomationDirect will no longer carry this package; this software is now available directly from the vendor, http://www.bizwaredirect.com/

DataNet OPC Data Management Software

DataNet OPC makes archiving industrial data simple

In addition to displaying data conveniently on a Web page, DataNet OPC packages are available that log data into a text file for archival purposes. Through the easy-to-use configuration facility, the user is able to specify which sets of data should be logged, and at what time intervals. This software package also has a useful trigger-command option, which allows the user to specify that data be logged only at certain times or under certain conditions. These historical logs, like the real-time data, are conveniently accessible directly from the DataNet OPC Web page. Simply download and save the log files for your records, for company-wide analysis or for planning initiatives.

DataNet OPC makes data more useful

DataNet OPC supplies the user with a range of viewing options designed to convert raw industrial data into useful information. A descriptive name can be assigned to the DataNet OPC Web page, as well as to each individual row of data, aiding in future analysis and on-the-spot monitoring. A useful calculating tool allows the user to define mathematical operations, which DataNet OPC will perform on the specified data before displaying and/or logging it. With DataNet OPC, the user is able to request that certain cells automatically change colors based upon their data values. This is a very functional feature that can be used as a warning system, alerting plant managers and personnel of abnormalities in plant operations.

Product Lineup

DataNet OPC Software

PC-DNETOPC-10 $295.00
Support for up to 10 Web Values. Data logging is included.

PC-DNETOPC-30 $595.00
Support for up to 30 Web Values. Data logging is included.

PC-DNETOPC-60 $995.00
Support for up to 60 Web Values. Data logging is included.

PC-DNETOPC-UN $1,395.00
Support for an unlimited number of Web Values. Data logging is included

Upgrade Program

Note: Upgrade packages are not distributed on a CD. Your new upgrade package serial number will be shipped to you on an upgrade document. Upon receipt, register your product online to enable the new features.

PC-DNETUPG-20 $300.00
Upgrade from PC-DNETOPC-10 to PC-DNETOPC-30. Add 20 Web Values. No data logging is included.

PC-DNETUPG-30 $400.00
Upgrade from PC-DNETOPC-30 to PC-DNETOPC-60. Add 30 Web Values. Data logging is included.

PC-DNETUPG-UN $400.00
Upgrade from PC-DNETOPC-60 to PC-DNETOPC-UN. Add unlimited Web Values. Data logging is included.

System Requirements

- Windows NT/2000/2003/XP/Vista
- Internet Explorer 6.0 or later
- OPC server (we recommend our Kep***Direct*** for PLCs Data Server)
- OPC 1.0 and OPC 2.0 compliant

BizWareDirect's Professional version - more features and more interactive display

DataNet OPC Professional, offered by AutomationDirect technology partner BizWareDirect, has enhanced features that will make industrial data even more valuable to your company. Multiple display pages help keep data tables organized and allow employees to find what they need - without sifting through an enormous amount of information they do not need. Employees will no longer need to spend their time constantly monitoring operational data because the Professional version has an added feature that will send e-mail alerts to warn plant managers and personnel when data is out of the specified "normal" range.

DataNet OPC Professional can help you to make a lasting impression on management, customers and others outside the plant walls, by creating easy-to-understand trend graphs of logged data. The Professional software package also displays and logs data from remotely located OPC servers, converts binary data, and allows configurable font sizes. For those seeking the ultimate in data display and logging, DataNet OPC Professional will increase efficiency and connect system operations to those who make the company decisions. For more information, visit **www.bizwaredirect.com** or call **(770) 886-5878**.

AutomationDirect will no longer carry this package; this software is now available directly from the vendor, http://www.bizwaredirect.com/

DataLynx: Remote Data Collection Software

DataLynx Software: remote data collection made easy

What is it?

DataLynx data collection software is an inexpensive data logging and storage package for PLCs using a PC. Any PLC or other device that supports Modbus RTU, along with a modem connection, works well with DataLynx. This software package is an ideal solution for collecting data from remote locations or relaying data from multiple locations back to a single location to be stored.

DataLynx polls remote Modbus-enabled devices over standard phone lines using off-the-shelf modems. The DataLynx Server runs as a service and collects and stores your data into comma or tab-delimited file formats. DataLynx can also be configured to automatically archive data files into a .zip file every month or year and delete the files as well.

How do I use it?

DataLynx is an easy software to install and use. No additional programming by the user is necessary. Simply install the DataLynx software on a PC or file server and configure the remote Modbus-enabled device phone number and memory address.

Benefits of DataLynx

- Easy setup, no programming necessary
- No SCADA system required
- Collect data from remote locations
- Stores unlimited amounts of data
- Monitors unlimited number of PLCs or Modbus devices
- Troubleshoot instantly

DataLynx vs. DataWorx Comparison	
DataLynx	***DataWorx***
• Modbus RTU / modem	• Ethernet
• Polling (dials & polls)	• Report-by-exception
• No PLC programming	• Uses PLC RX/WX
• No third-party programming software required	

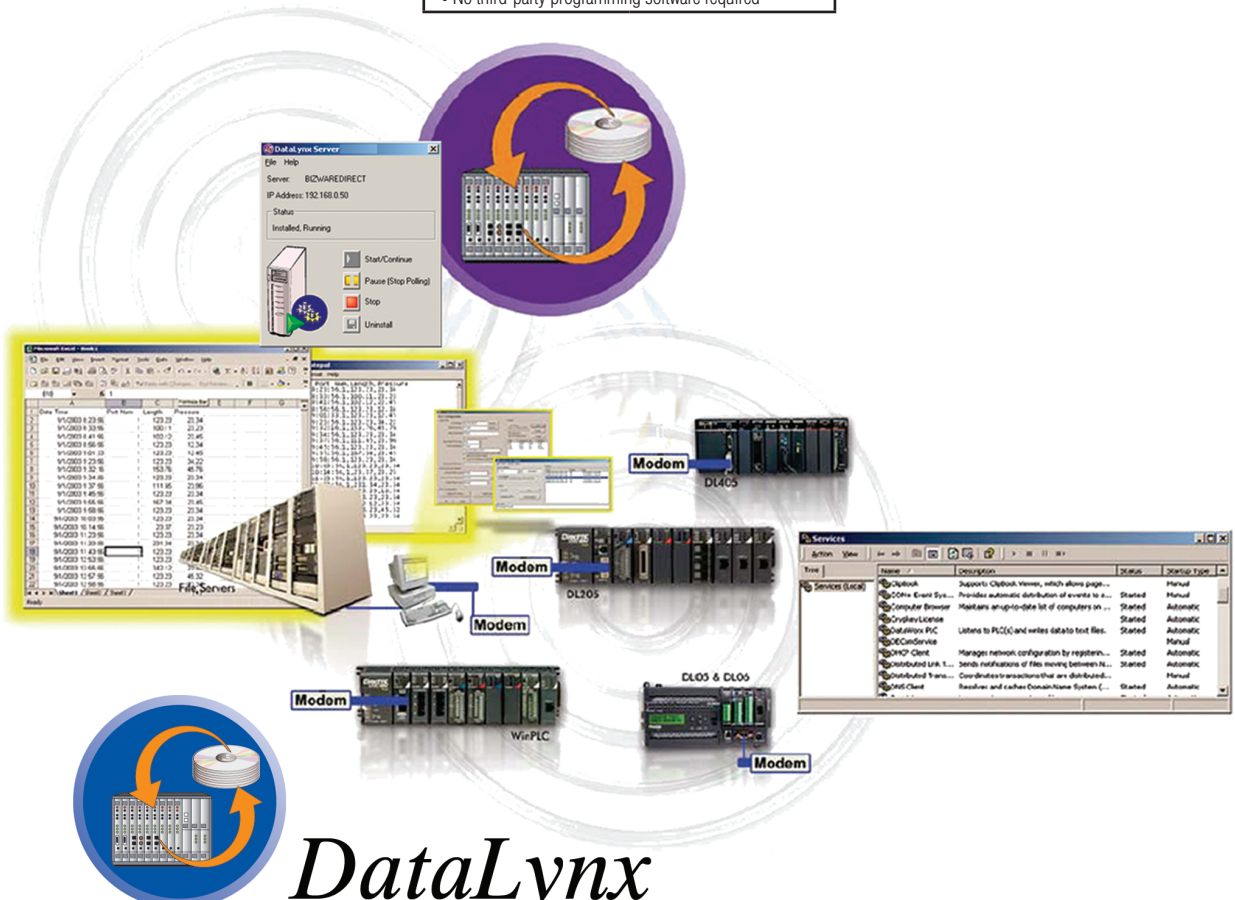
Applications

- Log important data from remote processes using a standard phone line where Ethernet connections are unavailable.
- Monitor process data in other states and cities for trending history.
- Collect process history from machines in multiple locations for preventative maintenance and historical usage.

Product lineup

DataLynx Software

PC-DATLYNX-1 Supports one PLC	$400.00
PC-DATLYNX-5 Supports up to five PLCs	$800.00
PC-DATLYNX-10 Supports up to 10 PLCs	$1,305.00
PC-DATLYNX-UN Supports unlimited PLCs	$1,510.00



DataLynx

PLC MODEM DIAL UP SOFTWARE

KEP*Direct* OPC Server

Connect ***Direct***LOGIC PLCs, Productivity Series CPUs, DURApulse or GS drives or your PC via OPC for easy data acquisition or control at an affordable price

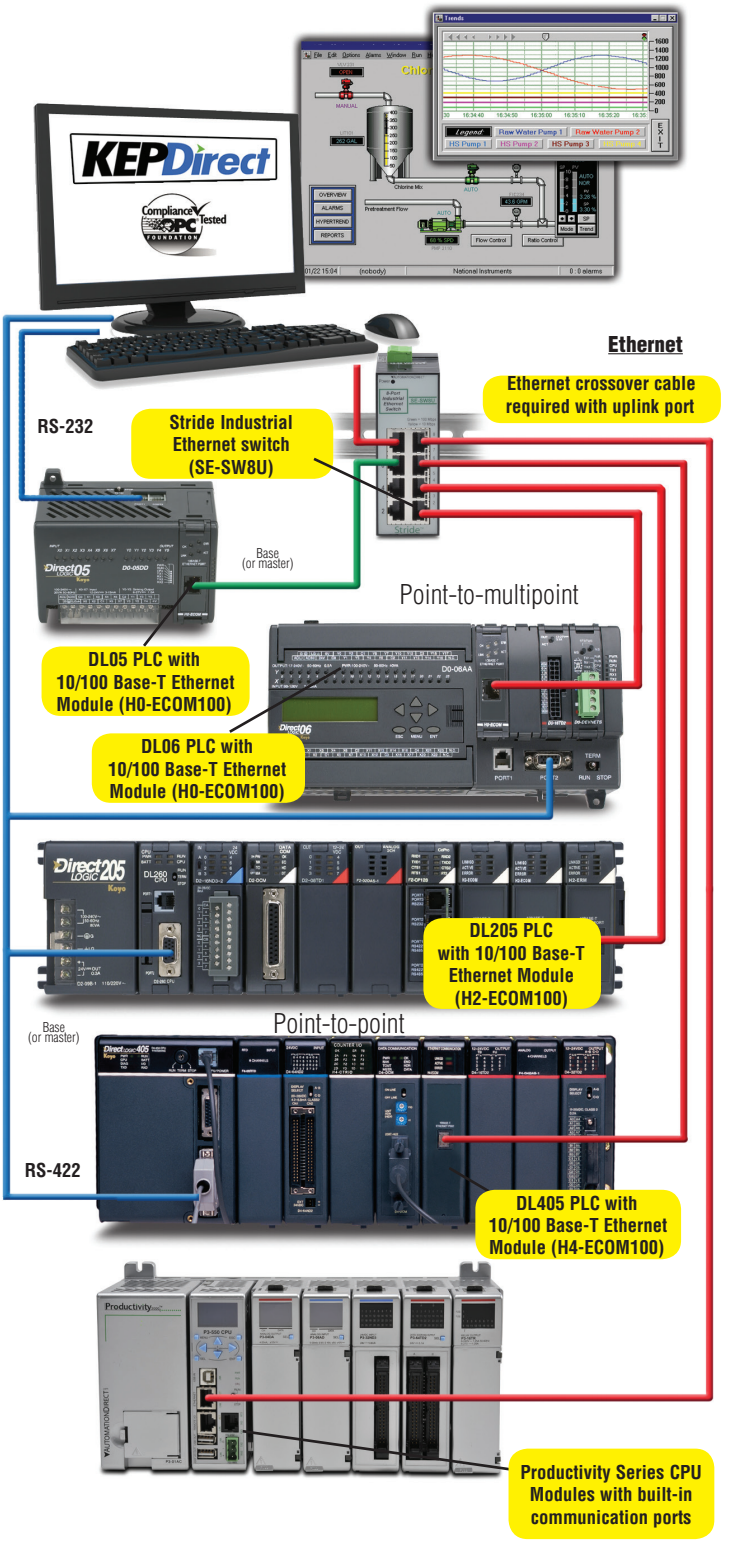
What is it?

The KEPDirect OPC Server provides a way to connect your favorite Windows client software to AUTOMATIONDIRECT DirectLOGIC PLCs, Productivity Series controllers, Ethernet I/O through our EBCs (Ethernet Base Controllers), or DURAPULSE and GS AC motor drives with an Ethernet interface module (GS-EDRV100) installed. This means that any industrial HMI, SCADA, data historian, MES or ERP software package that includes an OPC client interface (most do) can connect directly to DirectLOGIC PLC serial or Ethernet ports; Productivity Series Ethernet; DL205, DL405, Terminator Ethernet I/O; or DURAPULSE and GS series AC drives by way of a GS-EDRV100 module. The KEPDirect OPC Server provides an interface to your controllers, Ethernet I/O or drives using industry-standard OPC technology so you are free to choose almost any software package. Best-in-class PLCs, along with best-in-class software, should be your choice with the KEPDirect OPC Server.

What's it got?

- High-performance, certified OPC-compliant connectivity via Ethernet, with unparalleled compatibility and performance
- DL05, DL105, DL06, DL205, and DL405 support through RS-232, RS-422 serial or DirectLogic ECOM and Productivity Series Ethernet interfaces
- DL205, DL405 and Terminator EBC or GS-EDRV module Ethernet interfaces
- OPC Quick Client application included for testing and easy troubleshooting
- Automatically generate tag names by importing ***Direct***SOFT project Nicknames and Descriptions or Productivity Suite Tag database.

Serial and Ethernet Connections Example



KEP*Direct* OPC Server Software

How do I use it?

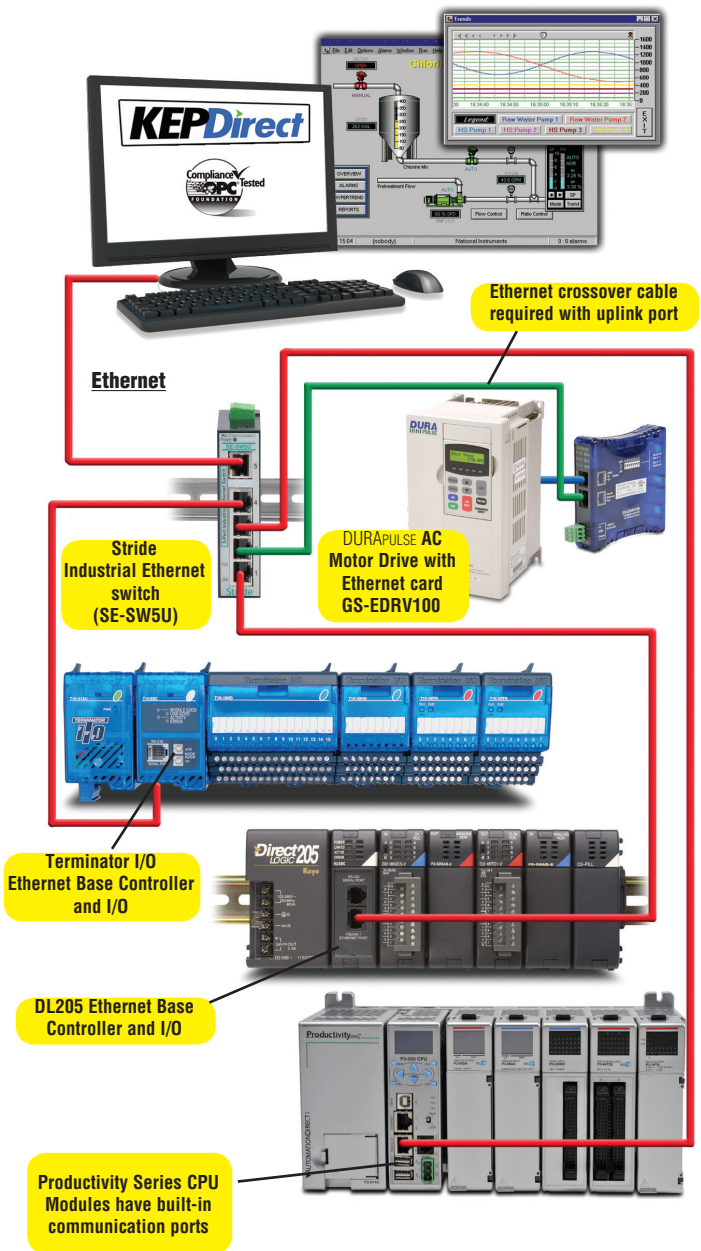
Simply install the KEPDirect OPC Server on the same PC (or on the same network) as your client application, then enable the OPC client driver for direct access to your AutomationDirect device on the network.

What can I do with it?

- Connect your favorite HMI or SCADA software to low-cost AutomationDirect PLC, PAC, Ethernet I/O or Durapulse or GS Drives systems over a serial or Ethernet network.
- Design a low-cost data acquisition/monitoring system using affordable AutomationDirect control devices.
- Interface custom Visual Basic® or Visual C++® applications to AutomationDirect systems and eliminate time consuming driver development.
- Requires OPC DA Client Tool Kit to use OPC with Visual Basic.

PC-KEPOPC (supports all drivers) $399.00

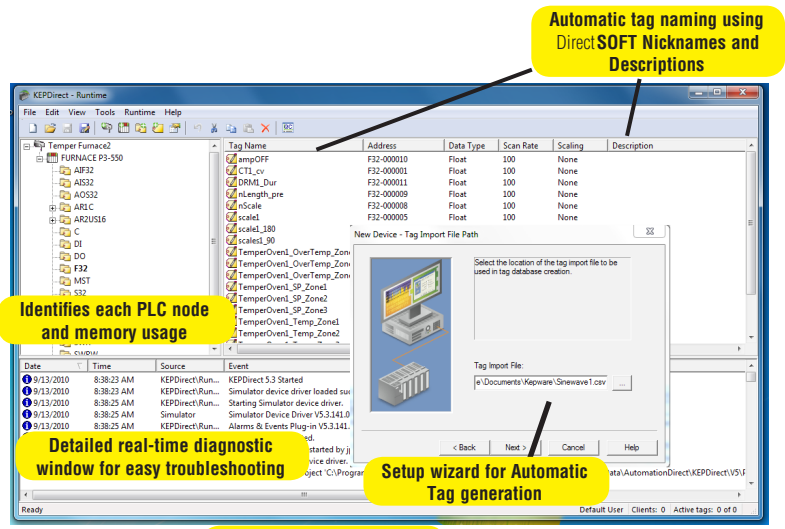
Ethernet Connections Example



It's all included in the KEP*Direct* Server

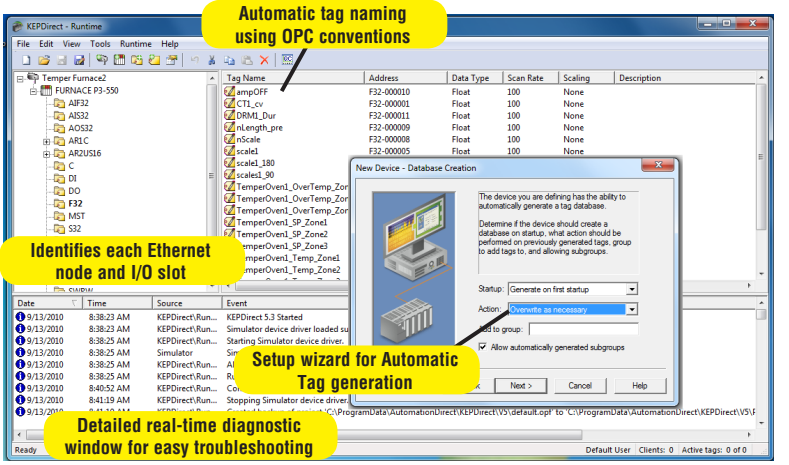
Import *Direct*SOFT Nicknames and Productivity Suite Tagnames

The KEPDirect OPC Server supports automatic tag generation through importing of DirectSOFT project element Nicknames and the Productivity Suite Tag database. For DirectSOFT PLCs, export your project element documentation into the *.CSV format, then use the KEPDirect setup wizard to import this file and generate tag names within your server project. For Productivity Series CPUs, simply import the project *.CSV file located in your default project directory. Tags are organized according to the controller's datatypes – 'X', 'Y', 'C', 'V', etc. – for the DirectLOGIC or – 'AIF32', 'AOS32', 'DI', 'DO', 'F32', 'S32', etc. – for the Productivity3000/2000. These are displayed in a tree structure with your Nicknames and Descriptions applied so any OPC client is able to access them. The easy-to-use KEPDirect OPC Server graphical interface displays complete OPC Channel, Device and Group structure along with detailed diagnostics.



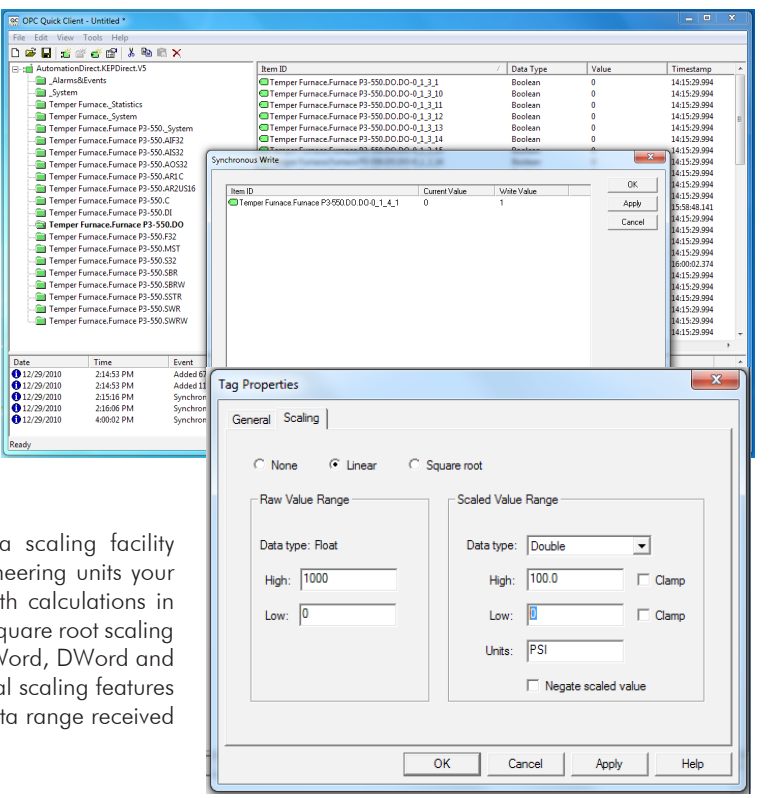
I/O configuration and tag mapping for Ethernet I/O

The KEPDirect OPC Server recognizes the types of I/O for all connected EBC nodes, and can map them to tags. No wasting time determining your I/O addressing scheme or tag names. Follow the Setup Wizard and your tags are displayed in a tree structure, ready for any OPC client to access them. The simple graphical interface displays complete OPC Channel, Device and Group structure along with a detailed diagnostics window.



Quick Client tests network connections and toggles I/O

The KEPDirect OPC Server includes a Quick Client software application for checking your network. Test your connection by clicking on the icon from the server interface and viewing your I/O status in real time. You can also toggle discrete I/O and read/write values to analog modules. The Quick Client can save you time and money debugging your I/O system, even before you begin developing your client application.



Built-in powerful data scaling

The KEPDirect OPC Server includes a complete data scaling facility allowing you to configure each data point for the engineering units your application requires. No need to perform extensive math calculations in your client software to manipulate your data. Linear and square root scaling are supported across several data types including Byte, Word, DWord and Float, with user defined decimal point location. Additional scaling features include high and low limits, and clamping to limit the data range received to/from your client application.

KEP*Direct* OPC Server

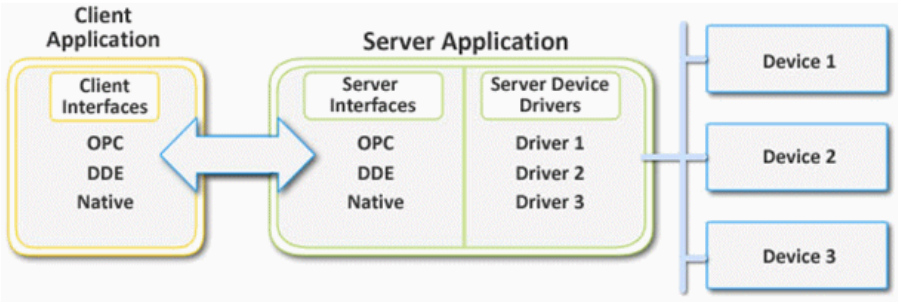
OPC overview

OPC is an industry standard created by a number of worldwide leading hardware and software suppliers in cooperation with Microsoft. The OPC Data Access specification, as maintained by the OPC Foundation, is a non-proprietary technical specification that defines a set of standard interfaces based upon Microsoft's OLE/COM technology. An OPC server (driver) allows items such as distributed control systems, programmable logic controllers, I/O systems and smart field devices to communicate with a wide range of HMI/SCADA (client) software packages residing on a PC. Traditionally, each software or application developer was required to write a custom interface, or server/driver, to exchange information with hardware field devices. OPC eliminates this requirement, allowing manufacturing customers true plug and play connectivity and the freedom to choose products based on their automation requirements.

DDE support

While KEPDirect OPC Server is first and foremost an OPC server, it is recognized that a number of legacy applications still depend upon DDE for their underlying client server technology. Early in the development of Windows, Microsoft provided a generic client server technology called DDE (Dynamic Data Exchange). DDE provided a basic architecture that would allow many Windows applications from a wide range of vendors to share data. But there was one problem – DDE was not designed for the industrial market, lacking much of the speed and robustness desired in an industrial setting. However, this did not stop DDE from becoming a dominant client/server architecture, largely due to its availability in most Windows applications.

OPC client/server relationship



Where OPC fits in

Although OPC is primarily used for accessing data from a network server, OPC interfaces can be used in many places within an application. At the lowest level, they can get raw data from the physical devices into a SCADA or DCS. The architecture and design makes it possible for an OPC server to allow a client application to access data from many OPC servers. The data can be provided by many different OPC vendors running on different nodes via a single object.

AutomationDirect and Kepware partner to create KEP*Direct* OPC Server

For those of you familiar with OPC servers, you might recognize the name "KEP" in the KEPDirect OPC Server name. Kepware Inc., the industry leading provider in OPC server products, has partnered with AUTOMATIONDIRECT to allow us to offer our own tailor-made version of the world famous KEPServerEX. The KEPDirect OPC Server offers all the same powerful and easy-to-use features of the KEPServerEX, but only for connectivity to our products. The result is a top quality OPC server technology connecting to best-value PLCs or Ethernet I/O for a combination that can't be beat.

Application connectivity

KEPDirect OPC Server supports the following client/server technologies:

- OPC Data Access Version 1.0a
- OPC Data Access Version 2.0
- OPC Data Access Version 3.0
- OPC Unified Architecture v1.0
- OPC Alarm and Events v1.01
- FASTDDE for Wonderware
- SuiteLink for Wonderware
- PDB for GE's iFix
- DDE Format CF_Text
- DDE Format XL_Table
- DDE Format AdvancedDDE

OPC Data Access 1.0a was the original specification the OPC Foundation developed back in 1996. Many of the OPC clients in use today support this original specification. Version 3.0 is the latest version of the OPC DA interface and makes better use of the underlying Microsoft COM technologies. The DDE formats are the standard DDE formats as defined by Microsoft. To provide the broadest range of connectivity, KEPDirect OPC Server simultaneously supports all of the client server technologies listed above.

Online Technical assistance!
Our Web site, www.automationdirect.com, is loaded with helpful technical resources including application notes pertinent to the KEPDirect OPC Server.

KEP*Direct* OPC Server

System requirements

KEPDirect Servers have been designed to place as little stress on your PC system as possible while providing the level of performance you expect. The following system requirements are recommended:

Minimum system requirements:

- 2.0 GHz Processor
- 1 GB installed RAM
- 180 MB available disk space
- Ethernet Card (required for Ethernet drivers or serial drivers that utilize Ethernet encapsulation)
- Super VGA (800 x 600) or higher resolution video adapter and monitor
- Keyboard and Microsoft mouse or compatible pointing device

Supported operating systems:

- Windows 7 Pro and Ultimate*
- Windows 8
- Windows XP* SP2 (strongly recommended for industrial settings)
- Windows Server 2003* SP2 (strongly recommended for industrial settings)
- Vista Business/Ultimate*
- Windows Server 2008* (strongly recommended for industrial settings)

*Includes support for 64 bit operating systems.

Major OPC clients supported

- Rockwell Software's RSView32®
- GE's Cimplicity®
- Iconics' Genesis32®
- Cutler Hammer's PanelMate PC Pro
- Think & Do Live!
- Think & Do v8.0
- Wonderware's InTouch® and OPCLink®
- Intellution's Fix Dynamics® and OPC PowerTool®
- Siemen's WinCC®
- Kepware's OPC QuickClient
- National Instrument's LabVIEW
- National Instrument's Lookout
- Lookout *Direct*

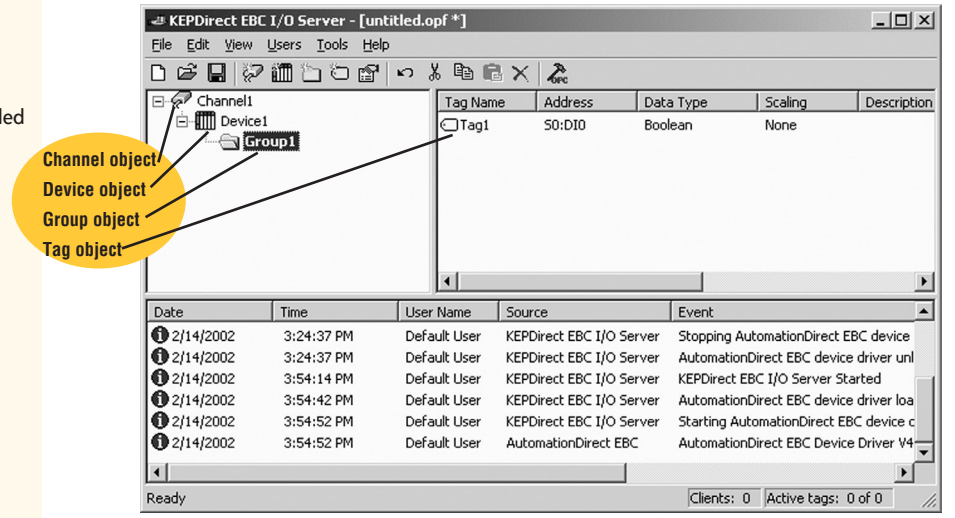
KEP*Direct* OPC Server objects

Channel object

Each protocol or driver used in a KEPDirect OPC Server project is referred to as a channel. A channel is a specific communications driver. A KEPDirect OPC Server project can consist of many channels, each with unique communications drivers or each with the same communications driver. Each channel name must be unique in a KEPDirect OPC Server application. The channel name entered will be part of the OPC browser information.

Device object

Unlike the channel name, device names can be the same from one channel to the next. The device name is a user-defined logical name for the device. The device name and channel name will be part of the OPC browser information as well as a DDE item name. Within an OPC client the combination of channel name and device name would appear as "ChannelName.DeviceName".



Group object

KEPDirect OPC Server allows tag groups to be added to your project. Tag groups allow you to tailor the layout of OPC data in logical groupings that fit the needs of your application. Using tag groups allows multiple sets of identical tags to be added under the same device. This can be very convenient when a single device handles a number of similar machine segments. From an OPC client standpoint, the use of tag grouping allows you to segregate your OPC data into smaller tag lists, which can make finding a specific tag easier when browsing the server.

Tag object

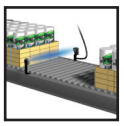
KEPDirect Server allows both dynamic tags, (tags entered directly at the OPC client that specify device data) and user-defined tags. User-defined tags have the benefit of allowing the tag to be browsed from an OPC client that supports tag browsing. User-defined tags also support tag scaling. Unlike many of the dialogs you will find in KEPDirect OPC Server, the tag properties dialog has a number of features that are driven by icons. The tag name is part of the OPC browse data. Tag names must be unique within a given device branch or tag group branch. If your application is best suited by using blocks of tags with the same names, use tag groups to segregate the tags.

Other products you might want to consider

Need new controls?

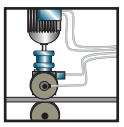
Spend Less. Do-more!

Machine Control



Basic Process

Motion



Try our practical supercharged Do-more® PLC

Whether replacing or starting from scratch on a control system, why not consider the Do-more PLC? We took the best ideas for practical product design and created the Do-more H2 series - an incredibly powerful controller at an incredible bargain.

Attention DirectLOGIC 205 users!
This is an all-new, more powerful instruction set. And the latest version of Do-more Designer software includes a utility to help convert your current DL205 system ladder logic into a Do-more program. Take advantage of the latest technology without replacing your I/O hardware!

For just $399, the H2-DM1E CPU includes:

- ***1Mb memory** for program, its documentation, and user-partitioned data types*
- *Onboard communication ports include USB, serial, plus Ethernet with Modbus TCP or I/O support*
- ***Up to 256 I/O in one base, and thousands more with optional Ethernet-connected I/O***
- ***Supports discrete, analog, motion, and additional serial and Ethernet communications modules***
- ***Powerful instruction set featuring easy-to-configure math, trending and motion***

Get plenty of I/O in the local base, or expand with Ethernet-connected I/O right from the CPU. Create your programs and documentation with the **FREE Do-more Designer software**. Download it online - with the built-in simulator, you can try out your logic right away.

Watch videos at:
www.n2adc.com/domorevids
for quick start tutorials.

We've got your back whether you are installing a new control system or upgrading an existing DL205 installation, with:

- ☑ **FREE software**
- ☑ **FREE 30 days online training**
- ☑ **FREE Phone Tech Support**

Research, price, and buy at
www.n2adc.com/domore2

AUTOMATIONDIRECT.com

PC Control: The Smart Way to a Complete Solution

Why should I use PC control?

PLCs provide a great solution for many applications, but when your application goes beyond straight-forward ladder logic controlling simple I/O, PC control can be the smarter way to go.

When you have a PLC system that includes an HMI with motion control and/or a vision system, you not only spend time developing and debugging each system independently, you also have to spend significant effort integrating the separate controllers. The result is often difficult to support. Even small changes require editing multiple databases and complex debugging. Add coprocessor modules for communications, complex math algorithms or string/array data manipulation and you start to wonder why there isn't an easier way.

Well, there is, and it's called Think & Do PC Control. Think & Do, America's leading PC control software, brings you all the tools you need to easily handle complex applications.

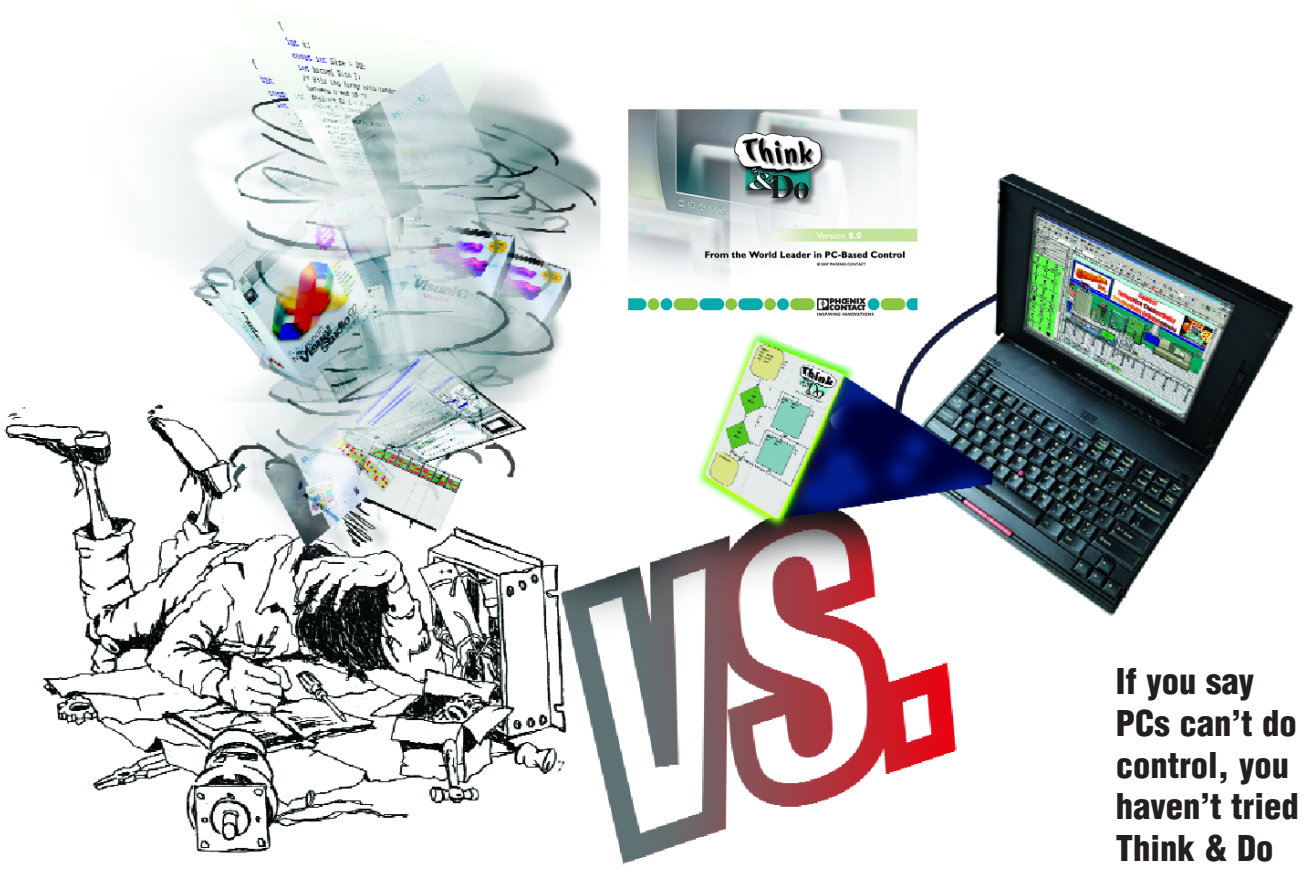
If your application requires:

- HMI as well as control
- Advanced data manipulation (even string arrays) and advanced math functions
- Data exchange with business applications (from spreadsheets to ERP systems)
- One or more third-party PC cards, such as those for motion control or vision systems
- Communication with serial or networked field devices
- Storage or access to large amounts of data
- Large number of PID loops (up to 64)
- Open architecture for C/C++ or VisualBasic

It requires Think & Do PC Control!

Why is Think & Do PC control so much easier?

With Think & Do, your HMI and control share the same database, so there is no duplication. Intuitive flowcharting makes coding the control logic as easy as sketching out the control algorithm. The powerful graphics tools and readily-accessible data tags enable you to create a quality HMI so fast you'll have to experience it to truly believe it. Think & Do includes the math functions and data types found in high-level programming languages, so complex algorithms and data management are a snap. PC architecture allows Think & Do to seamlessly support a variety of specialty motion, vision systems, and field network interface PC cards. The PC and Windows allow Think & Do to provide simple communication links on serial or Ethernet networks. Think & Do simplifies connecting everything from SQL databases to barcode readers with your control application.



If you say PCs can't do control, you haven't tried Think & Do PC control.

PC Control Solutions using Think & Do

Think & Do 8.0

PC-TD8-USB **$2,006.00**
Keyless Development and USB Runtime key; non-keyed environment provides free WinPLC programming.

PC-TD8-WEB4-USB **$2,429.00**
Full development package plus four concurrent runtime sessions with USB key; Web viewing capability

ESS-BASIC **$212.00**
Extended service and support; Basic 1 year

ESS-PREMIUM **$741.00**
Extended service and support; Premium 1 year

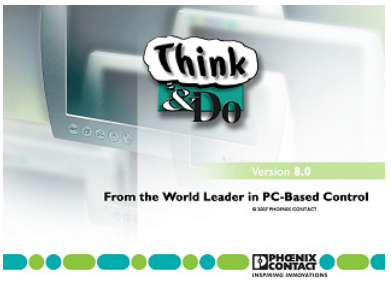
Includes:

- Flowchart logic
- Superior HMI features
- Easy SQL interface
- Web view capable (requires web view version)
- Importing screens
- Integrated serial communication
- Modbus TCP, Modbus RTU and Modbus Plus support
- Integrated motion control
- Integrated vision control
- PID process control (64 loops)
- Powerful debugging tools
- Offline logic testing
- Common database for HMI, logic and motion

Choose Think & Do 8.0 when you need

1. to communicate to an SQL database
2. a superior HMI with animation and advanced graphics

Think & Do 8.0 Overview



Think & Do™ Version 8.0 (PC-TD8-USB) is an integrated control environment that lets you do more with a given PC platform. It supports development, deployment and operation of high-value automated control systems for material handling and manufacturing. Think & Do 8.0 provides an intuitive, open-architecture environment that readily integrates with hardware and software components from virtually all major suppliers.

Projects created with Think & Do 8.0 integrate seamlessly with enterprise information systems to provide valuable data about system operation. Major components of Think & Do 8.0 are:

- ProjectCenter: Provides ready access to all project elements and the fully integrated tagname database using the Data Item Explorer.
- FlowView: For creating control logic.
- ScreenView: For creating HMI screens.
- I/O View: For configuring project I/O.
- AppTracker: For fast, graphical debugging.
- Runtime Engine: Provides a robust, deterministic project execution environment.

Think & Do 8.0 makes it easy to target your project to the Microsoft Windows platform that best suits your needs Whether you create a project for a Certified PC or CE, scaling for a different platform requires only minor adjustment. There are four USB key versions available, so selecting the product that best meets your needs is easy. There are two USB key development packages, one with and one without Web viewing capabilities.

Extended Software Service and Support (ESS) Products

We offer two extended support products, a basic package and a premium package. The basic ESS package, **ESS-BASIC** ($212.00), is a one-year subscription and includes:

- 8 AM to 5 PM EST telephone support directly from Phoenix Contact
- E-mail support
- USB-Parallel key swaps
- Defective or damaged key replacements
- Software maintenance updates

The premium ESS package, **ESS-PREMIUM** ($741.00), is also a one-year subscription. It contains everything in the basic package, plus:

- Webex training seminars
- A 50% discount on training seats
- Major software platform updates
- Upgrade from Think & Do Live! version 5.x to Think & Do 8.0 plus hardware key
- Or an upgrade from Think & Do Studio version 7.x via a hardware key field upgrade or replacement.

Note: ESS products cannot be purchased online. The order must be phoned in (800-633-0405) and a valid software serial number is required.

Conversion from Think & Do Studio and Live!

Studio: Flowcharts developed in Studio can be converted to Think & Do 8.0, but HMI screens cannot be converted.

Live!: Flowcharts and HMI screens developed in Live! cannot be converted to Think & Do 8.0.

Think & Do 8.0

PC-TD8-USB **$2,006.00**
Includes keyless development and USB runtime key. Use to develop or modify a Think & Do v8 project on a PC. Non-keyed environment provides free WinPLC programming.

PC-TD8-WEB4-USB **$2,429.00**
Full development package plus four concurrent runtime sessions with USB key; Web viewing capability

Demo Mode

To see if Think & Do 8.0 is right for you, you can install and use it for up to 40 hours within a 30-day time period at no cost.

System requirements

Development System or Windows Runtime Target

Windows 2000 , XP (32-bit), Vista (32-bit) or Windows 7 (32-bit),
Pentium IV compatible processor
256 MB RAM (512 MB or higher recommended),
750 MB available hard disk space,
CD-ROM drive,
64 MB or higher video adapter,
Color monitor (min resolution 800x600),
Ethernet adapter

Training

Phoenix Contact offers training courses led by certified Phoenix Contact Solution Providers at their headquarters in Ann Arbor, MI.

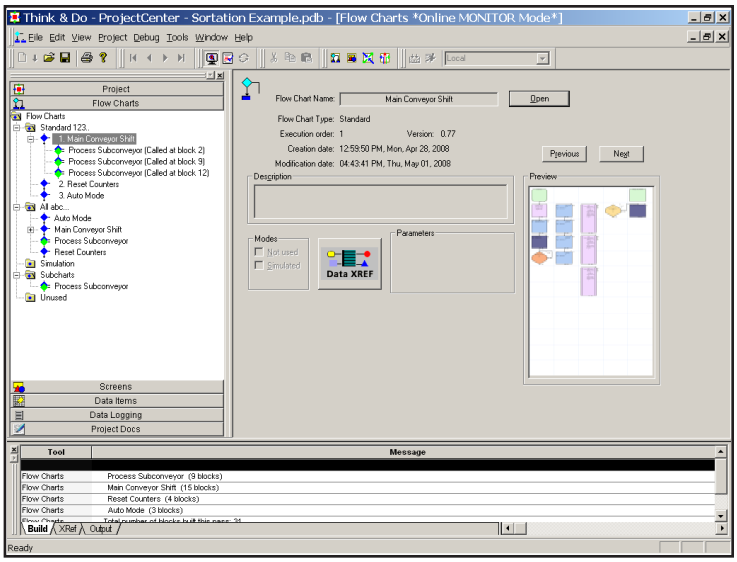
Check **www.phoenixcon.com/software** for training dates. Training is half price for subscribers to Premium **E**xtended **S**ervice and **S**upport, ESS-PREMIUM.

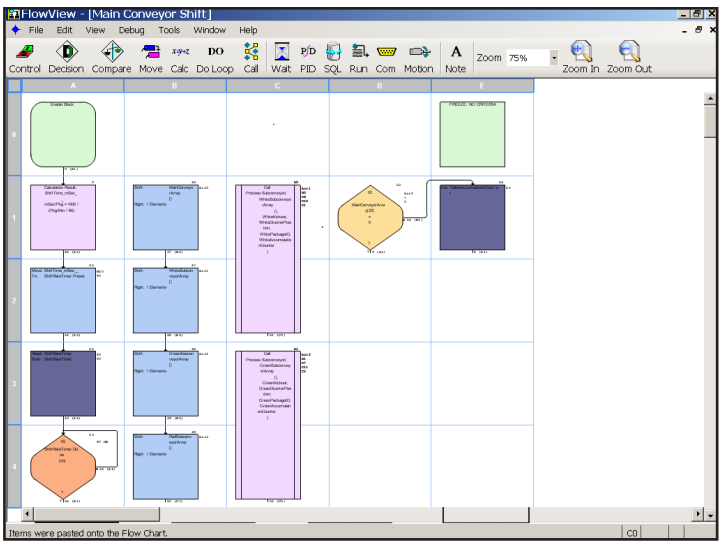
Think & Do 8.0 Overview

Features

ProjectCenter for creating your project

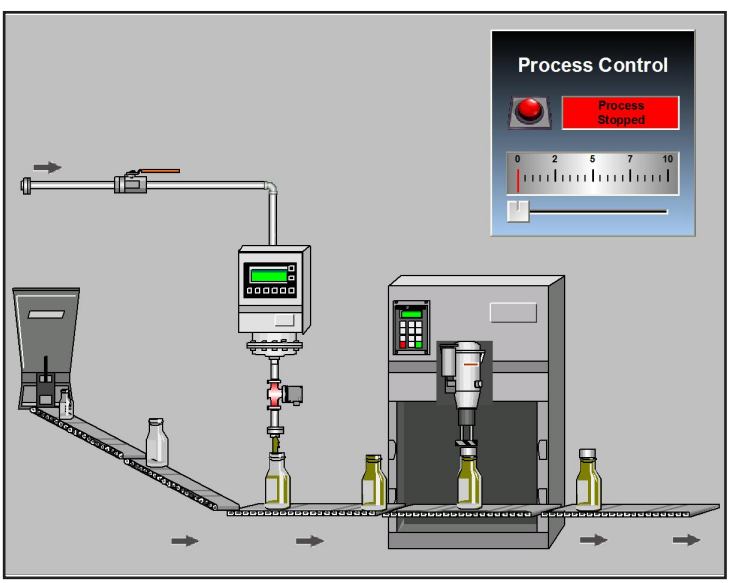
ProjectCenter is the starting point for developing your project and provides access to all Think & Do development tools, such as menus, project information and runtime settings. It provides ready access to all project elements and the fully integrated tagname database.





ScreenView for creating and editing HMI screens

The most dramatic improvement in this revision of Think & Do is the HMI screen tool. ScreenView appears in an independent window that provides a complete HMI screen development environment. The graphical capabilities and functionality in v8.0 far surpass any previous screen tools we have employed for this PC-based control environment.

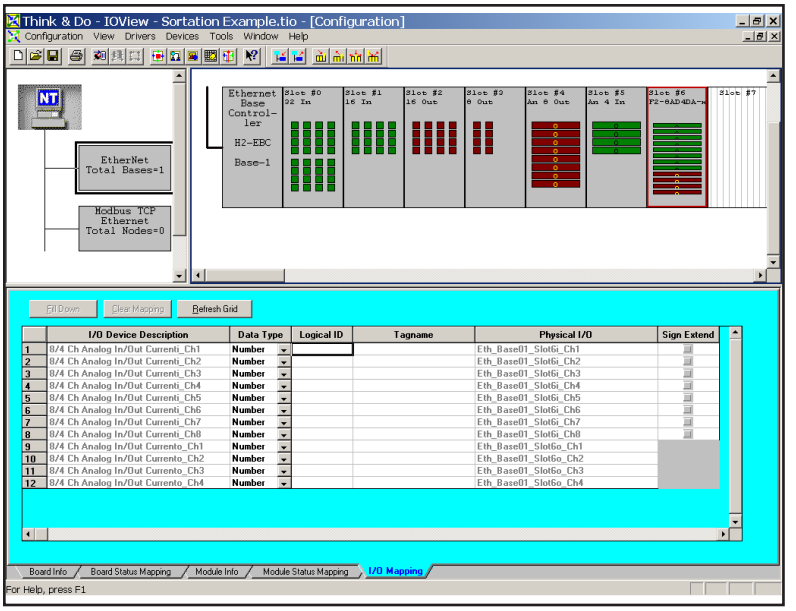


Think & Do 8.0 Overview

I/OView for configuring your project I/O

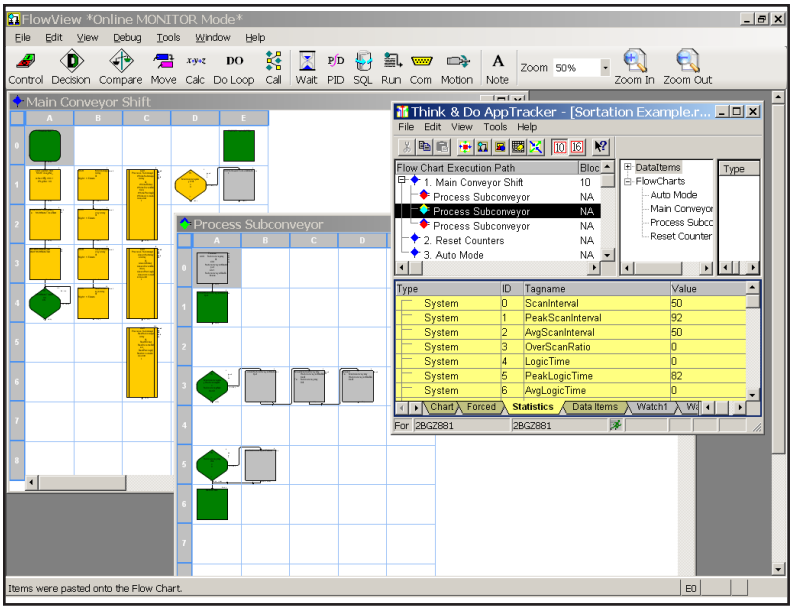
Use IOView to easily:

- Specify inputs, outputs, and data items
- Configure I/O
- Add I/O drivers and devices
- Map I/O
- Scan and monitor I/O
- Use a watchdog timer



AppTracker provides a fast, graphical debugging tool

AppTracker is a stand-alone application. It can run even if the development tools in ProjectCenter are not running and can help identify problems easily during development.



PC Control with Field I/O

Think & Do, with your choice of I/O, is a powerful, flexible solution for all your automation needs.The example below uses Ethernet, but Think & Do PC Control supports DeviceNet, Profibus, and other popular fieldbus networks as well.

Business System

Uplink to Office LAN

Terminator I/O distributes small groups of I/O at control points throughout the process

Ethernet Base Controller's [TIH-EBC(100)] on-board serial port provides a link to label printer/applicator or another serial device.

Dedicated I/O LAN

Main factory floor PC coordinates production, manages product database, and controls material handling systems

Control PCs using separate Ethernet ports to isolate the control networks from the business LAN(s)

Fail-safe mode choices:

1) All I/O off
2) Timer-based I/O hold
3) Preset pattern

(For all distributed I/O mastered from a PC.)

DL205 I/O on Ethernet supports a wide range of I/O, including the H2-CTRIO(2) counter module

Ethernet link to production databases

Think & Do controls automated grinding machine. Local HMI with touchscreen replaces pushbuttons

Third-party PC motion card controlling three-axis servo system for grinding heads.

Data tags from other PCs are shared over LAN for HMI and control

Industrial modem connection supplies machine support data to OEM

Third-party PC card interface to Ethernet vision inspection system

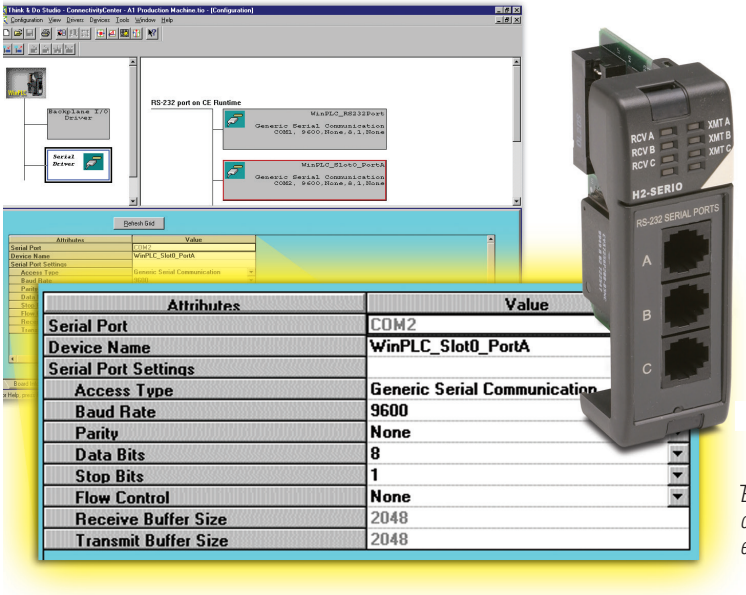
SE-SW8U Stride industrial Ethernet switch

GPIB/IEEE488 to legacy Laser Surface Analyzer

Think & Do controls application of specialty surfaces in oven using complex flow calculations. Also performs visual inspection of finished product

All industrial hardware shown is available in this catalog

Serial Communications via EBC



H2-SERIO

H2-SERIO-4

Easy point and click access to set communication parameters for each port individually

H2-SERIO	**$176.00**
H2-SERIO-4	**$176.00**

H2-SERIO / H2-SERIO-4

In addition to the built-in serial port on the EBC, you can also add as many as nine additional serial ports for Think & Do applications. Install up to eight modules into an H2-EBC(100) base (limits are power budget and number of slots in the base). These modules have "PC-like" serial ports to communicate to multiple serial devices, such as barcode scanners, scales, printers and modems.

The H2-SERIO has three RS-232C ports, while the H2-SERIO-4 has two RS-232C ports and one RS-422/485 terminal.

All Think & Do products include advanced string and array functions that make manipulating serial data a snap. Both Think & Do and Think & Do Live! support easy point-&-click access to set baud rate, parity, data bits, and stop bits for each port. Think & Do allows each port to be designated as a Modbus slave or a generic serial device. Each port on the H2-SERIO(-4) module is capable of full hardware handshaking.

See the DL205 PLC section for H2-SERIO and H2-SERIO-4 specifications and wiring information.

Note: While the H2-SERIO(-4) will support virtually any serial device, processing large amounts of serial data will increase system response time. This is important to consider when using multiple H2-SERIO(-4) modules.

Due to the large amount of data inherent with serial devices, the H2-SERIO(-4) module is not supported across an H2-ERM - H2-EBC link. The H2-SERIO(-4) module is only supported in H2-EBC/H2-EBC100 bases connected to a PC system master.

I/O Selection Guide for PC Control

Our PC-based control architecture allows you to choose I/O from our most complete and flexible I/O families. AUTOMATIONDIRECT I/O also supports the most popular control networks, such as Ethernet, Profibus and DeviceNet. Check out this chart to see most of the available options. Refer to I/O specifications in the PLC or Field I/O section for a complete list.

DL205 Discrete Input Modules		
D2-08ND3	8-pt 12-24VDC sink/source	$55.00
D2-16ND3-2	16-pt 24VDC sink/source	$91.00
D2-32ND3	32-pt 24VDC	$126.00
D2-32ND3-2	32-pt 5-15VDC	$126.00
D2-08NA-1	8-pt 110VAC	$77.00
D2-08NA-2	8-pt 170-265VAC, 2 commons	$99.00
D2-16NA	16-pt 110VAC	$135.00
DL205 Discrete Output Modules		
D2-04TD1	4-pt 12-24VDC sink	$68.00
D2-08TD1	8-pt 12-24VDC sink	$58.00
D2-08TD2	8-pt 12-24VDC source	$58.00
D2-16TD1-2	16-pt 12-24VDC sink, 0.1A/pt 1.6A/mod	$99.00
D2-16TD2-2	16-pt 12-24VDC source, 0.1A/pt 1.6A/mod	$99.00
D2-32TD1	32-pt 24VDC sinking	$129.00
D2-32TD2	32-pt 24VDC sourcing	$129.00
D2-08TA	8-pt 18-220VAC	$110.00
D2-12TA	12-pt 18-110VAC	$135.00
D2-04TRS	4-pt isolated relay 5-30VDC or 5-250VAC	$69.00
D2-08TR	8-pt relay, 5-30VDC or 5-240VAC	$69.00
F2-08TR	8-pt relay, 10A/com, 5-30VDC or 5-240VAC	$80.00
F2-08TRS	8-pt relay 12-28VDC, or 12-250VAC	$103.00
D2-12TR	12-pt relay, 5-30VDC or 5-250VAC	$110.00
DL205 Combination Discrete Modules		
D2-08CDR	Combo 4-pt 24VDC in and, 4-pt relay out	$66.00
DL205 Analog Modules		
F2-04AD-1	4-ch input, 4-20mA 12 bit res	$207.00
F2-04AD-2	4-ch input, voltage 12 bit res	$228.00
F2-08AD-1	8-ch input 4-20mA, 12-bit res	$255.00
F2-08AD-2	8-ch input voltage, 12-bit res	$274.00
F2-02DA-1	2-ch output 4-20mA, 12-bit res	$162.00
F2-02DA-2	2-ch output voltage, 12-bit res	$169.00
F2-02DA-1L	2-ch 4.20 mA out 12-bit, ext 12VDC pwr	$155.00
F2-02DA-2L	2-ch voltage out 12-bit, ext 12VDC pwr	$161.00
F2-02DAS-1	Isolated, 2-ch 4-20mA 16-bit out	$228.00
F2-02DAS-2	Isolated, 2-ch voltage 16-bit out	$255.00
F2-08DA-1	8-ch, 4-20mA, 12-bit out	$310.00
F2-08DA-2	8-ch, 0-5VDC or 0-10V, DC, 12-bit out	$279.00
F2-4AD2DA	4-ch in /2-ch out., 4-20mA 12-bit res.	$290.00
F2-8AD4DA-1	8-ch in/4-ch out, current, 16-bit	$363.00
F2-8AD4DA-2	8-ch in/4-ch out, voltage, 16-bit	$363.00
F2-04RTD	4-channel RTD, 0.1 DEG C res	$310.00
F2-04THM	4 ch thermocouple or, 16-bit volt. input	$310.00
DL205 Specialty Modules		
H2-CTRIO(2)	DL205 high speed counter with pulse out	$291.00
F2-08SIM	8-pt input simulator	$61.00
H2-SERIO(-4)	3-port serial for Win PLC	$176.00

DL405 Discrete Input Modules		
D4-08ND3S	8-pt 12-24VDC source	$100.00
D4-16ND2	16-pt 12-24VDC source	$121.00
D4-16ND2F	16-pt 12-24VDC input, fast response	$121.00
D4-32ND3-1	32-pt 24VDC sink/source	$189.00
D4-32ND3-2	32-pt 5-12VDC sink/source	$180.00
D4-64ND2	64-pt 20-28VDC source	$284.00
D4-08NA	8-pt 110-220VAC	$111.00
D4-16NA	16-pt 110VAC	$153.00
D4-16NA-1	16-pt 220VAC	Retired
D4-16NE3	16-pt 12-24VAC/VDC sink/source	$121.00
F4-08NE3S	8-pt 90-150VAC/DC sink/source isolated	$199.00
DL405 Discrete Output Modules		
D4-08TD1	8-pt 12-24VDC sink	$132.00
F4-08TD1S	8-pt 24-150VDC sink/source isolated out	$235.00
D4-16TD1	16-pt 5-24VDC sink	$158.00
D4-16TD2	16-pt 12-24VDC source	$158.00
D4-32TD1	32-pt 5-24VDC, sink	$210.00
D4-32TD1-1	32-pt 5-15VDC, sink	$117.25
D4-32TD2	32-pt 12-24VDC, source	$210.00
D4-64TD1	64-pt 5-24VDC sink	$296.00
D4-08TA	8-pt 18-220VAC	$195.00
D4-16TA	16-pt 18-220VAC	$231.00
D4-08TR	8-pt relay 5-30VDC or, 5-250VAC	$132.00
F4-08TRS-1	8-pt relay 12-30VDC or, 12-250VAC	$160.00
F4-08TRS-2	8-pt relay 12-30VDC or, 12-250VAC	$182.00
D4-16TR	16-pt relay 5-30VDC or, 5-250VAC	$200.00
Network Bus Interfaces and I/O Bases		
DL205 and DL405 bases, Terminator I/O power supplies and terminal bases, Bus adapter modules for PC control: DL205 (Ethernet, Profibus, DeviceNet, SDS); DL405 (Ethernet); Terminator I/O (Ethernet, Profibus, DeviceNet)		
DL405 Analog Modules		
F4-04AD	4-ch analog input voltage/current	$427.00
F4-04ADS	4-ch isolated analog voltage/current	$605.00
F4-08AD	8-ch analog input, voltage/current	$530.00
F4-16AD-1	16-ch analog input, current, 12-bit	$610.00
F4-16AD-2	16-ch analog input, voltage, 12-bit	$610.00
F4-04DA-1	4-ch analog output, current, 12-bit	$281.50
F4-04DA-2	4-ch analog output, voltage, 12-bit	$391.00
F4-04DAS-1	4-ch isolated, 16-bit analog out, 4-20mA	$545.00
F4-04DAS-2	4-ch isolated 16-bit analog output, voltage	$545.00
F4-08DA-1	8-ch analog output, current	$577.00
F4-08DA-2	8-ch 0-5VDC or 0-10VDC, 12-bit analog out	$588.00
F4-16DA-1	16-ch analog output, current	$694.00
F4-16DA-2	16-ch 0-5VDC or 0-10V DC 12-bit analog out	$727.00

DL405 Temperature Modules		
F4-08RTD	8-ch RTD	$481.00
F4-08THM	8-ch thermo F/type, (J,E,K,R,S,T,B,N,C)	$588.00
DL405 Specialty Modules		
D4-HSC	DL405 high speed counter	$499.00
D4-16SIM	8/16 pt input simulator	$195.00
Terminator I/O Discrete Input Modules		
T1K-08ND3	8-pt 12-24VDC sink/source	$69.00
T1K-16ND3	16-pt 12-24VDC sink/source	$111.00
T1K-08NA-1	8-pt 110VAC	$90.00
T1K-16NA-1	16-pt 110VAC	$147.00
Terminator I/O Discrete Output Modules		
T1K-08TD1	8-pt 12-24VDC sink	$79.00
T1K-08TD2-1	8-pt 12-24VDC source	$79.00
T1H-08TDS	8-pt 12-24VDS isoated sink/source	$150.00
T1K-16TD1	16-pt 12-24VDC sink	$121.00
T1K-16TD2-1	16-pt 12-24VDC source	$119.00
T1K-08TA	8-pt 110-240VAC	$132.00
T1K-08TAS	8-pt 110-240VAC isolated commons	$142.00
T1K-16TA	16-pt 110-240VAC	$163.00
T1K-08TR	8-pt relay 5-30VDC or 5-240VAC	$87.00
T1K-16TR	16-pt relay 5-30VDC or 5-240VAC	$153.00
T1K-08TRS	8-pt isolated relay 5-30VDC or 5-240VAC	$115.00
Terminator I/O Analog Modules		
T1F-08AD-1	8-ch analog input 4-20mA 14-bit res	$290.00
T1F-08AD-2	8-ch analog input voltage 14-bit res	$300.00
T1F-08DA-1	8-ch analog output 4-20mA 12-bit res	$383.00
T1F-08DA-2	8-ch analog output voltage 12-bit res	$404.00
T1F-16AD-1	16-ch analog input 4-20mA 14-bit res	$414.00
T1F-16AD-2	16-ch analog input voltage 14-bit res	$414.00
T1F-16DA-1	16-ch analog output 4-20mA 12-bit res	$591.00
T1F-16DA-2	16-ch analog output voltage 12-bit res	$622.00
T1F-14THM	14-ch thermocouple 16-bit res	$519.00
T1F-8AD4DA-1	I/O 8-ch analog input 4-ch analog output, current	$363.00
T1F-8AD4DA-2	I/O 8-ch analog input 4-ch analog output, voltage	$363.00
Terminator I/O Specialty Modules		
T1H-CTRIO	High-speed counter with pulse out	$311.00

Note: All networked I/O has fail-safe mode choices 1. All I/O off 2. Leave I/O in last state 3. Fail-safe pattern

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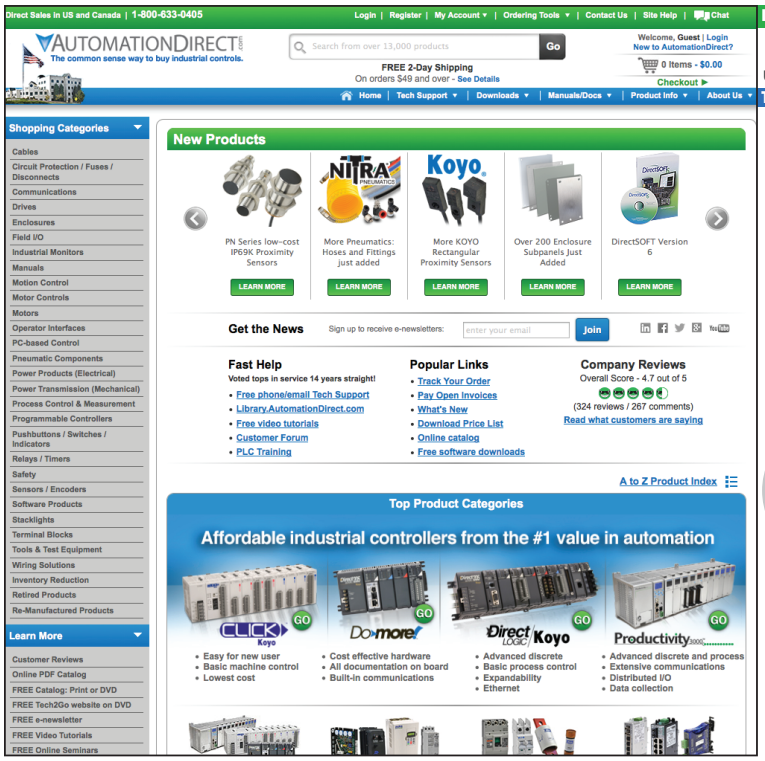

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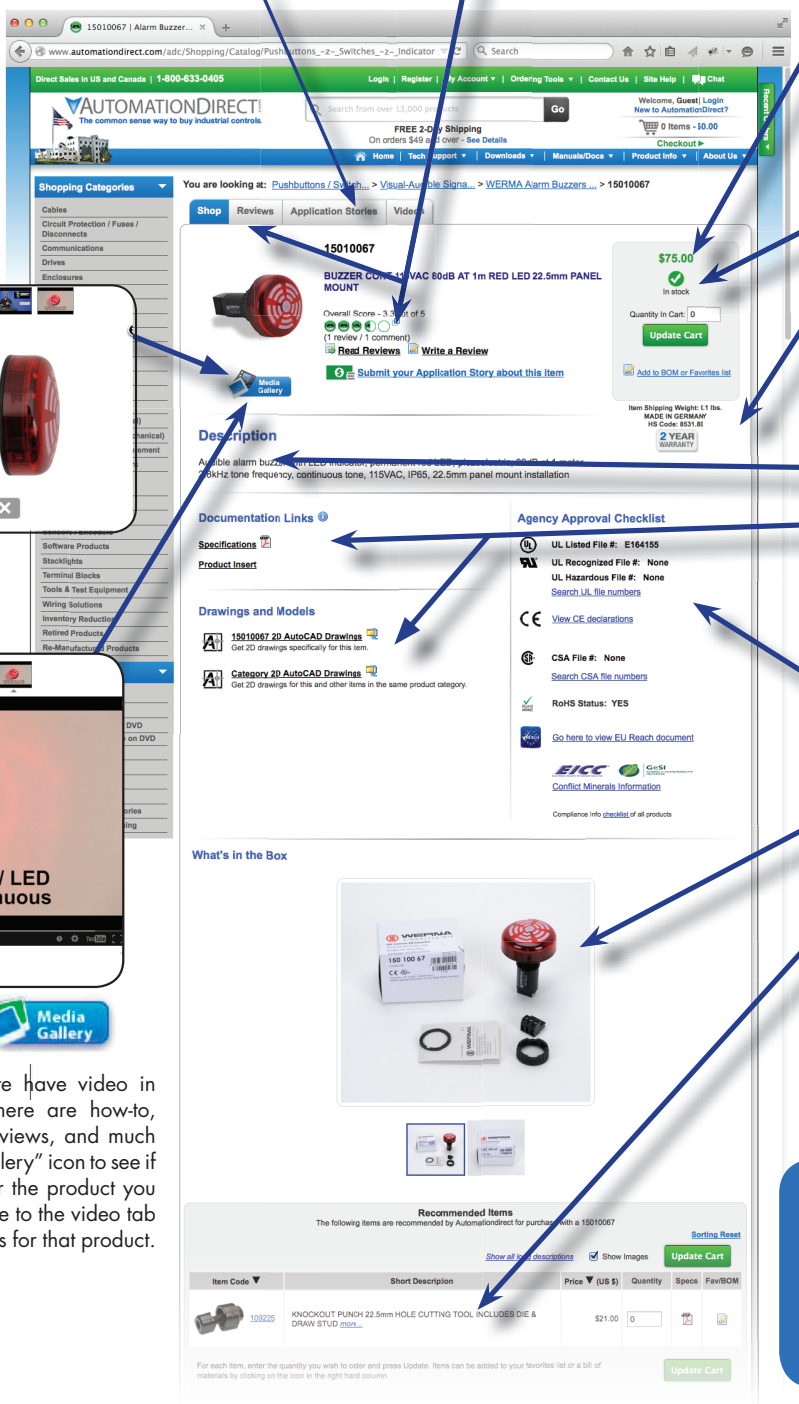

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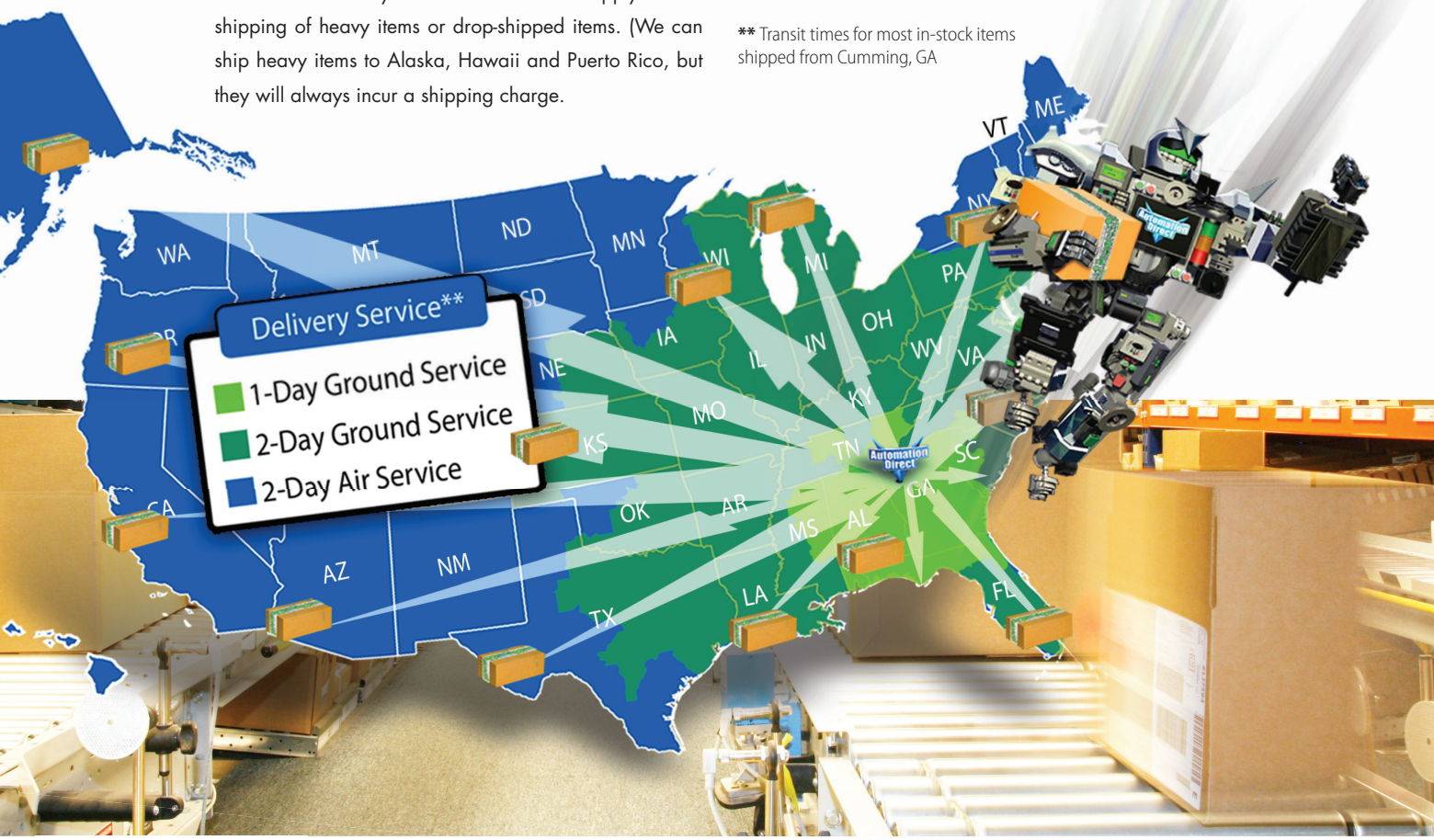
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