Why should I use PC control?
PLCs provide a great solution for many applications, but when your application goes beyond straightforward 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** $2,127.00
Keyless Development and USB Runtime key; non-keyed environment provides free WinPLC programming.

**PC-TD8-WEB4-USB** $2,515.00
Full development package plus four concurrent runtime sessions with USB key; Web viewing capability.

**ESS-BASIC** $225.00
Extended service and support; Basic 1 year.

**ESS-PREMIUM** $786.00
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

For the latest prices, please check AutomationDirect.com.
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 ($225.00), 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 ($786.00), 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.

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 Extended Service and Support, 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 I/OView 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.

For the latest prices, please check AutomationDirect.com.
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, Profinet, 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.**
- **Ethernet link to production databases**
- **Data tags from other PCs are shared over LAN for HMI and control.**

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

- **Ethernet Base Controller’s [TIH-EBC(100)] on-board serial port provides a link to label printer/applicator or another serial device.**
- **DL205 I/O on Ethernet supports a wide range of I/O, including the H2-CTRIO(2) counter module.**
- **Think & Do controls automated grinding machine. Local HMI with touchscreen replaces pushbuttons.**
- **Think & Do controls application of specialty surfaces in oven using complex flow calculations. Also performs visual inspection of finished product.**
- **Main factory floor PC coordinates production, manages product database, and controls material handling systems.**

**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.)

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

- **Third-party PC card interface to Ethernet vision inspection system.**
- **Third-party PC card controlling three-axis servo system for grinding heads.**
- **Industrial modem connection supplies machine support data to OEM.**

**All industrial hardware shown is available in this catalog**

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For the latest prices, please check AutomationDirect.com.
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 supports the most popular control networks, such as Ethernet, Profinet 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.

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