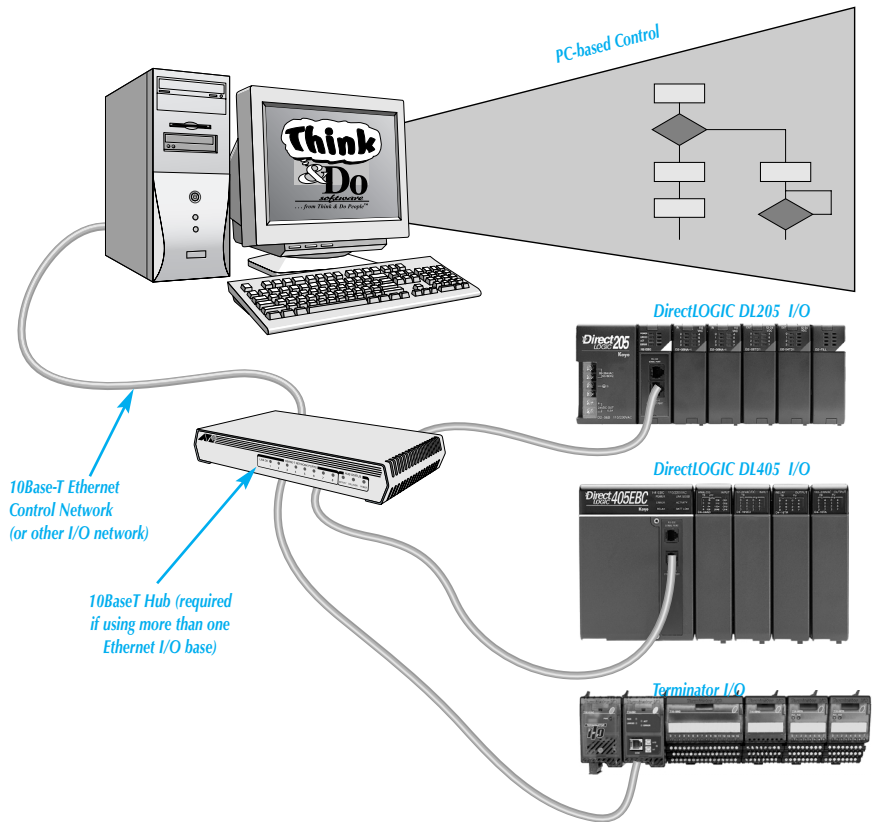




PC-TND-SD

Think & Do Software is an easy-to-learn, intuitive way to develop and run control applications on regular PCs, or the industrial PCs and WinPLCs featured in this section. Our variety of Ethernet Base Controllers gives low-cost PC-based control access to DL205, DL405, and Terminator I/O. The combination of Think & Do with **DirectLogic** PLCs allows you to build the most cost-effective, full-featured PC-based control solutions ever!

Think & Do Software comes complete with flowchart logic for control, HMI (human-machine interface), more than 3,000 graphic or bit-mapped symbols, integrated motion control, serial communications, multi-loop PID and standard Windows interfaces (like OPC, COM/DCOM and DDE) found in popular Windows software (such as Lookout[®] **Direct**, Wonderware, Excel, and Visual Basic). Think & Do is full of powerful, time-saving features like instant I/O configuration, online changes for logic and screens, subcharts with local data, natural expression math functions, visual logic analyzer, and much more... making Think & Do the most comprehensive PC-based control software you can buy.



Scalable solutions for Windows 2000, NT, embedded NT, and Windows CE!

Think & Do Software programs can target Windows[®] NT, Embedded NT, Windows 2000[®], and Windows[®] CE, giving you the option to select the platform that best suits your application. Think & Do takes advantage of NT and Windows 2000 on the DL470 and IC505 industrial PCs or any standard PC. Think & Do also takes advantage of Windows CE in the WinPLC products. Windows CE provides a bulletproof, diskless, run-time environment for these embedded controllers. With either operating system, Think & Do is fully Microsoft-compliant, while providing all the standard Windows advantages, combined with the powerful control capabilities of Think & Do.

Think & Do your logic with flowcharts!

We often describe how a complex machine or process works by using a simple flowchart on the nearest white board. So, why not use flowcharts to design a control program directly? Once you think that flowchart, just tell the machine to do it. You can even have multiple flowcharts running to control different parts of the machine at the same time. Best of all, flowcharts are so intuitive, once they are written, anyone can follow the logic with ease. And you can use subcharts just like sub-routines, up to 16 levels deep!



Think & Do Software brings together all the things you need to develop and implement PC-based controls solutions, including intuitive flowchart logic, HMI, motion control, serial communications PID, tagname database, I/O setup, and application debugging. ProjectBinder organizes these views of your project in an integrated development environment.

ProjectBinder

1 When you open a project (or start a new one),

ProjectBinder provides access to the various elements of your project, such as logic flowcharts, HMI screens, tagnames and I/O setups. To make it easy, ProjectBinder uses familiar Windows tabs (just like Excel) to separate different project elements. Think & Do software lets you view and edit each one using powerful menu-driven editors.

FlowView

2 FlowView makes quick work of your logic development task! It's the easy way to view and edit logic flowcharts. You can select and place blocks with perfect alignment, route connections automatically and configure logic effortlessly. Motion control, PID and serial communications are built right in! With right mouse button menus and full cut-copy-paste capability, FlowView takes the "work" out of your work!

ScreenView

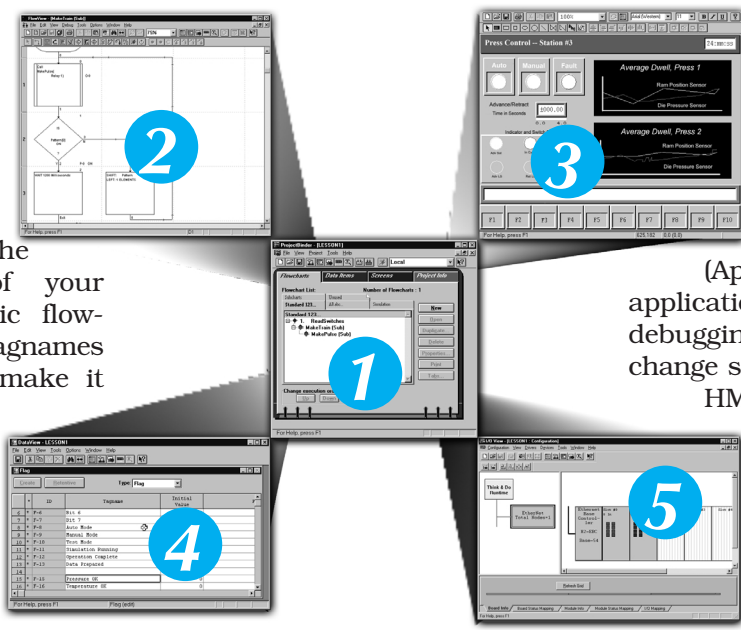
3 ScreenView is the easy way to create HMI screens. It gives you drawing and animation capability, with over 2,000 bitmapped or predefined symbols (or you can add your own). Bitmaps, text objects, touchscreen support and even a trend chart are built in. For more power at low cost, Think & Do AMIGOS™ are available. You can also link to other SCADA software such as LookoutDirect, Wonderware, InTouch, or Intellution.

I/O View

5 I/O View Puts the real world right at your fingertips! You can use it to set up I/O networks, motion cards, or serial devices. Configuring I/O is a snap! Just select a module and link tagnames to physical I/O points. For many networks, I/O View will even automatically scan the network to identify and configure installed modules. You can monitor input points on an animated I/O base on-screen or, click an output to turn it on or off.

AppTracker

In addition to its powerful application development capabilities, Think & Do includes AppTracker (Application Tracker), an application monitoring and debugging tool. If you want to change something in the logic or HMI, it's easy. AppTracker gives you instant on-line change capability for both logic and HMI! Create a custom data watch window with drag-and-drop ease and force I/O or data items with a quick click of the mouse. You even can watch your logic execute in realtime as AppTracker changes the color of the flowchart blocks to reflect actual logic execution. You can configure AppTracker to capture intermittent logic events. If you want even more debugging capability, you can single step through your flowcharts or subcharts while watching data item values in a data watch window.



Data View

4 DataView lets you create and edit thirty-character tagnames for I/O and internal variables, so anyone can read and understand them. And since the same tagname database is used throughout Think & Do, you never have to enter a tagname twice or change it in multiple places. You can enter tagnames directly in DataView, or create them on the fly as you develop your logic and HMI. DataView supports all the numeric, boolean, array and string variable types you will ever need!

Think & Do Control and HMI Features		
Flowchart Logic Features		
Drag and drop blocks to build a flowchart	Cut-and-paste blocks to duplicate logic	Decision to block for logical variables
Subcharts with local data variables	Rubber-banding connections when moving blocks	Compare block for numeric values
Parameters passed by value or reference	Auto-insertion when block is dropped on a line	Up to seven terms in compound decision block
Motion functions in a simple control block	Add flowcharts from prior projects	Automatic looping control block
Start user program block	Dual mode auto-scrolling while dragging blocks	Point and click configuration for all blocks
Tagname browsing built-in	Direct entry of compound math expressions	Right click block operation menu
Auto-alignment of blocks in rows and columns	Block description mode	Communications block for serial device control
Auto-routing of lines between blocks	Simulation flowchart mode	PID functions in simple control block
Right click line navigation menu	Advanced PID options (i.e. cascade, wildflow, etc.)	
HMI Screen Features		
Drag, drop, and re-size objects to create screens	Pre-formatted date and time text objects	Standard drawing objects (square, circle, etc.)
Simple trend drawing object	Message text object	Picture import (bitmap, metafile)
Over 3,000 pre-defined drag and drop symbols	Add screens from other projects	Create custom symbols
Optional alignment grid	Configurable screen navigation	Point and click object configuration
Color animation with up to 8 expressions	Application data text object	Transparent objects, bitmaps and symbols
Size animation based on any application data	In-place editing of text objects	Automatic data scaling for animation
Touchscreen and mouse support for all objects	Editing of symbol components without unlinking	Built-in bar chart animation
Built-in pop-up keypad for touchscreen data entry	Configurable function key inputs and actions	TrueType fonts including size and color
I/O Setup Features		
Instant I/O configuration for popular networks	Simple graphical setup for backplane interface cards	Automatic detection of I/O module errors
Automatic animated graphical I/O network display	Automatic motion card configuration	Built-in access to smart sensor diagnostics and data
Select real I/O or simulation mode	Built-in menu for I/O module data sheets	Point & click selection of I/O type
Multiple I/O networks on one PC	Built-in peer-to-peer I/O sharing	Direct data entry for logic scan interval
Simple graphical setup for serial devices	Animated indicators match physical I/O points	Automatic comparison of actual with expected I/O
Module numbering matches actual rack		
Application Debug Features		
Online change for logic connections	Built-in graphical logic analyzer (patent pending)	Built-in I/O and system status flags
Online change of text in screens	Three single-step modes	Visual indicator of forced I/O status
Instant intelligent watch windows	Automatic local data window	Remote debug over standard networks
Online add or delete flowchart blocks	Can track multiple flowcharts simultaneously	Real-time display of data item values
Online add objects and animations	Automatic checks for flowchart, and screen errors	Set/reset and force/unforce data items and I/O
Real-time display of run-time statistics	Multiple breakpoints	Printed cross reference documentation
Tagname Database Features		
Create tagnames in advance, or on the fly	Logical IDs speed application development	Virtually unlimited number of tags
Thirty-character names make logic readable	Grid view of data for data entry	Over 10,000 I/O supported
Full set of numeric data types	Arrays of all data types supported	Flexible printing with high readability
Full set of boolean and string data types	Common tagnames for flowcharts and HMI	Tagnames provided for serial ports and motion axis
Built-in Windows Connectivity Features		
OPC Server (2.0 compliant)	DDE and FastDDE Server	OLE Automation
DCOM/COM including remote debug		

