

Three PC Control Solutions using Think & Do



Think & Do 8.0

- PC-TD8-USB** <--->
USB key Development and Runtime key
- PC-TD8-WEB4-USB** <--->
Four concurrent with USB key with web viewing capability
- ESS-BASIC** <--->
Extended service and support;
Basic 1 year
- ESS-PREMIUM** <--->
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

System requirements

Development System

Windows 2000 (SP4), XP (SP2), Vista
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 800 x 600),
Ethernet adapter

Windows 2000/XP/Vista Runtime Target

Windows 2000 (SP4), XP (SP2), Vista
Pentium IV compatible processor
256 MB RAM (512 MB or higher)
500 MB available hard disk space
CD-ROM drive
64 MB or higher video adapter
Color monitor or flat panel display for HMI
min resolution 800x600)
Ethernet adapter

PLC Runtime Target

H2-WINPLC3



Completely compatible with original Think&Do Development Software applications

Think & Do Live!

- PC-ENT-LIVE** <--->
Development/run-time license
- PC-WPLC-LIVE** <--->
WinPLC programming pack (HMI creator and external I/O drivers not included)

Includes:

- Flowchart logic
- HMI creator
- Reuseable subcharts
- Integrated serial communication
- Integrated motion control
- OPC Client and Server
- Modbus TCP & Modbus RTU Support
- PID process control (64 loops)
- Powerful debugging tools
- Offline logic testing
- Common database for HMI, logic and motion
- Productivity Analysis tools
- WinPLC support

Choose Live! when

- 1) HMI requirements are moderate
- 2) no SQL is required
- 3) projects are created by a single developer

System requirements

Development System

Windows NT/2000/XP-Certified Pentium 133

Windows NT/2000/XP Operating System

Ram Requirements:

Windows NT - 32 MB
Windows 2000- 64 MB
Windows XP - 128 MB
450 MB available hard disk space
CD-ROM drive
Color monitor (min resolution 800 x 600)

Windows Runtime Target

Windows NT/2000/XP-Certified Pentium 300 (or higher)
Windows NT/2000/XP Operating System
128 MB RAM
300 MB available hard disk space
CD-ROM drive (optional)
Color monitor or flat-panel display for HMI (min resolution 640 x 480)
I/O scanner or network card

PLC Runtime Target

H2-WINPLC3



The WinPLC is our lowest cost PC control solution

The WinPLC, a hybrid PC/PLC solution

- H2-WPLC3-EN** <--->
Development/run-time license
For Think & Do Live! 8 MB ROM/8 MB RAM

The WinPLC is a truly unique hybrid solution providing Think & Do PC control programming benefits on a PLC-style device. Develop applications with Think & Do Live! and download them to the WinPLC.

Use a WinPLC when you need:

1. The advantages of PC control: complex math, data manipulation and connectivity
2. A PLC's rugged industrial form, non-volatile memory and standard PLC I/O

Or when:

1. A standard OI will suffice for your HMI
2. You don't need a PC

Think & Do Live! for WinPLC Programming Pack (PC-WPLC-LIVE)

Just the programming features needed for the WinPLC at a low price. Includes flowchart logic, reusable subcharts, PID functions, serial drivers, Modbus TCP/IP and a free OPC/DDE server.

System requirements

Development System

Windows NT/2000/XP-Certified Pentium 133

Windows NT/2000/XP Operating System

Ram Requirements:

Windows NT - 32 MB
Windows 2000- 64 MB
Windows XP - 128 MB
450 MB available hard disk space
CD-ROM drive
Color monitor (min resolution 800 x 600)

PLC Runtime Target

H2-WINPLC3

Note: PC Runtime Target not supported

Think & Do 8.0 Overview



Think & Do™ Version 8.0 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**, 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**, 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

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Color monitor (min resolution 800x600),
Ethernet adapter

Windows 2000/XP/Vista Runtime Target

Windows 2000 (SP4), XP (SP2), Vista
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CD-ROM drive
64 MB or higher video adapter
Color monitor or flat panel display for HMI
min resolution 800x600)
Ethernet adapter

PLC Runtime Target

H2-WPLC3-EN

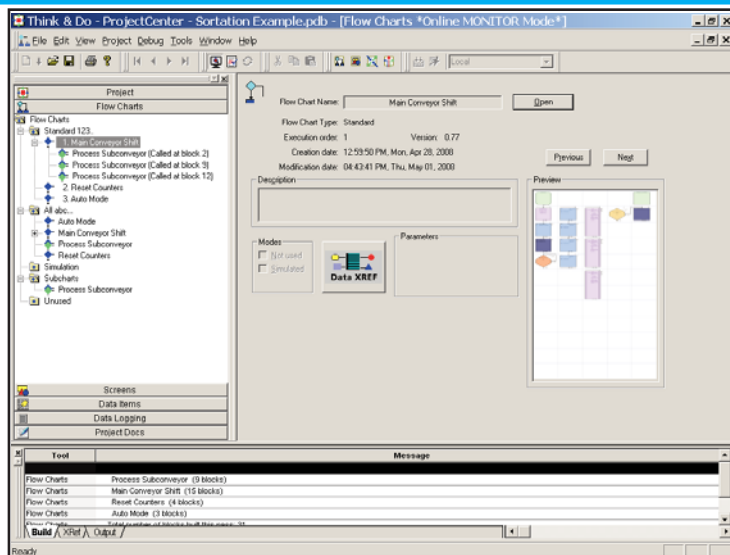
Training

Phoenix Contact offers training courses led by certified Phoenix Contact Solution Providers at their headquarters in Ann Arbor, MI. Get the most from this powerful software by understanding it inside and out. Check www.phoenixcon.com/software for training dates. Training is half price for Extended Service Subscribers.

Features

ProjectCenter for creating your project

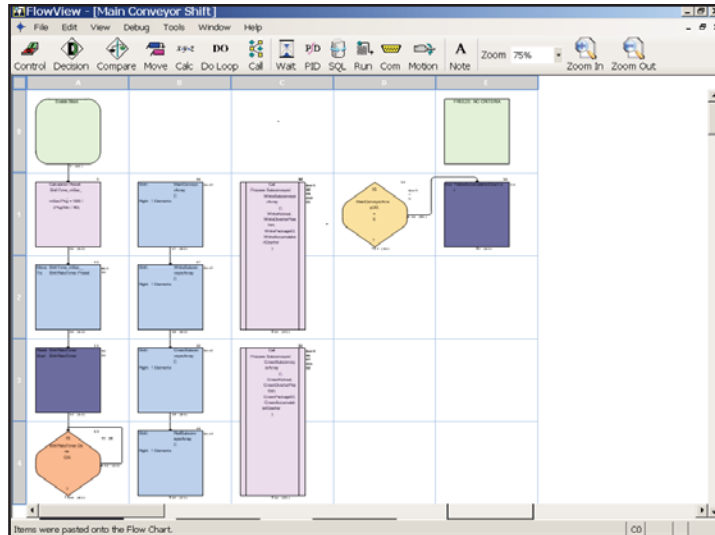
ProjectCenter is the starting point for developing your project and provides access to all Think & Do development tools, such as menus, project information and runtime settings. It provides ready access to all project elements and the fully integrated tagname database.



Think & Do 8.0 Overview

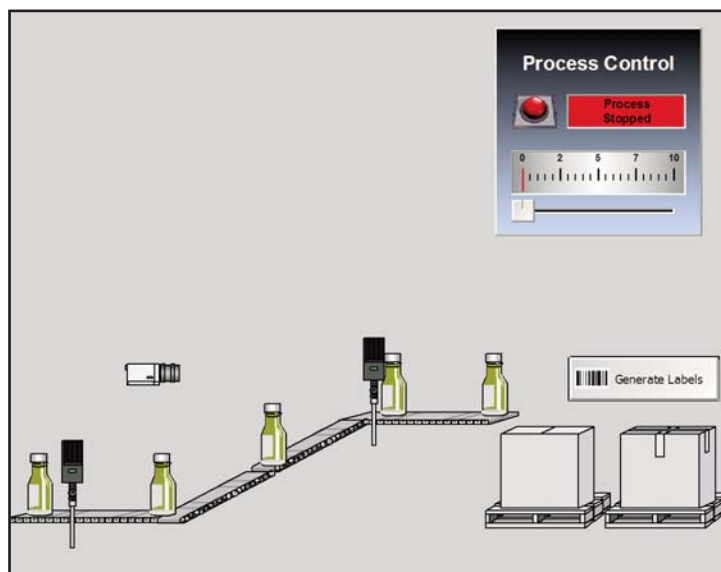
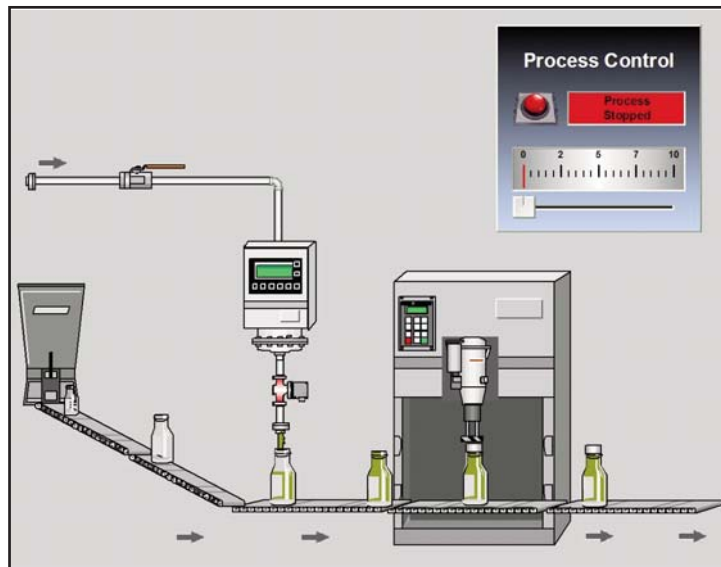
FlowView for creating control logic in easy-to-use and read control flowcharts

Think & Do uses flow chart control programs and FlowView is where you develop control flowcharts. Menus provide access to all commands in FlowView, as well as online help.



ScreenView for creating and editing HMI screens

The most dramatic improvement in this revision of Think & Do is the new 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.



PLC Overview

DL05/06 PLC

DL105 PLC

DL205 PLC

DL305 PLC

DL405 PLC

Field I/O

Software

C-more HMIs

Other HMI

AC Drives

Motors

Steppers/Servos

Motor Controls

Proximity Sensors

Photo Sensors

Limit Switches

Encoders

Current Sensors

Pushbuttons/Lights

Process

Relays/Timers

Comm.

TB's & Wiring

Power

Circuit Protection

Enclosures

Appendix

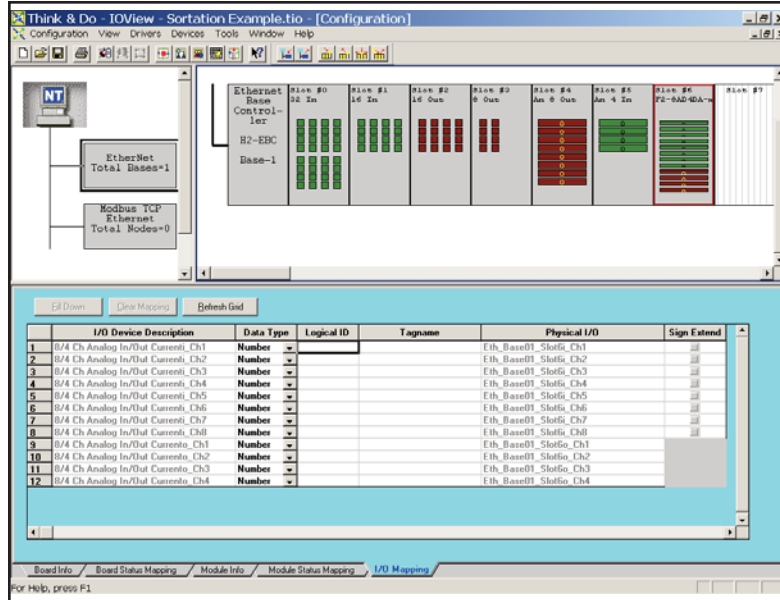
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Think & Do 8.0 Overview

I/OView for configuring your project I/O

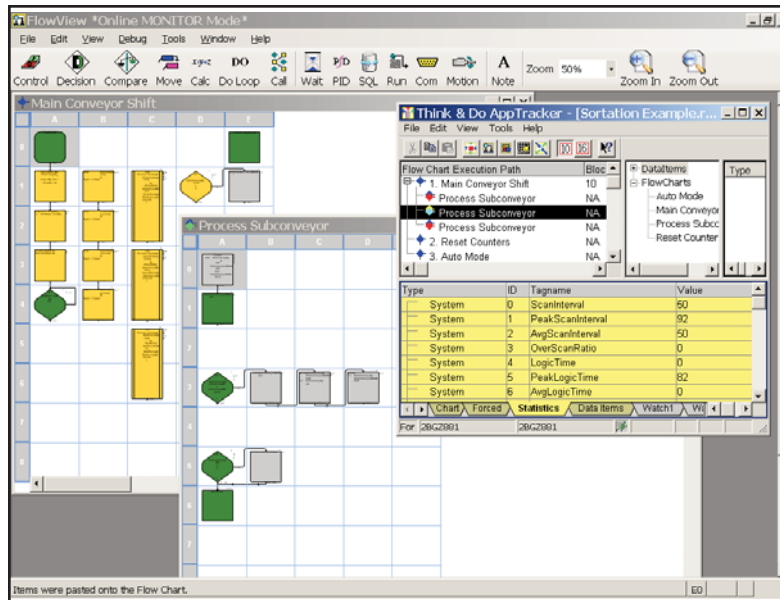
Use IOView to easily:

- 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

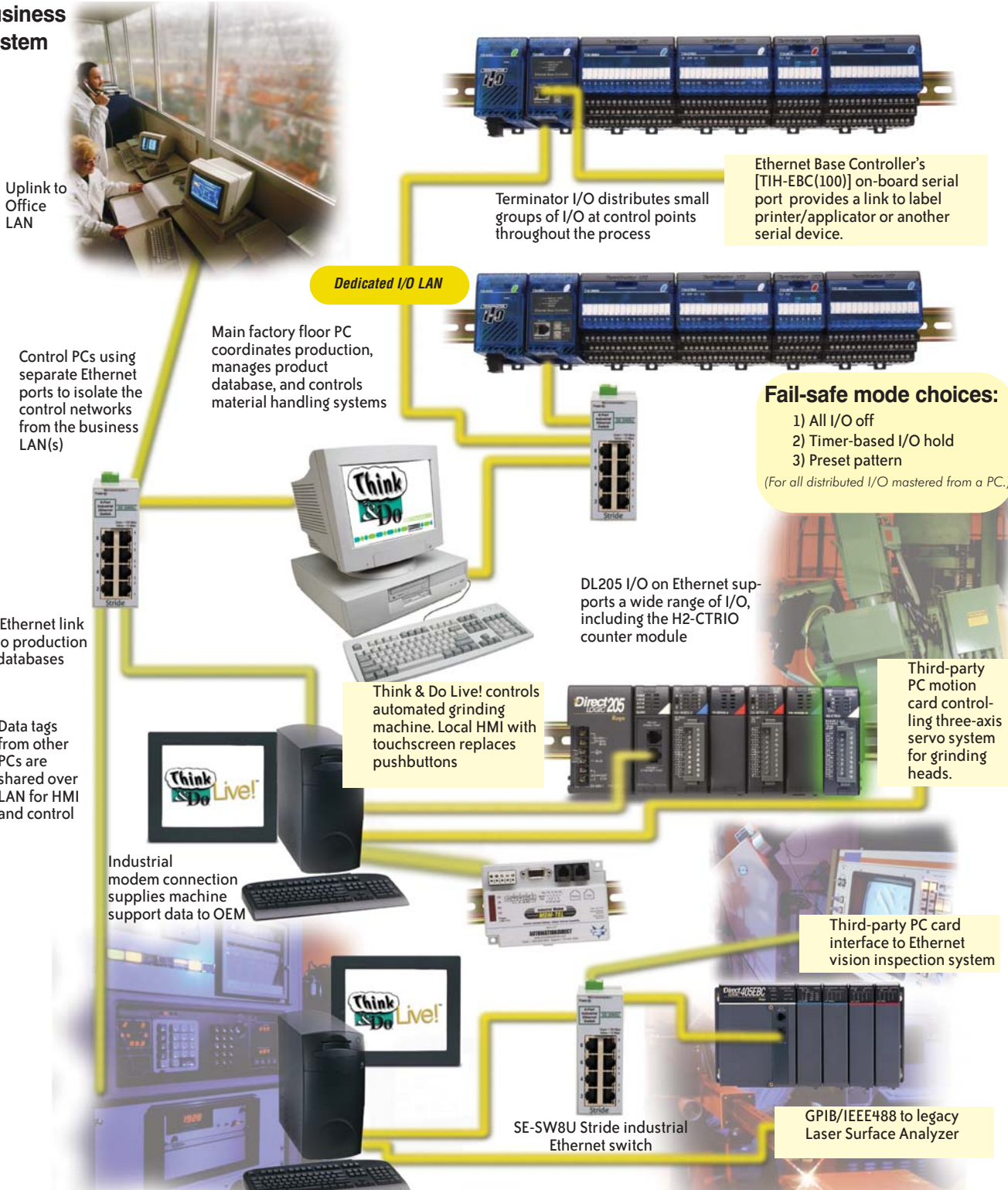
AppTracker is a stand-alone application. It can run even if the development tools in ProjectCenter are not running and can help identify problems easily during development.



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



Think & Do Live! 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

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			DL405 Discrete Input Modules			DL405 Temperature Modules		
D2-08ND3	8-pt 12-24VDC sink/source	<--->	D4-08ND3S	8-pt 12-24VDC source	<--->	F4-08RTD	8-ch RTD	<--->
D2-16ND3-2	16-pt 24VDC sink/source	<--->	D4-16ND2	16-pt 12-24VDC source	<--->	F4-08THM	8-ch thermo F/type, (J,E,K,R,S,T,B,N,C)	<--->
D2-32ND3	32-pt 24VDC	<--->	D4-16ND2F	16-pt 12-24VDC input, fast response	<--->	DL405 Specialty Modules		
D2-32ND3-2	32-pt 5-15VDC	<--->	D4-32ND3-1	32-pt 24VDC sink/source	<--->	D4-HSC	DL405 high speed counter	<--->
D2-08NA-1	8-pt 110VAC	<--->	D4-32ND3-2	32-pt 5-12VDC sink/source	<--->	D4-16SIM	8/16 pt input simulator	<--->
D2-08NA-2	8-pt 170-265VAC, 2 commons	<--->	D4-64ND2	64-pt 20-28VDC source	<--->	Terminator I/O Discrete Input Modules		
D2-16NA	16-pt 110VAC	<--->	D4-08NA	8-pt 110-220VAC	<--->	T1K-08ND3	8-pt 12-24VDC sink/source	<--->
DL205 Discrete Output Modules			D4-16NA	16-pt 110VAC	<--->	T1K-16ND3	16-pt 12-24VDC sink/source	<--->
D2-04TD1	4-pt 12-24VDC sink	<--->	D4-16NA-1	16-pt 220VAC	<--->	T1K-08NA-1	8-pt 110VAC	<--->
D2-08TD1	8-pt 12-24VDC sink	<--->	D4-16NE3	16-pt 12-24VAC/VDC sink/source	<--->	T1K-16NA-1	16-pt 110VAC	<--->
D2-08TD2	8-pt 12-24VDC source	<--->	F4-08NE3S	8-pt 90-150VAC/DC sink/source isolated	<--->	Terminator I/O Discrete Output Modules		
D2-16TD1-2	16-pt 12-24VDC sink, 0.1A/pt 1.6A/mod	<--->	DL405 Discrete Output Modules			T1K-08TD1	8-pt 12-24VDC sink	<--->
D2-16TD2-2	16-pt 12-24VDC source, 0.1A/pt 1.6A/mod	<--->	D4-08TD1	8-pt 12-24VDC sink	<--->	T1K-08TD2-1	8-pt 12-24VDC source	<--->
D2-32TD1	32-pt 24VDC sinking	<--->	F4-08TD1S	8-pt 24-150VDC sink/source isolated out	<--->	T1H-08TDS	8-pt 12-24VDS isoated sink/source	<--->
D2-32TD2	32-pt 24VDC sourcing	<--->	D4-16TD1	16-pt 5-24VDC sink	<--->	T1K-16TD1	16-pt 12-24VDC sink	<--->
D2-08TA	8-pt 18-220VAC	<--->	D4-16TD2	16-pt 12-24VDC source	<--->	T1K-16TD2-1	16-pt 12-24VDC source	<--->
D2-12TA	12-pt 18-110VAC	<--->	D4-32TD1	32-pt 5-24VDC, sink	<--->	T1K-08TA	8-pt 110-240VAC	<--->
D2-04TRS	4-pt isolated relay 5-30VDC or 5-250VAC	<--->	D4-32TD1-1	32-pt 5-15VDC, sink	<--->	T1K-08TAS	8-pt 110-240VAC isolated commons	<--->
D2-08TR	8-pt relay, 5-30VDC or 5-240VAC	<--->	D4-32TD2	32-pt 12-24VDC, source	<--->	T1K-16TA	16-pt 110-240VAC	<--->
F2-08TR	8-pt relay, 10A/com, 5-30VDC or 5-240VAC	<--->	D4-64TD1	64-pt 5-24VDC sink	<--->	T1K-08TR	8-pt relay 5-30VDC or 5-240VAC	<--->
F2-08TRS	8-pt relay 12-28VDC, or 12-250VAC	<--->	D4-08TA	8-pt 18-220VAC	<--->	T1K-16TR	16-pt relay 5-30VDC or 5-240VAC	<--->
D2-12TR	12-pt relay, 5-30VDC or 5-250VAC	<--->	D4-16TA	16-pt 18-220VAC	<--->	T1K-08TRS	8-pt isolated relay 5-30VDC or 5-240VAC	<--->
DL205 Combination Discrete Modules			D4-08TR	8-pt relay 5-30VDC or, 5-250VAC	<--->	Terminator I/O Analog Modules		
D2-08CDR	Combo 4-pt 24VDC in and, 4-pt relay out	<--->	F4-08TRS-1	8-pt relay 12-30VDC or, 12-250VAC	<--->	T1F-08AD-1	8-ch analog input 4-20mA 14-bit res	<--->
DL205 Analog Modules			F4-08TRS-2	8-pt relay 12-30VDC or, 12-250VAC	<--->	T1F-08AD-2	8-ch analog input voltage 14-bit res	<--->
F2-04AD-1	4-ch input, 4-20mA 12 bit res	<--->	D4-16TR	16-pt relay 5-30VDC or, 5-250VAC	<--->	T1F-08DA-1	8-ch analog output 4-20mA 12-bit res	<--->
F2-04AD-2	4-ch input, voltage 12 bit res	<--->	Network Bus Interfaces and I/O Bases			T1F-08DA-2	8-ch analog output voltage 12-bit res	<--->
F2-04AD-1L	4-pt in 4-20mA, 12 bit, ext 12VDC pwr	<--->	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)			T1F-16AD-1	16-ch analog input 4-20mA 14-bit res	<--->
F2-04AD-2L	4-pt in voltage, 12 bit, ext 12VDC pwr	<--->	DL405 Analog Modules			T1F-16AD-2	16-ch analog input voltage 14-bit res	<--->
F2-08AD-1	8-ch input 4-20mA, 12-bit res	<--->	F4-04AD	4-ch analog input voltage/current	<--->	T1F-16DA-1	16-ch analog output 4-20mA 12-bit res	<--->
F2-08AD-2	8-ch input voltage, 12-bit res	<--->	F4-04ADS	4-ch isolated analog voltage/current	<--->	T1F-16DA-2	16-ch analog output voltage 12-bit res	<--->
F2-02DA-1	2-ch output 4-20mA, 12-bit res	<--->	F4-08AD	8-ch analog input, voltage/current	<--->	T1F-16DA-1	16-ch analog output 4-20mA 12-bit res	<--->
F2-02DA-2	2-ch output voltage, 12-bit res	<--->	F4-16AD-1	16-ch analog input, current, 12-bit	<--->	T1F-16DA-2	16-ch analog output voltage 12-bit res	<--->
F2-02DA-1L	2-ch 4.20 mA out 12-bit, ext 12VDC pwr	<--->	F4-16AD-2	16-ch analog input, voltage, 12-bit	<--->	T1F-14THM	14-ch thermocouple 16-bit res	<--->
F2-02DA-2L	2-ch voltage out 12-bit, ext 12VDC pwr	<--->	F4-04DA-1	4-ch analog output, current, 12-bit	<--->	T1F-8AD4DA-1	I/O 8-ch analog input 4-ch analog output, current	<--->
F2-02DAS-1	Isolated, 2-ch 4-20mA 16-bit out	<--->	F4-04DA-2	4-ch analog output, voltage, 12-bit	<--->	T1F-8AD4DA-2	I/O 8-ch analog input 4-ch analog output, voltage	<--->
F2-02DAS-2	Isolated, 2-ch voltage 16-bit out	<--->	F4-04DAS-1	4-ch isolated, 16-bit analog out, 4-20mA	<--->	Terminator I/O Specialty Modules		
F2-08DA-1	8-ch, 4-20mA, 12-bit out	<--->	F4-04DAS-2	4-ch isolated 16-bit analog output, voltage	<--->	T1H-CTRIO	High-speed counter with pulse out	<--->
F2-08DA-2	8-ch, 0-5VDC or 0-10V, DC, 12-bit out	<--->	F4-08DA-1	8-ch analog output, current	<--->			
F2-4AD2DA	4-ch in /2-ch out., 4-20mA 12-bit res.	<--->	F4-08DA-2	8-ch 0-5VDC or 0-10VDC, 12-bit analog out	<--->			
F2-8AD4DA-1	8-ch in/4-ch out, current, 16-bit	<--->	F4-16DA-1	16-ch analog output, current	<--->			
F2-8AD4DA-2	8-ch in/4-ch out, voltage, 16-bit	<--->	F4-16DA-2	16-ch 0-5VDC or 0-10V DC 12-bit analog out	<--->			
F2-04RTD	4-channel RTD, 0.1 DEG C res	<--->						
F2-04THM	4 ch thermocouple or, 16-bit volt. input	<--->						
DL205 Specialty Modules								
H2-CTRIO	DL205 high speed counter with pulse out	<--->						
F2-08SIM	8-pt input simulator	<--->						
H2-SERIO	3-port serial for Win PLC	<--->						

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