

Programming for *Direct*LOGIC PLCs

Programming versions

With *Direct*SOFT5 Programming Software, selecting which software package you need is a snap! You can select the fully loaded package at its great low price, or you may choose the FREE package. It has all of the same programming functions as the full package. However, it will only download a program up to 100 words long.

The fully-loaded version (PC-DSOFT5) will program all of our *Direct*LOGIC PLCs, some GE Series One Plus PLCs, and TI305/405 SIMATIC PLCs. Refer to the chart below to verify compatibility.

The FREE *Direct*SOFT5 package (PC-DS100) was designed to provide a more streamlined choice. You can see from the table below that the FREE version has the same support and same great features, but will only allow you to open or download a program up to 100 words long.

Also, you cannot open an offline project larger than 100 words. You can create a project as large as you want and save it to disk, but you cannot reopen or download it to a PLC without purchasing the full version (PC-DSOFT5).

PLC compatibility

If you're using our *Direct*LOGIC products, then compatibility is not an issue. All *Direct*SOFT5 packages support all *Direct*LOGIC CPUs. Our software also supports many compatible products that were offered by previous vendors of the Koyo-designed PLCs. If you're buying the software to program a compatible CPU, check the following table to make sure your CPU is supported. (Sorry, but if your CPU is not shown, then it is not supported.)

Family	CPU	<i>Direct</i> SOFT5 (full version) PC-DSOFT5	<i>Direct</i> SOFT5 (free version) PC-DS100*	CPU Firmware Version Needed to Use IBox Instructions
DL05	All	✓	✓	✓ CPU v5.10 or Later
DL06	All	✓	✓	✓ CPU v2.10 or Later
DL105	All	✓	✓	
DL205	D2-230	✓	✓	
	D2-240	✓	✓	
	D2-250	✓	✓	
	D2-250-1	✓	✓	✓ CPU v4.60 or Later
	D2-260	✓	✓	✓ CPU v2.40 or Later
DL305	D3-330**, D3-330P**	✓	✓	
	D3-340	✓	✓	
	D3-350	✓	✓	
DL405	D4-430	✓	✓	
	D4-440	✓	✓	
	D4-450	✓	✓	✓ CPU v3.30 or Later
GE® Series 1 PLUS	IC610CPU105**	✓	✓	
	IC610CPU106**	✓	✓	
TI305™/ SIMATIC® TI305™	325-07**, PPX:325-07**	✓	✓	
	330-37**, PPX:330-37**	✓	✓	
	325S-07** (or 325 with Stage Kit)	✓	✓	
	330S-37**, PPX:330S-37**	✓	✓	
	335-37, PPX:335-37	✓	✓	
TI405™/ SIMATIC® TI405™	425-CPU, PPX:425-CPU	✓	✓	
	PPX:430-CPU	✓	✓	
	435-CPU, PPX:435-CPU	✓	✓	

* PC-DS100 is only available by download from our Website. This FREE, full-featured software package will download a program limited to 100 words.
 ** Requires Data Communications Unit (D3-232-DCU).



Company Information

Systems Overview

Programmable Controllers

Field I/O

Software

C-more & other HMI

Drives

Soft Starters

Motors & Gearbox

Steppers/ Servos

Motor Controls

Proximity Sensors

Photo Sensors

Limit Switches

Encoders

Current Sensors

Pressure Sensors

Temperature Sensors

Pushbuttons/ Lights

Process

Relays/ Timers

Comm.

Terminal Blocks & Wiring

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Programming for *Direct*LOGIC PLCs

PC system compatibility

Following are the recommended system requirements for running *Direct*SOFT5 on a PC:

- 1 GHz CPU
- CD-ROM for loading software
- Windows 2000/XP (Home and Pro)/Vista (all 32-bit versions)/Windows 7 (No DOS, OS/2, Macintosh, LINUX or UNIX versions, or 16-bit versions available)
- 512 MB RAM and 20 MB free hard disk space
- At least one unused serial communications port or USB port using our USB-RS232, USB-to-serial adapter and/or 10-Base-T or 10/100-Base-T Ethernet network card
- Color SVGA monitor (1024 x 768)



NOTES:

Laptops: *Direct*SOFT5 is perfectly suitable for use with laptop computers as long as they meet the requirements shown above. Most laptops can be ordered with a serial port as an option, which will allow a direct connection to our *Direct*LOGIC PLCs. If your laptop has a USB port, consider using our USB to serial adapter,

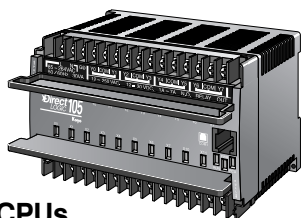
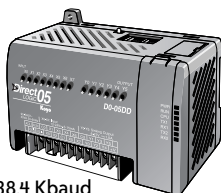
USB-RS232. If your laptop has an Ethernet port and you are considering a DL05, DL06, DL205 or DL405 PLC, consider using the H*-ECOM or ECOM100 Ethernet Communications Module to connect your PC to the PLC (The D2-230 does not support the ECOM).

Monitors: Any size monitor will work, however, larger, higher resolution, monitors enhance the features of *Direct*SOFT5.

Connecting to *Direct*LOGIC PLCs

DL05 CPUs

Port 1: 9.6 Kbaud
Port 2: 300 baud-38.4 Kbaud



DL105 CPUs

Port 1: 9.6 Kbaud

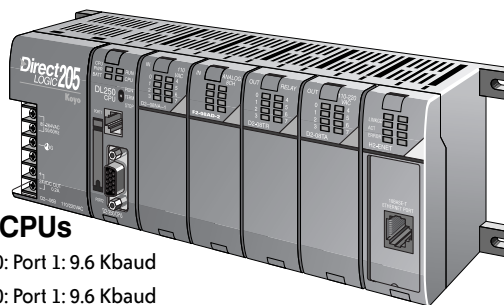


DL305 CPUs

D3-330 (requires D3-232-DCU): 300 - 19.2 Kbaud
 D3-340: Port 1/2: 300 baud - 38.4 Kbaud
 D3-350: Port 1: 9.6 Kbaud
 Port 2: 300 baud - 38.4 Kbaud

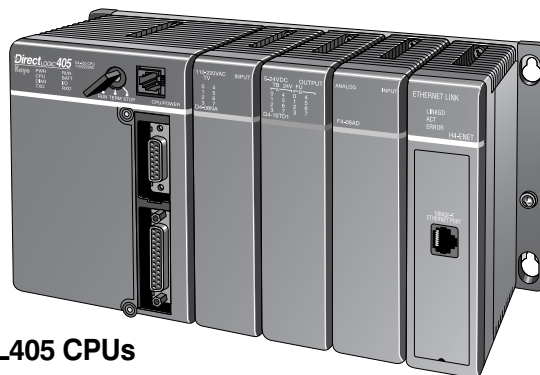
DL06 CPUs

Port 1: 9.6 Kbaud
Port 2: 300 baud - 38.4K baud



DL205 CPUs

D2-230: Port 1: 9.6 Kbaud
 D2-240: Port 1: 9.6 Kbaud
 Port 2: 300 baud - 19.2 Kbaud
 D2-250-1: Port 1: 9.6 Kbaud
 & D2-260 Port 2: 300 baud - 38.4 Kbaud



DL405 CPUs

D4-430: Port 1: 9.6 Kbaud
 & D4-440: Port 2: 300 baud - 19.2 Kbaud
 D4-450: Port 0: 9.6 Kbaud
 Port 1: 300 baud - 38.4 Kbaud
 Port 2: 300 baud - 38.4 Kbaud

Or use an ECOM module in the DL05, DL06, DL205 (except D2-230) or DL405 local base to program over a high-speed Ethernet link.

DirectLOGIC PLC Programming Cables

Since CPUs provide many different communication port possibilities, it is helpful to know exactly which communications cable is required. Use the table below to choose the proper cable:

Family	CPU (or other device)	Port	Cable
DirectLOGIC DL05	All versions	Port 1	D2-DSCBL
		Port 2	D2-DSCBL
	H0-ECOM / ECOM100 (modules)	Only one	**
		D0-DCM (module)	Port 1
		Port 2	D2-DSCBL-1
DirectLOGIC DL06	All versions	Port 1	D2-DSCBL
		Port 2	D2-DSCBL-1
	H0-ECOM / ECOM100 (modules)	Only one	**
		D0-DCM (module)	Port 1
		Port 2	D2-DSCBL-1
DirectLOGIC DL105	F1-130 (all versions)	Only one	D2-DSCBL
DirectLOGIC DL205	D2-230	Only one	D2-DSCBL
	D2-240	Top port	D2-DSCBL
		Bottom port	D2-DSCBL
	D2-250(-1)	Top port	D2-DSCBL
		Bottom port	D2-DSCBL-1
	D2-260	Top port	D2-DSCBL
		Bottom port	D2-DSCBL-1
	D2-DCM (module)	Only one	D3-DSCBL-2
H2-ECOM (-F) / ECOM100	Only one	**	
DirectLOGIC DL305	D3-330/D3-330P	Requires DCU*	D3-DSCBL-2
	D3-340	Top port	D3-DSCBL-1
		Bottom port	D3-DSCBL-1
	D3-350	Top port	D2-DSCBL
		Bottom port	D3-DSCBL-2
D3-DCM (module)	Only one	D3-DSCBL-2	
DirectLOGIC DL405	D4-430/D4-440	Top port (15-pin)	D4-DSCBL
		Bottom port (25-pin)	D3-DSCBL-2
	D4-450	Phone jack	D2-DSCBL
		Top port (15-pin)	D4-DSCBL
		Bottom port (25-pin)	D3-DSCBL-2
	D4-DCM (module)	Only one	D3-DSCBL-2
	H4-ECOM (-F) / ECOM100	Only one	**
Slice I/O (module)	Only one	D4-DSCBL	
GE® Series 1	IC610CPU105/106	Requires DCU*	D3-DSCBL-2
T1305™/SIMATIC® T1305™	325-07, PPX:325-07	Requires DCU*	D3-DSCBL-2
	330-37, PPX:330-37	Requires DCU*	D3-DSCBL-2
	325S-07 (or 325 with stage kit)	Requires DCU*	D3-DSCBL-2
	330S-37, PPX:330S-37	Requires DCU*	D3-DSCBL-2
	335-37, PPX:335-37	Phone jack	D3-DSCBL-1
If DCU is used*		D3-DSCBL-2	
T1405™/SIMATIC® T1405™	425-CPU, PPX:425-CPU	If DCU is used*	D4-DSCBL
	N/A, PPX:430-CPU	Top port (15-pin)	D4-DSCBL
		Bottom port (25-pin)	D3-DSCBL-2
	435-CPU, PPX:435-CPU	Top port (15-pin)	D4-DSCBL
		Bottom port (25-pin)	D3-DSCBL-2
Smart slice	Only one	D4-DSCBL	

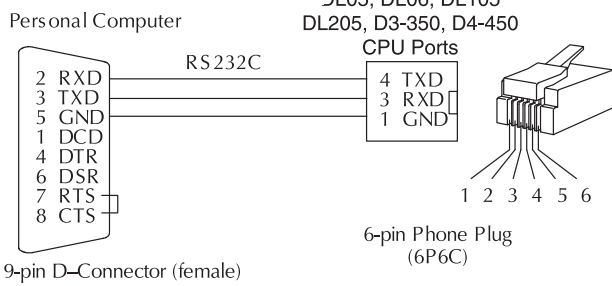
* Requires RS232 Data Communications Unit (D3-232-DCU).

**Requires standard Ethernet twisted pair cable (HX-ECOM) or standard fiber optic cable (HX-ECOM-F).

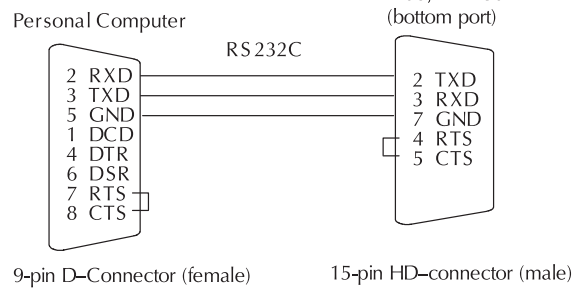
DirectLOGIC PLC Programming Cables

Pin labeling conforms to IBM DTE and DCE standards

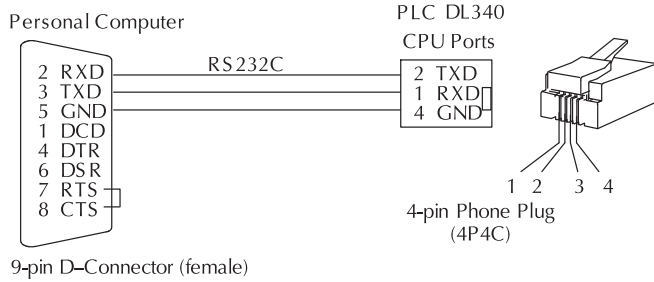
D2-DSCBL <--->



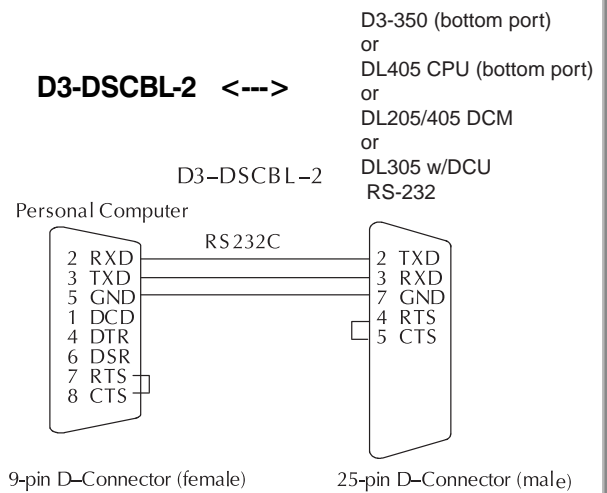
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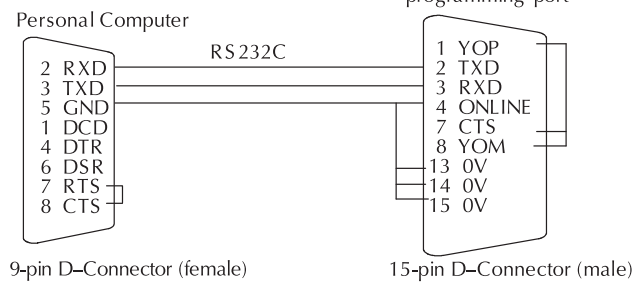
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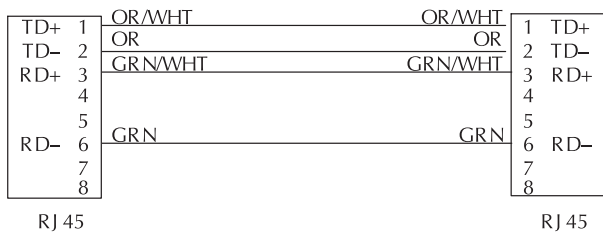
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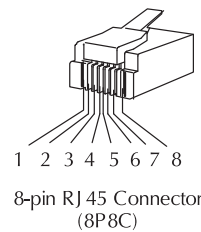
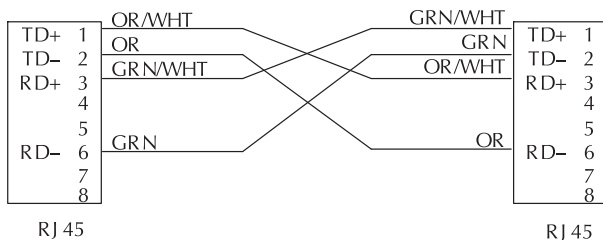
D4-DSCBL <--->



Straight-through Patch Cable (Ethernet)



Crossover Cable (Ethernet)



All Ethernet and ECOM patch cables should be Category 5, UTP Cable. The diagram illustrates the appropriate wire position in the RJ 45 connector.



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