

Quick Start Example

In This Appendix. . . .

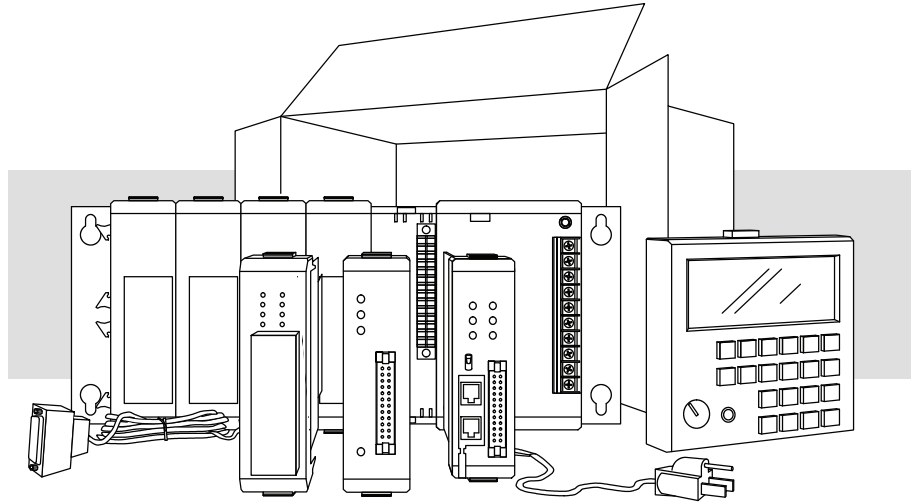
- Step 1: Unpack the DL305 Equipment
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Now, you have the material necessary to become confident and productive with the DL305. The rest of this chapter is dedicated to laying out all of the pieces necessary to put together a complete system. It will highlight where specific chapters apply to questions you will typically have during your system configuration. This example is not intended to tell you everything you need to start-up your system, warnings and helpful tips are in the rest of the manual. It is only intended to give you a general picture of what you will need to do to get your system powered-up.

Step 1: Unpack the DL305 Equipment

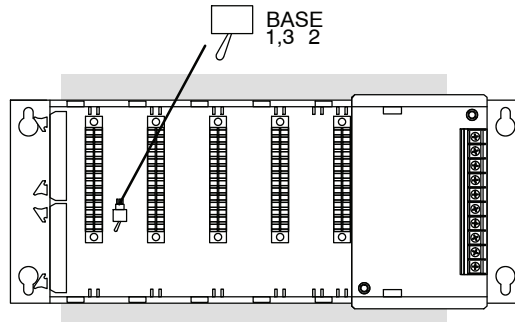
Unpack the DL305 equipment and verify you have the parts necessary to build your system. The minimum parts you will need are:

- 1 5-slot base
- 1 Handheld programmer
- 1 CPU
- 1 D3-08ND2 discrete input module or D3-08SIM input simulator (If you use any other discrete input module it will be necessary for you to look up the wiring information for the module you are using.)
- 1 D3-08TD2 discrete output module (Any of the DL305 output modules can be used for this example since we will just be looking at the status indicators.)
- 1 Power cord (which you supply)



Step 2: Configure the 5-slot Base as the Local CPU Base

The 5 slot base must be configured for base 1 (the base where the CPU resides). Identification of this base as the local CPU base is made by placing the base toggle switch in the 1,3 position as indicated below the toggle switch. Refer to Chapter 4 for more information on base switches.

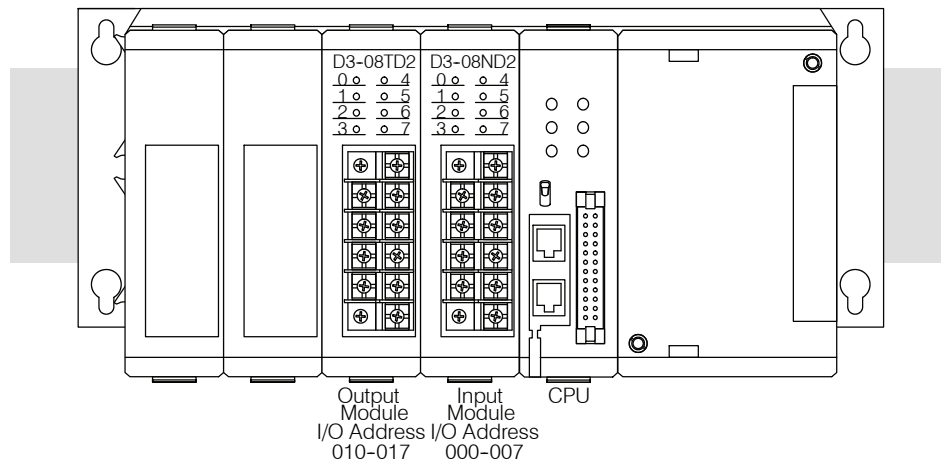


Step 3: Install the CPU and I/O Modules

Insert the CPU and I/O modules into the base as shown below. The CPU must go into the far right side of the base in the position next to the Power Supply.

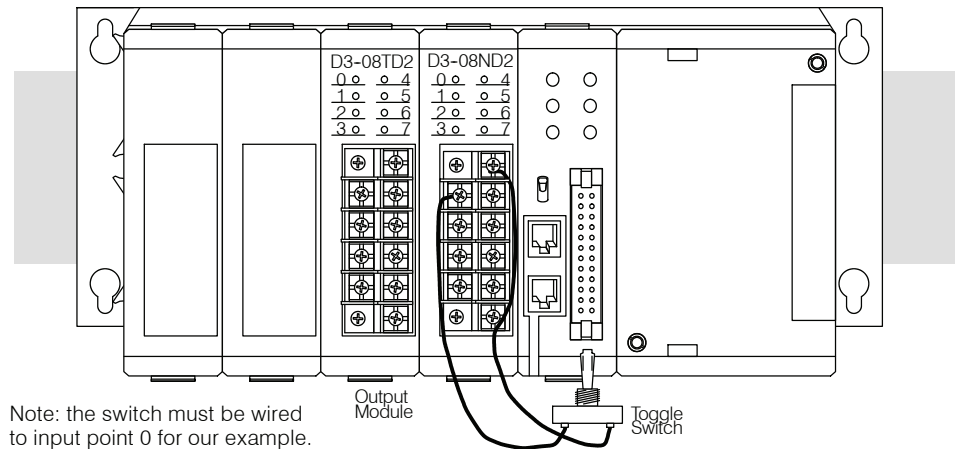
When inserting components into the base, align the PC board(s) of the module with the grooves on the top and bottom of the base. Push the module straight into the base until it is firmly seated in the backplane connector.

Placement of 8 point discrete and relay modules are not critical and may go in any slot in the local CPU base. Limiting factors for other types of modules are discussed in Chapter 4. You must also make sure you do not exceed the power budget for each base in your system configuration. Power budgeting is also discussed in Chapter 4.



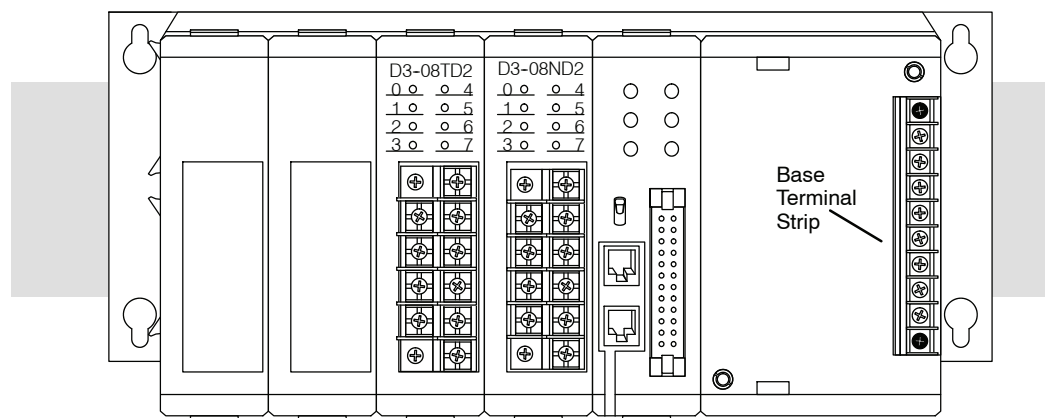
Step 4: Wire the I/O Modules to the Field Devices

This step is not necessary if you are using an input simulator module. The toggle switch provides an external control point where you can interact with your system. Wire the I/O module to the field device prior to applying power to the system. (This will ensure that a point is not accidentally turned on during the wiring operation.) Wire the discrete input module as shown below. If you are using a module other than the D3-08ND2 you will need to refer to Chapter 6, Discrete Input Modules, for wiring information. Chapter 2, Installation and Safety Guidelines provides a list of I/O wiring guidelines. In the example below there is a discrete input module and a discrete output module in the base. The discrete input module is connected to an external switch.



Step 5: Remove the Terminal Strip Access Cover

Remove the base terminal strip cover.



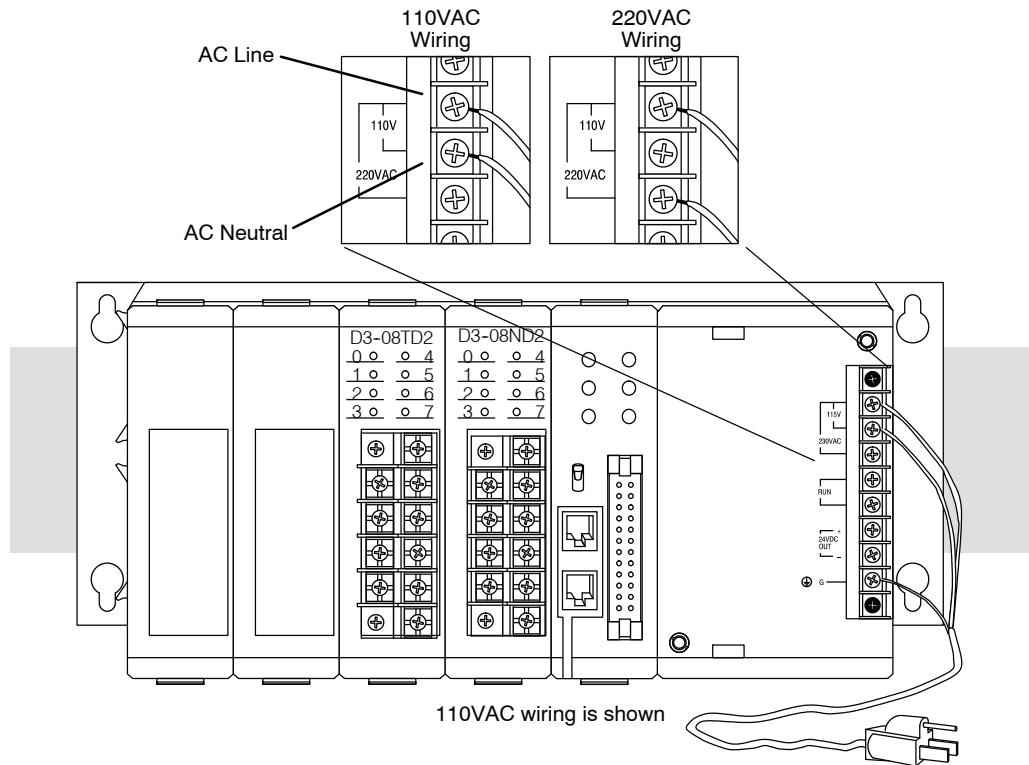
Step 6: Connect the Power Wiring

If you are using 110VAC to power the base you must wire to the top 2 designated terminals. If you are using a 220VAC power source then you wire to the top and third designated terminals. You can find a detailed explanation of the terminal block on the bases in Chapter 2, Installation and Safety Guidelines.



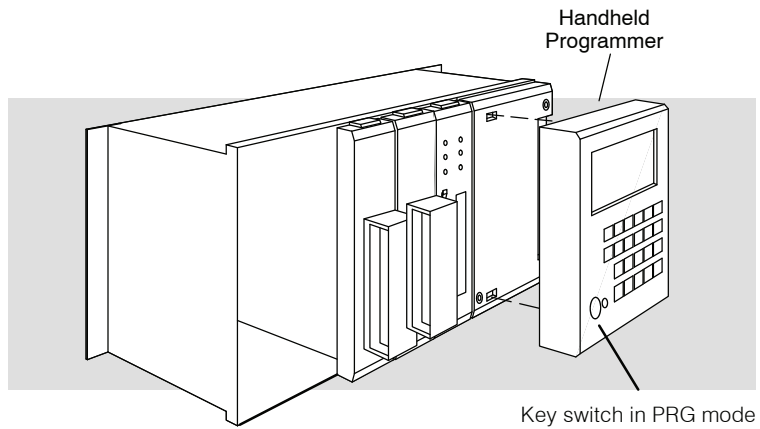
WARNING: To minimize the risk of electrical shock, make sure the power source is disconnected before you connect the power wiring. Also, make sure you connect the power wiring correctly. The unit will be damaged if you connect 220 VAC to the 115 VAC terminals.

Wire the appropriate power connections to the base as shown below. Once wiring is completed insert the base terminal strip cover.



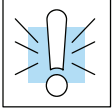
Step 7: Connect the Handheld Programmer

Put the handheld programmer's key switch in the PRG position. Attach the handheld programmer directly to the front of the CPU making sure the port on the back of the programmer aligns properly with the port on the CPU and the programmer's latches connect with the slots in the base power supply. Apply power to the base. LEDs on the programmer will display indicating a good connection.



Step 8: Connect the Power Source

Apply power to the system and ensure the CPU PWR indicator is on. If the indicator is not on, disconnect the system power and check the wiring connections. If the wiring connections are correct, refer to Chapter 13 for additional assistance.



WARNING: To minimize the risk of electrical shock, make sure the power source is disconnected before you check the power wiring.

Step 9: Enter the Example Program

The switch wired to the input module and status indicator (LED) on the face of the output module will be the two I/O points used in the simple rung of ladder logic you will enter. The following diagram shows the ladder logic representation of the program which will be entered on the handheld programmer.



Enter the key sequences on the handheld programmer as shown below.

| | | | | | | | |
|-----|-----|---|-----|-----|-----|-----|---|
| CLR | SHF | 3 | 4 | 8 | DEL | NXT | (Clears the CPU memory) |
| STR | SHF | 0 | ENT | | | | (Stores input 000) |
| OUT | SHF | 1 | 0 | ENT | | | (Outputs an on or off state to address 010) |

With the programmer's key switch in the PRG position, open and close the field input switch and observe that only the 0 LED on the input module turns on and off. This indicates the input signal is being received.

Now put the programmer's key switch in the run position. The RUN LED on the programmer's display will turn on. Open and close the field input switch and observe the 0 LED on the face of the input module and the 0 LED on the face of the output module both turn on and off. This indicates the program is accurately reflecting the signals which it is receiving from the field device.

