

3.1 Installing the Modules

Overview

The 505 Discrete Input and Output modules, and Word Input and Output modules, may be installed in any available slot (or in two adjacent slots for double-wide modules).

WARNING

To minimize risk of potential shock hazard, turn off power to the I/O base and to any modules installed in the base before inserting or removing a module, or installing a terminal block. Failure to do so may result in potential injury to personnel or damage to equipment.

Guidelines

Do not touch the printed circuit board (PCB) while inserting the module. This could cause electrostatic damage to its components. To minimize the effect of noise on the system, separate high energy modules from all other modules in the base, i.e., place relay and AC output modules in the far right slots of the base.

To insert the 505 I/O modules, follow these steps.

1. Turn off all power to the base and the modules.
2. Position the module so that the front bezel is facing you.
3. Hold the top and bottom of the bezel and slide the module carefully into the slot (or slots for double-wide modules), pushing it all the way into the base. You will feel a slight increase in resistance as the module connects with the base-plane connector. (See Figure 3-1).
4. Use a flat-head screwdriver to tighten the screws at the top and bottom of the bezel. This grounds the module to the base. Do not overtighten.

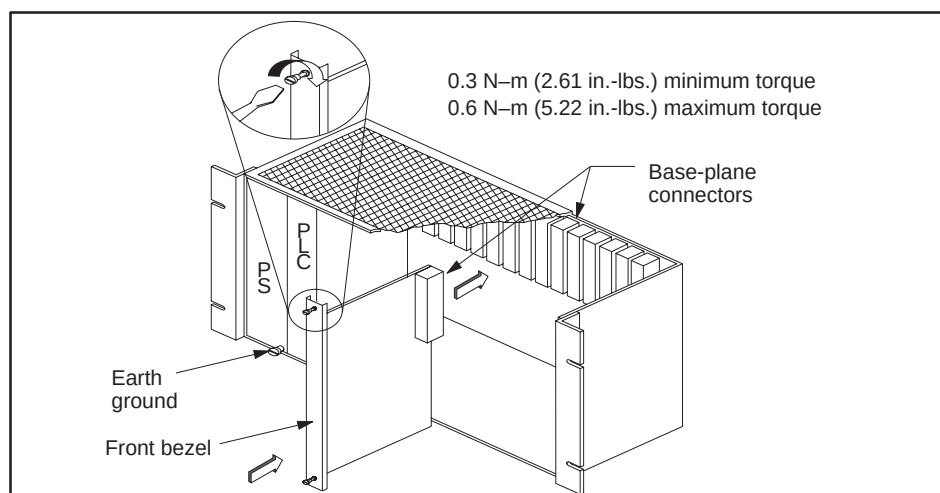


Figure 3-1 Inserting the Module into the Base

3.2 Wiring the Discrete Input and Output Modules

**Pin-outs for
Discrete Input and
Output Modules**

Table 3-1 through Table 3-10 show the pin-out sequences for the 505 Input and Output modules. These tables are arranged in two columns that correspond to the two rows of screws on the terminal block. (The right column represents the right row of screws on the terminal block, and the left column represents the left row of screws.) Appendix A provides a worksheet to use when wiring the terminal blocks for all Input and Output modules.

The letters A, B, C, and D designate the common sections. The numbers adjacent to the letters refer to the input or output points within those sections. (See Figure 3-2.)

The Discrete Input modules are both sinking and sourcing. Therefore, the inputs operate when wired in either a sinking or a sourcing configuration.

On the Discrete Output modules, the XC connections are for user-power connections, and the XR connections are for user-power return connections, when applicable. On AC modules, user-power return is provided through your load.

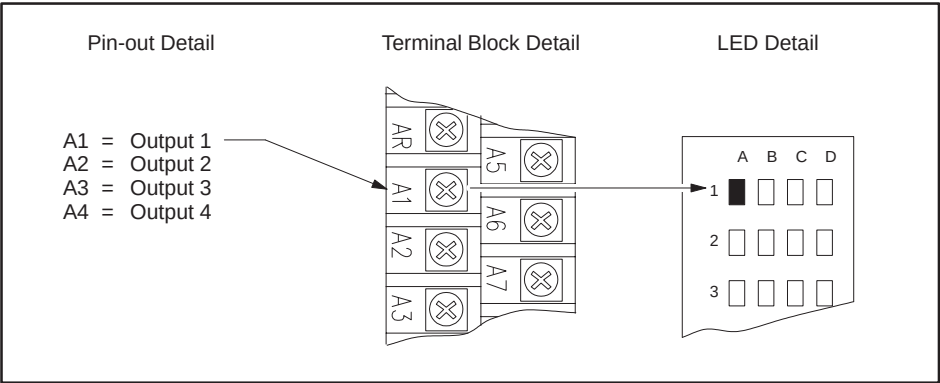


Figure 3-2 Example of Terminal Block Wiring

Wiring the Discrete Input and Output Modules (continued)

**Table 3-1 Terminal Block Pin-out: 32-Point Discrete Input Modules
(PPX:505-4032(A), PPX:505-4132, PPX:505-4232(A), PPX:505-4332, and
PPX:505-4432(A))**

User Connection	User Connection
AR = Return for 1–8	AC = Not Used
A1 = Input 1	A5 = Input 5
A2 = Input 2	A6 = Input 6
A3 = Input 3	A7 = Input 7
A4 = Input 4	A8 = Input 8
BR = Return for 9–16	BC = Not Used
B1 = Input 9	B5 = Input 13
B2 = Input 10	B6 = Input 14
B3 = Input 11	B7 = Input 15
B4 = Input 12	B8 = Input 16
CR = Return for 17–24	CC = Not Used
C1 = Input 17	C5 = Input 21
C2 = Input 18	C6 = Input 22
C3 = Input 19	C7 = Input 23
C4 = Input 20	C8 = Input 24
DR = Return for 25–32	DC = Not Used
D1 = Input 25	D5 = Input 29
D2 = Input 26	D6 = Input 30
D3 = Input 27	D7 = Input 31
D4 = Input 28	D8 = Input 32

Connecting the Terminal Block

To connect the terminal block to the module, follow these steps. (See Figure 3-6.)

WARNING

Disable all power to the base before connecting the terminal block. Failure to do so may result in injury to personnel or damage to equipment.

1. Align the terminal block with the edge card connector on the bezel; AC is at the top of the terminal block.
2. Press firmly at both ends of the terminal block until it is seated.
3. Tighten the screws at the top and bottom. Do not over-tighten.
4. After all terminal blocks have been installed, you may restore power to the base. When power is supplied to the Word Input and Word Output modules, the status indicator comes on if the module has detected no problems. If the status indicator does not light (or goes out during operation), the module has detected a failure. To correct the failure, refer to Chapter 4.

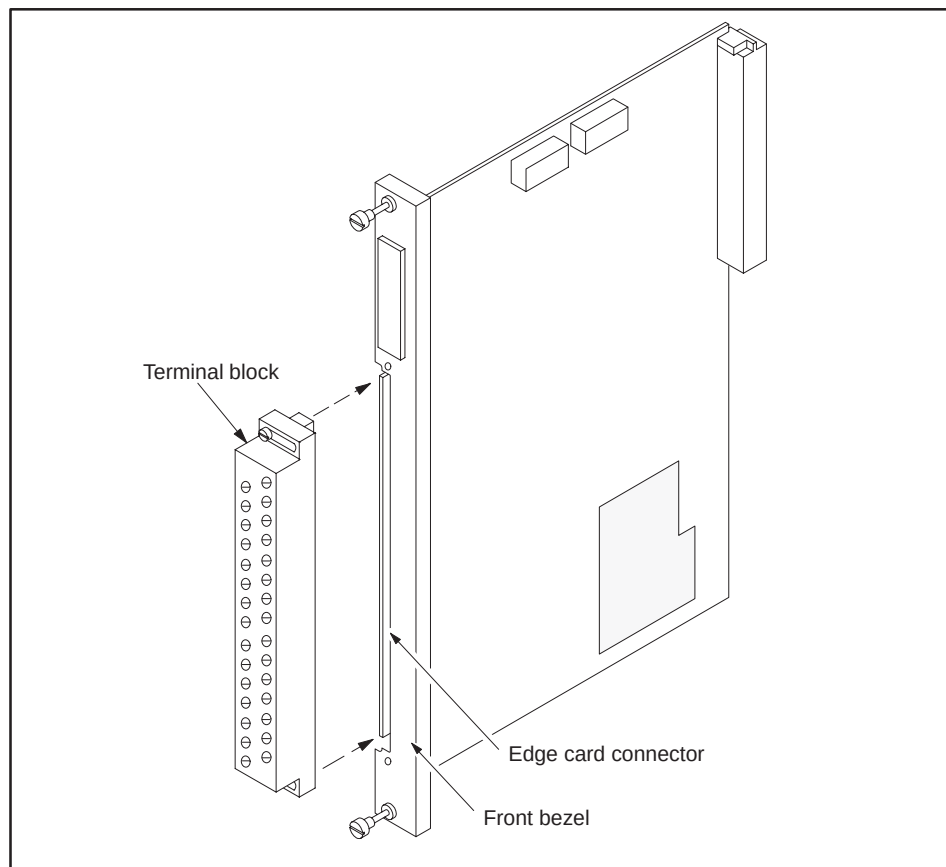


Figure 3-6 Installing the Terminal Block

Field Wiring (continued)

Typical Connections

Figure 3-7 through Figure 3-15 shows typical connections for all the I/O modules.

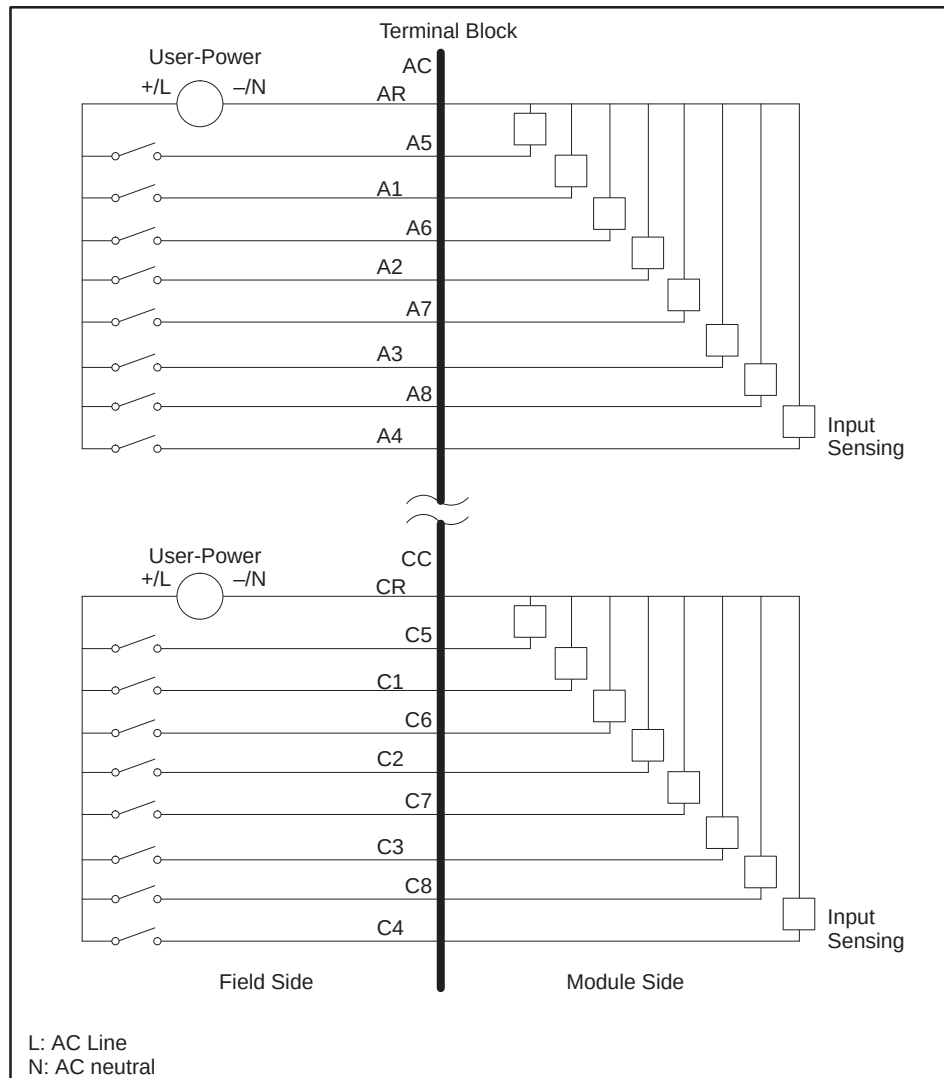


Figure 3-7 Typical Sinking Connection for 32-Point Discrete Input Modules (PPX:505-4032(A), PPX:505-4132, PPX:505-4232(A), PPX:505-4332, and PPX:505-4432(A))

Table A-5 Electrical Specifications for 110 VAC Input Modules (PPX:505-42xx (A))

Model Number	No. of Inputs	Module Width
PPX:505-4208 (-A)	8	Single-wide
PPX:505-4216 (-A)	16	Single-wide
PPX:505-4232 (-A)	32	Single-wide

Type of Inputs	IEC Type 1
Rated Voltage	100–115 VAC
Input voltage range for ON	79.0 VAC UH minimum; 132.0 VAC UH maximum
Input voltage range for OFF	0.0 VAC UL minimum; 20.0 VAC UL maximum
Input current limits during ON	4.0 mA IH minimum; 15.0 mA IH maximum
Max. input current for OFF	1.5 mA IT minimum
Delay time through module	6.0 ms minimum 30.0 ms maximum
Module power from base	2.0 W
Operating frequency	47 to 63 Hz

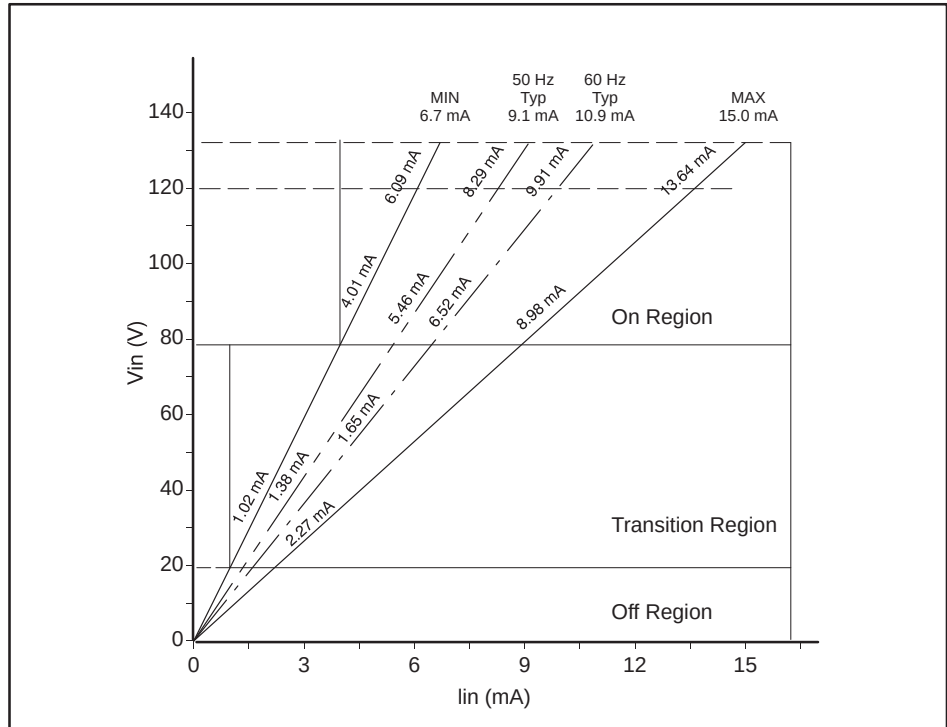


Figure A-3 Volt-Ampere Curve for PPX:505-42xx(-A) Modules