

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.

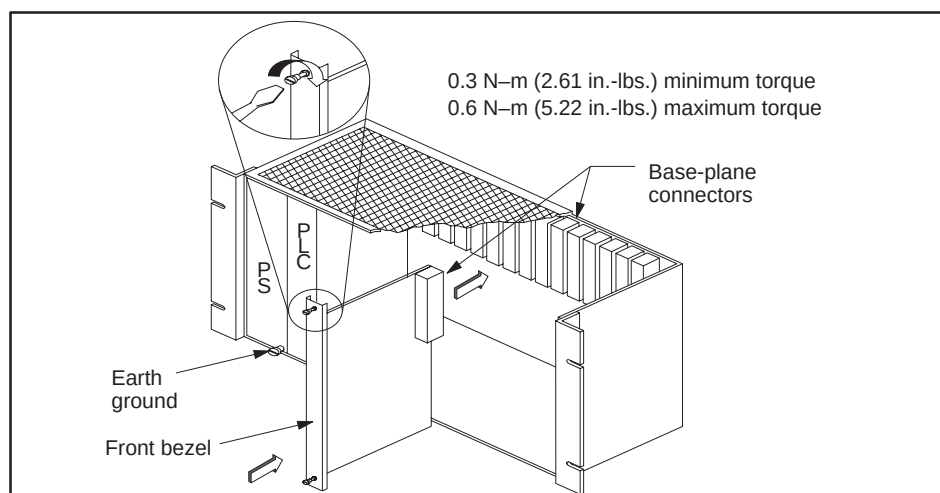


Figure 3-1 Inserting the Module into the Base

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.

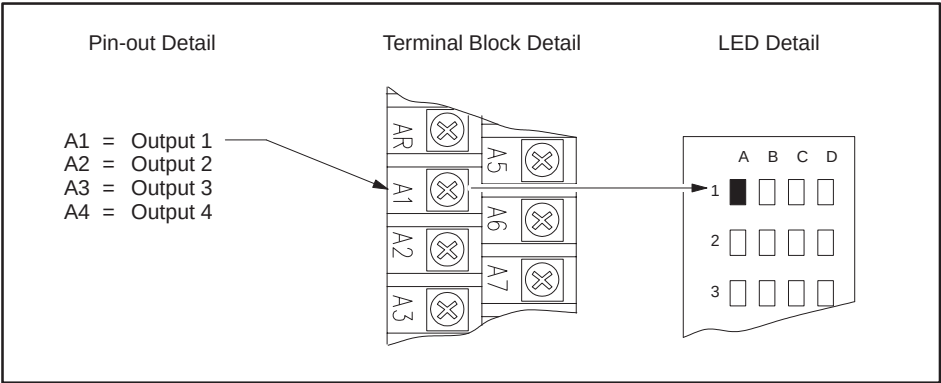


Figure 3-2 Example of Terminal Block Wiring

**Table 3-8 Terminal Block Pin-out: 32-Point Discrete DC Output Modules
(PPX:505-3532, PPX:505-3732, PPX:505-4532, and PPX:505-4732)**

User Connection	User Connection
AR = User-Power (-)	AC = User-Power (+)
A1 = Output 1	A5 = Output 5
A2 = Output 2	A6 = Output 6
A3 = Output 3	A7 = Output 7
A4 = Output 4	A8 = Output 8
BR = User-Power (-)	BC = User-Power (+)
B1 = Output 9	B5 = Output 13
B2 = Output 10	B6 = Output 14
B3 = Output 11	B7 = Output 15
B4 = Output 12	B8 = Output 16
CR = User-Power (-)	CC = User-Power (+)
C1 = Output 17	C5 = Output 21
C2 = Output 18	C6 = Output 22
C3 = Output 19	C7 = Output 23
C4 = Output 20	C8 = Output 24
DR = User-Power (-)	DC = User-Power (+)
D1 = Output 25	D5 = Output 29
D2 = Output 26	D6 = Output 30
D3 = Output 27	D7 = Output 31
D4 = Output 28	D8 = Output 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.

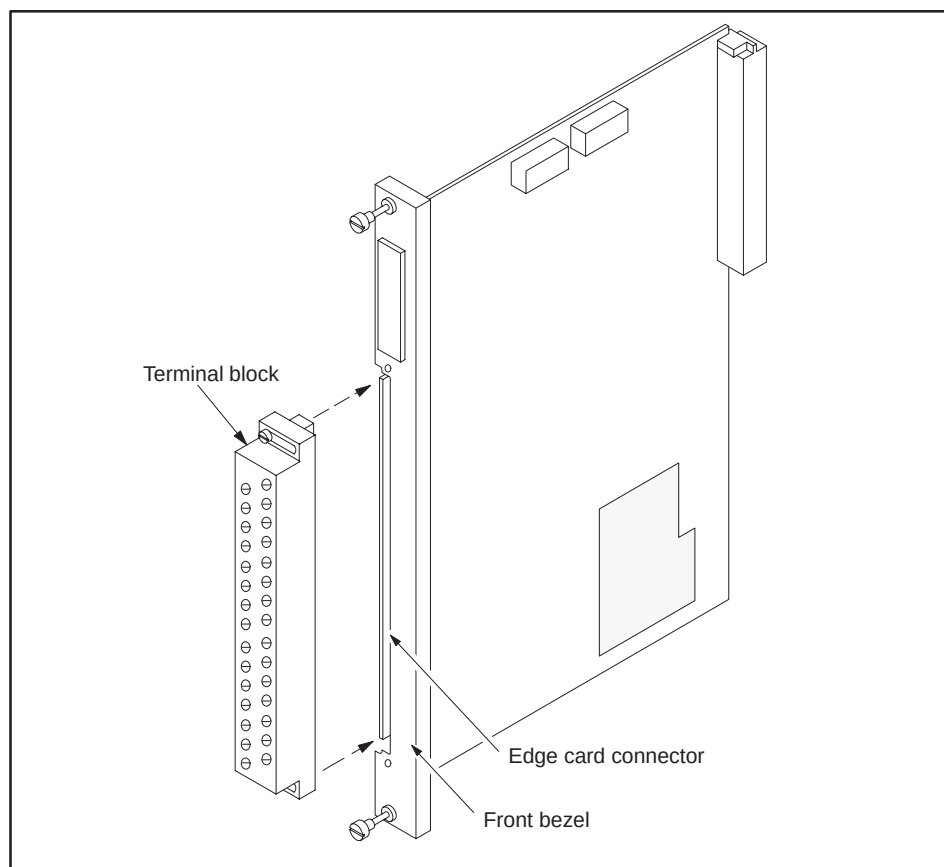


Figure 3-6 Installing the Terminal Block

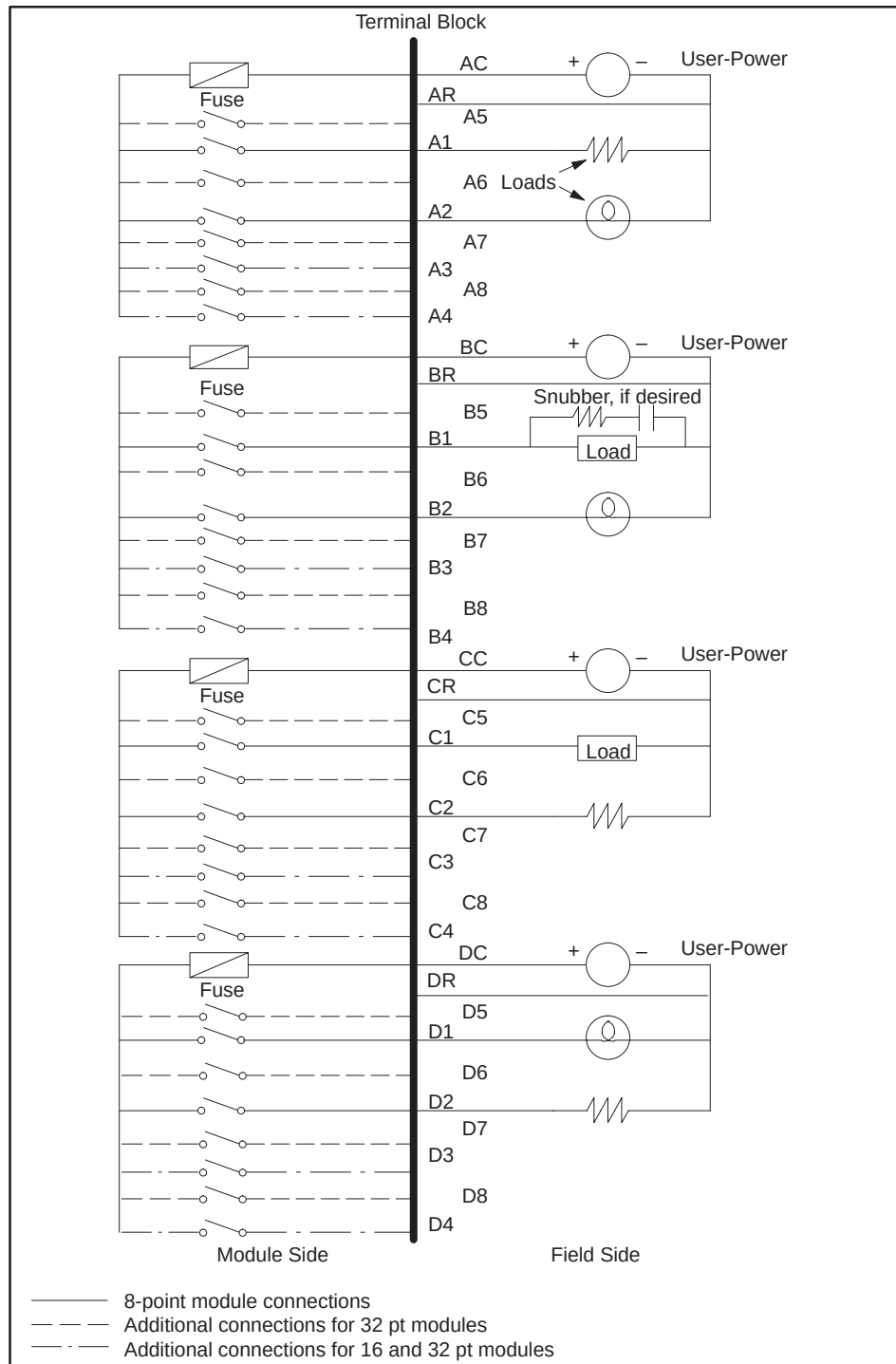


Figure 3-10 Typical Connection for Discrete Sourcing Output Modules (PPX:505-4508, PPX:505-4708, PPX:505-4516, PPX:505-4716, PPX:505-4532, and PPX:505-4732)

Discrete Output Modules

Table A-9 through Table A-12 contains the electrical specifications for the 505 Discrete Output modules and Figure A-7 through Figure A-10 show derating curves for the same.

Table A-9 Electrical Specifications for 6–24 VDC 1/2 Amp Output Modules (PPX:505–35xx and PPX:505–45xx)

Model Number	No. of Outputs	Module Width
PPX:505–3508	8	Single-wide
PPX:505–3516	16	Single-wide
PPX:505–3532	32	Single-wide
PPX:505–4508	8	Single-wide
PPX:505–4516	16	Single-wide
PPX:505–4532	32	Single-wide

Rated Voltage	6–24 VDC
Operating voltage range	4.5–34 VDC
Min. load per point	5 mA
Temporary overload	2.0 A for 1 ms
Max. on-state voltage drop	1.8 VDC
Max. off-state leakage current	0.2 mA
Kickback protection	Diode
Max. Delay time through module (with 5 mA min. load)	1 ms on to off 1 ms off to on
User power current with no load	3.0 mA/common
Max. module power from base	2.5 W
Reverse voltage protection at power terminals	34 VDC
Type of outputs	Non-latching type, unprotected
Output fuse rating	3 A, 125 V 5 x 20 mm, normal blow

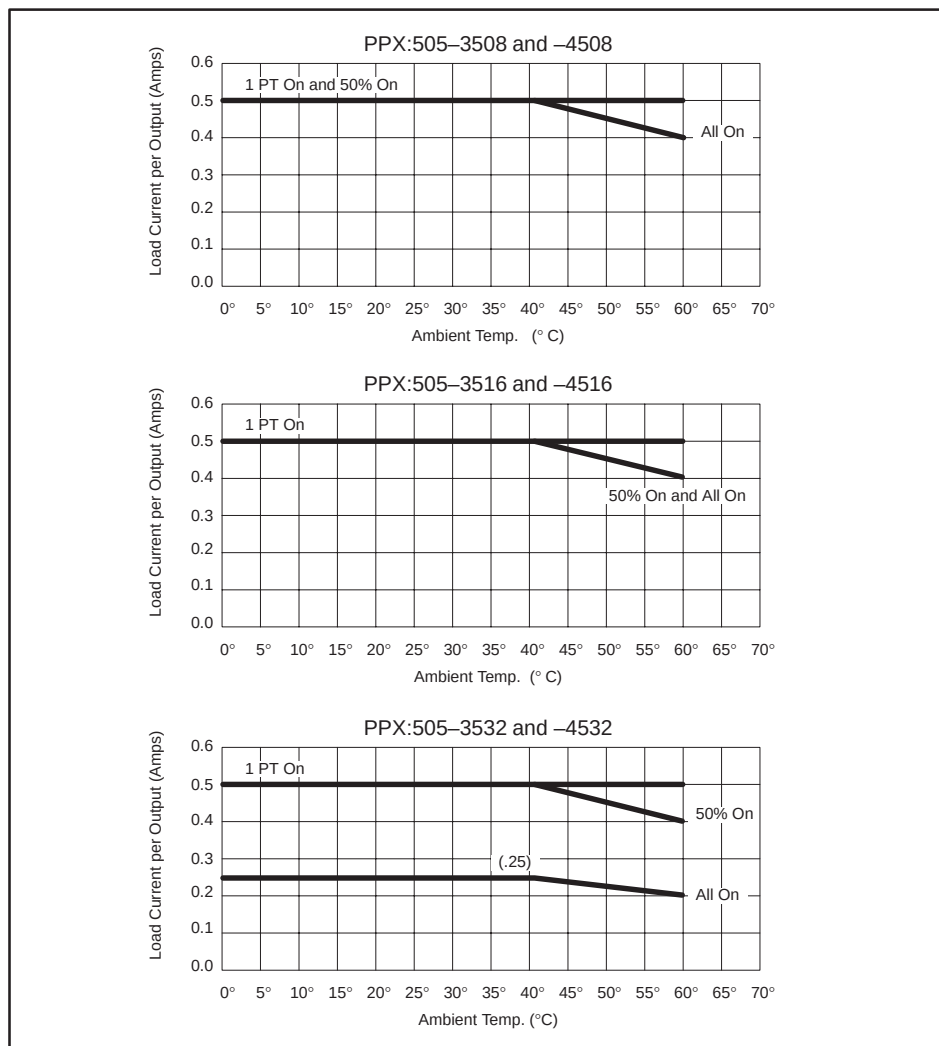


Figure A-7 Derating Curves for PPX:505–35xx and PPX:505–45xx Modules