

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.

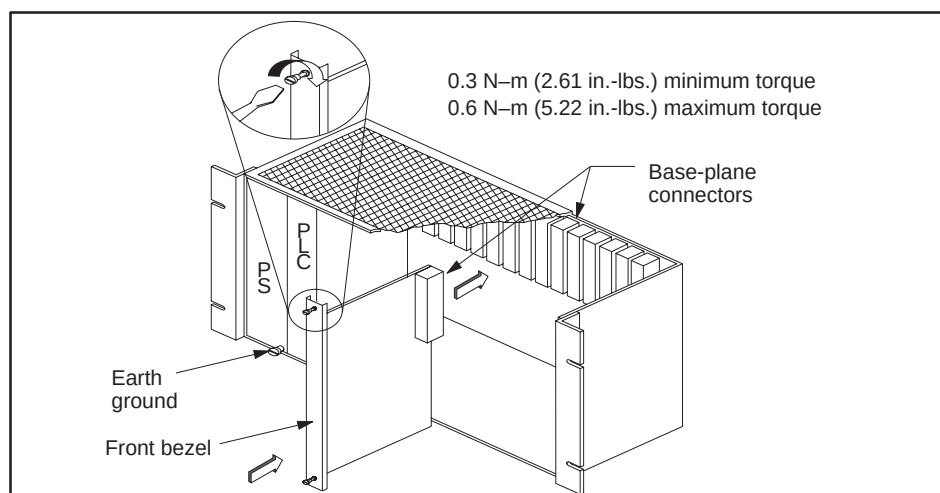


Figure 3-1 Inserting the Module into the Base

3.3 Wiring the Relay Output Modules

Pin-outs for Relay Output Modules

The LED readout sequence for the Relay Output modules is listed in a column adjacent to each of the user connector columns. Figure 3-3 shows a 32-point module with the corresponding connection between the pin-out guide, the terminal block, and the LED array. Note that the figure is an example only: the complete LED readout locations are listed in Table 3-11 through Table 3-14.

NOTE: Unlike the LED status indicators on other Discrete I/O modules, those on the Relay Output module do not directly correspond to the terminal block markings.

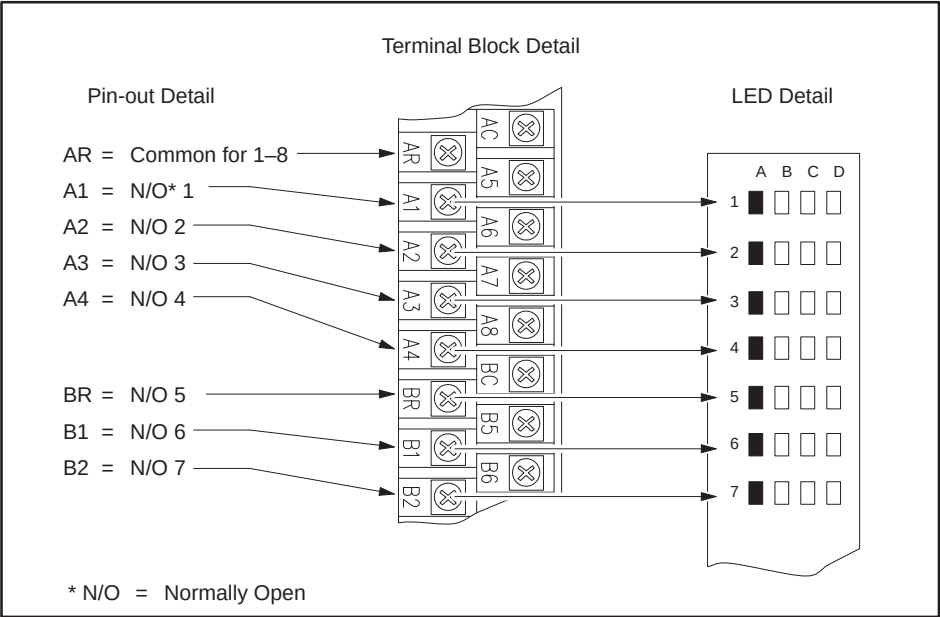


Figure 3-3 Example of Terminal Block Wiring on 32-Point Relay Output Module

Wiring the Relay Output Modules (continued)

Table 3-12 Terminal Block Pin-out: 16-Point Relay Output Module (PPX:505-4916)

User Connection	LED	User Connection	LED
AR = Common for 1–4	–	AC = Common for 5–8	–
A1 = N/O* 1	A1	A5 = N/O 5	B1
A2 = N/O 2	A2	A6 = N/O 6	B2
A3 = N/O 3	A3	A7 = N/O 7	B3
A4 = N/O 4	A4	A8 = N/O 8	B4
BR = Not Used	–	BC = Not Used	–
B1 = Not Used	–	B5 = Not Used	–
B2 = Not Used	–	B6 = Not Used	–
B3 = Not Used	–	B7 = Not Used	–
B4 = N/O 9	C1	B8 = N/O 13	D1
CR = N/O 10	C2	CC = N/O 14	D2
C1 = N/O 11	C3	C5 = N/O 15	D3
C2 = N/O 12	C4	C6 = N/O 16	D4
C3 = Not Used	–	C7 = Not Used	–
C4 = Not Used	–	C8 = Not Used	–
DR = Not Used	–	DC = Not Used	–
D1 = Not Used	–	D5 = Not Used	–
D2 = Common for 9–12	–	D6 = Common for 13–16	–
D3 = Not Used	–	D7 = Not Used	–
D4 = User Coil Power (+)	–	D8 = User Coil Power (–)	–

* N/O = Normally Open

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.

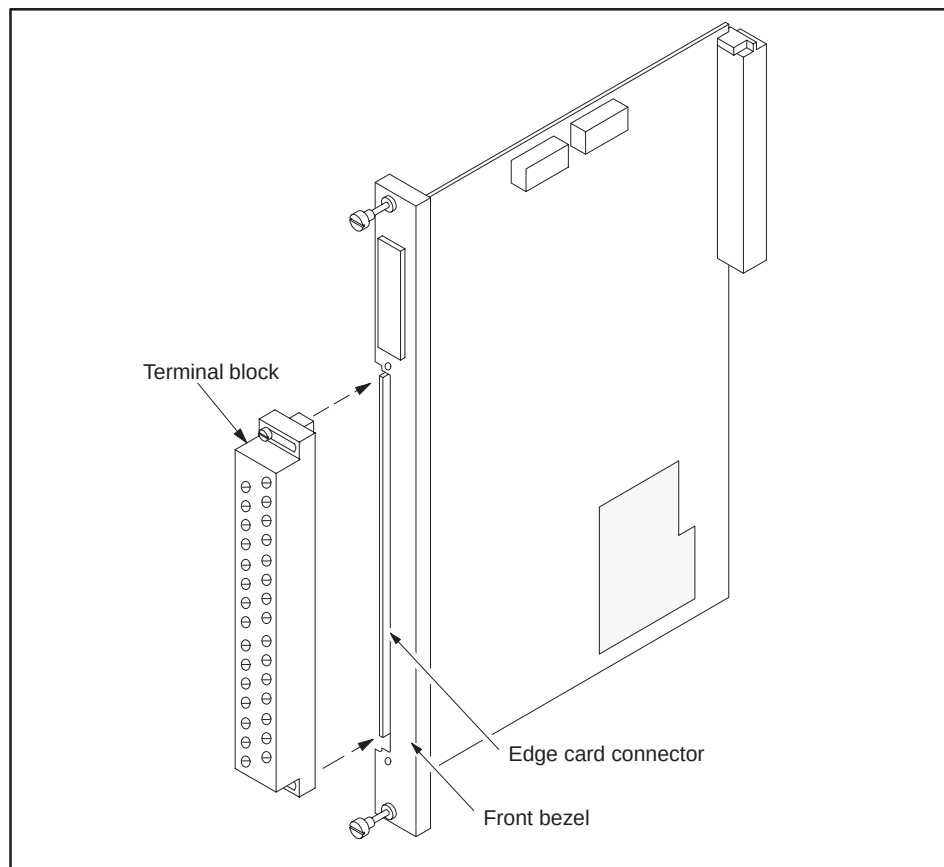


Figure 3-6 Installing the Terminal Block

Relay Output Modules

Table A-13 contains the electrical specifications for the 505 Relay Output Modules and Figure A-11 shows the derating curves for the same.

CAUTION

The Relay Output Module may be damaged if more than one channel is overloaded at the same time, or if the temporary overload specification is exceeded.

Table A-13 Electrical Specifications for Relay Output Modules (PPX:505–49xx)

Model Number	No. of Outputs	Module Width
PPX:505–4908	8	Single-wide
PPX:505–4916	16	Single-wide
PPX:505–4932	32	Double-wide

Rated Voltage Range	24–230 VAC, 6–24 VDC
Operating voltage range	20–265 VAC, 4.5–30 VDC
Temporary overload	5.0 A for 1 ms (See Caution)
Max. off-state leakage current	0.0 mA
Total relay contact resistance	250 milliohms for PPX:505–4916 and –4932 300 milliohms for PPX:505–4908
Max. Delay time through module	10 ms on to off 10 ms off to on
Max. module power from base	2.5 W
Output fuse for PPX:505–4908 (1 fuse per common)	3 A, 250 V 1.25" x 0.25", normal blow
Type of contact	Form-A for PPX:505–4916 and –4932 Form-C for PPX:505–4908
Type of outputs	Non-latching type, unprotected
Repetition rate	6 Hz max.
User Power Supply	21.6 – 26.4 V @ 80 mA for the PPX:505–4908 160 mA for the PPX:505–4916 300 mA for the PPX:505–4932
Life cycles (@ 1 Hz repetition rate)	@ Full rated current 100,000 @ 0.5 A for PPX:505–4916 and –4932 300,000 @ 0.5 A for PPX:505–4908 500,000 @ 0.1 A for PPX:505–4908, –4916, and –4932 1,000,000

Electrical Specifications (continued)

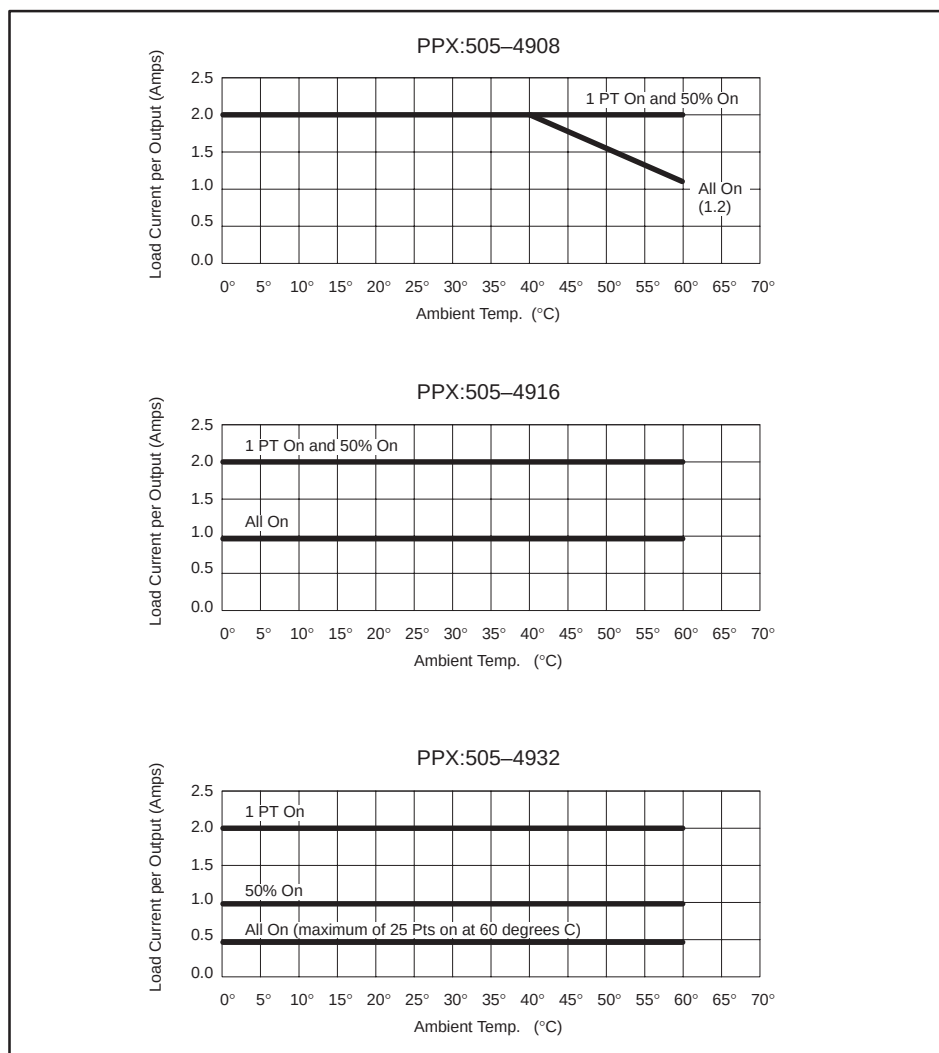


Figure A-11 Derating Curves for PPX:505-49xx

These modules in Table A-14 can be used with inductive loads at the following ratings:

Table A-14 Pilot Duty Ratings at 60°C Ambient

Load Type	PPX:505-4932	PPX:505-4916	PPX:505-4908
1 point on AC	1.0 A	1.0 A	2.0 A
1 point on DC	0.88 A	0.88 A	1.44 A