

DESCRIPTION:

Functional Description

The CNPI-16B panel interface board allows custom control panels to interface to a CRESNET II control system over the CRESNET II network. The custom panel can consist of pushbuttons or switches which provide closures to the CNPI-16B via its 20-pin input connector. The CNPI-16B translates these closures into inputs to the CRESNET II system via the CRESNET II network. Any LED or incandescent indicators used in the custom panel are treated as network feedback outputs and driven by the CNPI-16B via its 20-pin output connector. The CNPI-16B can drive incandescent indicators or LED indicators with the addition of series resistors.

Physical Description

The CNPI-16B is a circuit board that can be housed in any enclosure with the appropriate dimensions (refer to figure 1). There are four mounting holes, one at each corner of the board. The board contains two LEDs, two 20-pin male connectors, a 4-pin male connector, and a 2-pin male connector.

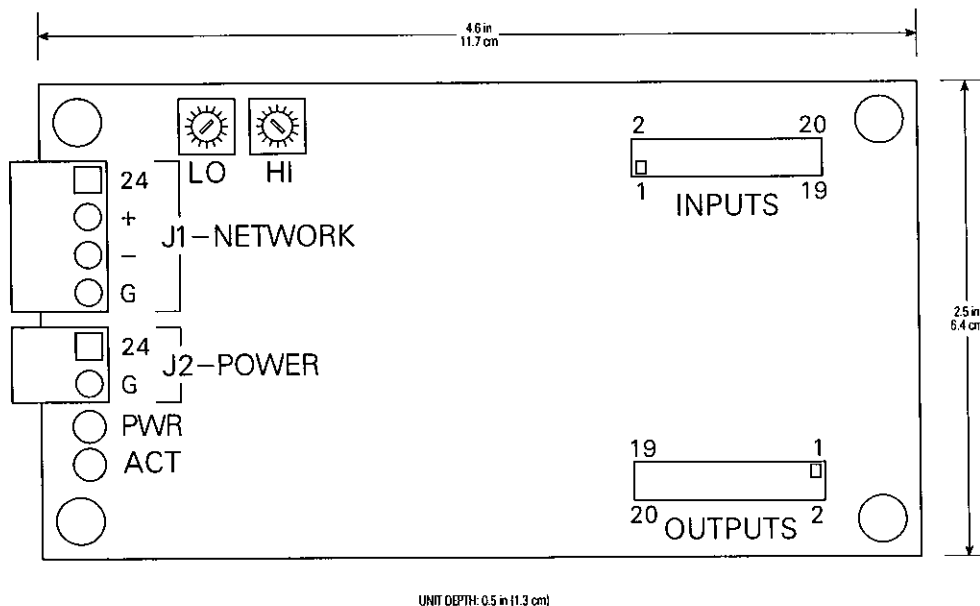


Figure 1. CNPI-16B, Custom Panel Interface

LEADING SPECIFICATIONS

Table 1 provides a summary of leading specifications for the CNPI-16B. Dimensions and weight are approximations rounded to the nearest tenth unit.

Table 1. Leading Specifications

SPECIFICATION	DETAILS
Power Factor	15.0 W (average) (approximately 2.5 W plus 1.0 W per incandescent bulb) (approximately 2.5 W plus 0.5 W per LED)
CRESNET II Workshop	Version 4.0 or later
CRESNET II Operating System	SR30160.OPS or later
Compiler	3.02.27 (4/23/92) or later
Maximum Output Voltage	24 VDC
Minimum Output Voltage	0 VDC
Maximum Output Current (any one output)	200 mA (subject to maximum total current)
Maximum Output Current	1 A (total for outputs 1 - 8) 1 A (total for outputs 9 - 16)
Dimensions & Weight	Height: 2.5 in (6.4 cm) Width: 4.6 in (11.7 cm) Depth: 0.5 in (1.3 cm) Weight: 0.2 lb (0.1 kg)

As of the date of manufacture, the unit has been tested and found to comply with specifications for CE marking when placed in a metal enclosure.



INDICATORS

There are two LED indicators located on the CNPI-16B, refer to figure 1.

PWR (POWER)

This green LED illuminates when 24 volts is supplied to the CNPI-16B over the network.

ACT (ACTIVITY)

This red LED illuminates when communication between the CRESNET II system and the CNPI-16B is established. Illumination indicates that the CNPI-16B's identity code matches the one defined in the SIMPL program.

INSTALLATION/SETUP:**Identity Code****NOTE**

It is safe to adjust the ID CODE of the CNPI-16B while unit is connected to the network. However, if the ID CODE is changed while the unit is powered, the new ID CODE will not be recognized until power is removed and reapplied.

Each device on the CRESNET II network requires a unique identity code (ID CODE). Each code consists of a two-digit hexadecimal number from 03 to FE. The ID CODE of each unit must match an ID CODE specified in the "NET.ID" statement of the CRESNET II SIMPL program in order for the device to be addressed properly. To set an ID CODE, make sure power to the unit is disconnected and complete the following steps.

1. Locate the two miniature rotary switches labeled HI and LO on the front face (refer to figure 1). The switches are located in the upper left corner of the board. The right rotary switch (HI) represents the most-significant digit or number of the ID CODE and the left rotary switch (LO) represents the least-significant digit or number of the ID CODE. Each 16-position rotary hexadecimal switch can be set to a value ranging between 0 and F.
2. Use a small screwdriver and rotate the arrow in the center of the rotary switch marked HI to the position of the most-significant digit or letter of the unit's ID CODE.
3. Use a small screwdriver and rotate the arrow in the center of the rotary switch marked LO to the position of the least-significant digit or letter of the unit's ID CODE.

Preparation for Use

Refer to figure 2 for a typical hook-up diagrams of the CNPI-16B. Complete the following steps in the order specified to ensure proper installation of the unit.

1. Before making any connections, review latest revision of network interconnection drawing (Doc 5411).
2. Disconnect CRESNET II power supply and any external power supply.
3. Wire the CNPI-16B 4-pin network connector, labeled J1, to the CRESNET II network. Network termination points are available at the control system power supply. Network units may also be daisy-chained together. For additional wiring information, refer to the latest revision of the CRESNET II reference manual section on CNPWS power supplies (Doc. 8091).
4. Wire the custom control panel pushbuttons or switches to the CNPI-16B 20-pin male connector, labeled INPUTS.
5. Wire the LED or incandescent indicator on the custom panel to the CNPI-16B 20-pin male connector, labeled OUTPUTS.

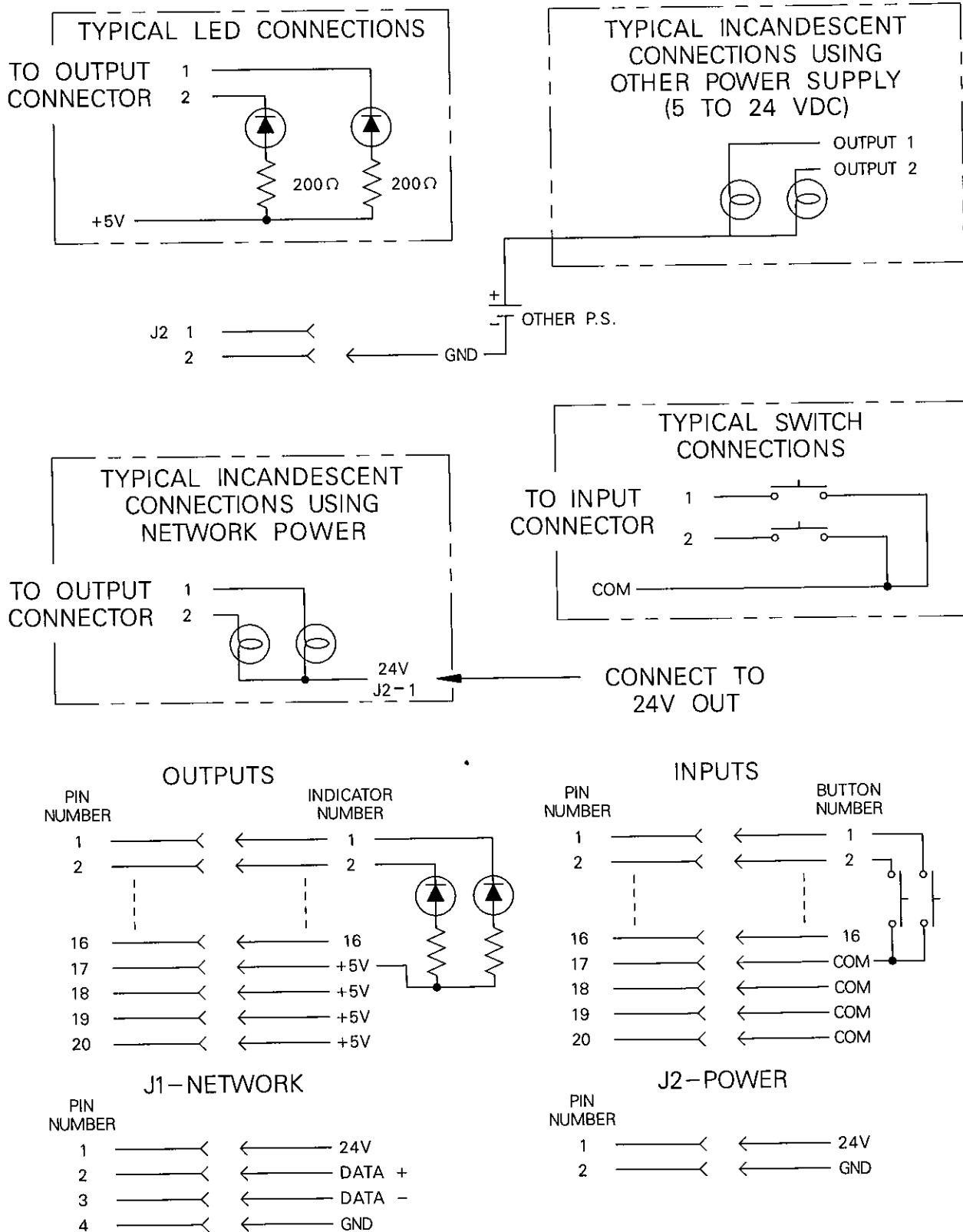


Figure 2. CNPI-16B, Typical Hook-up Diagrams

6. Connect power from the CNPI-16B 2-pin connector, labeled J2, to any device that requires it.
7. Reconnect and apply CRESNET II external power supply. Observe illumination of the red LED marked ACT and green LED marked PWR on the board.

PROGRAMMING:

A basic SIMPL program is illustrated as a block diagram in figure 3. A simple example follows the figure to illustrate the CRESNET II screen displays for signal name assignment.

The screen displays illustrated in this example are accessible from the "Define Network" section of the SIMPL-I Menu in the CRESNET II Workshop. The example toggles the button's feedback light on and off.

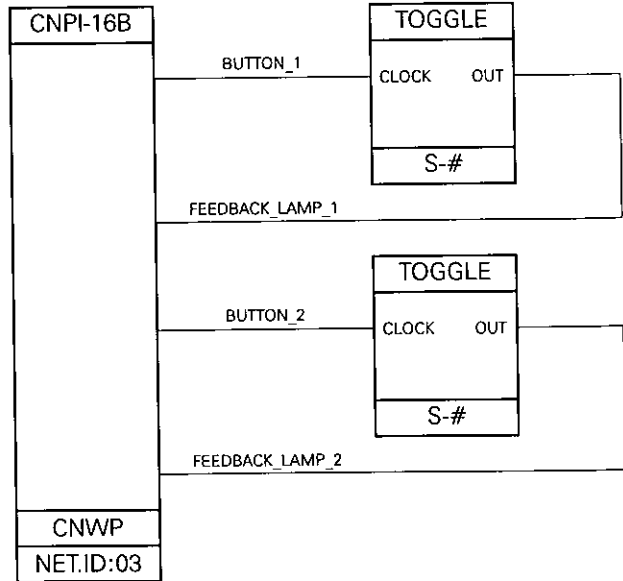
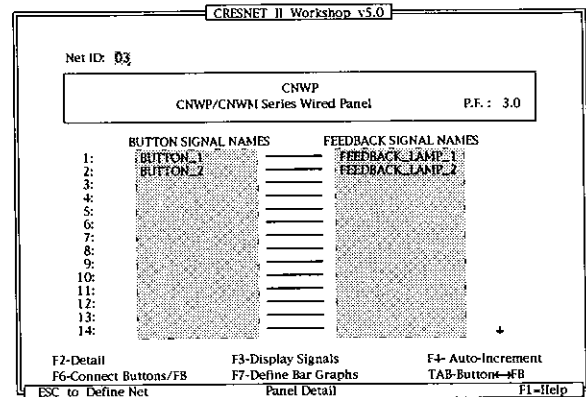
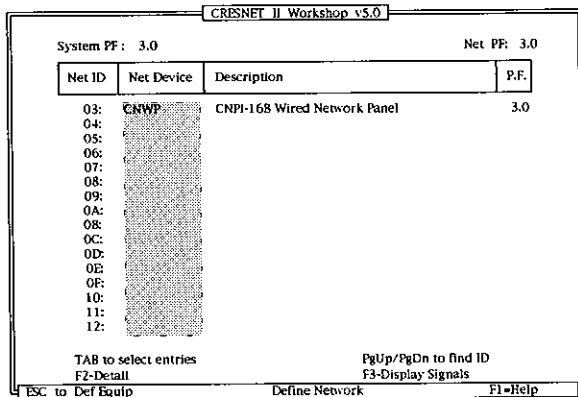


Figure 3. CNPI-16B, SIMPL Program



TEST/TROUBLESHOOTING:

Table 2 provides corrective action for possible trouble situations. If further assistance is required, please contact a CRESTRON technical support representative.

Table 2. Troubleshooting Guide

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Green PWR LED is not illuminated.	CNPI-16B is not receiving network power.	Confirm power is supplied to the network (i.e., check if power supply is functioning and wired properly).

Table 2. Troubleshooting Guide (Continued)

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Red ACT LED does not illuminate.	NET ID setting was changed after CNPI-16B powered up.	Power down CNPI-16B. Power up to reset NET ID.
	CNPI-16B NET ID is not set to match the NET ID of the SIMPL program.	Enter Viewport in the CRESNET Workshop. Depress the F4 key to poll the network. Verify that the NET ID for the CNPI-16B is properly set to match the SIMPL program.

SYNTAX:

The following SIMPL-C syntax codes are provided for compatibility purposes only.

NET.ID <03 to FE>:CNWP

- i1,o1 = <signal name> \button and lamp combined**
- i2 = <signal name> \independent button**
- o2 = <signal name> \independent lamp**
- i3 = <signal name>**
- o3 = <signal name>**
- " = " "**