

Crestron **CNXCPU**
CNX Control Processor Card

Operations and Installation Guide

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CNX Control Processor Card: CNXCPU

Description

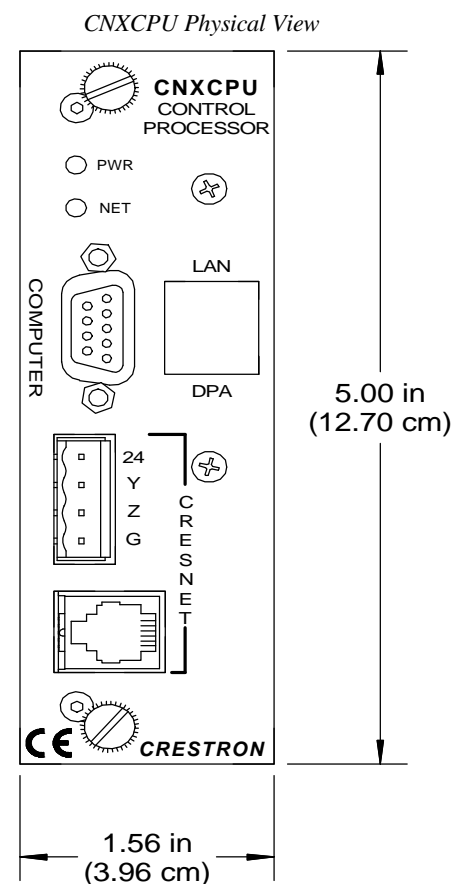
Functional Description

The CNX Control Processor Card, CNXCPU, is the central processor unit of the CNX Modular Control System. The CNXCPU performs the execution of the SIMPL Windows program and SIMPL+ programs as well as managing the Cresnet network and the expansion cards installed in the control system. The CNXCPU requires an external power supply, CNPWS-75 (sold separately).

The CNXCPU features Crestron's exclusive DPA (Direct Processor Access) slot for Ethernet/LAN expansion of the control network. This slot provides high-speed access to the processor, allowing high-bandwidth network connections. The DPA permits 10BaseT and is ready to support Firewire, ATM, 100BaseT and other future protocols.

Physical Description

The CNXCPU, shown at the right, is a circuit board fastened to an aluminum faceplate. The faceplate contains one computer port, two Cresnet connectors, and two LED indicators. The circuit board (not shown) contains the DPA slot that is used by the optional Ethernet Expansion Card. The LAN/DPA port on the faceplate is available when that card is installed. The ports, connectors and indicators are described on the next page.

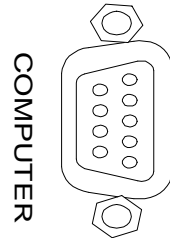


CNXCPU Ports

The CNXCPU contains a COMPUTER port, two CRESNET connectors, and a DPA slot. When the optional Ethernet Expansion Card is installed, the LAN/DPA port on the faceplate is available. The ports are described below:

COMPUTER

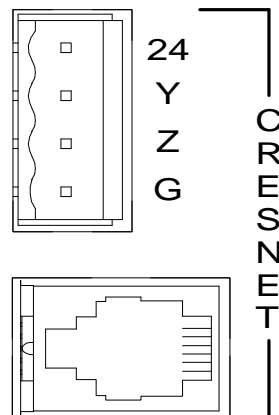
Computer Port



This 9-pin DB9 female RS-232 connector is used when programming the CNXCPU with a PC. A standard DB9 male (attached to the CNXCPU) to DB9 female (attached to the PC) straight-through serial cable (not supplied) is used to communicate with the port. Additionally, there is a DB9 female connector on the front panel of the control system and both ports are electrically connected. The ports are modem compatible but the null modem cable is not included.

CRESNET

Cresnet 4-Wire and 6-Pin Connectors



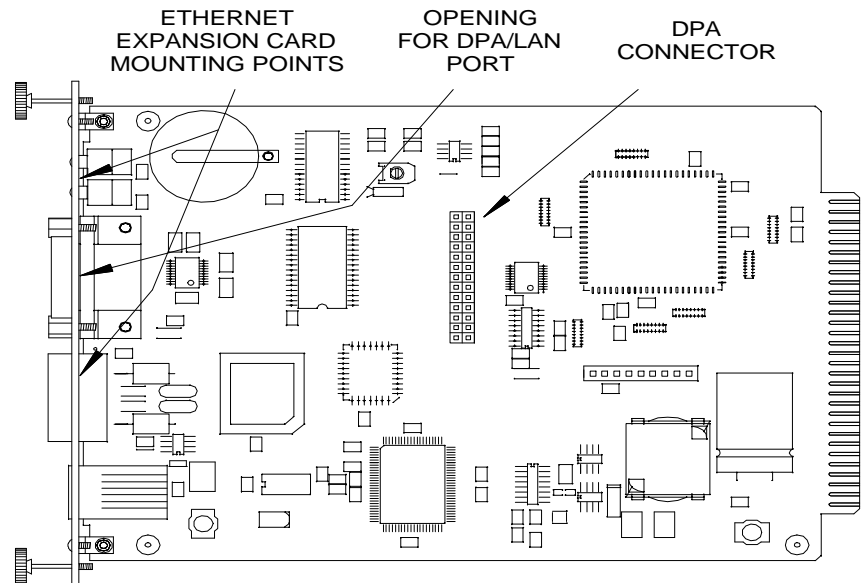
This 4-wire male connector (typical Crestron network port labeled 24 Y Z G) is used to provide 24VDC power via an external power supply that is sold separately. Crestron recommends specific power supplies for its network devices. The recommended power supply for the CNXCPU is Crestron part number **CNPWS-75** and for international configurations, part number **CNPWSI-75**.

The 6-pin RJ-type modular connector is used for expansion to (or from) SmarTouch and Cresnet peripherals.

NOTE: If using the modular connector, review the latest revision of the Crestron Network Modular Cable Requirements (Doc. 5682). Most 6-conductor telephone cables are wired in a crisscross fashion and are not compatible with Crestron equipment.

DPA Slot

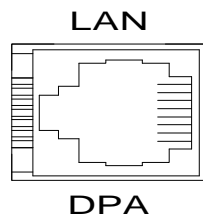
Side View of CNXCPU



The DPA slot is used by the optional Ethernet Expansion Card. The slot consists of card mounting points, a DPA/LAN port opening, and a 26-pin female DPA connector. The Ethernet Expansion Card is mounted to the rear of the faceplate and a 26-pin male connector attaches to the DPA slot. Refer to the CNXENET Ethernet Expansion Card Operations & Installation Guide (latest revision of Doc. 8129) for further information.

LAN/DPA

Optional LAN/DPA Port



This 8-pin RJ-type port is used to connect the control network to an Ethernet/LAN. It is part of the optional Ethernet Expansion Card.

CNXCPU Indicators

The CNXCPU contains two LED indicators located on the faceplate. The indicators are described below:

PWR

This green LED illuminates when the CNXCPU is connected to and receives power from the CNPWS-75 External Power Supply (sold separately)

NET

This yellow LED illuminates when the CNXCPU is processing or communicating with system hardware. Examples are button presses at a Touchpanel, data being sent through the computer port, or a permanent memory image being created.

Leading Specifications

The table below provides a summary of leading specifications for the CNXCPU. Dimensions are approximations rounded to the nearest hundredth unit.

Leading Specifications of the CNXCPU

SPECIFICATION	DETAILS
Power Requirements	24VDC from the CNPWS-75 External Power Supply (not provided), load factor of 4 Watts. (With optional Ethernet Expansion Card installed, load factor is 8 Watts.) *
Connector	26-pin DPA connector for optional Ethernet Expansion Card.
Dimensions & Weight	Height: 5.00 in (12.70 cm) Width: 1.56 in (3.96 cm) Depth: 6.65 in (16.89 cm) Weight: 5.30 oz (0.15 kg)

* **CAUTION:** The total load factor of the CNXCPU depends upon the components of the control system. Add the power requirements of the CNXCPU **plus** the control system requirements **plus** the combined requirements of the remaining expansion cards. Do not exceed 75 watts for total load factor.

As of the date of manufacture, this unit has been tested and found to comply with specifications for CE marking.



NOTE: This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Setup

Installation or Replacement

When shipped, the Modular Control System has the CNXCPU installed. The procedure on the next page can be used to install (or re-install) or replace the CNXCPU. Items required to install or replace the CNXCPU are already attached to the unit. The only tool required is a grounding strap.

CAUTION: The CNXCPU contains electrostatic sensitive devices (ESD); observe precautions for handling ESDs to avoid damaging the card.

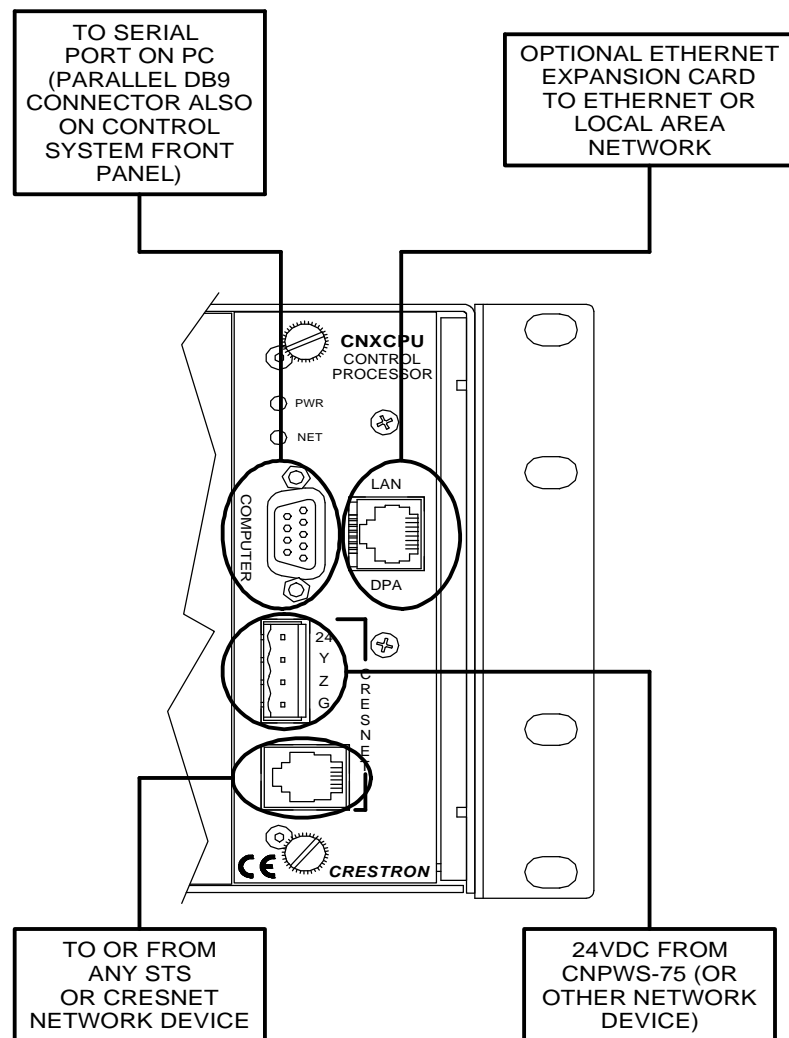
CAUTION: The Modular Control System contains CNX expansion card slots and a double-sized CPU slot for the CNXCPU. Do not attempt to install the CNXCPU into any slot other than the slot labeled CPU.

1. Disconnect power from the control system.
2. If applicable, loosen the thumb screws of the CNXCPU to be replaced and pull outward to remove the card.
3. Align the CNXCPU to be installed with the card guides of the double-sized CPU slot and slide the card into position.
4. Firmly press both ends of the CNXCPU faceplate to seat the card into the control system connector.
5. Tighten the thumb screws finger-tight to secure the CNXCPU to the control system.
6. Reapply power to the control system.

Hookup

Refer to the example hookup diagram below and aside from applying power last, complete the connections in any order.

Hookup Connections for CNXCPU



Programming with SIMPL™ Windows®

The CNXCPU is the central processor unit of the Modular Control System and its programming depends on the functionality of the control system and the expansion cards installed.

Problem Solving

Troubleshooting

The table below provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron technical support representative.

CNXCPU Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Green PWR indicator does not illuminate.	CNXCPU is not receiving power.	Verify power to the CNXCPU from the CNPWS-75 (or CNPWSI-75 for international use) external power supply.
Yellow NET indicator does not illuminate.	Loose network connection.	Verify that Cresnet cable(s) plugged into CNXCPU is(are) secure.
	SIMPL Windows program error.	Verify the SIMPL Windows program.
	Hardware or software failure, hardware incompatibility with software definitions, or programming error.	Verify that hardware configuration matches software configuration (i.e., card is in proper slot as defined by program). Poll the network (F4) via SIMPL Windows or VisionTools™ Pro (VT Pro).

Further Inquiries

If after reviewing this Operations & Installation Guide for the CNXCPU, you cannot locate specific information or have questions, please take advantage of Crestron's award winning technical support team by calling:

- In the US and Canada, call Crestron's corporate headquarters at 1-888-CRESTRON [1-888-273-7876] or 1-201-767-3400.
- In Europe, call Crestron International at +32-15-50-99-50.
- In Asia, call Crestron Asia at +852-2341-2016.
- In Latin America, call Crestron Latin America at +525-574-15-90.

For local support from exclusive Crestron factory-trained personnel call:

- In Australia, call Soundcorp at +613-941-61066.
- In New Zealand, call Amber Technologies at +649-410-8382.

Return and Warranty Policies

Merchandise Returns / Repair Service

1. No merchandise may be returned for credit, exchange, or service without prior authorization from CRESTRON. To obtain warranty service for CRESTRON products, contact the factory and request an RMA (Return Merchandise Authorization) number. Enclose a note specifying the nature of the problem, name and phone number of contact person, RMA number, and return address.
2. Products may be returned for credit, exchange, or service with a CRESTRON Return Merchandise Authorization (RMA) number. Authorized returns must be shipped freight prepaid to CRESTRON, Cresskill, N.J., or its authorized subsidiaries, with RMA number clearly marked on the outside of all cartons. Shipments arriving freight collect or without an RMA number shall be subject to refusal. CRESTRON reserves the right in its sole and absolute discretion to charge a 15% restocking fee, plus shipping costs, on any products returned with an RMA.
3. Return freight charges following repair of items under warranty shall be paid by CRESTRON, shipping by standard ground carrier. In the event repairs are found to be non-warranty, return freight costs shall be paid by the purchaser.

CRESTRON Limited Warranty

CRESTRON ELECTRONICS, Inc. warrants its Cresnet products, denoted by a "CN" prefix model number, to be free from manufacturing defects in materials and workmanship for a period of three (3) years from the date of shipment to purchaser. Disk drives and any other moving or rotating mechanical parts are covered for a period of one (1) year. CRESTRON warrants all its other products for a period of one year from the defects mentioned above, excluding touchscreen display components which are covered for 90 days. Incandescent lamps are completely excluded from Crestron's Limited Warranty. CRESTRON shall, at its option, repair or replace any product found defective without charge for parts or labor. Repaired or replaced equipment and parts supplied under this warranty shall be covered only by the unexpired portion of the warranty.

CRESTRON shall not be liable to honor warranty terms if the product has been used in any application other than that for which it was intended, or if it has been subjected to misuse, accidental damage, modification, or improper installation procedures. Furthermore, this warranty does not cover any product that has had the serial number altered, defaced, or removed.

This warranty shall be the sole and exclusive remedy to the purchaser. In no event shall CRESTRON be liable for incidental or consequential damages of any kind (property or economic damages inclusive) arising from the sale or use of this equipment. CRESTRON makes no other warranties nor authorizes any other party to offer any warranty, expressed or implied, including warranties of merchantability for this product. This warranty statement supersedes all previous warranties.

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