

# Crestron PAC2

## Professional Automation Control System

- > 2-Series engine | Dual-bus architecture
- > 4GB Compact Flash memory card slot
- > Built-in Cresnet distribution and hub/repeater
- > 10/100 Ethernet capable | SSL encryption
- > e-Control 2 and RoomView enabled
- > SNMP support | Built-in firewall, NAT and router
- > 8 Versiport I/O ports & 8 relay ports built-in
- > 2 Y-Bus / 1 Z-Bus control card expansion slots
- > Internal power supply | CAEN enclosure installation
- > Configurable via Crestron D3 Pro software

The PAC2 is a professional dual bus control system designed to serve as the central processor for Crestron lighting and automation systems. Fast performance, rigorous construction, and extreme flexibility provide a truly powerful automation solution for today's most demanding residential and commercial environments.

**2-Series Control System**—Built upon Crestron's reliable 2-Series control engine, the PAC2 is extensively programmable using Crestron's suite of powerful development software and vast database of drivers and software modules. The PAC2 works seamlessly with Crestron's entire line of lighting dimmers and shade controls, keypads and touchpanels, thermostats, wireless gateways, control cards, and expansion modules.

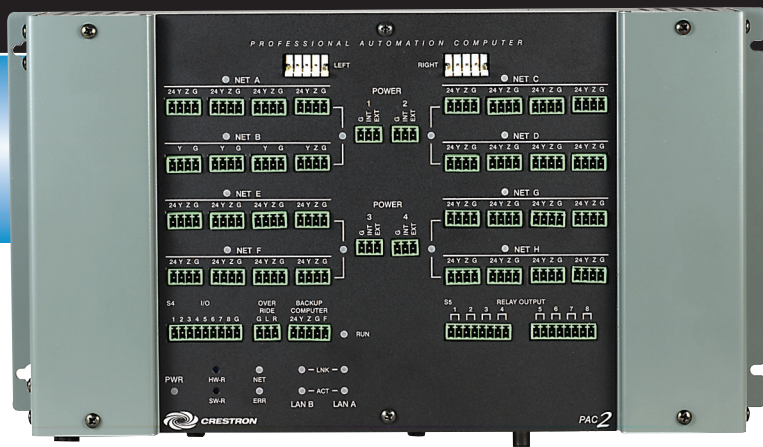
**System Integration**—The PAC2 provides for the integration of non-Crestron devices and subsystems through a host of control interfaces. Eight isolated relays and eight I/O Versiports are built in to accommodate motion sensors, contactors, door strikes, and other low-voltage controls. Additional relays, I/O ports, RS-232, RS-422, RS-485, IR, and MIDI interfaces can be added by installing up to two Y-Bus control cards. Crestron also offers a full line of expansion modules to facilitate the placement of serial COM ports, relays, DTMF interfaces, and shade controllers at any location throughout a commercial or residential facility.

**Modular Enclosure Installation**—The PAC2 mounts in any CAEN or CAENIB automation enclosure and connects directly to the CLX-Series lighting modules. Every Crestron lighting system is completely modular and scalable, allowing virtually unlimited configuration and expansion flexibility.

**Cresnet® Distribution**—Cresnet is the communications backbone for Crestron lighting modules, wall box dimmers, thermostats, keypads, and many other devices. This flexible 4-wire bus streamlines the wiring of a complete Crestron lighting system. With 32 separate Cresnet ports, the PAC2 provides extensive connectivity for numerous Cresnet devices on multiple homeruns. Its built-in Cresnet hub provides 8 isolated segments, each supporting 3000 feet of cabling and approximately 25 Cresnet devices. The Cresnet ports are arranged into 4 separate power groups providing a clean, flexible 24 Volt DC power distribution solution utilizing internal or external power supplies as needed.

**Ethernet and e-Control®**—A choice of single or dual-port Ethernet cards facilitates secure high-speed network connectivity, enabling extensive capabilities for remote system maintenance and control, and providing an interface to other Crestron control systems. Native features include a built-in email client to report system troubles and other functions to the homeowner or service company via instant email notification. An onboard Web server provides the foundation for Crestron's exclusive e-Control 2 Xpanel technology, providing secure IP-based remote control using any Windows® computer or CE/PocketPC™ PDA device.

**RoomView® and SNMP**—For large facilities utilizing multiple PAC2's and other control systems, Crestron's exclusive RoomView Help Desk software delivers a comprehensive solution for remote monitoring and asset management. Also, built-in SNMP support enables similar capability using third-party network management software, allowing full control and monitoring from the IT Help Desk or NOC in a format that's familiar to IT personnel.



**NAT**—The PAC2's onboard NAT (Network Address Translator) acts as a firewall and router to facilitate the configuration of a private control LAN for Crestron touchpanels and other Ethernet devices, with a single-point connection to the client's LAN (Dual-port Ethernet card required).

**Backup Processor**—For applications demanding ultimate reliability, a second backup PAC2 may be employed. An internal watchdog circuit constantly monitors the PAC2's processor, transferring control of the complete system in the event of a failure. An override input is also provided to allow an external contact closure to bypass the PAC2 and activate a preset override state in each connected lighting module.

**Memory Expansion**—A memory card slot allows for easy expansion of the PAC2's internal memory using any Type II Compact Flash memory card up to 4 GB.

**D3Pro Software**—Crestron D3 Pro software eliminates the need for custom programming, providing a complete design, development, and documentation solution for the lighting professional.

## SPECIFICATIONS

### Processor

**CPU:** 32-bit Freescale ColdFire® Microprocessor

### Memory

**SDRAM:** 32 MB

**NVRAM:** 256 KB

**Flash:** 4 MB

**Compact Flash:** expandable up to 4 GB (not included)

### Operating System

Real-time, preemptive multi-threaded/multitasking kernel; FAT32 file system with long names; supports SIMPL™ Windows® and SIMPL-®

### Ethernet

**With C2ENET-1:** 10/100BaseT, auto-negotiating, full/half duplex, static IP or DHCP/DNS, SSL, TCP/IP, UDP/IP, CIP, SMTP, SNMP, built-in Web server and e-mail client; supports Crestron e-Control® 2 XPanel and RoomView® applications

**With C2ENET-2:** All above features plus: built-in firewall, router, and network address translator (NAT)

### Connectors and Expansion Slots

**LEFT, RIGHT:** (2) 5-pin 0.156 inch headers, module interconnect ports, connect to CLX-Series lighting control modules using interconnect cables provided

**Cresnet Hub/Repeater:** Cresnet data and power distribution

**NET A – H:** (32) 4-pin 3.5mm detachable terminal blocks  
Comprise (4) Cresnet ports (paralleled) per each of (8) segments

**POWER 1 – 4:** (4) 3-pin 3.5mm detachable terminal blocks  
Comprise (1) Cresnet power selection connector per each of (4) power groups  
Connect to external Cresnet power supply, or to internal power supply via jumpers, to power Cresnet devices connected to the NET ports;  
Maximum Load per Power Group using external supply: 75 Watts (3.125 Amps @ 24 Volts DC);  
Maximum Total Load using internal supply: 50 Watts (2 Amps @ 24 Volts DC)

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**VERRIDE:** (1) 3-pin 3.5mm detachable terminal block comprising (2) inputs from external contact closures to trigger the preset Override state in CLX-Series modules connected to the module interconnect ports;  
Maximum Input: 10mA at 5 Volts

**BACKUP NET INPUT:** (1) 4-pin 3.5mm detachable terminal block, backup Cresnet port Connects to the NET port of a backup control system and power supply

**FAULT:** (1) 2-pin 3.5mm detachable terminal block, contact closure output, relay closed when PAC2 becomes inactive, connects to digital input of backup control system

**Y-Bus:** 40 Mb/s parallel communications, backplane for integrated control ports and Y-Bus expansion slots

**I/O 1 - 8:** (1) 9-pin 3.5mm detachable terminal block comprising (8) "Versiports" – digital input/output or analog input ports;

Digital Input: Rated for 0-24 Volts DC, input impedance 20k ohms, logic threshold 1.24 Volts DC;

Digital Output: 250 mA sync from maximum 24 Volts DC, catch diodes for use with "real world" loads;

Analog Input: Rated for 0-10 Volts DC, protected to 24 Volts DC maximum, input impedance 20k ohms;

Programmable 5 Volts, 2k ohms pull-up resistor per pin

All ports referenced to ground

**RELAY OUTPUT 1 - 8:** (2) 8-pin 3.5mm detachable terminal blocks comprising (8) normally open, isolated relays;

Rated 1 Amp, 30 Volts AC/DC, MOV arc suppression across contacts

**S1, S2:** (2) Y-Bus expansion slots, accept all Y-Bus control cards

**Z-Bus:** 300 Mb/s parallel communications, backplane for Z-Bus expansion slots

**S-3 Z-BUS:** (1) Z-Bus expansion slot, accepts all Z-Bus control cards

**NET:** (1) 4-pin 5mm detachable terminal block, Cresnet port, Master/Slave selectable Expandable via C2N-NPA8 Network Poll Accelerator

**COMPUTER:** (1) DB9 female, RS-232 computer console port

**Line Power:** (1) Attached input power cable (~1 ft long) with inline IEC320 socket, connects to AC power source using grounded pigtail cable and DIN rail terminal block (both included)

## Reset Buttons

**HW-R:** Hardware reset (reboots the control system)

**SW-R:** Software reset (restarts the SIMPL program)

## LED Indicators

**NET A – H:** (yellow x8) Indicate Cresnet communications on each respective segment  
**POWER 1 – 4:** (green x8) Indicate 24 Volts DC power present at each respective power group

**PWR:** (green) Indicates power supplied to unit via AC line or BACKUP NET INPUT

**NET:** (yellow) Indicates Cresnet bus activity

**MSG:** (red) Indicates control system has generated an error message

**LNK A:** (red) Indicates a valid connection on LAN port A

**ACT A:** (red) Indicates activity on LAN port A

**LNK B:** (red) Indicates a valid connection on LAN port B

**ACT B:** (red) Indicates activity on LAN port B

**FAULT:** (red) Indicates PAC2 has become inactive, FAULT output is active (relay closed)

## Power Requirements

**Main Power Consumption:** 2.4 Amps, 100-250 Volts AC, 50/60 Hz

**Available Cresnet Power:** 50 Watts (shared with control card expansion slots)

## Environmental

**Temperature:** 41° to 113°F (5° to 45°C)

**Humidity:** 10% to 90% RH (non-condensing)

## Enclosure

Black and gray metal, surface mount box with (2) integral mounting flanges; Occupies 1 module space in a single-width CAEN enclosure, or 2 side-by-side module spaces in a double-width CAEN enclosure

## Dimensions

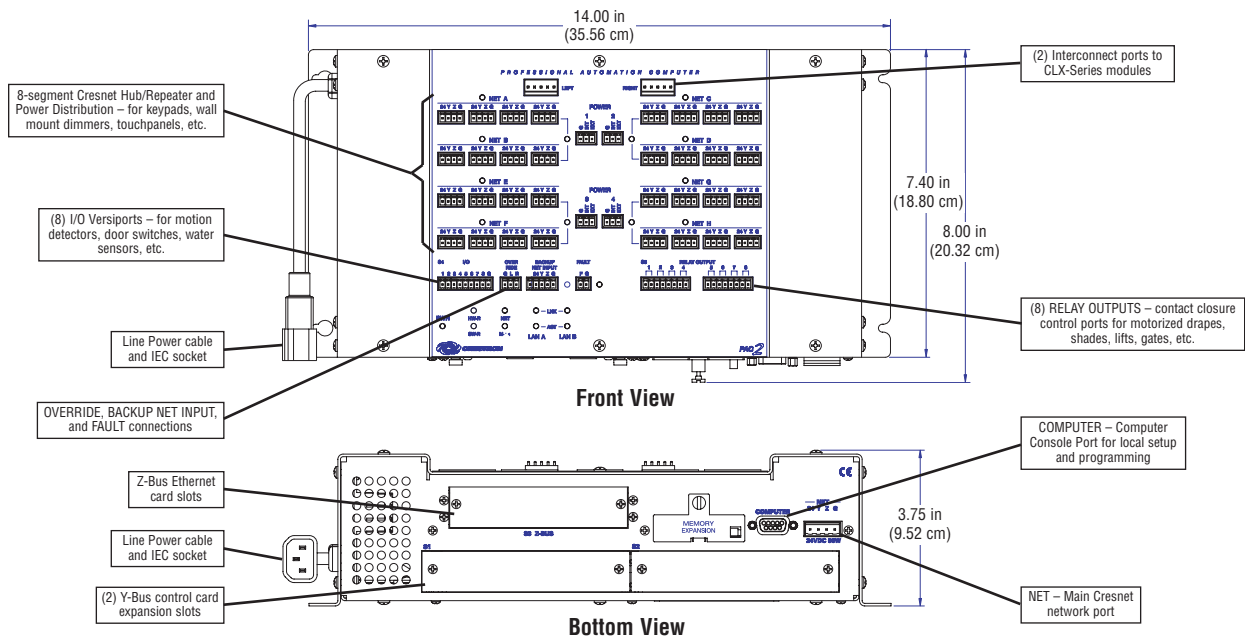
**Height:** 8.00 in (20.32 cm)

**Width:** 14.00 in (35.56 cm)

**Depth:** 3.75 in (9.52 cm)

## Weight

8.0 lb (3.62 kg) – with line cord



## AVAILABLE ACCESSORIES

**CAEN or CAENIB**  
Automation Enclosures

**Y-Bus Control Cards**  
Control port expansion cards for COM, IR, I/O Versiport, analog, relay, and MIDI

**Z-Bus Control Cards**  
Single or Dual-port Ethernet Interface  
**C2N-NPA8**  
Cresnet Network Poll Accelerator

**C2N-SPWS300**  
300 Watt Cresnet Power Supply  
**CLX-PWS75**  
75 Watt Cresnet Power Supply Module