4-Series Control System

- *4-Series control system with 2 GB SDRAM and 8 GB flash memory*
- *Embedded 4-Series multicore CPU processor*
- *iPhone®, iPad®, and Android™ device control app support*
- *XPanel computer and web based control*
- *Modular programming architecture*
- *Onboard IR/serial, COM, I/O, relay, Cresnet® network, and high-speed gigabit Ethernet control ports*
- *High-speed USB 2.0 host port and rear panel memory card slot*
- *Crestron Fusion® software room monitoring and scheduling support*
- *Crestron XiO Cloud™ service provisioning and management support*
- *Enterprise-class network security and authentication*
- *SNMP V3 remote IT management support*
- *Native BACnet network/IP support*
- *Installer setup via software, web browser, or cloud*
- *IPv6 ready*
- *Integrates with Apple® HomeKit® technology*
- *Rack mountable*

The CP4 is a secure, high-performance control processor with a powerful 4-Series control engine. The CP4 is designed to integrate and automate technology within any modern networked home, commercial building, or government facility.

4-Series Control Engine

4-Series control systems come equipped with an upgraded multicore CPU, delivering a sizable speed and performance increase compared to all Crestron 3-Series® control processors. The improved performance allows 4-Series control systems to handle the increasing demands of an advanced automated system. Crestron 4-Series delivers a dynamic and secure control system platform capable of managing a room full of disparate technologies.

Reliable networking and IP control afford seamless integration with other systems and devices, with add-on control capability using Crestron touch screens, wireless remotes, and mobile device apps, as well as remote management through Crestron Fusion® software and the Crestron XiO Cloud™ service.

Modular Programming Architecture

The CP4 provides a modular programming architecture that allows the CP4 to run up to ten programs simultaneously. Programmers can develop and run independent, device-specific programs, enabling each program to be optimized for a specific function and allowing for changes to be made to one program without affecting the whole system.

Onboard Control Ports

Through a full complement of onboard control ports, the CP4 can be integrated with a wide variety of audio, video, lighting, motorized shades, thermostats, door locks, sensors, security systems, and other equipment.

- Gigabit Ethernet provides an interface for connecting to the building network and controlling Crestron AV switchers, audio processors, power controllers, and other IP controllable equipment.
- Cresnet® network connectivity provides support for Crestron lighting dimmers, motorized shades, sensors, thermostats, keypads, and more.
- Onboard RS-232, IR/serial, relay, and Versiport I/O control ports enable direct integration with all types of third-party equipment.

Expanded connectivity can be provided to the CP4 via Crestron control port expansion modules, Ethernet to Cresnet bridges, wired Ethernet I/O modules, wireless network I/O modules, or infiNET EX® network wireless gateways (all sold separately).

Crestron Fusion Room Monitoring and Scheduling

Crestron Fusion provides an integrated platform for creating smart buildings that save energy and enhance worker productivity. As part of a complete managed network in a corporate enterprise, college campus, convention center, or any other facility, the CP4 works with Crestron Fusion to enable remote scheduling, monitoring, and control of rooms and technology from a central help desk or mobile app. It also enables organizations to reduce energy consumption by tracking real-time usage and automating control of AV, lighting, shades, and HVAC. For more information about Crestron Fusion, visit www.crestron.com/fusion.

Crestron XiO Cloud Provisioning and Management

4-Series control systems leverage the power and flexibility of Crestron XiO Cloud services, enabling users to remotely provision, monitor, and manage Crestron devices across an enterprise network. Crestron XiO Cloud can be used to configure and load programs to the control system before it is received, making the control system fully functional as soon as it is connected to the network. Crestron XiO Cloud is built on the Microsoft® Azure® software platform and utilizes Microsoft's industry leading Azure IoT Hub technology. Crestron XiO Cloud enables installers and IT managers to deploy and manage thousands of devices in the time it previously took to manage just one. Unlike other virtual machine based cloud solutions, Azure services provide unlimited

scalability to suit the ever growing needs of an enterprise. For more information, visit www.crestron.com/xiocloud.

Enhanced Enterprise-Grade Security

The CP4 is an enterprise-class control processor that can be deployed across hundreds of spaces and set up easily using a web browser, Crestron Toolbox™ software, or Crestron XiO Cloud. It employs standard network security protocols, including 802.1X network access control, Active Directory® service authentication, SSH, TLS, and HTTPS to ensure reliability and compliance with your organization's IT policies.

The CP4 is configured to meet Crestron's enhanced security standards right out of the box. The CP4 ships with authentication enabled and requires that an administrator account be created before access is granted to device configuration and control interfaces.

SNMP V3 Support

Built-in SNMP V3 support enables integration with third-party IT management software, allowing network administrators to manage and control Crestron systems on the network in an IT-friendly format.

BACnet Support

Native support for the BACnet communication protocol provides a direct interface to third-party building management systems over Ethernet, simplifying integration with HVAC, security, and other systems. Using BACnet, each system runs independently but communicates together on one platform.[1]

Apple HomeKit Integration

The CP4 supports integration with an Apple® HomeKit® technology system. Once the CP4 is paired with a HomeKit system via SIMPL programming, a Crestron TSR-310 can be used to control supported Apple devices. A pairing QR code is affixed to the CP4 that makes it easy to pair the control system directly to the Apple Home app.[2]

Specifications

Control Engine

Crestron® 4-Series; real-time, preemptive multi-threaded/multitasking kernel; Transaction-Safe Extended FAT file system; supports up to 10 simultaneously running programs

Communications

Ethernet	100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, industry-standard TCP/IP stack, UDP/IP, CIP, DHCP, SSL, TLS, SSH, SFTP (SSH File Transfer Protocol), FIPS 140-2 compliant encryption, IEEE 802.1xX, SNMP, BACnet and IP[1], IPv4 or IPv6, Active Directory® service authentication, HTTPS web server, HTTPS web browser setup and Crestron XiO Cloud™ client, SMTP email client
Cresnet® Network	Cresnet master mode
USB	Supports USB mass storage class devices via the rear panel USB 2.0 host port, supports computer console via the front panel USB 2.0 device port
RS-232/422/485	For 2-way device control and monitoring, COM port supports RS-232 up to 115.2k baud with software handshaking, one port also supports RS-422 or RS-485 and hardware handshaking
IR/Serial	Supports 1-way device control via infrared up to 1.2 MHz or serial TTL/RS-232 (0–5 V) up to 115.2k baud

Memory

SDRAM	2 GB
Flash	8 GB
Memory Card	Supports SD and SDHC cards up to 32 GB
External Storage	Supports USB storage devices up to 1 TB

Connectors and Card Slots

RELAY OUTPUT 1–8	(1) 4-pin 3.5 mm detachable terminal block; Comprises (8) normally open, isolated relays; Rated 1 A, 30 VAC/VDC; MOV arc suppression across contacts

I/O 1–8	(1) 9-pin 3.5 mm detachable terminal block; Comprises (8) Versiport digital input/output or analog input ports (referenced to GND); Digital Input: Rated for 0–24 VDC, input impedance 20k Ω, logic threshold >3.125 V low/0 and <1.875 V high/1; Digital Output: 250 mA sink from maximum 24 VDC, catch diodes for use with real world loads; Analog Input: Rated for 0–10 VDC, protected to 24 VDC maximum, input impedance 21k Ω with pull-up resistor disabled; Programmable 5 V, 2k Ω pull-up resistor per pin
IR - SERIAL OUTPUT 1–8	(2) 8-pin 3.5 mm detachable terminal blocks; Comprises (8) IR output ports; IR output up to 1.2 MHz; 1-way serial TTL/RS-232 (0–5 V) up to 115.2k baud; IRP2 IR emitters sold separately
COM 1	(1) 3-pin 3.5 mm detachable terminal block; Bidirectional RS-232/422/485 port; Up to 115.2k baud; hardware and software handshaking support
COM 2–3	(1) 3-pin 3.5 mm detachable terminal block; Bidirectional RS-232 ports; Up to 115.2k baud; software handshaking support
MEMORY	(1) SD memory card slot; Accepts one SD or SDHC card up to 32 GB for storage of log files
USB	(1) USB Type A connector, female; USB 2.0 port for storage devices
LAN	(1) 8-pin RJ-45 connector, female; 100/1000Base-TX Ethernet port;
NET	(1) 4-pin 3.5 mm detachable terminal block; Cresnet master port; Outputs power to Cresnet devices only if the included power pack is connected to the 24 VDC power input jack; Alternately functions as a Cresnet power input to power the unit from a Cresnet power supply; See "Power" section below for additional details
24VDC 2.0A	(1) 2.1 x 5.5 mm DC power connector; 24 VDC power input; PW-2420RU power pack included; Passes through to the NET port to power Cresnet devices; See "Power" section below for additional details
G	(1) 6-32 screw; Chassis ground lug
COMPUTER (front)	(1) USB Type B connector, female; USB 2.0 computer console port; For setup only

Controls and Indicators

PWR	(1) Green LED, indicates operating power is supplied from the power pack or Cresnet power supply
NET	(1) Amber LED, indicates communication with Cresnet devices
MSG	(1) Red LED, indicates control processor has generated an error message
HW-R	(1) Recessed push button, initiates hardware reset
SW-R	(1) Recessed push button, initiates software reset
LAN (rear)	(1) Bicolor green/amber and (1) Amber LEDs; Green/amber LED indicates Ethernet link status and connection speed; Amber LED indicates Ethernet activity

Power

Power Source Options	Power pack or Cresnet (connect only one)
Power Pack (included)	Input: 100–240 VAC, 50/60 Hz; Output: 2.5 A @ 24 VDC; Model: PW-2420RU
Cresnet Power Usage	15 W (0.625 A @ 24 VDC) when powered by a Cresnet power supply only
Available Cresnet Power	24 W (1 A @ 24 VDC) when powered by the included power pack only
Power Consumption	15 W (not including any connected Cresnet devices)

Environmental

Temperature	41 to 113 °F (5 to 45 °C)
Humidity	10% to 90% RH (noncondensing)
Heat Dissipation	50 BTU/hr

Enclosure

Chassis	Metal, black finish
Faceplate	Extruded metal, black finish, polycarbonate label overlay
Mounting	Freestanding or 1 RU 19-in. rack-mountable (adhesive feet and rack ears included)

Dimensions

Height	1.70 in. (44 mm) without feet
Width	17.28 in. (439 mm); 19.00 in. (483 mm) with rack ears
Depth	6.56 in. (167 mm);

Weight

3.12 lb (1.42 kg)

Compliance

Regulatory Model: M201903003;
UL® Listed for US & Canada, CE, IC, FCC Part 15 Class B digital device

Models

CP4
4-Series Control System

Included Accessories

PW-2420RU
Desktop Power Pack, 24 VDC, 2.5 A, 2.1 mm, Universal

Available Accessories

C2N-IO
Control Port Expansion Module

C2N-HBLOCK
Multitype Cresnet® Network Distribution Block

CEN-GWEXER
infiNET EX® Network and ER Wireless Gateway

CENI-GWEXER
infiNET EX® Network and ER Wireless Gateway - International

CEN-IO-COM-102
Wired Ethernet I/O Extender with 2 COM Ports

CEN-IO-DIGIN-104
Wired Ethernet I/O Extender with 4 Digital Inputs

CEN-IO-IR-104
Wired Ethernet I/O Extender with 4 IR Ports

CEN-IO-RY-104
Wired Ethernet I/O Extender with 4 Relay Ports

CEN-IO-COM-202
Wi-Fi® Network I/O Extender with 2 COM ports

CEN-IO-DIGIN-204
Wi-Fi® Network I/O Extender with 4 Digital Inputs

CEN-IO-IR-204
Wi-Fi® Network I/O Extender with 4 IR Ports

CEN-IO-RY-204
Wi-Fi® Network I/O Extender with 4 Relay Ports

CEN-SWPOE-16
16-Port Managed PoE Switch

CEN-SW-POE-5
5-Port PoE Switch

CNSP-XX
Custom Serial Interface Cable

CNXRMIRD
IR Receiver

CNTBLOCK
Cresnet® Network Distribution Block

CRESTRON-APP
Crestron® App for iPhone® and iPod touch® Devices

CRESTRON-APP-ANDROID
Crestron® App for Android® OS

CRESTRON-APP-PAD
Crestron® App for iPad® Device

DIN-CENCN-2
Ethernet to Cresnet® Network Bridge

DIN-CENCN-2-POE
Ethernet to Cresnet® Network Bridge with PoE

IRP2
IR Emitter with Terminal Block Connector

SW-3SERIES-BACNET-50+
BACnet™ Network/IP Support for 3-Series® and 4-Series Control Processors

SW-FUSION-C-3
Crestron Fusion® Cloud; 250 rooms; 3-year service, support, and updates

SW-FUSION-P-L
Crestron Fusion® On-premises; Unlimited rooms; lifetime service, support, and updates

SW-XIOC-P-1
Crestron XiO Cloud™ Premium Provisioning and Management Service for one device, 1 year subscription

SW-XIOC-P-1Q
Crestron XiO Cloud™ Premium Provisioning and Management Service for one device, 1 quarter year subscription

SW-XIOC-P-2
Crestron XiO Cloud™ Premium Provisioning and Management Service for one device, 2 year subscription

SW-XIOC-P-2Q
Crestron XiO Cloud™ Premium Provisioning and Management Service for one device, 2 quarter year subscription

SW-XIOC-P-3
Crestron XiO Cloud™ Premium Provisioning and Management Service for one device, 3 year subscription

SW-XIOC-P-3Q
Crestron XiO Cloud™ Premium Provisioning and Management Service for one device, 3 quarter year subscription

SW-XIOC-P-5
Crestron XiO Cloud™ Premium Provisioning and Management Service for one device, 5 year subscription

SW-XIOC-S-1
Crestron XiO Cloud™ Standard Provisioning and Management Service for one device, 1 year subscription

SW-XIOC-S-1Q
Crestron XiO Cloud™ Standard Provisioning and Management Service for one device, 1 quarter year subscription

SW-XIOC-S-2
Crestron XiO Cloud™ Standard Provisioning and Management Service for one device, 2 year subscription

SW-XIOC-S-2Q
Crestron XiO Cloud™ Standard Provisioning and Management Service for one device, 2 quarter year subscription

SW-XIOC-S-3
Crestron XiO Cloud™ Standard Provisioning and Management Service for one device, 3 year subscription

SW-XIOC-S-3Q
Crestron XiO Cloud™ Standard Provisioning and Management Service for one device, 3 quarter year subscription

SW-XIOC-S-5
Crestron XiO Cloud™ Standard Provisioning and Management Service for one device, 5 year subscription

XPANEL
XPanel – Crestron Control® Interface for Computers

Notes:

1. A BACnet and IP license is required. A free license is available to support up to 50 BACnet objects on a single 4-Series control system. Enabling support for more than 50 BACnet objects requires the purchase of one SW-3SERIES-BACNET-50+ license. The CP4 supports a maximum of 2000 BACnet objects when dedicated for BACnet use only. Actual capabilities are contingent upon the overall program size and complexity. To obtain the license, visit www.crestron.com/bacnetlicense.
2. This feature is only available when using the TSR-310. Other Crestron touch screens, handheld remotes, and keypads are not supported. For these interfaces, traditional IR or CEC control must be used to control supported Apple devices.

This product may be purchased from select authorized Crestron dealers and distributors. To find a dealer or distributor, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/How-To-Buy/Find-a-Representative or by calling 855-263-8754.

This product is covered under the Crestron standard limited warranty. Refer to www.crestron.com/warranty for full details.

The specific patents that cover Crestron products are listed online at patents.crestron.com.

Certain Crestron products contain open source software. For specific information, please visit www.crestron.com/opensource.

17.29 in.
(439 mm)

6.26 in.
(159 mm)

0.25 in.
(6.4 mm)

1.72 in.
(44 mm)

1.25 in.
(32 mm)

1.70 in.
(43 mm)

0.23 in.
(6.0 mm)

17.32 in.
(440 mm)

0.19 in.
(4.8 mm)

18.31 in.
(465 mm)

19.00 in.
(483 mm)

6.53 in.
(166 mm)