4-Series Control System for Crestron Home™ OS

- *Compact 4-Series control system designed exclusively for Crestron Home™ OS*
- *1 GB SDRAM and 8 GB Flash Memory*
- *4-Series multicore CPU processor delivers remarkable speed and performance*
- *Communicates with the Crestron Home Setup App for system configuration and the Crestron Home App for system control*
- *Ideal for single-room solutions, small to medium-sized homes, and MDUs (multidwelling units)*
- *Capable of handling systems with hundreds of devices*
- *Integrates control and monitoring of audio, video, lighting, shades, thermostats, door locks, sensors, and other devices*
- *Includes built-in IR, COM, I/O, relay, Cresnet® network, and high-speed gigabit Ethernet control ports*
- *Built-in infiNET EX® wireless network gateway*
- *Native BACnet™ network/IP support*
- *Enterprise-class network security*
- *PoE (Power over Ethernet) powered*
- *Rack or surface mountable*

The 4-Series Control System for Crestron Home™ OS (MC4-R) provides a secure, high-performance, cost-effective control system with the embedded Crestron Home operating system. Its small form factor and versatile mounting options makes it ideal for smaller Crestron Home systems such as single-room systems, small to medium-sized homes, and MDUs (multidwelling units). The MC4-R comes equipped with a 4-Series multicore CPU processor that delivers remarkable speed and performance while handling the demands of an advanced automated system.

The MC4-R is a perfect replacement for a PYNG-HUB processor when upgrading a smaller system from Crestron Pyng® OS to Crestron Home.

> NOTE: For larger homes and systems that require additional processing power, refer instead to the CP4-R 4-Series Control Processor for Crestron Home™ OS.

Built-In Crestron Home OS

Crestron Home unlocks the full potential of a smart home. It provides dealers with the ability to deliver a sleek user interface that includes fluid dynamic room controls and new features such as support for multiple homes, favorites, custom access, room image customizations, and more.

Refer to www.crestron.com/crestronhome for more information about Crestron Home and for a list of supported Crestron and third-party equipment.

Wired and Wireless Device Support

Through a full complement of onboard control ports, the MC4-R allows Crestron Home to integrate with a wide variety of audio, video, lighting, motorized shades, thermostats, door locks, sensors, security systems, and other equipment. The MC4-R also provides a built-in infiNET EX® wireless gateway that allows wireless devices to be paired directly to the control system and then added to the Crestron Home system[1].

System expansion is made easy using the CEN-IO series of wired Ethernet and Wi-Fi® network I/O extenders (sold separately), which provide additional COM (CEN-IO-COM-102 and CEN-IO-COM-202), digital input (CEN-IO-DIGIN-104 and CEN-IO-DIGIN-204), IR (CEN-IO-IR-104 and CEN-IO-IR-204), or relay (CEN-IO-RY-104 and CEN-IO-RY-204) ports for integration with all kinds of third-party equipment.

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.

PoE Network Powered

Using PoE technology, the MC4-R gets its operating power directly through the LAN wiring, eliminating the need for a local power supply or dedicated power wiring. A PoE injector (PWE-4803RU) simply connects in line with the LAN cable at a convenient location. Crestron PoE switches (CEN-SW-POE-5 or CEN-SWPOE-16) may also be used to provide a total networking solution with built-in PoE. All PoE injectors and switches are sold separately.

> NOTE: Ethernet speed is limited to 100 Mbps when using the PWE-4803RU.

Versatile Mounting Options

The MC4-R mounts conveniently to a wall, ceiling, or other flat surface. Its compact, surface-mountable form factor fits easily behind a flat panel display, beneath a tabletop, or inside other furniture, making it ideal for single-room systems. It can even be installed into an equipment rack using the included rack ears or can be attached to a single rack rail.

Specifications

Wired 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, IPv4 or IPv6, HTTPS web server, SMTP email client
Cresnet® Network	Cresnet master mode[1]
USB	Supports USB mass storage class devices via the rear panel USB 2.0 host port
RS-232	For 2-way device control and monitoring, COM port supports RS-232 up to 115.2k baud with software handshaking
IR	Supports 1-way device control via infrared up to 1.2 MHz
BACnet™ network/IP	Supports up to 500 BACnet objects

Wireless Communications[1]

RF Transceiver	infiNET EX® network 2-way RF, 2.4 GHz ISM Channels 11-26 (2400 to 2483.5 MHz), default channel 15; IEEE 802.15.4 compliant
Range	50 ft (15 m)to nearest mesh network device(s), subject to site-specific conditions and individual device capabilities, range between floors or ceilings is limited to one level[2]

NOTE: Do not rack mount or stack multiple units when using wireless communications. Use care when positioning the device to avoid interference from nearby RF devices, obstructions, and metal surfaces.

Memory

SDRAM	1 GB
Flash	8 GB
Memory Card	Supports microSD® cards up to 32 GB (4 GB included)
External Storage	Supports USB mass storage devices up to 1 TB

Connectors and Card Slots

MEMORY	(1) microSD memory card slot; Accepts one microSD card up to 32 GB for storage of log files; 4 GB microSD card included
G	(1) 6-32 screw; Chassis ground lug
USB	(1) USB Type A connector, female; USB 2.0 port for storage devices
IR IN	(1) 3.5 mm TRS mini phone jack; For connecting CNXRMIRD IR receiver; Allows IR wireless control from Crestron and third-party remotes using RC-5 IR commands
RELAY (1–2)	(1) 4-pin 3.5 mm detachable terminal block; Comprises (2) normally open, isolated relays; Rated 1 Amp, 30 VAC/VDC; MOV arc suppression across contacts
VER SI (1–2)	(1) 3-pin 3.5 mm detachable terminal block; Comprises (2) 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
COM	(1) 3-pin 3.5 mm detachable terminal block; Bidirectional RS-232 port; Up to 115.2k baud; software handshaking support
IR (1–4)	(2) 4-pin 3.5 mm detachable terminal blocks; Comprises (4) IR output ports; IR output up to 1.2 MHz; 1-way Serial TTL/RS-232 (0–5 V) up to 115.2k baud; 4 IRP2 IR emitters included, additional emitters sold separately
EX/ER	(1) Connection for supplied antenna
CRESNET	(1) 4-pin 3.5 mm detachable terminal block; Cresnet master port[1]; Outputs power to Cresnet devices; See "Power" section below for additional details
LAN	(1) 8-pin RJ-45 connector, female; 100/1000Base-TX Ethernet port; PoE (Power over Ethernet) PD (Powered Device) port

CRESTRON®

4-Series Control System for Crestron Home™ OS

Controls and Indicators

PWR	(1) Bicolor green/amber LED, indicates operating power is present; Amber indicates that the device is booting and is not yet ready to operate; Green indicates that the device is ready to operate
HW-R	(1) Recessed push button, initiates hardware reset
SW-R	(1) Recessed push button, initiates software reset
ACQUIRE	(1) Push button with red LED, used to set up connections with wireless devices
LAN	(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	PoE (Power over Ethernet)
Power over Ethernet	IEEE 802.3at Type 1 (802.3af compatible) Class 0 (12.95 W) PoE Powered Device
Available Cresnet Power	2.5 W
Power Consumption	7 W typical

Environmental

Temperature	41 to 113 °F (5 to 45 °C)
Humidity	10 to 90% (noncondensing)
Heat Dissipation	24 BTU/hr

Enclosure

Chassis	Metal, black finish, with (2) integral mounting flanges; vented top, sides, and bottom
Mounting	Freestanding, surface mount, attach to a single rack rail, or 1 RU 19-in. rack mountable (rack ears included)

Dimensions

Height	1.07 in. (27 mm)
Width	10.15 in. (258 mm)
Depth	5.11 in. (130 mm)

Weight

1.0 lb (454 g)

Compliance

Regulatory Model: M201910001
IC, FCC Part 15 Class B digital device

Models

MC4-R
4-Series Control System for Crestron Home™ OS

Included Accessories

IRP2
IR Emitter with Terminal Block Connector
Qty: 4

Available Accessories

C2N-HBLOCK
Multitype Cresnet® Network Distribution Block

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

IRP2
IR Emitter with Terminal Block Connector

MYCRESTRON-DDNS
myCrestron Dynamic DNS Service for Crestron Systems

PWE-4803RU
PoE Injector

Notes:

1. The Cresnet® network port and infiNET EX® transceiver are strictly for use with specific Crestron® devices that work with Crestron Home™ OS. For a list of compatible devices, visit www.crestron.com/crestronhome.

2. The total range of an infiNET EX wireless network is dependent on the placement and capabilities of each network device. A mesh network topology is employed so every "EX" device on the network acts as a routing node or "expander," which relays the signals it receives on to other EX devices within range. This effectively extends the total range of the network and provides multiple redundant signal paths for extra reliability. A maximum of six "hops" across routing nodes is allowed, although a maximum of three is recommended. Battery-powered infiNET EX devices only operate as leaf nodes and do not provide expander functionality. Up to 100 infiNET EX devices are permitted, although best practices suggest a limit of 50. Up to 15 external gateways (CEN-GWEXER sold separately) may be added to support additional devices (RF conditions allowing). Refer to the Installation and Setup of Crestron RF Products Best Practice Guide (Doc. 6689) for additional guidelines.

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.

4-Series Control System for Crestron Home™ OS

5.17 in.
(131 mm)

5.11 in.
(130 mm)

1.07 in.
(27 mm)

1.13 in.
(29 mm)

2.38 in.
(60 mm)

0.82 in.
(21 mm)

9.62 in.
(244 mm)

9.22 in.
(234 mm)

9.06 in.
(230 mm)

10.15 in.
(258 mm)