Control4 C4-CORE5 Core 5 Controller Installation Guide

Contents

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Box contents

The following items are included in the box:

- CORE-5 controller
- AC power cord

- IR emitters (8)
- Rock ears {2, pre-installed on the CORE-5)
- Rubber feet (2, in box)
- External antennas (2)
- Terminal blocks for contacts and relays

Accessories sold separately

- Control4 3-Meter Wireless Antenna Kit (C4-AK-3M)
- Control4 Dual-Bond WiFi USB Adopter (C4-USBWIFI OR C4-USBWIFI-1)
- Control4 3.5 mm to 089 Serial Coble (C4-CBL3.5-D89B)

Warnings

- **Caution!** To reduce the risk of electrical shock, do not expose this apparatus to rain or moisture.
- **Caution!** The software disables the output in an aver-current condition on USB or contact output. Remove the device from the controller if the attached USB device or contact sensor does not appear to power on.
- **Caution!** If this product is used to open and close a garage door, gate, or similar device, use safety or other sensors to ensure safe function. Follow appropriate regulatory and safety standards governing project design and installation. Failure to do so may result in property damage or personal injury.

Requirements and specifications

- **Note:** We recommend using Ethernet instead of WiFi for the best network connectivity.
- **Note:** The Ethernet or WiFi network should be installed before you install the CORE-5 controller.
- **Note:** The CORE-5 requires OS 3.3 or higher. Composer Pro is required to configure this device. See the Composer Pro User Guide (ctrl4.co/cpro-ug) for details.

Specifications

Inputs / Outputs	
Video out	1 video out—1 HDMI
Video	HDMI 2.0a; 3840x2160 @ 60Hz (4K); HDCP 2.2 and HDCP 1.4
Audio out	7 audio out—1 HDMI, 3 stereo analog, 3 digital coax
Audio playback formats	AAC, AIFF, ALAC, FLAC, M4A, MP2, MP3, MP4/M4A, Ogg Vorbis, PCM, WAV, WMA
High-res audio playback	Up to 192 kHz / 24 bit
Audio in	2 audio in—1 stereo analog, 1 digital coax
Audio delay on audio in	Up to 3.5 seconds, depending on network conditions
Digital signal processing	Digital coax in—Input level Audio out 1/2/3 (analog)—Balance, volume, loudness, 6-band PEQ, mono/stereo, test signal, mute Digital coax out 1/2/3—Volume, mute
Signal-to-noise ratio	<-118 dBFS
Total harmonic distortion	0.00023 (-110 dB)

Network	
Ethernet	1 10/100/1000BaseT compatible port (required for controller setup).
WiFi	Optional Dual-Band WiFi USB Adapter (2.4 GHz, 5 Ghz, 802.11ac/b/g/n/a)
WiFi security	WPA/WPA2
ZigBee Pro	802.15.4
ZigBee antenna	External reverse SMA connector
Z-Wave	Z-Wave 700series
Z-Wave antenna	Externalreverse SMA connector
USB port	2 USB 3.0 port—500mA

Control	
IR OUT	8 IR out—5V 27mA max output
IR capture	1 IR receiver—front; 20–60 KHz
SERIAL OUT	4 Serial out—2 DB9 ports and 2 shared with IR out 1–2
Contact	4 contact sensors—2V–30VDC input, 12VDC 125mA maximum output
Relay	4 relays—AC: 36V, 2A maximum voltage across relay; DC: 24V, 2A maximum voltage across relay
Power	
Power requirements	100–240 VAC, 60/50Hz
Power consumption	Max: 40W, 136 BTUs/hour Idle: 15W, 51 BTUs/hour
Other	
Operating temperature	32˚F × 104˚F (0˚C × 40˚C)
Storage temperature	4˚F × 158˚F (-20˚C × 70˚C)
Dimensions (H × W × D)	1.65 × 17.4 × 9.92" (42 × 442 × 252mm)
Weight	5.9 lbs (2.68 kg)
Shipping weight	9 lbs (4.08 kg)

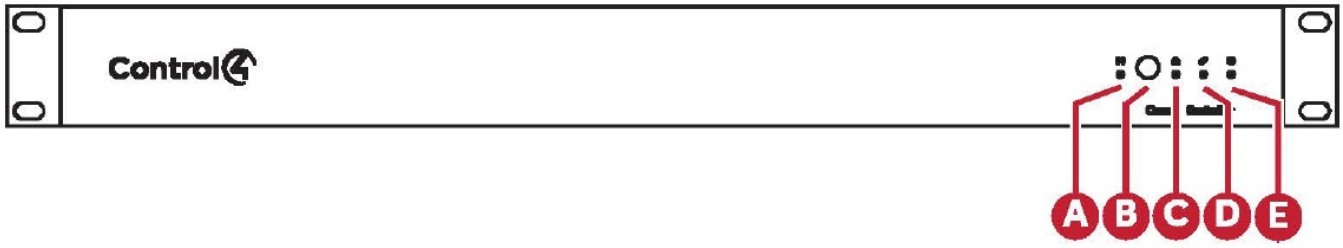
Additional resources

The following resources ore available for more support.

- Control4 CORE series help and information: ctrl4.co/core
- Snap One Tech Community and Knowledgebase: tech.control4.com
- Control4 Technical Support
- Control4 website: www.control4.com

OVERVIEW

Front view

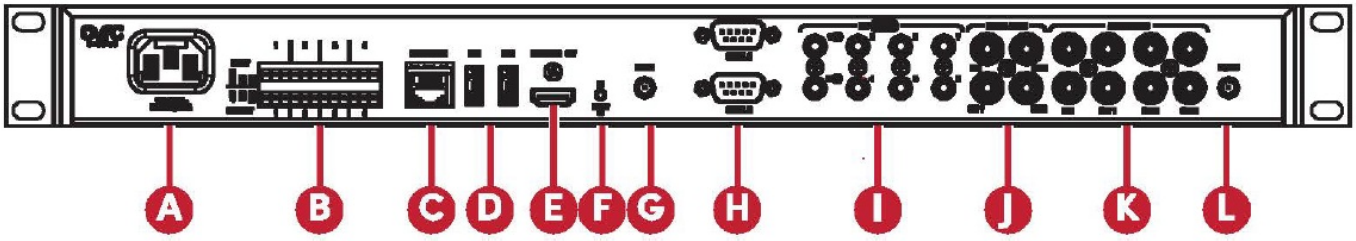


- **A. Activity LED-** The LED indicates that the controller is streaming audio.
- **B. IR window-** IR receiver for learning IR codes.
- **C. Caution LED-** This LED shows solid red, then blinks blue during the boot process.

Note: The Caution LED flashes orange during the factory restore process. See “Reset to factory settings’” in this document.

- **D. Link LED-** The LED indicates that the controller has been identified in a Control4 Composer project and is communicating with Director.
- **E. Power LED-** The blue LED indicates that AC power is connected. The controller turns on immediately after power is applied to it.

Back view



- **A.** Power plug port-AC power receptacle for on IEC 60320-03 power cord.
- **B.** Contact/Relay port-Connect up to four relay devices and four contact sensor devices to the terminal block connector. Relay connections ore COM, NC (normally closed), and NO (normally open). Contact sensor connections ore +12, SIG (signal), and GNO (ground).
- **C.** ETHERNET-RJ-45 jock for a 10/100/1000 BaseT Ethernet connection.
- **D.** USS-Two port for an external USB drive or the optional Dual-Band WiFi USB Adopter. See “set up external storage devices” in this document.
- **E.** HDMI OUT-An HDMI port to display system menus. Also on audio out over HOMI.
- **F.** ID and FACTORY RESET-ID button to identify the device in Composer Pro. The ID button on the CORE-5 is also on the LED that displays feedback useful during a factory restore.
- **G.** ZWAVE-Antenna connector for the 2-Wove radio
- **H.** SERIAL-Two serial ports for RS-232 control. See “Connecting the serial ports” in this document.
- **I.** IR / SERIAL-Eight 3.5 mm jacks for up to eight IR emitters or for a combination of IR emitters and serial devices. Ports 1 and 2 con be configured independently for serial control or for IR control. See “Setting up IR emitters” in this document for more information.
- **J.** DIGITAL AUDIO-One digital coax audio input and three output ports. Allows audio to be shored (IN 1) over the local network to other Control4 devices. Outputs audio (OUT 1/2/3) shared from other Control4 devices or from digital audio sources (local media or digital streaming services such as Tuneln.)
- **K.** ANALOG AUDIO-One stereo audio input and three output ports. Allows audio to be shared (IN 1) over the local network to other Control4 devices. Outputs audio (OUT 1/2/3) shored from other Control4 devices or from digital audio sources (local media or digital streaming services such as Tuneln.)
- **L.** ZIGBEE-Antenna for the Zigbee radio.

Installing the controller

To install the controller:

1. Ensure that the home network is in place before starting system setup. The controller requires a network connection, Ethernet (recommended) or WiFi (with optional adopter), to use all of the features os designed. When connected, the controller can access web-based media databases, communicate with other IP devices

in the home, and access Control4 system updates.

2. Mount the controller in a rack or stacked on a shelf. Always allow plenty of ventilation. See “Mounting the controller in a rock” in this document.
3. Connect the controller to the network.
    - Ethernet-To connect using an Ethernet connection, plug the data coble from the home network connection into the controller’s RJ-45 port (labeled ETHERNET) and the network port on the wall or at the network switch.
    - WiFi-To connect using WiFi, first connect the controller to Ethernet, and then use Composer Pro System Manager to reconfigure the controller for WiFi.
4. Connect system devices. Attach IR and serial devices as described in “connecting the IR ports/serial ports” and “setting up IR emitters.”
5. Set up any external storage devices as described in ·setting up external storage devices”‘ in this document.
6. Power up the controller. Plug the power cord into the controller’s power plug port and then into an electrical outlet.

Mounting the controller in o rock

Using the pre-installed rock-mount ears, the CORE-5 can easily be mounted in a rock for convenient installation and flexible rack placement. The preinstalled rock-mount ears con even be reversed to mount the controller facing the rear of the rock, if needed.

To attach the rubber feet to the controller:

1. Remove the two screws in each of the rock ears on the bottom of the controller. Remove the rack ears from the controller.
2. Remove the two additional screws from the controller case and place the rubber feet on the controller.
3. Secure the rubber feet to the controller with three screws in each rubber foot.

Pluggable terminal block connectors

For the contact and relay ports, the CORE-5 makes use of pluggable terminal block connectors which ore removable plastic parts that locks in individual wires (included).

To connect a device to the pluggable terminal block:

1. Insert one of the wires required for your device into the appropriate opening in the pluggable terminal block you reserved for that device.
2. Use a small flat-blade screwdriver to tighten the screw and secure the wire in the terminal block.

Example: To add a motion sensor (see Figure 3), connect its wires to the following contact openings:

- Power input to +12V
- Output signal to SIG
- Ground connector to GND

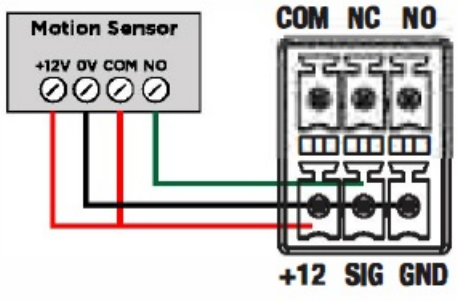
Note: To connect dry contact closure devices, such as doorbells, connect the switch between +12 (power) and

SIG (signal).

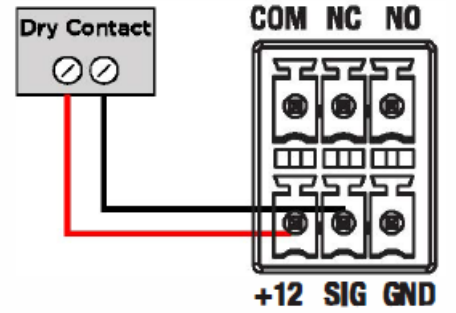
Connecting the contact ports

The CORE-5 provides four contact ports on the included pluggable terminal blocks. See the examples below to learn how to connect devices to the contact ports.

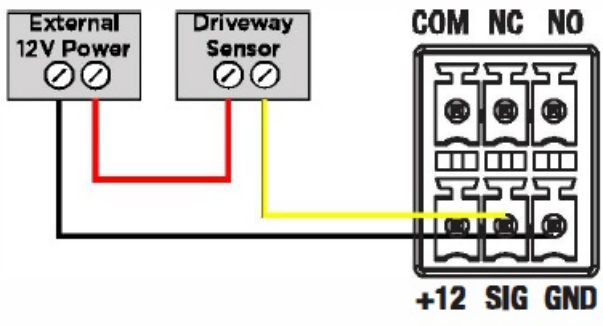
- Wire the contact to a user that also need power (Motion sensor).



- Wire the contact to a dry contact unsor (Door contact sensor).

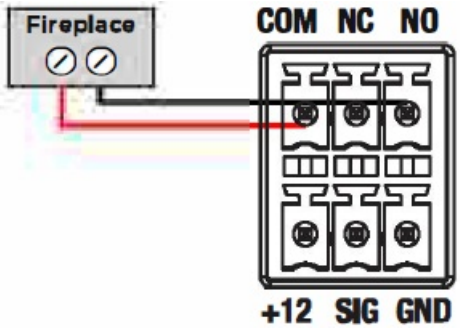


- Wire the, contact to an externally powered sensor(Driveway sensor).

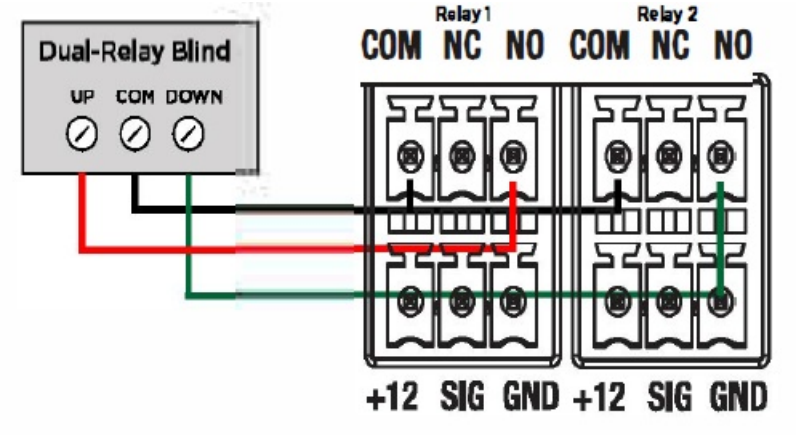


Connecting the relay ports
The CORE-5 provides four relay ports on the included pluggable terminal blocks. See the examples below to learn now to connect various devices to the relay ports.

- Wire the, relay to a single-relay device, normally open (Fireplace).



- Wire the relay to a dual-relay device (Blinds).



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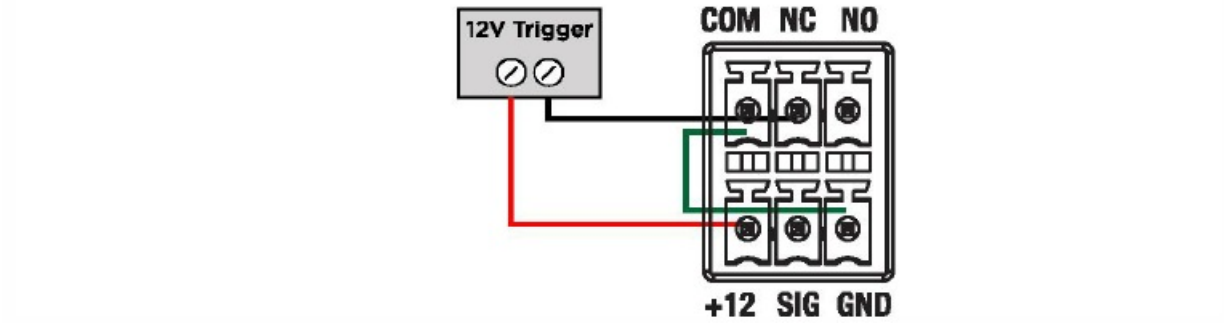
Wire the relay with power from the contact, normally closed (Amplifier trigger)



Connecting the serial ports
The CORE-5 controller provides four serial ports. SERIAL 1 and SERIAL 2 can connect to a standard 0B9 serial cable. IR ports I and 2 (serial 3 and 4) can be reconfigured independently for serial communication. If not used for serial, they can be used for JR. Connect a serial device to the controller using the Control4 3.5 mm-to-0B9 Serial Cable (C4-Cel3.S-Oe9B, sold separately).

1. The serial ports support many different baud rates (acceptable range: 1200 to 115200 baud for odd and even parity). Serial ports 3 and 4 (IR 1 and 2) do not support hardware flow control.
2. See Knowledgebase article #268 (http://ctrl4.co/contr-seri0l-pinout) for pinout diagrams.
3. To configure a port's serial settings, make the appropriate connections in your project using Composer Pro. Connecting the port to the driver will apply the serial settings contained in the driver file to the serial port. See the Composer Pro User Guide for details.

Note: Serial ports 3 and 4 can be configured as straight-through or null with Composer Pro. Serial ports by default are configured straight-through and can be changed in Composer by selecting the option Enable Null-Modem Serial Port (314).

Setting up IR emitters

The CORE-5 controller provides 8 IR ports. Your system may contain third-party products that are controlled through IR commands. The included IR emitters con send commands from the controller to any IR-controlled device.

1. Connect one of the included IR emitters into an IR OUT port on the controller.
2. Remove the adhesive backing from the emitter (round) end of the IR emitter and affix it to the device to be controlled over the IR receiver on the device.

Setting up external storage devices
You can store and access media from on external storage device, for example, a use drive, by connecting the use drive to the use port and configuring or scanning the media in Composer Pro. A NAS drive can also be used os on external storage device; see the Composer Pro User Guide (ctr14 co/cpro-ug) for more details.

- **Note:** We support only externally powered use drives or solid-state USB drives (USB thumb drives). USB hard drives that do not hove a separate power supply ore not supported
- **Note:** When using use or eSATA storage devices on CORE-5 controller, a single primary partition formatted FAT32 is recommended.

Composer Pro driver information
Use Auto Discovery and SOOP to odd the driver to the Composer project. See the Composer Pro User Guide (ctr!4 co/cprn-ug) for details.

Troubleshooting

Reset to factory settings
Caution! The factory restores process will remove the Composer project.

To restore the controller to the factory default image:

1. Insert one end of a paper clip into the small hole on the bock of the controller labeled RESET.
2. Press and hold the RESET button. The controller resets and the ID button changes to solid red.
3. Hold the button until the ID flashes double orange. This should toke five to seven seconds. The ID button flashes orange while the factory restore is running. When complete, the ID button turns off and the device power cycles one more time to complete the factory restore process.

Note: During the reset process, the ID button provides the some feedback os the Caution LED on the front of the controller.

Power cycle the controller

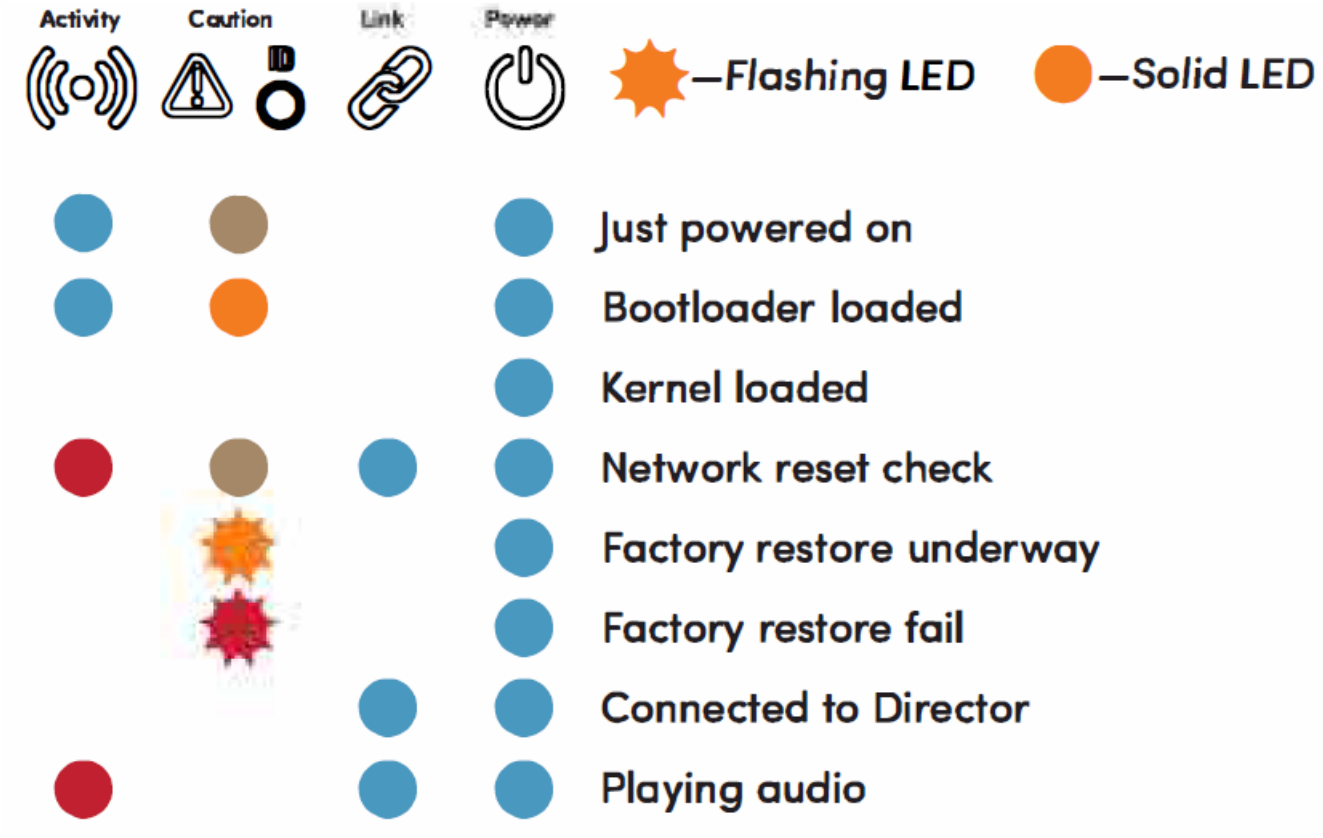
1. Press and hold the ID button for five seconds. The controller turns off and bock on.

Reset the network settings
To reset the controller network settings to the default:

1. Disconnect power to the controller.
2. While pressing and holding the ID button on the back of the controller, power on the controller.
3. Hold the ID button until ID button turns solid orange and the link and Power LEDs ore solid blue, and then immediately release the button.

Note: During the reset process, the ID button provides the same feedback as the Caution LED on the front of the controller.

LED status information



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	**Control4 C4-CORE5 Core 5 Controller** [pdf] Installation Guide CORE5, 2AJAC-CORE5, 2AJACCORE5, C4-CORE5 Core 5 Controller, C4-CORE5, Core 5 Controller, Controller