



Control4 CORE-5 Hub and Controller Installation Guide

[Home](#) » [Control4](#) » Control4 CORE-5 Hub and Controller Installation Guide 

Contents

- 1 [Control4 CORE-5 Hub and Controller](#)
- 2 [Important Safety Instructions](#)
- 3 [Box contents](#)
- 4 [Accessories sold separately](#)
- 5 [Specifications](#)
- 6 [Additional resources](#)
- 7 [Front view](#)
- 8 [Back view](#)
- 9 [Connecting the contact ports](#)
- 10 [Troubleshooting](#)
 - 10.1 [LED status information](#)
- 11 [FCC Statement](#)
- 12 [Documents / Resources](#)
 - 12.1 [References](#)
- 13 [Related Posts](#)



Control4 CORE-5 Hub and Controller



Important Safety Instructions

Read the safety instructions before using this product.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Only use attachments/accessories specified by the manufacturer.
10. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.
When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over
11. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
12. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
13. This equipment uses AC power which can be subjected to electrical surges, typically lightning transients which are very destructive to customer terminal equipment connected to AC power sources. The warranty for this equipment does not cover damage caused by an electrical surge or lightning transients. To reduce the risk of this equipment becoming damaged it is suggested that the customer consider installing a surge arrestor. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. To completely disconnect unit power from the AC mains, remove the power cord from the appliance coupler and/or turn off the circuit breaker. To reconnect power, turn on the circuit breaker following all safety instructions and guidelines. The circuit breaker shall remain readily accessible.
15. This product relies on the installation of the building for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 20A.
16. This product requires a properly grounded outlet for safety. This plug is designed to be inserted into a NEMA 5-15 (three-prong grounded) outlet only. Do not force the plug into an outlet that is not designed to accept it. Never dismantle the plug or alter the power cord, and do not attempt to defeat the grounding feature by using a 3-to-2 prong adapter. If you have a question about grounding, consult your local power company or qualified electrician.

If a rooftop device such as a satellite dish connects to the product, ensure that the device's wires are also properly grounded.

The bonding point can be used to provide a common ground to other equipment. This bonding point can accommodate a minimum 12 AWG wire and should be connected using the required hardware specified by the other bonding point. Please use termination for your equipment in accordance with the applicable local agency requirements.
17. Notice – For indoor use only, Internal components are not sealed from the environment. The device can only be used in a fixed location such as a telecommunication center, or a dedicated computer room. When you install the device, ensure that the protective earthing connection of the socket-outlet is verified by a skilled person. Suitable for installation in information technology rooms in accordance with Article 645 of the National

Electrical Code and NFP 75.

18. This product can interfere with electrical equipment such as tape recorders, TV sets, radios, computers, and microwave ovens if placed in close proximity.
 19. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short-out parts that could result in fire or electric shock.
 20. WARNING – No user-serviceable parts inside. If the product is not operating properly, do not remove any part of the unit (cover, etc.) for repair. Unplug the unit and consult the warranty section of the owner's manual.
 21. CAUTION: As with all batteries, there is a risk of explosion or personal injury if the battery is replaced by an incorrect type. Dispose of used battery according to the instructions of the battery manufacturer and applicable environmental guidelines. Do not open, puncture or incinerate the battery, or expose it to conducting materials, moisture, liquid, fire or heat above 54° C or 130° F.
 22. PoE is considered a Network Environment 0 per IEC TR62101, and thus the interconnected ITE circuits may be considered ES1. The installation instructions clearly state that the ITE is to be connected only to PoE networks without routing to the outside plant.
 23. CAUTION: The Optical Transceiver used with this product should use UL listed, and Rated Laser Class I, 3.3 Vdc.
- The lightning flash and arrow head within the triangle is a warning sign alerting you of dangerous voltage inside the product
 - Caution: To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Refer servicing to qualified service personnel.
 - The exclamation point within the triangle is a warning sign alerting you of important instructions accompanying the product.
- Warning!:** To reduce the risk of electrical shock, do not expose this apparatus to rain or moisture

Box contents

The following items are included in the box:

- CORE-5 controller
- AC power cord
- IR emitters (8)
- Rack 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-Band WiFi USB Adapter (C4-USB WIFI OR C4-USB WIFI-1)
- Control4 3.5 mm to DB9 Serial Cable (C4-CBL3.5-DB9B)

Warnings

- Caution! To reduce the risk of electrical shock, do not expose this apparatus to rain or moisture.

Avertissement ! Pour réduire le risque de choc électrique, n'exposez pas cet appareil à la pluie ou à l'humidité.

- Caution! In an over-current condition on USB or contact output the software disables the output. If the attached USB device or contact sensor does not appear to power on, remove the device from the controller.
- Avertissement ! Dans une condition de surintensité sur USB ou sortie de contact le logiciel désactive sortie. Si le périphérique USB ou le capteur de contact connecté ne semble pas s'allumer, retirez le périphérique du contrôleur.
- Caution! If this product is used as a means 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; 3840×2160 @ 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).

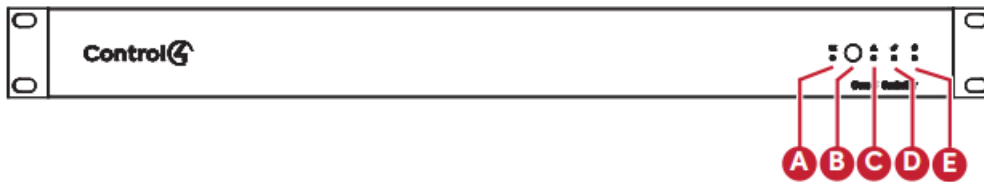
WiFi	Optional Dual-Band WiFi USB Adapter (2.4 GHz, 5 Ghz, 802.11ac/b/g/n/a)
WiFi security	WPA/WPA2
ZigBee Pro	802.15.4
ZigBee antenna	External reverse SMA connector
Z-Wave	Z-Wave 700 series
Z-Wave antenna	External reverse SMA connector
USB port	2 USB 3.0 port—500mA
	Control
IR OUT	8 IR out—5V 27mA max 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 × 252 mm)
Weight	5.9 lbs (2.68 kg)
Shipping weight	9 lbs (4.08 kg)

Additional resources

The following resources are available for more support.

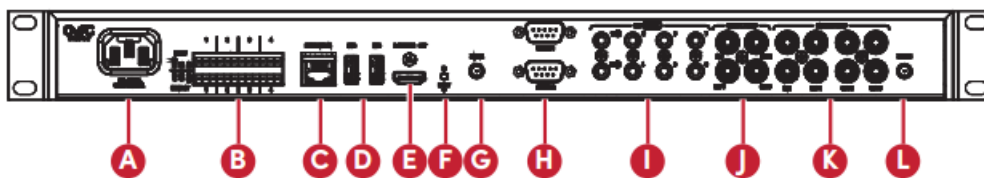
- Control4 CORE series help and information: ctrl4.co/core
- Snap One Tech Community and Knowledgebase: tech.control4.com
- Control4 Technical Support
- Control4 website: www.control4.com

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
- **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 an IEC 60320-C13 power cord.
- **B** Contact/Relay port—Connect up to four relay devices and four contact sensor devices to the terminal block connector. Relay connections are COM, NC (normally closed), and NO (normally open). Contact sensor connections are +12, SIG (signal), and GND (ground).
- **C** ETHERNET—RJ-45 jack for a 10/100/1000 BaseT Ethernet connection.
- **D** USB—Two-port for an external USB drive or the optional Dual-Band WiFi USB Adapter. See “Set up external storage devices” in this document.
- **E** HDMI OUT—An HDMI port to display system menus. Also an audio out over HDMI.
- **F** ID and FACTORY RESET—ID button to identify the device in Composer Pro. The ID button on the CORE-5 is also an LED that displays feedback useful during a factory restore.
- **G** ZWAVE—Antenna connector for the Z-Wave 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 can 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 shared (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 TuneIn.)
- **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) shared from other Control4 devices or from digital audio sources (local media or digital streaming services such as TuneIn.)
- **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 adapter), to use all of the features as 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 rack” in this document.
3. 3 Connect the controller to the network.
 - Ethernet—To connect using an Ethernet connection, plug the data cable 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 a rack

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

To attach the rubber feet to the controller:

1. Remove the two screws in each of the rack 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 are removable plastic parts that locks in individual wires (included).

To connect a device to the pluggable terminal block:

1. 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

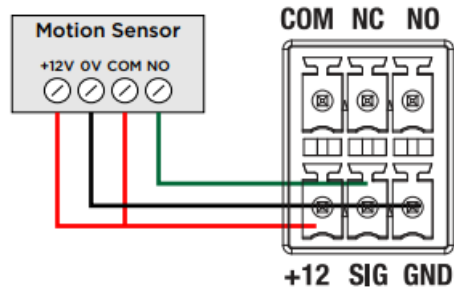
Note: To connect dry contact closure devices, such as doorbells, connect the switch between +12

(power) and SIG (signal).

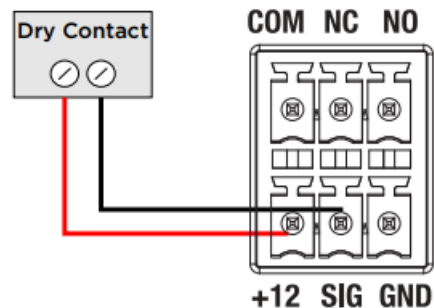
Connecting the contact ports

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.

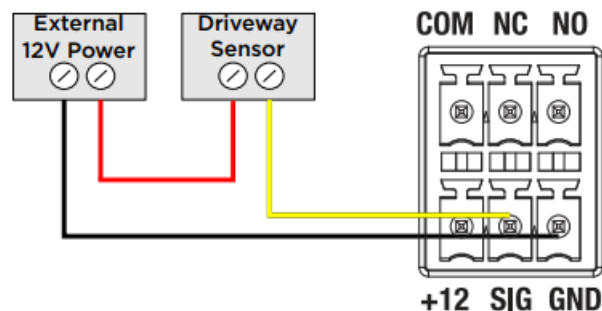
Wire the contact to a sensor that also needs power (Motion sensor)



Wire the contact to a dry contact sensor (Door contact sensor)



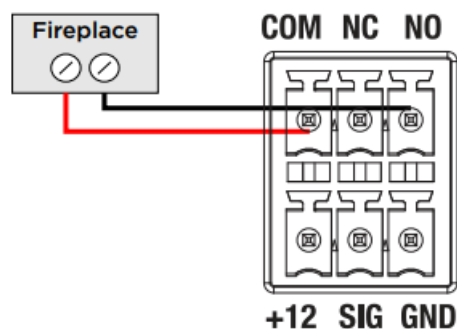
Wire the contact to an externally powered sensor (Driveway sensor)



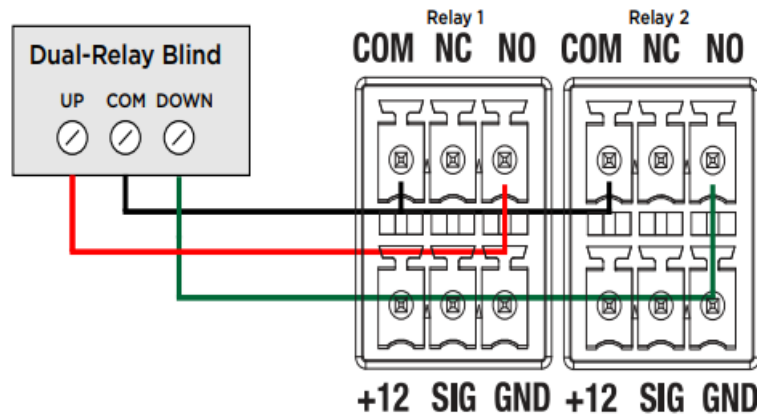
Connecting the relay ports

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)



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 DB9 serial cable. IR ports 1 and 2 (serial 3 and 4) can be reconfigured independently for serial communication. If not used for serial, they can be used for IR. Connect a serial device to the controller using the Control4 3.5 mm-to-DB9 Serial Cable (C4-CBL3.5-DB9B, 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-serial-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 (3/4).

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 can 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 an external storage device, for example, a USB drive, by connecting the USB drive to the USB port and configuring or scanning the media in Composer Pro. A NAS drive can also be used as an external storage device; see the Composer Pro User Guide (ctrl4.co/cpro-ug) for more details.

Note: We support only externally powered USB drives or solid-state USB drives (USB thumb drives). USB hard drives that do not have a separate power supply are not supported.

Note: When using USB or eSATA storage devices on an CORE-5 controller, a single primary partition formatted FAT32 is recommended.

Composer Pro driver information

Use Auto Discovery and SDDP to add the driver to the Composer project. See the Composer Pro User Guide

(ctrl4.co/cpro-ug) for details.

Troubleshooting

Reset to factory settings

Caution! The factory restore 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 back 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 take 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 same feedback as 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 back on.

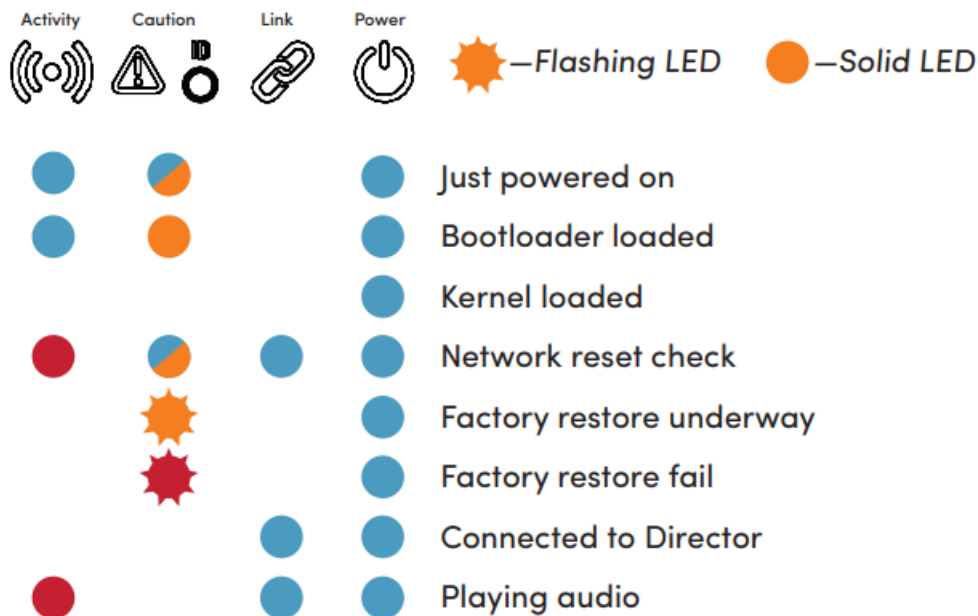
Reset the network settings

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 are 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



Legal, Warranty, and Regulatory/Safety information

Visit snapone.com/legal for details.

More help

For the latest version of this document and to view additional materials, open the URL below or scan the QR code on a device that can view PDFs.



FCC Statement

FCC Part 15, Subpart B & IC Unintentional Emissions Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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.

IMPORTANT! Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Innovation Science and Economic Development (ISED) Unintentional Emissions Interference Statement

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference
2. This device must accept any interference, including interference that may cause undesired operation of the device

FCC Part 15, Subpart C / RSS-247 Intentional Emissions Interference Statement

Compliance of this equipment is confirmed by the following certification numbers that are placed on the equipment:

Notice: The term "FCC ID:" and "IC:" before the certification number signifies that FCC and Industry Canada technical specifications were met.

FCC ID: 2AJAC-CORE5

IC: 7848A-CORE5

This equipment must be installed by qualified professionals or contractors in accordance with FCC Part 15.203 & IC RSS-247, Antenna Requirements. Do not use any antenna other than the one provided with the unit. Operations in the 5.15-5.25GHz band are restricted to indoor usage only.

Caution :

- the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;
- the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate; and
- Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

RF Radiation Exposure Statement

This equipment complies with FCC RF and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 10 centimeters between the radiator and your body or nearby persons.

Europe Compliance

Compliance of this equipment is confirmed by the following logo that is placed on the product ID label that is placed on the bottom of the equipment. The full text of the EU Declaration of Conformity (DoC) is available on the regulatory webpage:

Recycling

Snap One understands that a commitment to the environment is essential for a healthy life and sustainable growth for future generations. We are committed to supporting the environmental standards, laws, and directives that

have been put in place by various communities and countries that deal with concerns for the environment. This commitment is represented by combining technological innovation with sound environmental business decisions.


WEEE Compliance

Snap One is committed to meeting all requirements of the Waste Electrical and Electronic Equipment (WEEE) directive (2012/19/EC). The WEEE directive requires the manufacturers of electrical and electronic equipment who sell in EU countries: (1) label their equipment to notify customers that it needs to be recycled, and (2) provide a way for their products to be appropriately disposed of or recycled at the end of their product lifespan. For collection or recycling of Snap One products, please contact your local Snap One representative or dealer.










Australia & New Zealand Compliance

Compliance of this equipment is confirmed by the following logo that is placed on the product ID label that is placed on the bottom of the equipment.

Documents / Resources

	Control4 CORE-5 Hub and Controller [pdf] Installation Guide CORE5, 2AJAC-CORE5, 2AJACCORE5, Hub and Controller, CORE-5 Hub and Controller
---	--

References

-  [Home Automation and Smart Home Control | Control4](#)
-  [ctrl4.co/contr-serial-pinout](#)
-  [ctrl4.co/core](#)
-  [Get Latest By Product | Docs](#)
-  [Get Latest By Product | Docs](#)
-  [Snap One](#)
-  [Policies](#)
-  [tech.control4.com](#)
-  [Control4 Smart Homes](#)