



# Control4 C4-CORE3 Core-3 Hub and Controller Installation Guide

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## Control4 C4-CORE3 Core-3 Hub and Controller



### Introduction

Designed for an exceptional family room entertainment experience, the Control4® CORE-3 Controller does more than automate the gear around your TV; it is the ideal smart home starter system with entertainment built in. The CORE-3 delivers a beautiful, intuitive, and responsive on-screen user interface with the ability to create and enhance the entertainment experience for any TV in the house. The CORE-3 can orchestrate a wide range of entertainment devices including Blu-ray players, satellite or cable boxes, game consoles, TVs, and virtually any product with infrared (IR) or serial (RS-232) control. It also features IP control for Apple TV, Roku, televisions, AVRs, or other network-connected devices, as well as secure wireless ZigBee control for lights, thermostats, smart locks, and more. For entertainment, the CORE-3 also includes a built-in music server that allows you to listen to your own music library, stream from a variety of leading music services, or from your AirPlay-enabled devices using Control4 ShairBridge technology.

### Box contents

The following items are included in the CORE-3 controller box:

- CORE-3 controller
- AC power cord
- IR emitters (4)
- External antennas (1)

### Accessories available for purchase

- CORE-3 Wall-Mount Bracket (C4-CORE3-WM)
- Rack Mount Kit (C4-CORE3-RMK)
- Control4 3-Meter Wireless Antenna Kit (C4-AK-3M)
- Control4 Dual-Band WiFi USB Adapter (C4-USBWIFI OR C4-USBWIFI-1)
- Control4 3.5 mm to DB9 Serial Cable (C4-CBL3.5-DB9B)

### 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 starting the CORE-3 controller installation.
- Note: The CORE-3 requires OS 3.3 or newer. Composer Pro software is required to configure this device. See the Composer Pro User Guide ([ctrl4.co/cpro-ug](http://ctrl4.co/cpro-ug)) for details.

## Warnings

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

**Caution!** In an over-current condition on USB, the software disables the output. If the attached USB device does not appear to power on, remove the USB device from the controller.

## 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	4 audio out—1 HDMI, 2 × 3.5 mm stereo audio, 1 digital coax
Digital signal processing	Digital coax in—Input level  Audio Out 1/2 (analog)—Balance, volume, loudness, 6-band PEQ, mono/stereo, test signal, mute  Digital coax out—Volume, mute
Audio playback formats	AAC, AIFF, ALAC, FLAC, M4A, MP2, MP3, MP4/M4A, Ogg Vorbis, PCM, WAV, WMA
Audio in	1 audio in—1 digital coax audio in
High-resolution audio playback	Up to 192 kHz / 24 bit
	Network
Ethernet	2 10/100/1000BaseT compatible ports—1 PoE+ in and 1 switch` n etwork port
Wi-Fi	Available with USB Wi-Fi adapter
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	1 USB 3.0 port—500mA
	Control
IR out	6 IR out—5V 27mA max output
IR capture	1 IR receiver—front, 20-60 KHz
Serial out	3 serial out (shared with IR out 1-3)
Contact input	1 × 2-30V DC input, 12V DC 125mA max output
Relay	1 × relay ouput—AC: 36V, 2A max across relay; DC: 24V, 2A max across relay
	Power
Power requirements	100-240 VAC, 60/50Hz or PoE+

Power consumption	Max: 18W, 61 BTUs/hour Idle: 12W, 41 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)	1.13 × 7.5 × 5.0" (29 × 191 × 127 mm)
Weight	1.2 lb (0.54 kg)
Shipping weight	2.2 lb (1.0 kg)

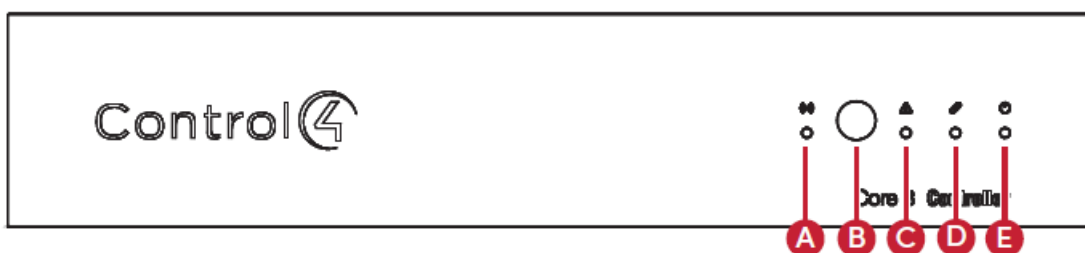
## Additional resources

The following resources are available for more support.

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

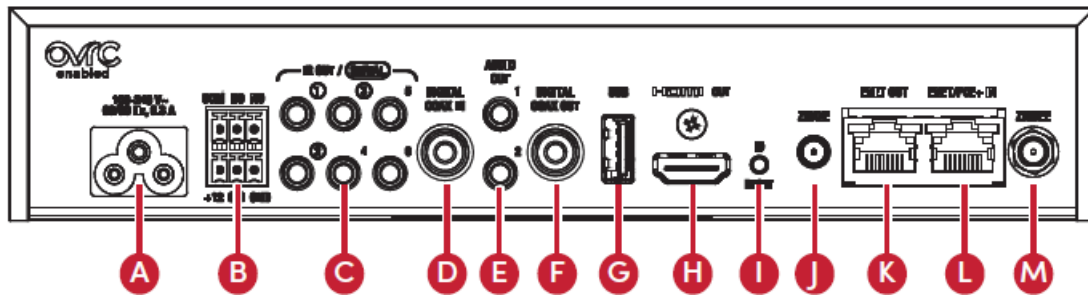
## Front view

### Front view



- Activity LED—The Activity LED shows when the controller is streaming audio.
- IR window—IR blaster and IR receiver for learning IR codes.
- Caution LED—This LED shows solid red, then blinks blue during the boot process. Note: The Caution LED blinks orange during the factory restore process. See “Reset to factory settings” in this document.
- Link LED—The LED indicates that the controller has been identified in a Control4
- Link LED—The LED indicates that the controller has been identified in a Control4 Composer project and is communicating with Director
- Power LED—The blue LED indicates that AC power is present. The controller turns on immediately after power is applied to it.

## Back view



- Power port—AC power connector for an IEC 60320-C5 power cord.
- Contact and relay— Connect one relay device and one contact sensor device 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).
- SERIAL and IR OUT—3.5 mm jacks for up to four IR emitters or for a combination of IR emitters and serial devices. Ports 1 and 2 can be configured independently for serial control (for controlling receivers or disc changers) or for IR control. See “Connecting the IR ports/serial ports” in this document for more information.
- DIGITAL COAX IN—Allows audio to be shared over the local network to other Control4 devices.
- AUDIO OUT 1/2—Outputs audio shared from other Control4 devices or from digital audio sources (local media or digital streaming services).
- DIGITAL COAX OUT—Outputs audio shared from other Control4 devices or from digital audio sources (local media or digital streaming services such).
- USB—One port for an external USB drive (such as a USB stick formatted FAT32). See “Setting up external storage devices” in this document.
- HDMI OUT—An HDMI port to display navigation menus. Also an audio out over HDMI.
- ID button and RESET—ID button is pressed to identify the device in Composer Pro. The ID button on the CORE-3 is also an LED that displays feedback useful in a factory restore. The RESET pinhole is used to reset or factory restore the controller.
- ZWAVE—Antenna connector for the Z-Wave radio.
- ENET OUT—RJ-45 jack for Ethernet out connection. Acts as a 2-port network switch with ENET/POE+ IN jack.
- ENET/POE+ IN—RJ-45 jack for a 10/100/1000BaseT Ethernet connection. Also can power the controller with PoE+.
- ZIGBEE—Antenna connector for the Zigbee radio.

## Installation instructions

To install the controller:

1. Ensure that the home network is in place before starting system setup. An Ethernet connection to the local network is required for setup. The controller requires a network connection to use all of the features as designed. After initial configuration, Ethernet (recommended) or Wi-Fi can be used to connect the controller to webbased media databases, communicate with other IP devices in the home, and access Control4 system updates.
2. Mount the controller near the local devices you need to control. The controller can be hidden behind a TV, mounted on a wall, placed in a rack, or stacked on a shelf. The CORE-3 Wall-Mount Bracket is sold separately.

and designed for easy installation of the CORE-3 controller behind a TV or on the wall.

3. Attach antennas to the ZIGBEE and ZWAVE antenna connectors.
4. Connect the controller to the network.
  - Ethernet—To connect using an Ethernet connection, connect the network cable into the controller's RJ-45 port (labeled "Ethernet") and into the network port on the wall or at the network switch.
  - Wi-Fi—To connect using Wi-Fi, first connect the unit to Ethernet, connect the Wi-Fi adapter to the USB port, and then use Composer Pro System Manager to reconfigure the unit for Wi-Fi.
5. Connect system devices. Attach IR and serial devices as described in "Connecting the IR ports/serial ports" and "Setting up IR emitters."
6. Set up any external storage devices as described in "Setting up external storage devices" in this document.
7. If using AC power, connect the power cord to the controller's power port and then into an electrical outlet.

## **Connecting the IR ports/serial ports (optional)**

The controller provides four IR ports, and ports 1 and 2 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 baud rates between 1200 to 115200 baud for odd and even parity. The serial ports do not support hardware flow control.
2. See Knowledgebase article #268 ([dealer.control4.com/dealer/knowledgebase/article/268](http://dealer.control4.com/dealer/knowledgebase/article/268)) for pinout diagrams.
3. To configure a port for serial or IR, make the appropriate connections in your project using Composer Pro. See the Composer Pro User Guide for details.

Note: The serial ports 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 Enable Null-Modem Serial Port (1 or 2).

## **Setting up IR emitters**

Your system may contain third-party products that are controlled through IR commands.

1. Connect one of the included IR emitters to an IR OUT port on the controller.
2. Place the stick-on emitter end onto the IR receiver on the Blu-ray player, TV, or other target device to drive IR signals from the controller to the targets. Setting up external storage devices (optional) You can store and access media from an external storage device, for example, a network hard drive or USB memory device, by connecting the USB drive to the USB port and configuring or scanning the media in Composer Pro.

Note: We support only externally powered USB drives or solid state USB sticks. Self-powered USB drives are not supported.

Note: When using USB storage devices on an CORE-3 controller, you can use only one partition with a 2 TB maximum size. This limitation also applies to the USB storage on other controllers.

## **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.

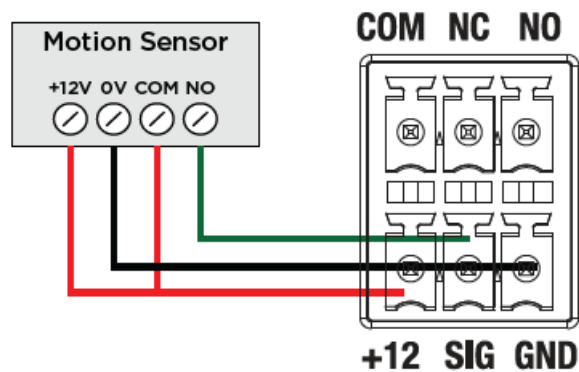
### OvrC setup and configuration

OvrC gives you remote device management, real-time notifications, and intuitive customer management, right from your computer or mobile device. Setup is plug-and-play, with no port forwarding or DDNS address required. To add this device to your OvrC account:

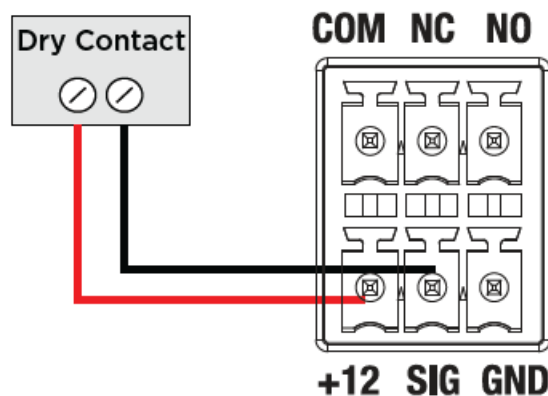
1. Connect CORE-3 controller to the Internet.
2. Navigate to OvrC ([www.ovrc.com](http://www.ovrc.com)) and log in to your account.
3. Add the device (MAC address and Service Tag numbers needed for authentication).

### Connecting the contact port

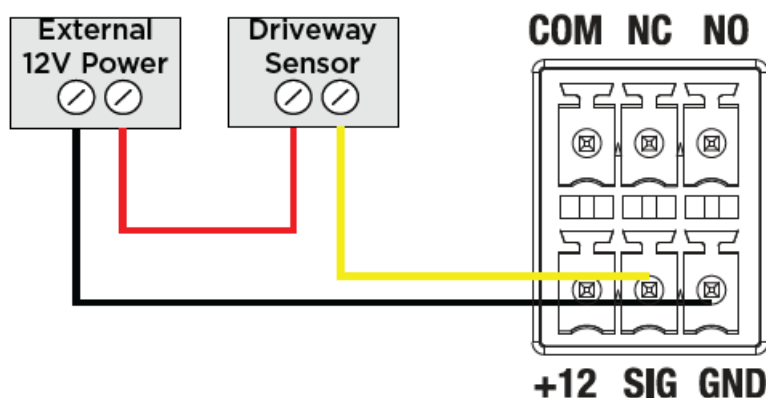
The CORE-3 provides one contact port on the included pluggable terminal block (+12, SIG, GRD). See the examples below to learn how to connect various devices to the contact port. Wire the contact to a sensor that also needs power (Motion sensor)



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

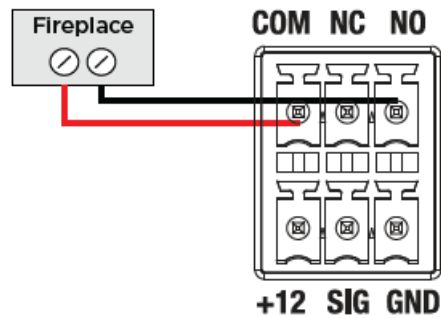


Wire the contact to an externally powered sensor (Driveway sensor)

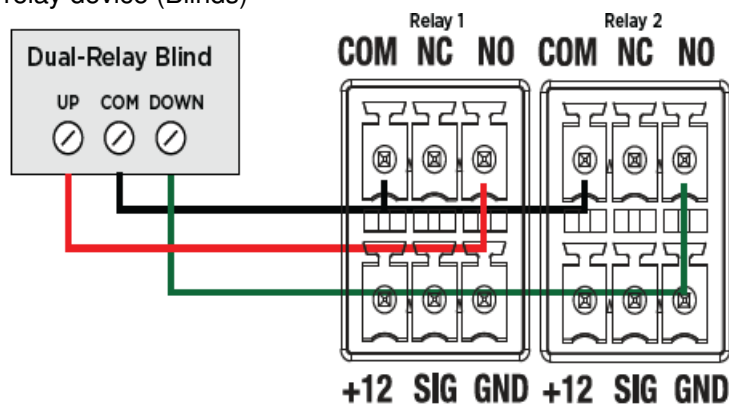


## Connecting the relay port

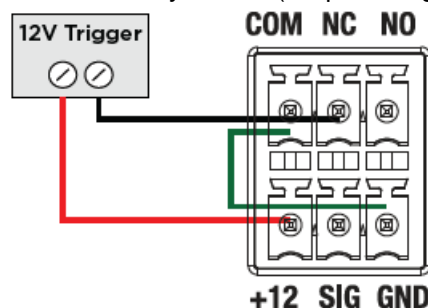
The CORE-3 provides one relay port on the included pluggable terminal block. See the examples below to learn now to connect various devices to the relay port. Wire the relay to a single-relay device, normally open (Fireplace)



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



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



## 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

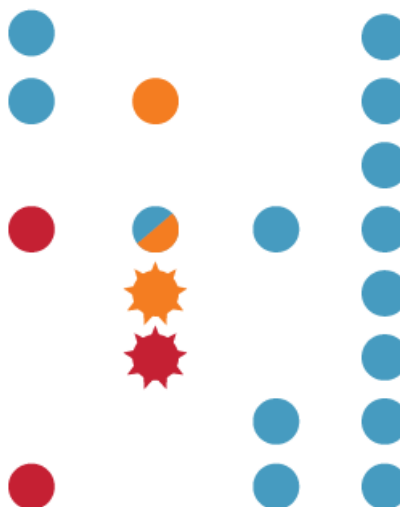


1. Press and hold the ID button for five seconds. The controller turns off and back on. Reset the network settings To reset the controller network settings to the default:
2. Disconnect power to the controller.
3. While pressing and holding the ID button on the back of the controller, power on the controller.
4. 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: IDuring the reset process, the ID button provides the same feedback as the Caution LED on the front of the controller.

## LED status information



- Just powered on
- Bootloader loaded
- Kernel loaded
- Network reset check
- Factory restore underway
- Factory restore fail
- Connected to Director
- Playing audio



## 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.

Legal, Warranty, and Regulatory/Safety information Visit [snapone.com/legal](https://snapone.com/legal) for details.

## Important Safety Instructions

Consignes de sécurité importantes 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. 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 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. **WARNING – Power Sources, Grounding, Polarization** 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 connect to the product, ensure that the devices' wires are also properly grounded. The bonding point can be used to provide a common ground to other equipment. This bonding point can accommodate 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 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.

### **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: This device may not cause harmful interference, and 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 licence-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

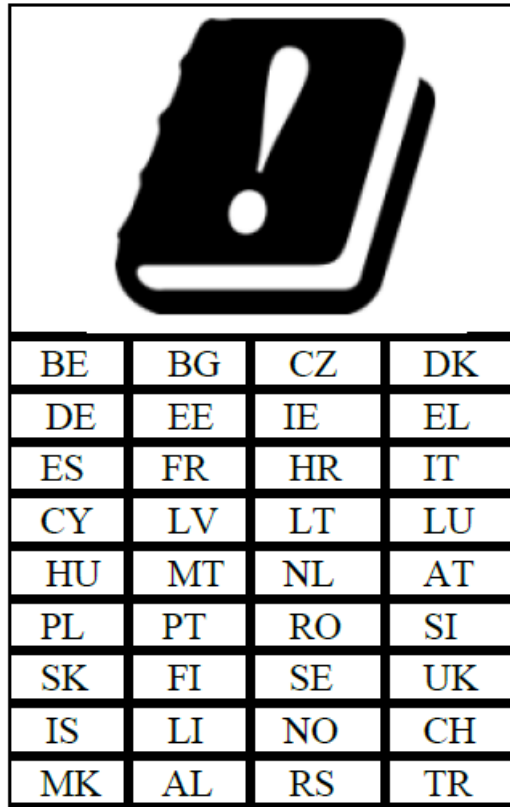
### **FCC Part 15, Subpart C / RSS-247 Intentional Emissions Interference Statement**

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.

This product can be put into service in all of the EU member states, European Free Trade Association (EFTA) and

EU candidate countries without any restriction.



The frequency and maximum transmitted power in EU are listed as below:

- 2412 – 2472 MHz: ?\$ dBm
- 5180 – 5240 MHz: ?\$ dBm

WLAN 5GHz:

Operations in the 5.15-5.35GHz band are restricted to indoor usage only.

### **United Kingdom (UK) 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 UK Declaration of Conformity (DoC) is available on the regulatory webpage:

### **Recycling**

Snap One understands that a commitment to the environment is essential for a health 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: label their equipment to notify customers that it needs to be recycled, and 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 C4-CORE3 Core-3 Hub and Controller](#) [pdf] Installation Guide  
CORE3, 2AJAC-CORE3, 2AJACCORE3, C4-CORE3 Core-3 Hub and Controller, C4-CORE3,  
Core-3 Hub and Controller

## References

-  [Home Automation and Smart Home Control | Control4](#)
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