Tripleplus WASENS™ Installer Guides

♦ Welcome

Thank you for choosing Tripleplus CBM Controller.

Tripleplus CBM (Cloud Building Management) products family is the ultimate Water Management as well as Leak Damage Prevention cloud-based solution. The CBM products family solution is managed via an App and is designed to manage water usage and to prevent damage due to water leak. Tripleplus offers you a total peace of mind when you are in or away. The Controller is the hub of the system. From the 915MHz radio side, it is connecting to all the sensors and other end devices. From the Internet connection side, if by Ethernet port or Wi-Fi connection or GSM connection, it communicates with the different Mobile and Web applications through the Cloud. The Controller's role is to control and execute the system configuration rules and commands.

♦ Please note

Please read these instructions carefully and follow the system's installation and commissioning steps.

Maintain this document in a safe place for future reference. Contact your authorized installer with any questions.

⚠ **Warning!** This product was designed to manage and control Tripleplus devices and prevent water leak damages. It should be used for this purpose only.

♦ Tripleplus CBM™ system

Tripleplus CLM line of products includes innovative battery-operated devices which enables the automated control of water valves. This is unified under the "Cloud Building Management" and "Smart Home" umbrella. The Tripleplus CBM Controller serves as a gateway that ensures a secured communication between the system devices, Tripleplus Cloud and App.

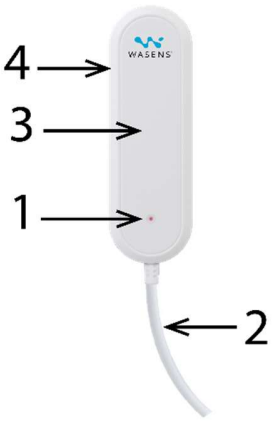
Tripleplus CBM integrates easily into the Cloud Building Management and Smart Home IoT ecosystem, providing a unique cloud-based secured platform for Water Management and Leak Management.

Universal AutoSwitch Installer Guide

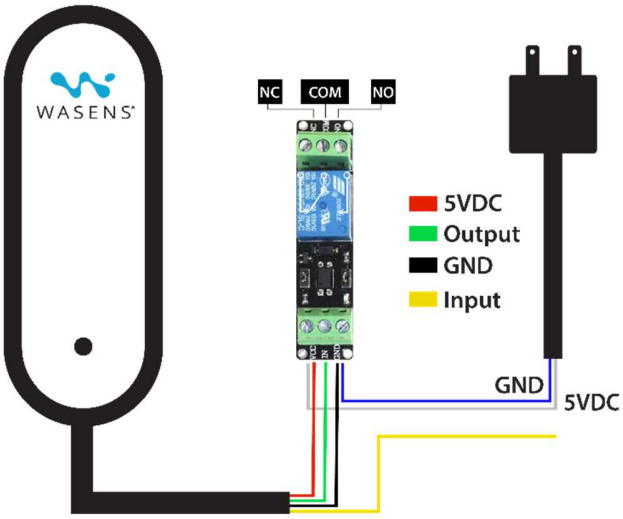
Product description	The Tripleplus CBM™ Universal AutoSwitch allows for a two-way wireless communication and control via a radio link between the Tripleplus CBM™ Controller and 3rd party Actuator or other 3rd party devices. The Tripleplus CBM™ Universal AutoSwitch commands any 3rd party AC or DC powered actuator with the same functionality provided by the Tripleplus CBM™ Actuator and the Tripleplus CBM™ Integrated Shutoff Unit. Generates a dry contact output and operates with its supplied 5VDC power supply.
Dimensions	3.1 x 9.8 x 2.8 Cm, 1.2 x 3.8 x 1.1” Cable length 30cm (1ft.)
Weight	45gr (1.58 Oz)
Power supply	5VDC Power Supply 2x AAA non-rechargeable backup batteries
Operation voltage	3V
Operating RF	902-928 MHz
Transmission range	Open space - up to 230 m (750 ft.) In enclosed space - up to 120 m (390 ft.) Avoid installing in a metal cabinet.
Working temperature	-20C to +50C (-40F to +122F)
Certifications	FCC ID: 2AFOICBMUSLR5 IC: 20798-CBMUSLR5

♦ Universal AutoSwitch description

1. LED indicator
2. Cable
3. Wall mounting bracket
4. Battery housing cover



♦ **Universal AutoSwitch wiring to a relay**



Tripleplus CBM™ Universal AutoSwitch installation to a Tripleplus CBM™ System

1. Open the battery housing cover by sliding it towards the cable and insert 2X AAA batteries and verify a beeping sound.
2. Connect the 5VDC power adapter to the power supply.
3. Using the Tripleplus CBM™ APP, add the Tripleplus CBM™ Universal AutoSwitch to the system.
4. Perform a test to the Switch by sending an 'activate' command using the Triple + CBM™ App, verify a clicking sound and constant red LED on the relay.
5. Send a de-activate command and verify a click sound and the red LED turning off.
6. As per required system operation, simulate a Flow or Leak and verify the Tripleplus CBM™ Universal AutoSwitch is automatically activating/deactivating.

Relay wiring (should be performed by a certified technician).

1. The Tripleplus CBM™ Universal AutoSwitch is connected to a standard and authorized by Tripleplus relay
2. With accordance to required device operation, wire either the normally closed (NC) or normally open (NO) outputs of the relay including the COMM.

Tripleplus CBM™ Universal AutoSwitch LED behaviour.

- RED flashes every 10 seconds – Ongoing alarm
- GREEN flashes every 30 seconds – OK
- BLUE flashes every 30 seconds – Communication problems
- RED flashes every 30 seconds – Low battery

System installation

Tripleplus CBM™ devices are installed and activated using the Tripleplus CBM™ App available on AppStore and Google Play. It is recommended to test the unit before installation.

This Tripleplus CBM™ Universal AutoSwitch is designed for internal use only and should be installed by an authorized installer.

Water Flood Sensors Specification

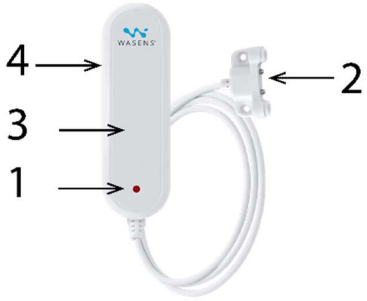
Product description	The wireless and battery-operated Water Flood Sensor is installed in places where high chance of water flooding may occur. Whenever water is detected, an automatic command is sent to the CBM™ Controller.
Dimensions	Body: 3.1 x 9.8 x 2.8 cm (1.2 x 3.8 x 1.1") Electrodes: 34X16X11mm (1.34X0.63X0.43")
Weight	75 gr (2.64 Oz)
Cable Length	CBM-FDAMAP-5-00 (30cm, 1 ft), CBM-FDAMAP-5-12 (120cm, 4 ft), CBM-FDAMAP-5-30 (300cm, 10 ft)
Power supply	2x AAA non-rechargeable batteries
Operation voltage	3V
Battery life span	Up to two years
Operating RF	902-928 MHz
Transmission range	Open space - up to 230 m (750 ft.) Indoor - up to 120 m (390 ft.) Avoid installing in a metal cabinet.
Working temperature	-20^{0}C to +50^{0}C (-4 to +122^{0}F)
Certifications	FCC ID: 2AFOICBMUSLR5 IC: 20798-CBMUSLR5

♦ Avoid installing the Water Flood Sensor in:

- Metal cabinets.
- Dusty laces.
- Where the temperature is not between -20°C and 50°C (-4°F to +122°F).
- Where it can be hit or damaged.
- Outdoor, exposed to rain and direct sunlight.
- High level of humidity.

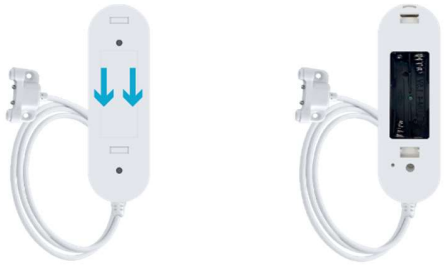
♦ Water Flood Sensor description

1. LED indicator
2. Electrodes
3. Body
4. Wall mounting fitting



♦ Water Flood Sensor installation

1. Open the battery housing cover by sliding it down.
2. Remove the cover and expose the battery housing to insert batteries.
3. Insert the batteries.
4. Close the battery housing cover.
5. Place the Flood Sensor at a height where only the electrodes are in contact with water during a flood.
6. Mount the Sensor to the wall using the double-sided adhesive tape.
7. The bottom part at the electrodes may be fastened using the double-sided adhesive tape attached or 2 screws (not included).



Flood Sensor LED behaviour.

- RED flashes every 10 seconds – water leak detection
- GREEN flashes every 30 seconds – OK
- BLUE flashes every 30 seconds – communication problems
- RED flashes every 30 seconds – low battery

Flood Sensor Buzzer Behaviour

In case of a leak, the buzzer will sound every 10 seconds

System installation

Tripleplus CBM™ devices are installed and activated using the Tripleplus CBM™ App available on AppStore and Google Play.

This Water Flood Sensor is designed for indoor use only and should be installed by an authorized technician.

Water Sensing Rope Installer Guide

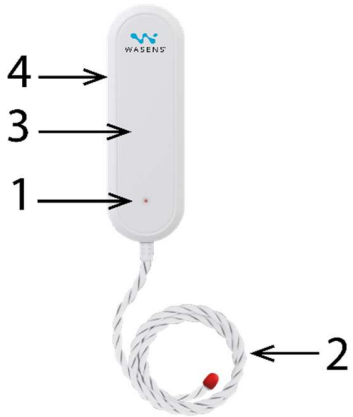
Product description	The wireless and battery-operated Water Sensing Rope is installed in places where high chance of water flooding may occur. Whenever water is detected, an automatic command is sent to the CBM™ HUB.
Dimensions	Body: 3.1 x 9.8 x 2.8 cm (1.2 x 3.8 x 1.1")
Cable Length	CBM-SRAMAP-5-02 (60cm, 2ft), CBM-SRAMAP-5-04 (120cm, 4ft), CBM-SRAMAP-5-10/11/12* (300cm, 10ft), CBM-SRAMAP-5-20/21** (600cm, 20ft)
Weight	75 gr (2.64 Oz)
Power supply	2x AAA non-rechargeable batteries
Operation voltage	3V
Battery life span	Up to two years
Operating RF	868/915 MHz
Transmission range	Open space - up to 230 m (750 ft.) In enclosed space - up to 120 m (390 ft.) Avoid installing in a metal cabinet.
Working temperature	-20^{0}C to +50^{0}C (-4 to +122^{0}F)
Certifications	FCC ID: 2AFOICBMUSLR5 IC: 20798-CBMUSLR5
*Note	Different cable connector (same functionality). * 10- no connector, 11 – CAB00510 connector, 12 – LLT connector **20-no cable connector, 21 – CAB00520 connector

♦ Avoid installing the Water Sensing Rope Sensor in:

- Metal cabinets.
- Dusty places.
- Where the temperature are not between -20°C and 50°C (-4°F to +122°F).
- Where it can be hit or damaged.
- Outdoor, exposed to rain and direct sunlight.
- High level of humidity.

♦ Water Sensing Rope description

1. LED indicator
2. Rope
3. Body
4. Wall mounting fitting



♦ Water Sensing Rope installation

1. Open the battery housing cover by sliding it down.
2. Remove the cover and expose the battery housing to insert batteries.
3. Insert the batteries.
4. Close the battery housing cover.
5. Place the Water Sensing Rope at a height where only the rope will be in contact with water during a flood.
6. Mount the Sensor to the wall using the double-sided adhesive tape.
7. After the installation, check that the LED indicator is clearly visible.

Water Sensing Rope LED behaviour.

- RED flashes every 10 seconds – water leak detection
- GREEN flashes every 30 seconds – OK
- BLUE flashes every 30 seconds – communication problems
- RED flashes every 30 seconds – low battery

Water Sensing Rope Buzzer Behaviour

In case of a leak, the buzzer will sound every 10 seconds

System installation

Tripleplus CBM™ devices are installed and activated using the Tripleplus CBM™ App available on AppStore and Google Play.

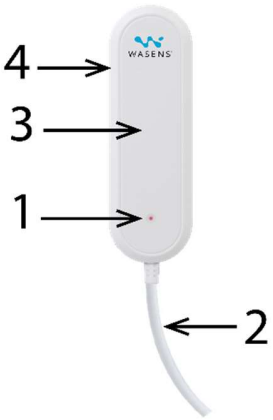
This Water Flood Sensor is designed for indoor use only and should be installed by an authorized technician.

Remote Water Meter Reader Installer Guide

Product description	Tripleplus presents its advanced solution for the Remote Water Meter Reader (RWMR). We offer real time reading of the water meters, which enables management of water usage and the detection of atypical water consumption and a suspected leak. The Tripleplus CBM™ Remote Water Meter Reader, was designed to act as part of the Tripleplus ecosystem and responsible for detecting abnormal water usage and water leaks. The system provides higher level of assistance to detect water consumption that is significantly higher than usual.
Dimensions	3.1 x 9.8 x 2.8 Cm, 1.2 x 3.8 x 1.1”
Cable Length	Cable length 120cm (4ft.)
Power supply	2x AAA non-rechargeable backup batteries
Operation voltage	3V
Operating RF	902-928 MHz
Transmission range	Open space - up to 230 m (750 ft.) In enclosed space - up to 120 m (390 ft.) Avoid installing in a metal cabinet.
Working temperature	-20C to +50C (-4F to +122F)
Certifications	FCC ID: 2AFOICBMUSLR5 IC: 20798-CBMUSLR5

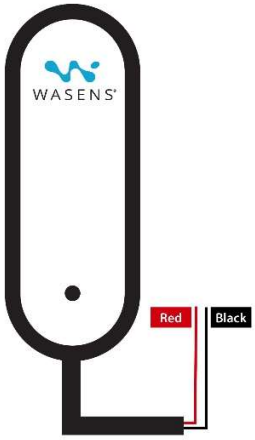
♦ Remote Water Meter Reader description

1. LED indicator
2. Cable
3. Wall mounting bracket
4. Battery housing cover



♦ **Tripleplus CLM™ Remote Water Meter Reader wiring to a pulse-based water meter.**

Tripleplus CBM™ Remote Water Reading installation to a Tripleplus CBM™ System



1. Open the battery housing cover by sliding it towards the cable and insert 2X AAA batteries and verify a beeping sound.
2. Using the Tripleplus CBM™ App, add the Tripleplus CBM™ Remote Water Meter Reader to the system.

Wiring to the water meter

1. The Tripleplus CBM™ Remote Water Meter Reader is connected to a pulse-based water meter by 2 wires as presented in the above drawing.
2. Use the Red and Black wires to connect to the Water Meter pulse output.

Tripleplus CBM™ Remote Water Meter Reader LED behaviour.

- RED flashes every 10 seconds – Ongoing alarm
- GREEN flashes every 30 seconds – OK
- BLUE flashes every 30 seconds – Communication problems
- RED flashes every 30 seconds – Low battery

System installation

Tripleplus CBM™ devices are installed and activated using the Tripleplus CBM™ App available on AppStore and Google Play. It is recommended to test the unit before installation.

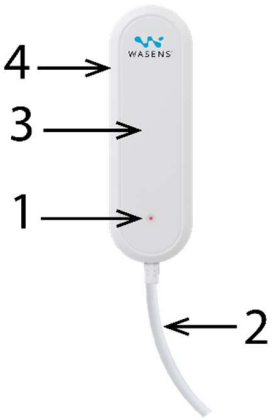
This Tripleplus CBM™ Remote Water Meter Reader is designed for internal use only and should be installed by an authorized installer.

Pressure Sensor Installer Guide

Product description	Tripleplus presents its advanced solution for the Pressure Sensor device. We offer real time pressure reading in the water pipes, which enables the water pressure management and by smart algorithm to detect changes in pressure status, atypical water consumption and a suspected leak. The Tripleplus CBM™ Pressure Sensor, was designed to act as part of the Tripleplus ecosystem and responsible for detecting abnormal water usage and water leaks. The system provides higher level of assistance to detect water consumption that is significantly higher than usual.
Dimensions	3.1 x 9.8 x 2.8 Cm, 1.2 x 3.8 x 1.1”
Cable Length	Cable length 120cm (4ft.)
Power supply	2x AAA non-rechargeable backup batteries
Operation voltage	3V
Operating RF	902-928 MHz
Transmission range	Open space - up to 230 m (750 ft.) In enclosed space - up to 120 m (390 ft.) Avoid installing in a metal cabinet.
Working temperature	-20C to +50C (-4F to +122F)
Certifications	FCC ID: 2AFOICBMUSLR5 IC: 20798-CBMUSLR5

♦ Pressure Sensor description

1. LED indicator
2. Cable
3. Wall mounting bracket
4. Battery housing cover
5. Pressure Sensor



Tripleplus CBM™ Pressure Sensor installation to a Tripleplus CBM™ System

1. Open the battery housing cover by sliding it towards the cable and insert 2X AAA batteries and verify a beeping sound.
2. Using the Tripleplus CBM™ APP, add the Tripleplus CBM™ Pressure Sensor to the system.

Pressure Sensor installation on the pipes

1. The Tripleplus CBM™ Pressure Sensor is connected to a water pipe. Please refer to the Pressure Sensor installation guide define by the Pressure Sensor manufacture.

Tripleplus CBM™ Pressure Sensor LED behaviour.

- RED flashes every 10 seconds – Ongoing alarm
- GREEN flashes every 30 seconds – OK
- BLUE flashes every 30 seconds – Communication problems
- RED flashes every 30 seconds – Low battery

System installation

Tripleplus CBM™ devices are installed and activated using the Tripleplus CBM™ App available on AppStore and Google Play. It is recommended to test the unit before installation.

This Tripleplus CBM™ Pressure Sensor is designed for internal use only and should be installed by an authorized installer.

Controller Backhaul Installer Guide

Product description	The Controller Backhaul device is used to connect any other end device to a Tripleplus CBM Controller. The controller Backhaul connects to an existing 915 CBM Controller's network from the radio side and to other Tripleplus CBM device or any authorized 3rd party devices by serial communication port. Tripleplus network will approve only authorized end devices to be connected. In case of connecting to the Controller Backhaul device, another Tripleplus end device (like the Local Controller) , the two devices must be installed within a minimum distance of 20cm between each other, following the certification restrictions.
Dimensions	5.9x8.0x2.5cm (2.32x3.15x0.98'')
Weight	110gr (3.8 Oz)
Power supply	External Adaptor Input 110-240 V AC
	5V (2 X AAA back up batteries included Up to two hours)
Operating RF	902-928 MHz
Working temperature	-20 to +50C (-4 to +122F)
Certifications	FCC ID: 2AFOICBMUSLR5 IC: 20798-CBMUSLR5

Backup Batteries Installation

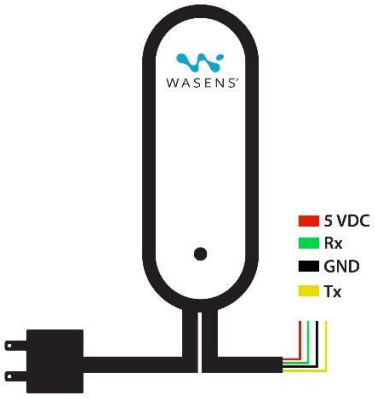
1. Slide down the batteries case cover.
2. Insert 2 x AAA batteries (included).
3. Slide back up the batteries case cover.

Controller description

A. Power cable.
B. LED indicator
C. Serial port cable

Wiring functionality

1. Power – Red wire
2. Tx – Yellow wire
3. Rx – Green wire
4. GND – Black wire



Controller Backhaul installation Steps

1. Locate the best location for installation.
2. Use screws or the double-sided adhesive tape to mount the back cover of the Controller Backhaul to the wall.
3. In case of connecting a Local Controller to the Controller Backhaul, the Local Controller should be connected within a distance of at least 20cm.

*Note: Tripleplus devices works asynchronously with each other. All devices are working as stand-alone devices from radio point of view and communication is directly with the network controller only.

Controller Backhaul LED behaviour

- GREEN flashes every 30 seconds – OK
- BLUE flashes every 30 seconds – communication problems
- RED flashes every 30 seconds – low battery

System component synchronization and activation

Tripleplus CBM™ devices are installed and activated using the Tripleplus CBM™ App available on AppStore and Google Play. It is recommended to test the unit before installation.

This Repeater is designed for indoor use only and should be installed by an authorized installer.

Local Controller Installer Guide

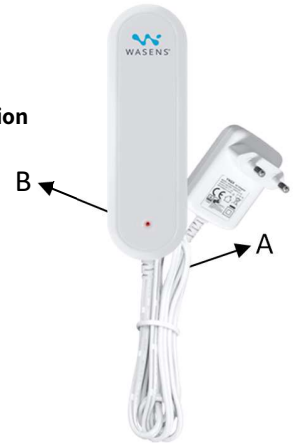
Product description	The Local Controller device is used to connect Tripleplus End Devices in local wireless radio network. This local network can be connected to the main Controller network by connecting the Local Controller device with the wired serial port to the Controller Backhaul device. These two radio networks are working asynchronously and the serial port connecting the two devices is the data communication bridge between the networks. In case of connecting the Local Controller device to the Controller Backhaul device, the two devices should be installed within a minimum distance of 20cm from each other, following the certification restrictions.
Dimensions	5.9x8.0x2.5cm (2.32x3.15x0.98'')
Weight	110gr (3.8 Oz)
Power supply	External Adaptor Input 110-240 V AC
	5V (2 X AAA back up batteries included Up to two hours)
Operating RF	902-928 MHz
Working temperature	-20 to +50C (-4 to +122F)
Certifications	FCC ID: 2AFOICBMUSLR5 IC: 20798-CBMUSLR5

Backup Batteries Installation

1. Slide down the batteries case cover.
2. Insert 2 x AAA batteries (included).
3. Slide back up the batteries case cover.

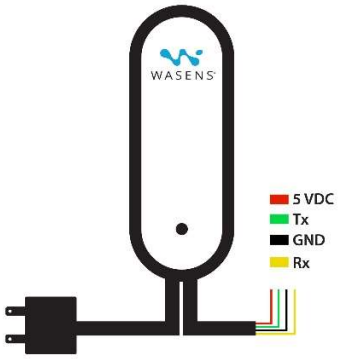
Local-Controller description

A. Power cable.
B. LED indicator
C. Serial port cable



Serial port Wiring description

1. Power – Red wire
2. Tx – Green wire
3. Rx – Yellow wire
4. GND – Black wire



Local Controller installation steps

1. Locate the best location for installation.
2. Use screws or the double-sided adhesive tape to mount the back cover of the Local Controller to the wall.

Controller Backhaul LED behaviour

- GREEN flashes every 30 seconds – OK
- BLUE flashes every 30 seconds – communication problems
- RED flashes every 30 seconds – low battery

System component synchronization and activation

The Local Controller network can be controlled by Tripleplus App only by connecting this local network to the main Controller network using the Controller Backhaul device.
Tripleplus CBM™ devices are installed and activated using the Tripleplus CBM™ App available on AppStore and Google Play. It is recommended to test the unit before installation.

This Local Controller is designed for indoor use only and should be installed by an authorized installer.

Brand/Item	Type/Model	Short Product description
Flood Family – Universal Switch	CBM-USAMAP-5	Powered by power plug and has 2x AAA backup batteries. The Universal Switch is connected to the controller by 915MHz and gets open/close commands to change 3rd party devices' operation mode. The Device can get some other configuration commands as well.
Flood Family – Flood Sensor	CBM-FDAMAP-5	Sensor powered by 2x AAA batteries. The device can be delivered with different cable length <10ft. The device connected to the controller by 915MHz.
Flood Family – Rope Sensor	CBM-SRAMAP-5	Sensor powered by 2x AAA batteries. The device can be delivered with different twisted pair cable length <20ft. The device connected to the controller by 915MHz.
Flood Family – Remote Water Meter Reader	CBM-RMAMAP-5	Device powered by 2x AAA batteries. The device connected to Water meter by special connector or open-ended wires. The device transmits water readings to the controller. The device connected to the controller by 915MHz.
Flood Family – Pressure Sensor	CBM-PSAMAP-5	Sensor powered by 2x AAA batteries. The device can be delivered with different cable length <10ft, 3rd party pressure sensor connected at its other end. The device connected to the controller by 915MHz.
Flood Family – Controller Backhaul	CBM-BHAMAP-5	Powered by power plug and has 2x AAA backup batteries. Connected to a serial communication cable that can connect to any other device with serial communication, being Tripleplus or 3rd party sensor. Cable can be with different lengths. The device connected to the controller by 915MHz.
Flood Family – Local Controller	CBM-LCAMAP-5	Powered by power plug and has 2x AAA backup batteries. The device has a serial communication cable that can be connected to the Controller Backhaul device. The device connected to end devices by 915MHz.

FCC Statements

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.

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

Note: 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 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.

WARNING – RF EXPOSURE COMPLIANCE: This equipment should be installed and operated with a minimum distance 20cm between the radiator and your body.

-This Class B digital apparatus complies with Canadian ICES-003.
-Cet appareil numerique de la classe B est conforme a la norme NMB-003 du Canada.

IC Statements

This device contains licence-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.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
1) L'appareil ne doit pas produire de brouillage;
2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

AVERTISSEMENT – CONFORMITÉ AUX NORMES D'EXPOSITION AUX RF : Cet équipement doit être installé et utilisé à une distance minimale de 20 cm entre le radiateur et votre corps.