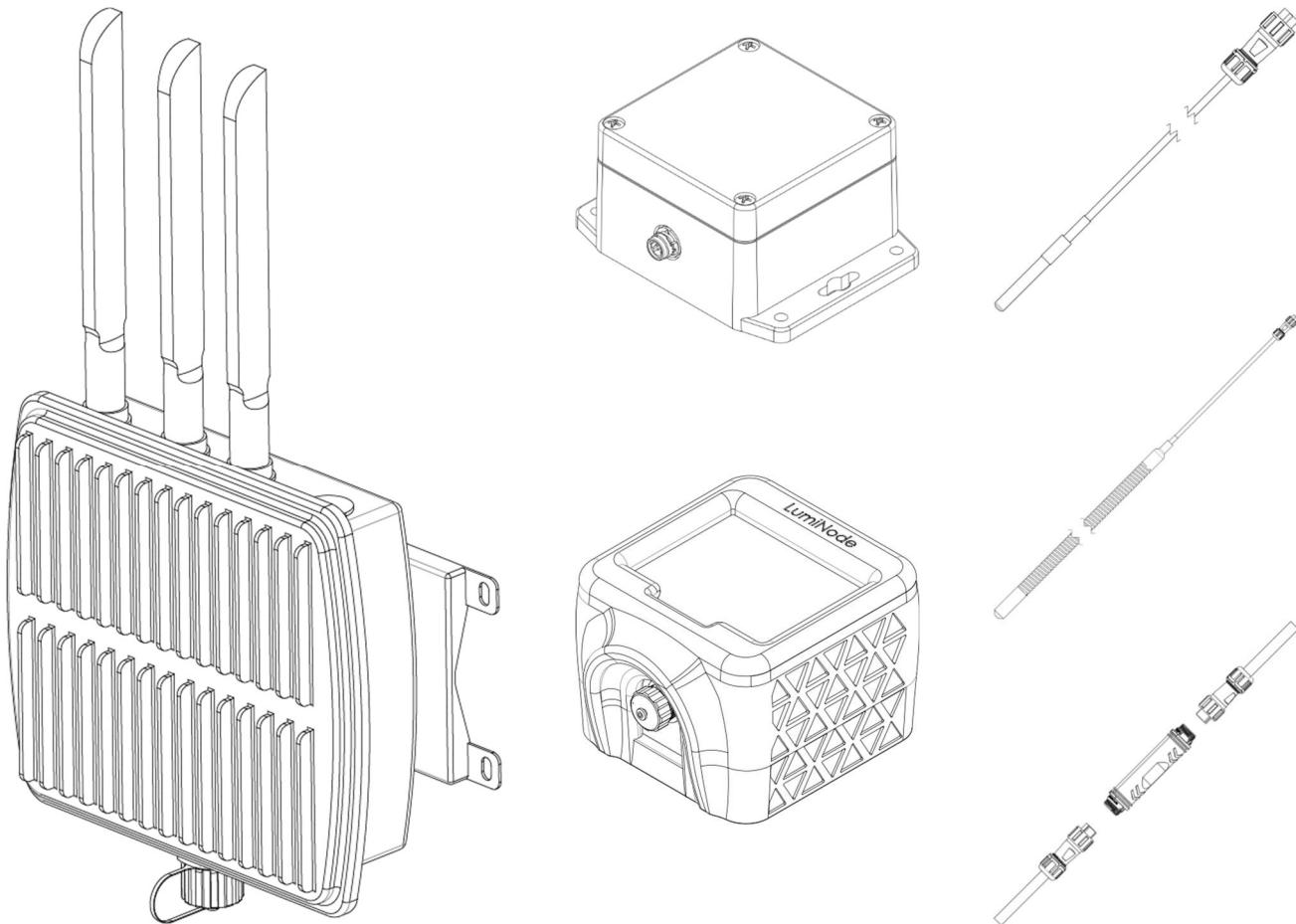




USER GUIDE

Version 1.6

Slim Model



LumiCon User Guide

TABLE OF CONTENTS

1	System Overview and Components.....	2
1.1	Parts List.....	2
1.2	System Overview & System Components.....	3
2	Set up and Mount LumiHub (Slim Model)	4
2.1	Installation Location.....	4
2.2	Antenna & Backplate Installation	5
2.3	Mounting and Power Connection.....	6
2.3.1	Mounting to Pole	6
2.3.2	Mounting to Wall	7
2.4	Power Supply Setup and Connection.....	8
2.4.1	Power Supply Box Setup	8
2.4.2	Power Supply Reel Setup	9
3	Set up LumiCon Mobile Application.....	10
4	LumiSense and LumiNode Installation.....	13
5	Job Completion	14
5.1	Stop the In-App Job Monitoring.....	14
5.2	Unmount the LumiNode	15
6	Troubleshooting Steps	16
7	Regulatory Statements	17
7.1	Federal Communications Commission (FCC)	17
7.2	Innovation, Science and Economic Development Canada (ISED)	18

1 SYSTEM OVERVIEW AND COMPONENTS



1.1 PARTS LIST

Description	Quantity
LumiHub	1
LumiHub Power Supply	1
LumiNode	As required
LumiSense cables	As required
Zip ties‡	As required

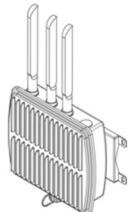
‡ Zip ties: 1 per *LumiNode* + 1 every 2 ft per *LumiSense Cable*

1.2 SYSTEM OVERVIEW & SYSTEM COMPONENTS

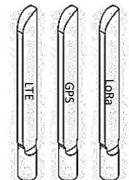
LumiHub

Accessories

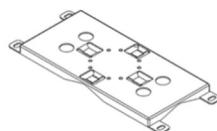
1x



Slim Model



Antenna x3



Backplate x1



Screw x4



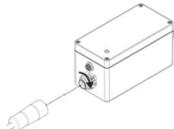
Hose clamp x2



Wood screw x4

LumiHub Power Supply Options

1x



Standard Power Supply Box

OR



100 ft Power Supply Reel

LumiNode

As Required

Regular



With data logger



Ruggedized



Zip ties



LumiSense

Temperature probe



Multi-point sensor cable



Zip ties



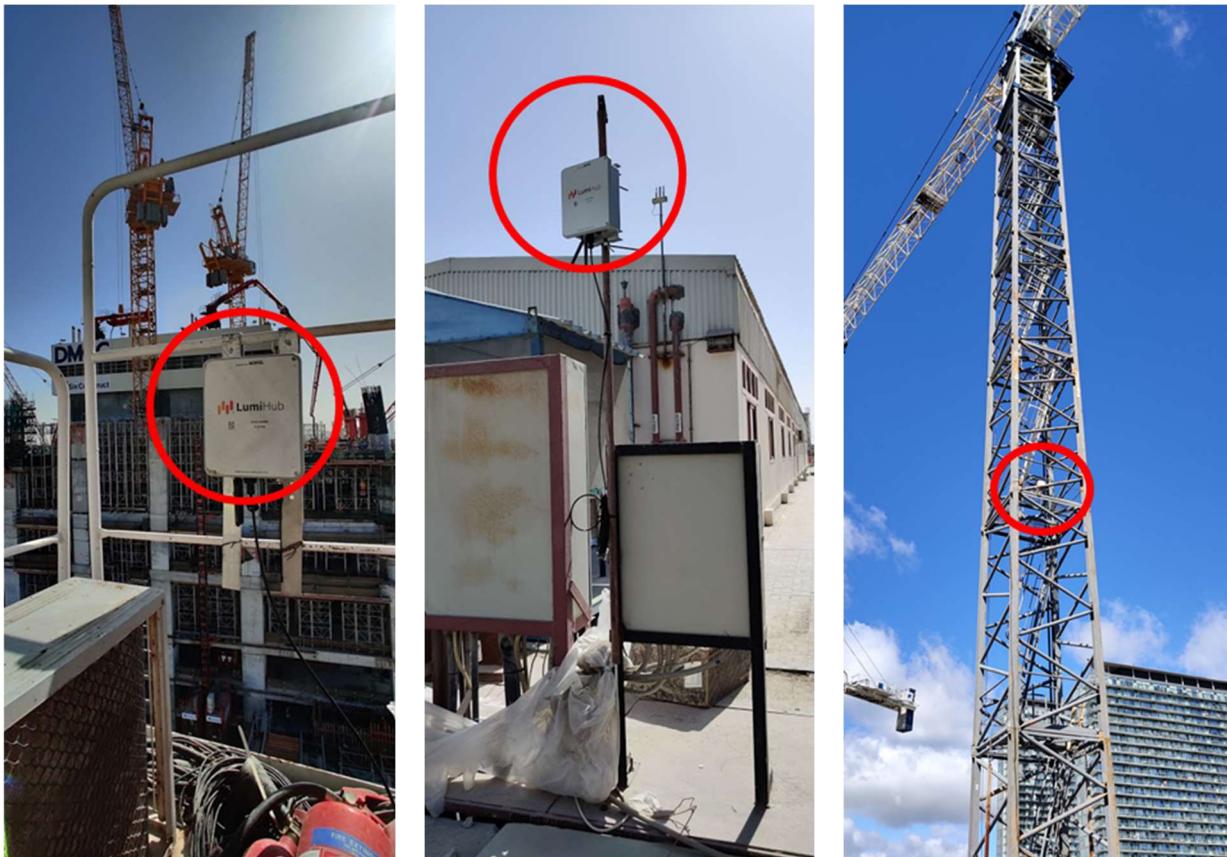
2 SET UP AND MOUNT LUMIHUB (SLIM MODEL)

2.1 INSTALLATION LOCATION

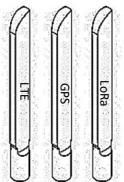
In typical construction sites our LumiHub covers a 500-meter radius. If a line of sight between the LumiHub and a LumiNode can be maintained, up to 2km is possible from our previous site tests. However, environmental factors particular to each job site can significantly reduce the coverage area, such as:

- Job site layout
- Grading
- Equipment in use (Mobile generators and other radio equipment, for example)
- Line-of-sight obstructions by thick concrete slabs or walls
- Large bodies of water on the path between the LumiHub and LumiNode

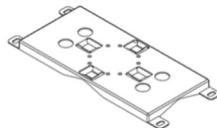
Our recommendation is to mount the LumiHub on a high location, as exemplified in the pictures below (Standard version of LumiHub is shown, but the principle still stands):



2.2 ANTENNA & BACKPLATE INSTALLATION



Antennas x3



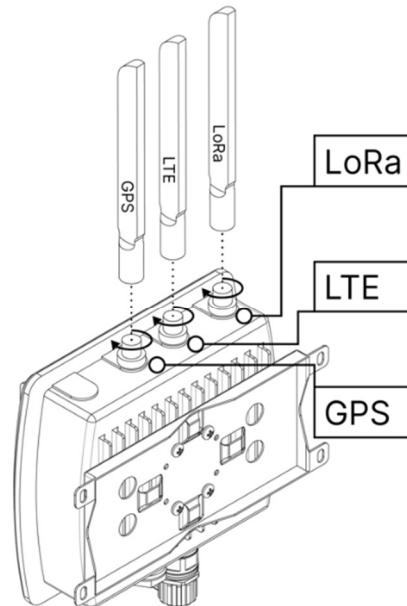
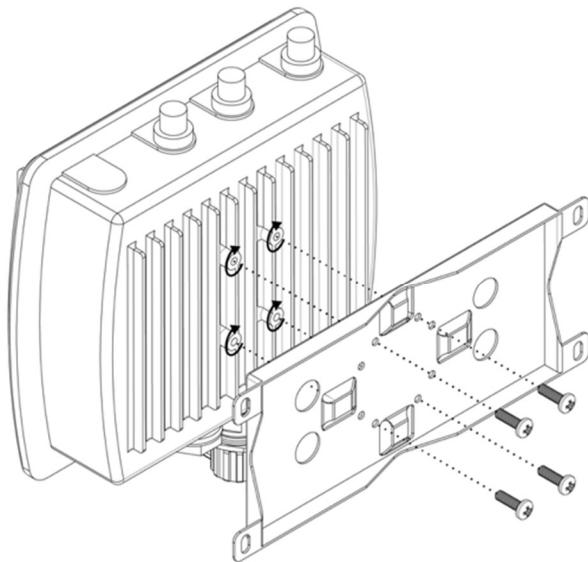
Backplate x1



Philips Screw Driver



Screw x4



Ensure antennas are connected in their respective ports. Tighten by hand until no thread is visible.

2.3 MOUNTING AND POWER CONNECTION

Pole Mounting instructions (below)

Wall Mounting instructions (next page)

2.3.1 Mounting to Pole

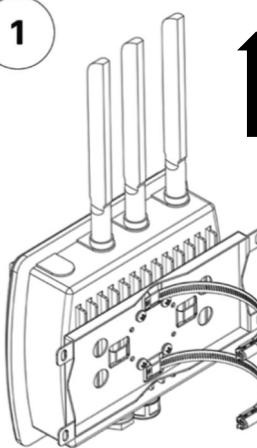


Hose Clamp x2



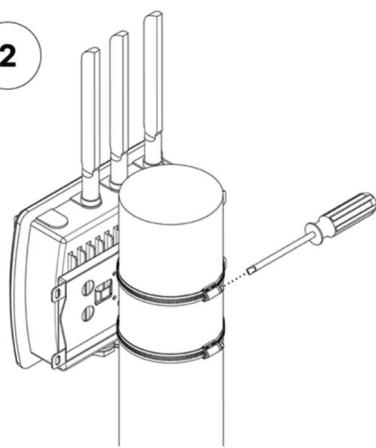
Flat Screw Driver

1

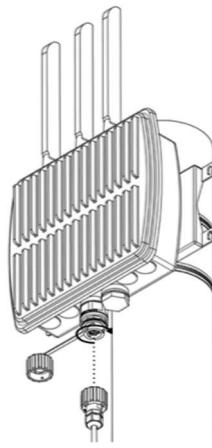


Mount with
antennas
pointing up

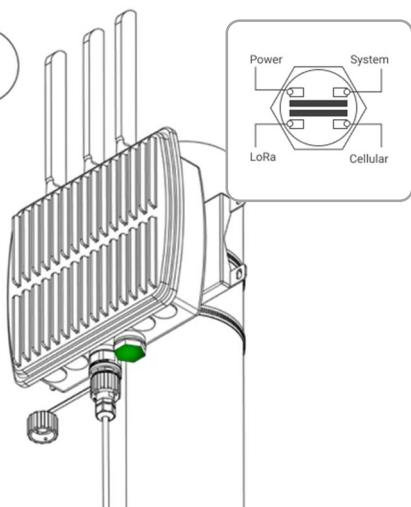
2



3



4



Wall Mounting instructions (below)

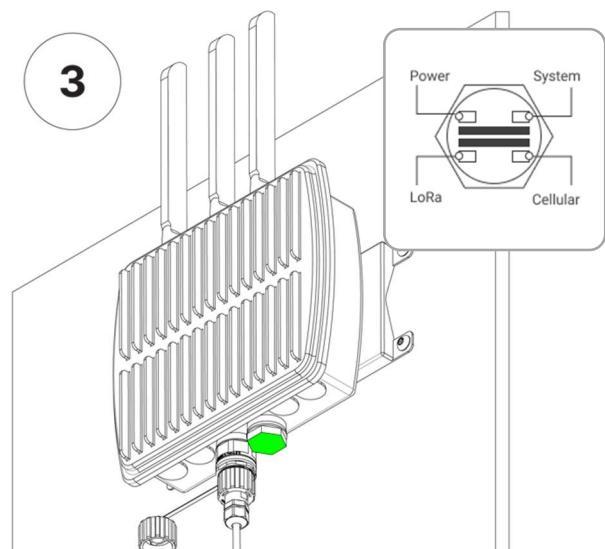
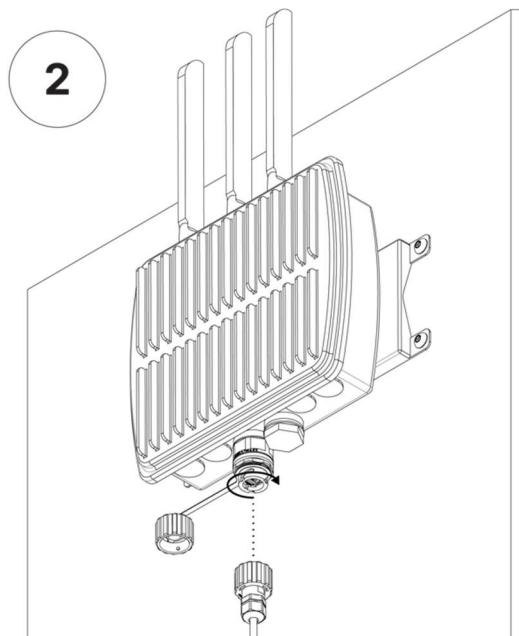
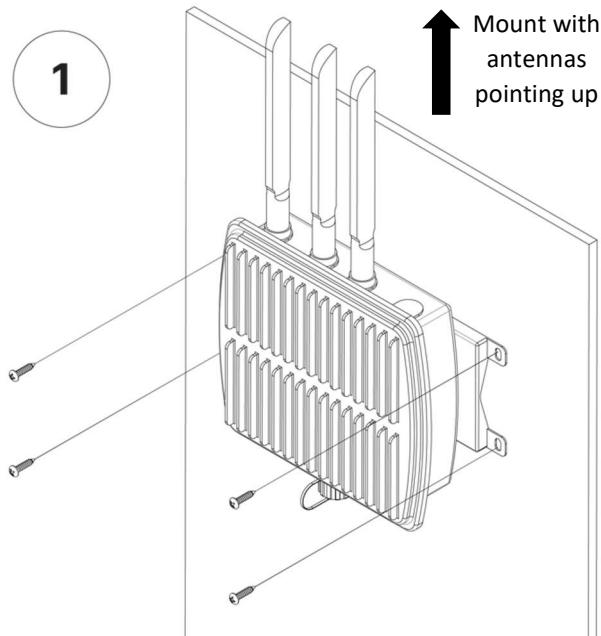
2.3.2 Mounting to Wall



Wood Screw x4



Philips Screw Driver



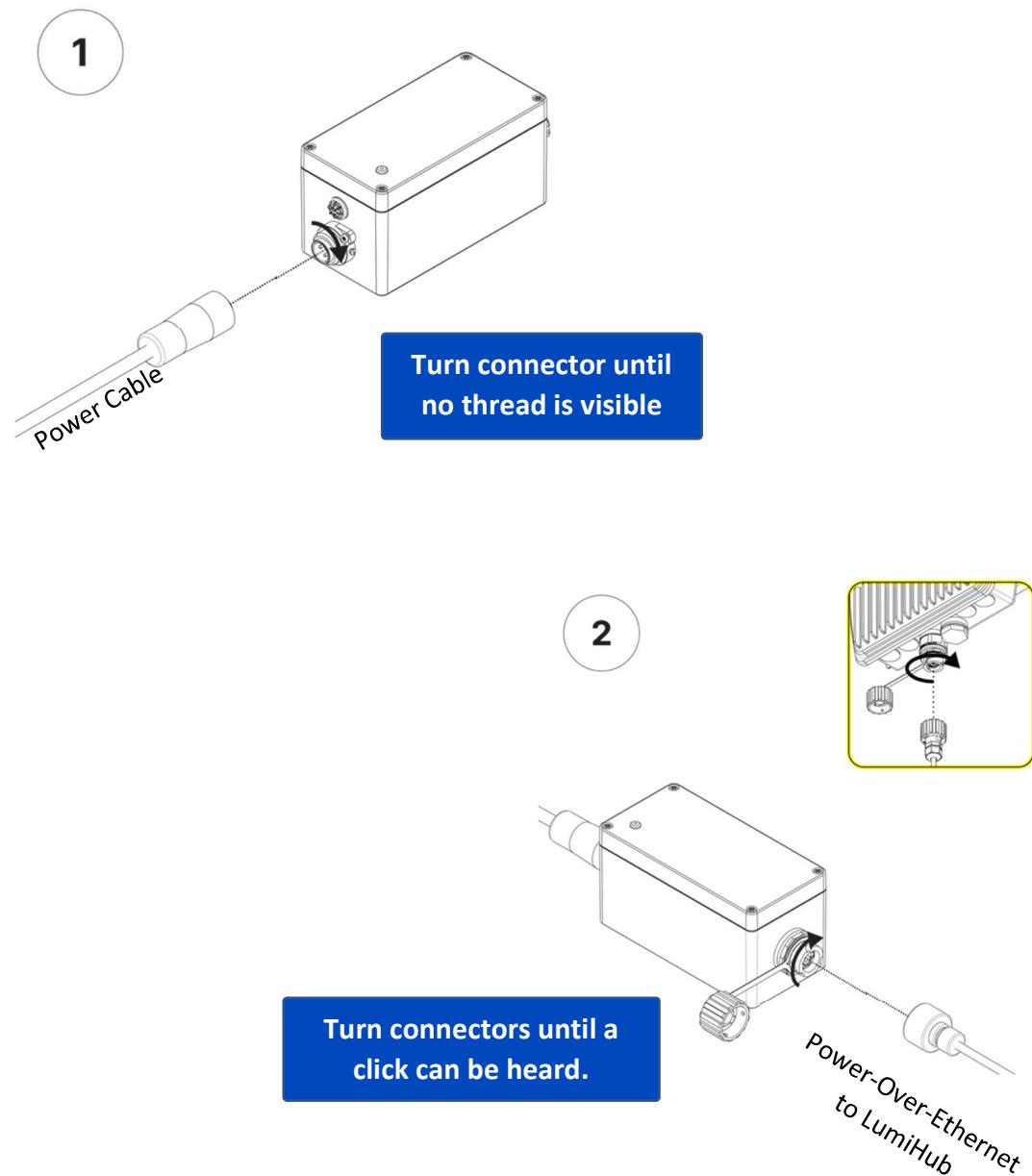
LED	Status	Description
Power	ON	Power on
System	Static	Start-up
	Blinking	System running properly
LoRa	ON	Wireless sensor network is running properly
LTE	Blink Slowly	SIM is registered
	Blink Rapidly	SIM is dialing up
	Static	Dialed up successfully

2.4 POWER SUPPLY SETUP AND CONNECTION

Power Supply Box instructions (below)

Power Supply Reel instructions
(next page)

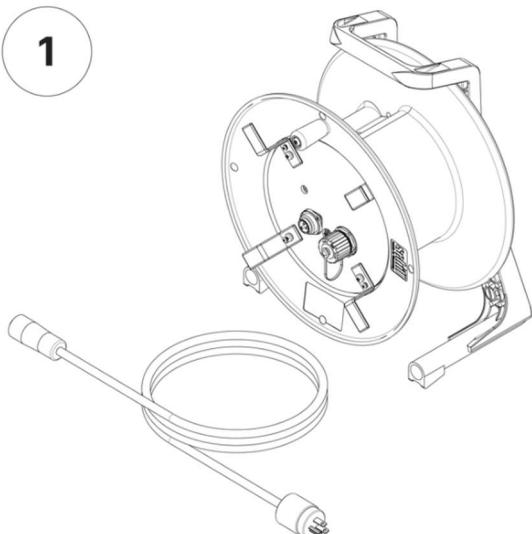
2.4.1 Power Supply Box Setup



Power Supply Reel instructions (*below*)

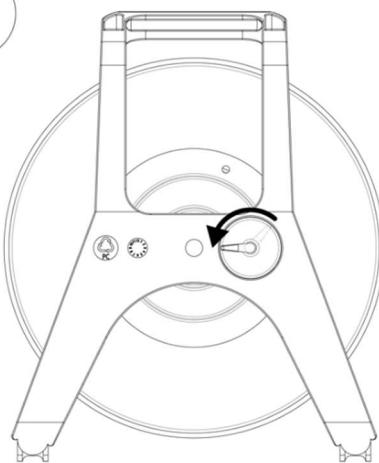
2.4.2 Power Supply Reel Setup

1



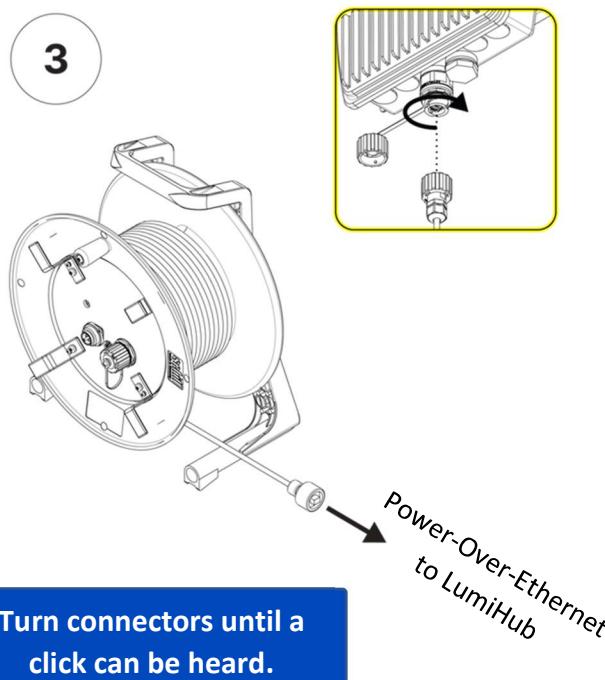
Unwind the AC cable from front panel

2



Turn dial on the back to lock/unlock reel

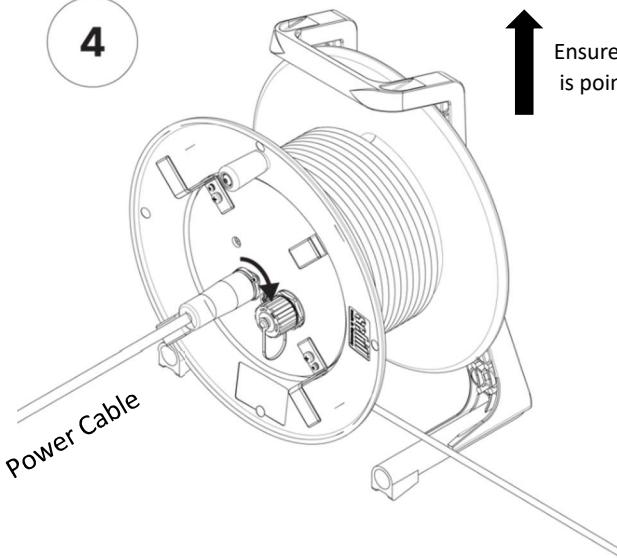
3



Turn connectors until a click can be heard.

Power-Over-Ethernet to LumiHub

4



Turn connector until no thread is visible

Ensure handle is pointed up

WARNING! READ BELOW CAREFULLY BEFORE USE

Use the reel in upright position at all times. Do not use the reel in any other orientation.

Ensure all electrical plugs are fully inserted and tightened before powering on the equipment

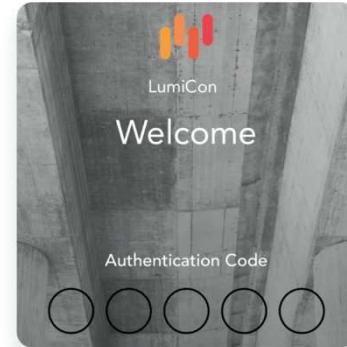
3 SET UP LUMICON MOBILE APPLICATION

Download the LumiCon mobile application from either the Google Play Store or the Apple App Store.



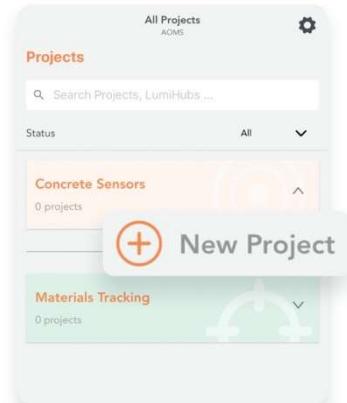
STEP 1 Enter the following credentials to access the LumiCon app:

- Authentication Code
- Username
- Password



STEP 2 The main dashboard groups projects into “Concrete Sensors” and “Materials Tracking.”

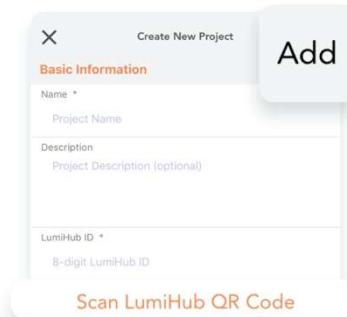
Tap on Concrete Sensors and then tap “New Project” to add a new project.



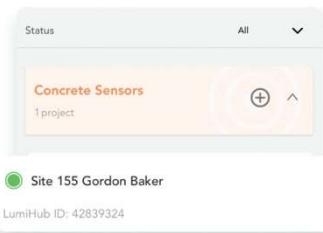
STEP 3 Enter a project name.

Scan the QR code at the front of LumiHub or enter in the LumiHub ID.

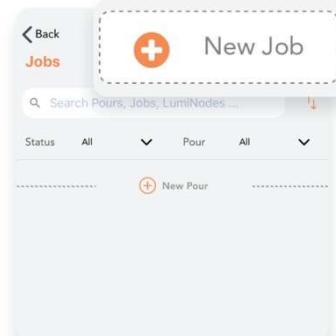
Tap “Add”.



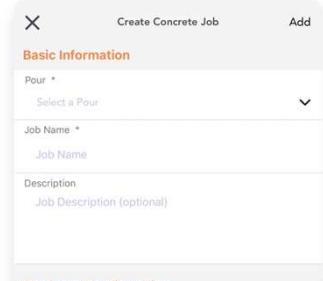
STEP 4 Once your project is saved, it is visible on the main page. Tap on the project that was created to access the jobs page.



STEP 5 Tap on “New Job” to create a new job.



STEP 6 Enter a name for pour and job name.
For Example:
Pour: “Mix 231 – July 29”
Job Name: “Calibration Cylinder A”



Scan the QR code found on the **LumiSense** cable tag or manually enter the ID.

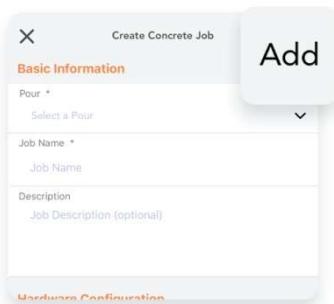


Scan the QR code found on the **LumiNode** or manually enter the ID.

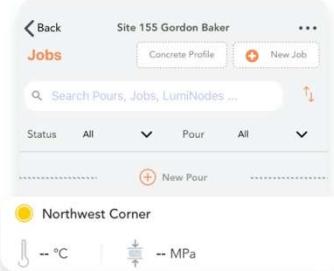


STEP 7 For concrete profile drop down box, select the profile “None”.

Scroll back up to click “Add” to add this job



STEP 8 When the new job is saved, it will be visible in the jobs view.

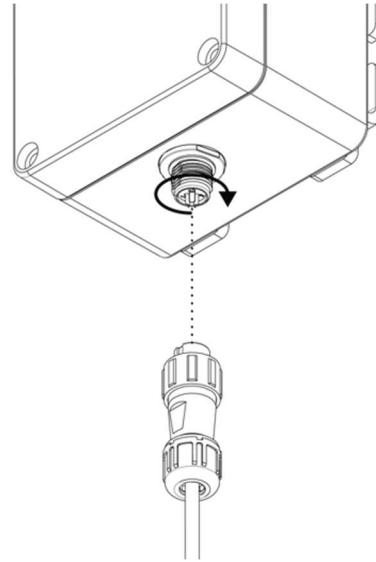


STEP 9 Insert the LumiSense cable into the LumiNode by aligning the white dots located at the connectors and tightening the nut until no thread is visible ensure a watertight seal.
The “Link” LED on the LumiNode will start flashing. Check the LumiCon app. The latest data will now update on the app.



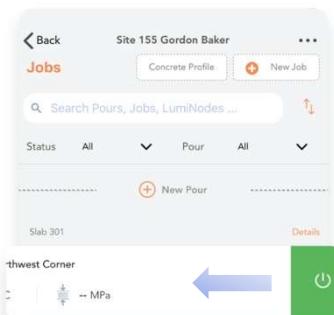
BEST PRACTICES

Only connect the LumiSense cable to the LumiNode **after the job has been created and before starting** on the LumiCon app.



STEP 10 Once the pour has occurred and strength calculations are ready to begin, start the job.

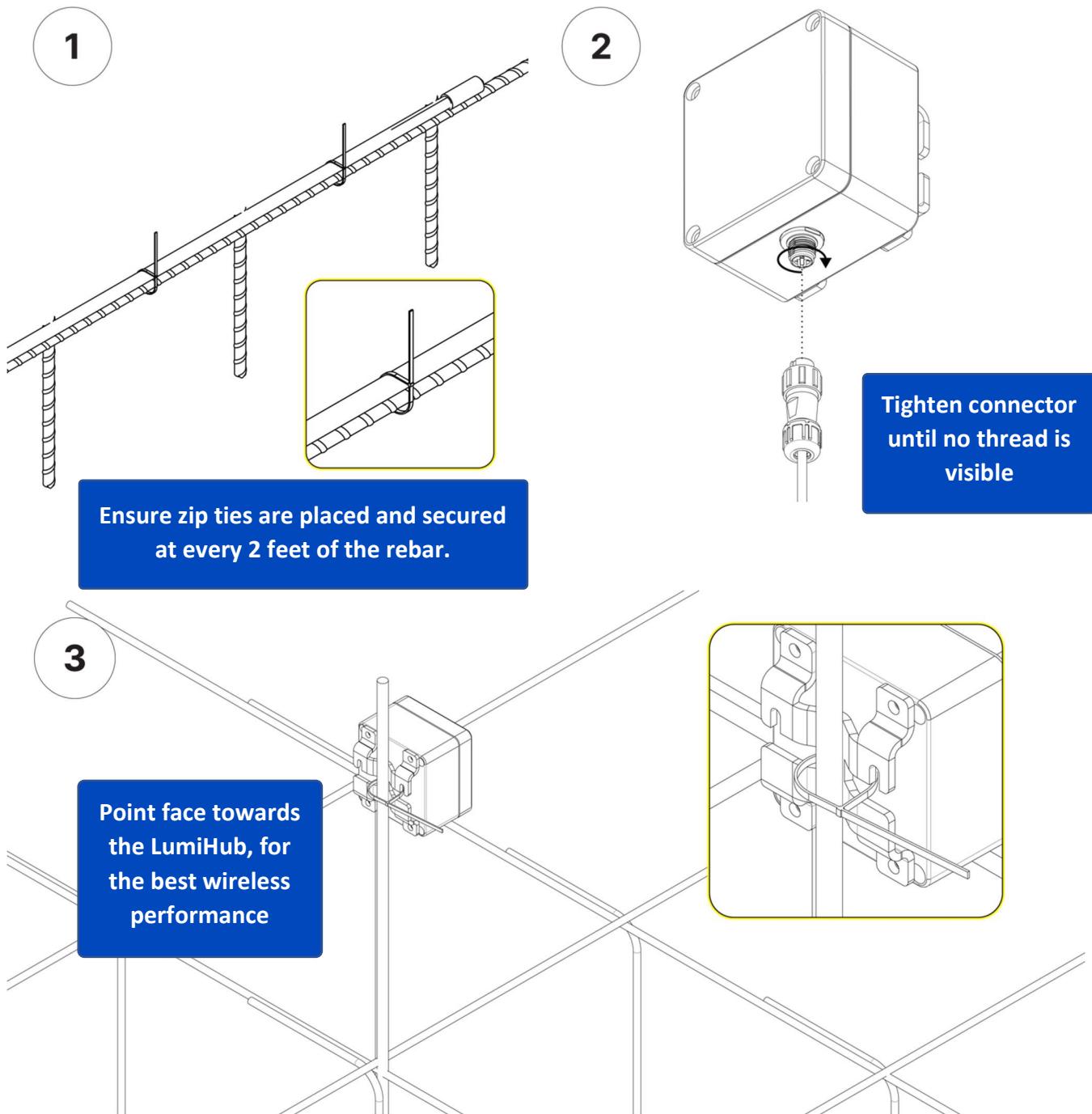
To start the job, slide the job card to the left to reveal a green power icon, tap on this icon.



4 LUMISENSE AND LUMINODE INSTALLATION



Zip ties (1 per LumiNode + 1 every 2 feet of LumiSense cable)



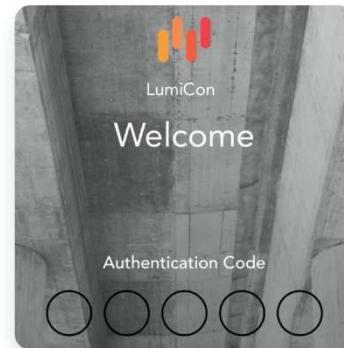
5 JOB COMPLETION

5.1 STOP THE IN-APP JOB MONITORING

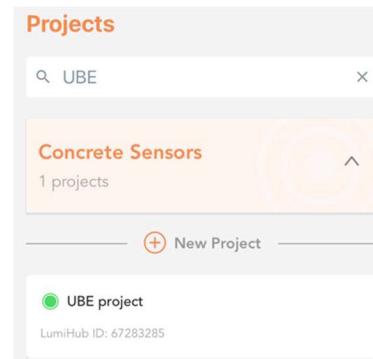
When a pour reaches maturity and no longer requires monitoring, you will need to end the job on the LumiCon app to prevent further alarms from being triggered.

STEP 1 Enter the following credentials to access the LumiCon app:

- Authentication Code
- Username
- Password

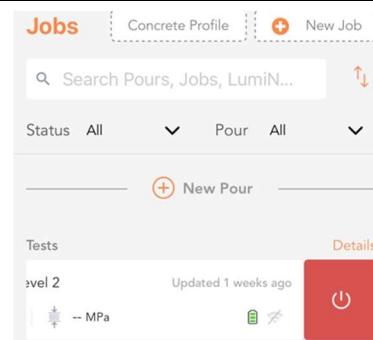


STEP 2 Navigate to the project page. You can also use the search bar to quickly find the project.



STEP 3 Inside Projects, find the Job that has now completed. Swipe to the left to reveal the button to end the Job.

Please note that this step is not reversible, follow the prompts to complete the process.



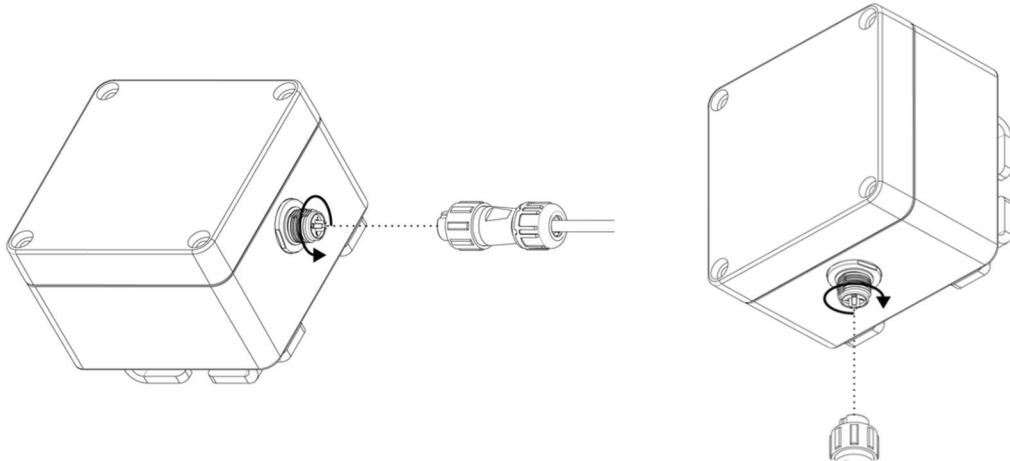
Jobs that have ended will have a grey status, whereas active jobs will have a green status.



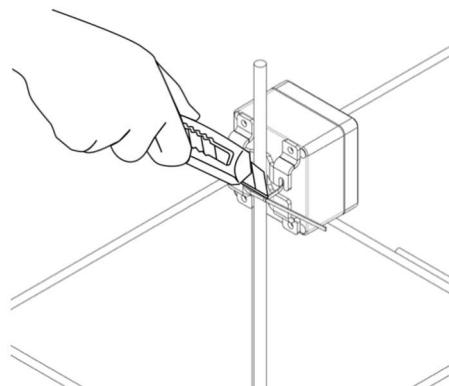
5.2 UNMOUNT THE LUMINODE

After the job is complete, the LumiSense Cable is consumed but the LumiNode can be used again for the next temperature monitoring job.

1. Unplug the LumiSense Cable from the LumiNode, and **immediately twist on the LumiNode cap** to protect the port. LED will stop flashing once unplugged.

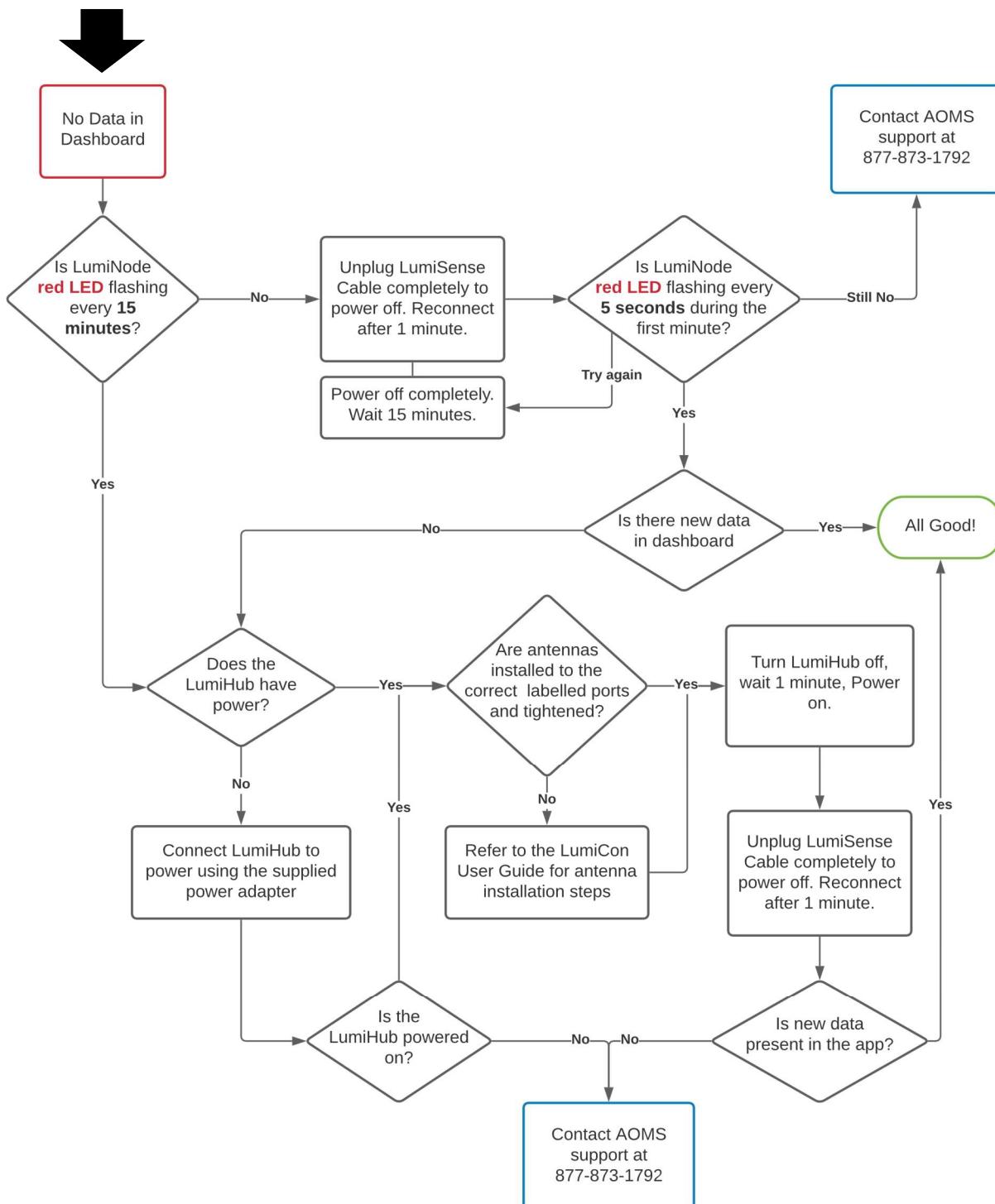


2. Release the LumiNode by cutting or unlocking the zip-tie holding the LumiNode in place.



3. You may use this LumiNode immediately for another Job or put it in the original packaging for safe storage.

6 TROUBLESHOOTING STEPS



7 REGULATORY STATEMENTS

7.1 FEDERAL COMMUNICATIONS COMMISSION (FCC)

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.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the Federal Communication Commission (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 causes 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 doing 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.

NOTE: THE GRANTEE IS NOT RESPONSIBLE FOR ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

RF Exposure Warning

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm during normal operation and must not be co-located or operating in conjunction with any other antenna or transmitter.

7.2 INNOVATION, SCIENCE AND ECONOMIC DEVELOPMENT CANADA (ISED)

This device complies with ISED Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme avec ISED 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, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

CAN ICES-3 (B)/NMB-3(B)

RF Exposure Information

This equipment complies with ISED RSS-102 radiation exposure limits set forth for an uncontrolled environment. This transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme avec ISED RSS-102 des limites d'exposition aux rayonnements définies pour un environnement non contrôlé. Cet émetteur doit être installé à au moins 20 cm de toute personne et ne doit pas être colocalisé ou fonctionner en association avec une autre antenne ou émetteur.