



**ThinkGrow**

## **Smart Junction Box**

User Manual



**ThinkGrow**

Powered by TrolMaster  
[www.thinkgrowled.com](http://www.thinkgrowled.com)  
[support@thinkgrowled.com](mailto:support@thinkgrowled.com)

## ◆ SAFTY PRECATUIONS

Read the installation and operation instructions carefully before installing and operating this device.

Proper adherence to these instructions is essential to ensure the cables are sized and installed properly.

This product is not intended for use by any persons and children with reduced physical, sensory or mental capabilities or lack of experience and product knowledge.

Users are responsible for correct and safe installation and usage.

- It's highly recommended to have a licensed electrician install your lighting system.
- Ensure the existing electrical system can support the voltage and current requirements.
- The device is designed to be installed INDOORS IN A SPACE THAT IS PROTECTED FROM RAIN AND FLOODING.
- Be certain there is NO chance the unit could come into contact with water and that it is connected to a properly protected branch circuit.
- Never operate equipment with a damaged power cord. If the power cord is damaged, it must be replaced by the manufacturer, or a similarly qualified person to avoid danger.
- General maintenance is not required. DO NOT clean the interior, with any chemicals that might cause damage. To clear the exterior of the product, use a damp cloth only.
- ThinkGrow does not provide cable options for connection from the main power source. Customers need to properly select the correct size of the main power source (cables) for the installation. Incorrect application may cause equipment damage. The user is responsible for correct and safe installation and usage. Ensure the existing electrical system can support the voltage and current requirements.

## ◆ OVERVIEW

The ThinkGrow Smart Junction Box is an electronic circuit breaker and energy meter that is connected in line with each "string" of LEDs to monitor and protect the circuit from power overload. If the circuit protector detects unusual high amperage, the power to the LEDs will be turned off to prevent damage to the LEDs and the Daisy Chain Power Cord System.

## ◆ SPECIFICATION

Input power:	100~277VAC, 50/60Hz
Rated voltage:	100~277V
Rated current:	30A
Shut-off Point Range:	15A / 20A / 30A
Overcurrent protection point:	+120%
Sensitivity to protection:	Response within 0.5s
Voltage accuracy:	±2% readings / ±1% shut-off point
Current accuracy:	±2% readings / ±1% shut-off point
Power accuracy:	±5% readings / ±1% shut-off point
PF accuracy:	±10%
Number of poles:	3
Operating temperature:	32~104°F
Working humidity:	5~95%RH
Wireless standard:	Lora, 902 MHz-928MHz
Max. Wireless Range:	1 mile
Product dimensions:	104.05 x 266.16 x 70.77 (mm)
Product Weight:	940g
Certifications:	ETL/FCC
FCC ID:	2A33F-OPA-1

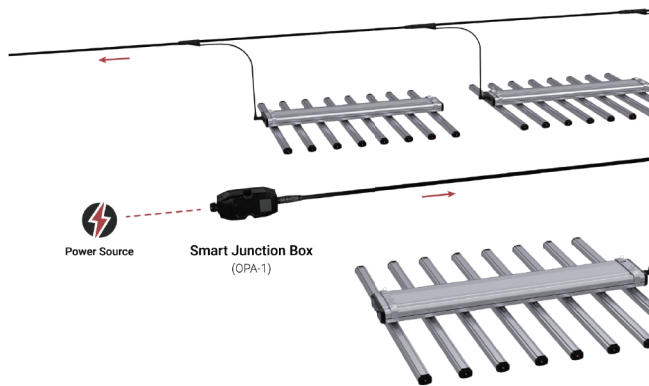
## ◆ PACKAGE CONTENTS

- 1 x Smart Junction Box (OPA-1)
- 1 x Alternate Waterproof Cable Gland Seal (for 12/3 and 14/3 cable)

## ◆ INSTALLATION

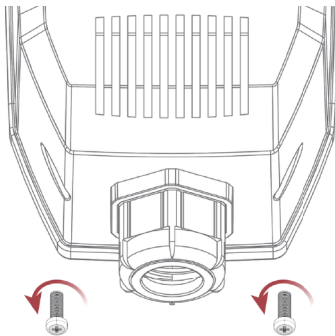
### STEP 1

The Smart Junction Box is installed between the power source and your first LED inline using push-lock connections on the Daisy Chain Power Cord. The main power supply must be hard-wired into the Smart junction box.



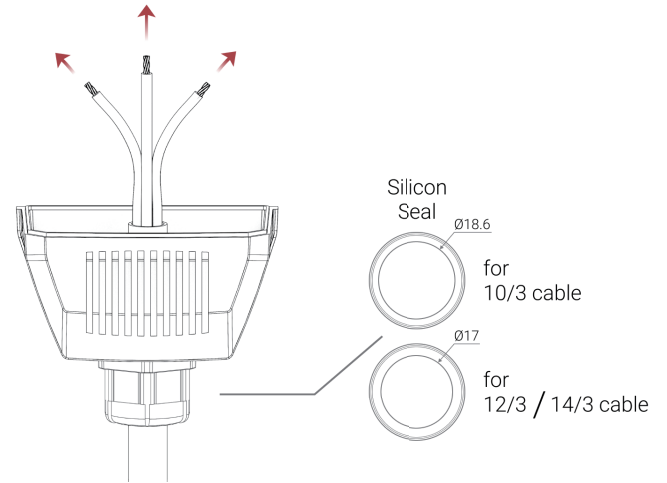
### STEP 2

To wire the Smart Junction Box to your facility's primary power source, remove the two screws and open the chassis.



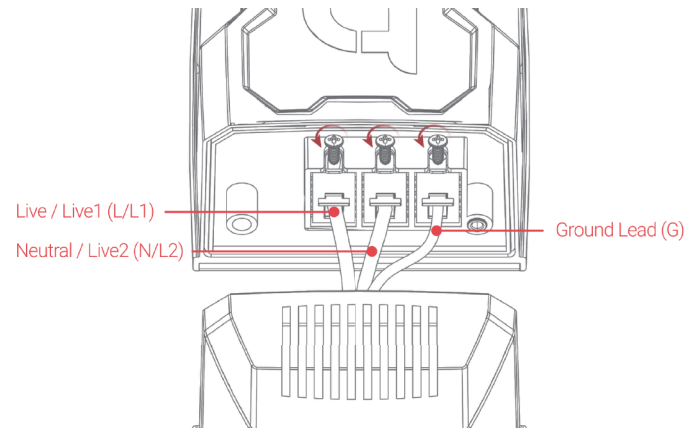
### STEP 3

Pass the main power source cable through the waterproof cable gland and strip the ends of the three wires coming from your power supply.



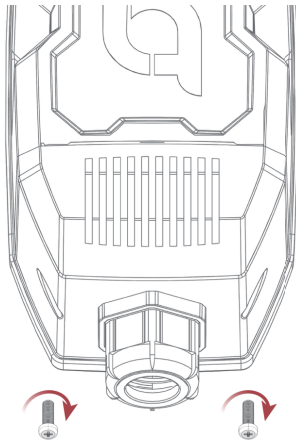
### STEP 4

Secure the three power wires coming from your primary power source into the 3 screw terminals.



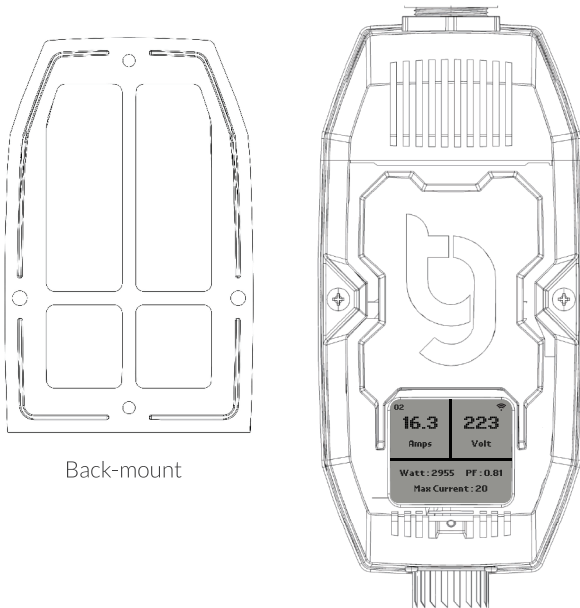
### STEP 5

Close the chassis, then tighten the cable gland nut and re-insert the two screws to seal the chassis.



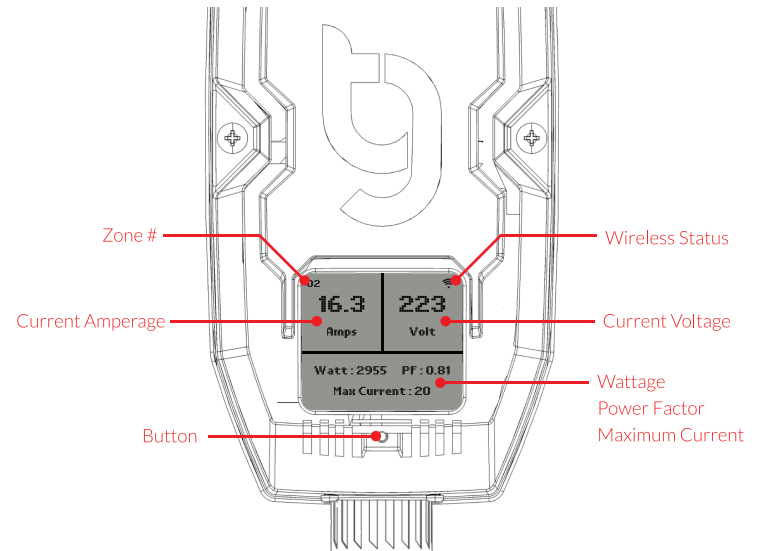
### STEP 6

Separate the back-mount by releasing the 2 screws on both sides of the chassis. Mount the back-mount on the wall, then re-insert the 2 screws on both sides to tighten the chassis.



## SMART JUNCTION BOX OPERATION INSTRUCTIONS

### 1. Main Menu

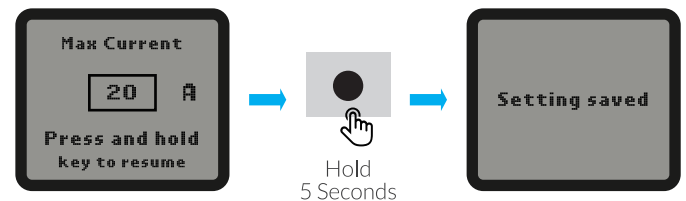


### 2. Press once to wake

Press the button once to activate the backlit LED.

### 3. How to set the Max. Current Shut-off point:

- Press and hold the button for 5 sec to enter the setting menu.
- Press the button to switch between the current shut-off point. (15A / 20A / 30A)
- Hold the button for 5 seconds to confirm. (Settings will not be saved and will jump back to the main screen if there is no confirmation for over 1 minute)



#### 4. If power exceeds current shut-off point:

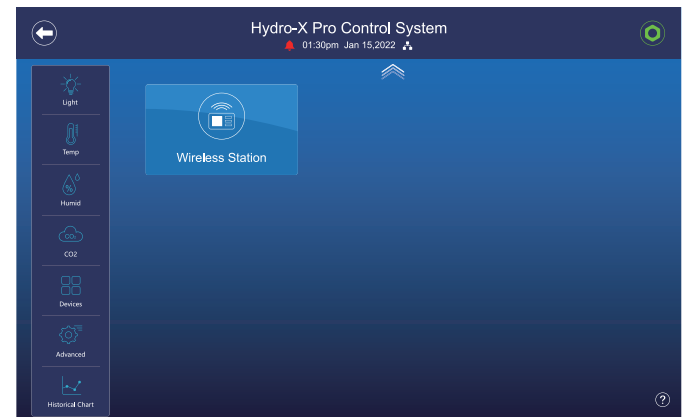
- The OPA-1 will shut off power if the current raises 20% above the shut-off point within 0.5s.
- To resume the OPA-1, press and hold the button for 5 seconds.



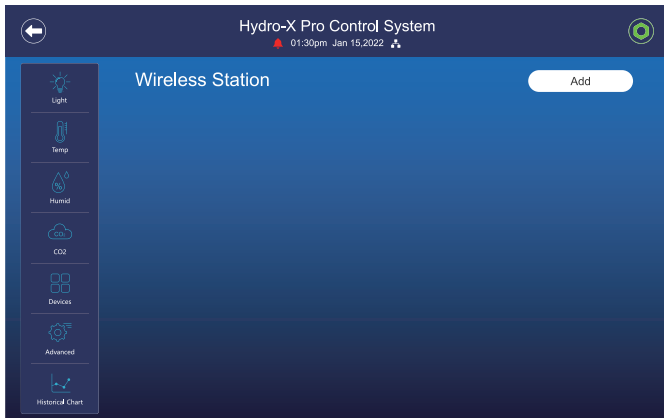
## ◆ WIRELESS PAIRING INSTRUCTIONS

How to add the OPA-1 to the Hydro-X Pro.

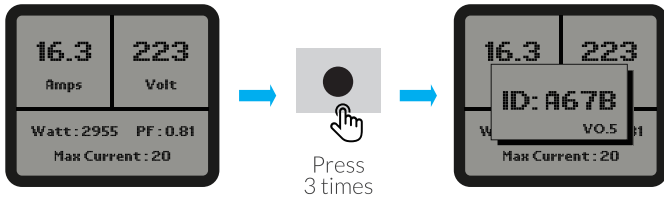
- Before you start, please make sure your main controller (HCS-2) has the TroiMaster Wireless Station (TWS-1) connected and addressed.
- Go to “Setting”, and move to the next page. Then select the “Wireless Station” menu.



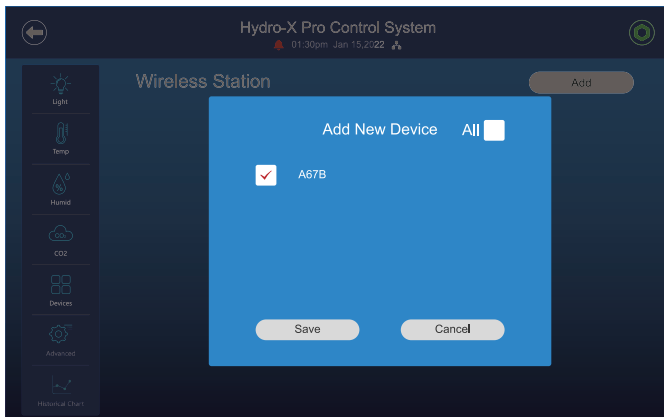
- Press the “Add” button in the top-right corner to add a new device.



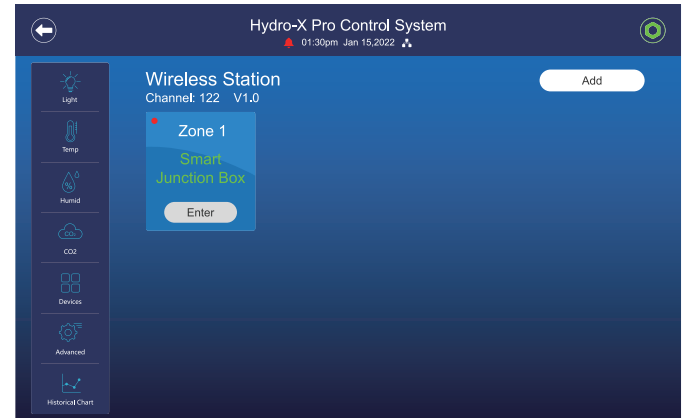
- Press the button on the OPA-1 three times consecutively to activate the wireless pairing function. The OPA-1 will show the pairing ID on the screen.



- The OPA-1 will show up on the “Scanning New Device” window with the pairing ID provided. Select it and press “Confirm”.

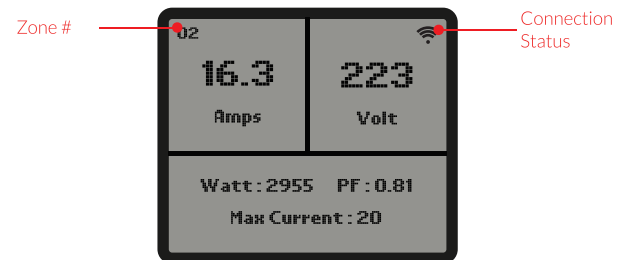


- Once the OPA-1 is paired, it will show up in the “Wireless Station” menu.



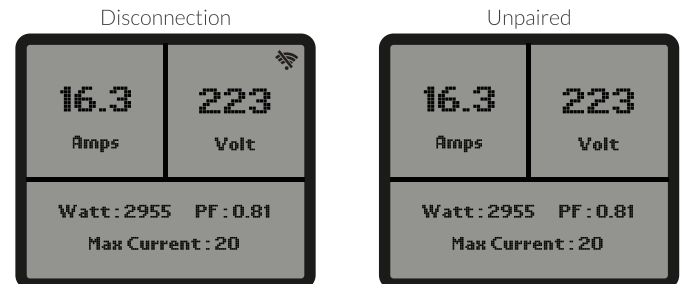
### ◆ WIRELESS CONNECTION STATUS

- If the OPA-1 is paired successfully, the screen will display Zone # in the top-left corner, while Connection Status will be display in the top-right corner.



### Disconnection / Unpaired status

- The OPA-1 disconnection / unpaired status shows as below:



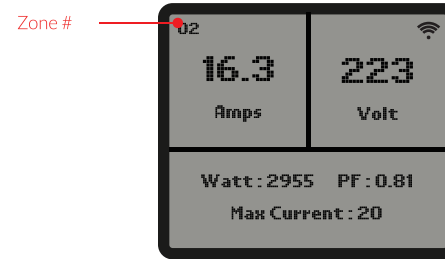
## ◆ OPERATION INSTRUCTIONS

Monitoring with the Energy Meter menu.

- Press the "Zone" button on the "Energy Meter" Home screen, to enter the "Energy Meter" menu.

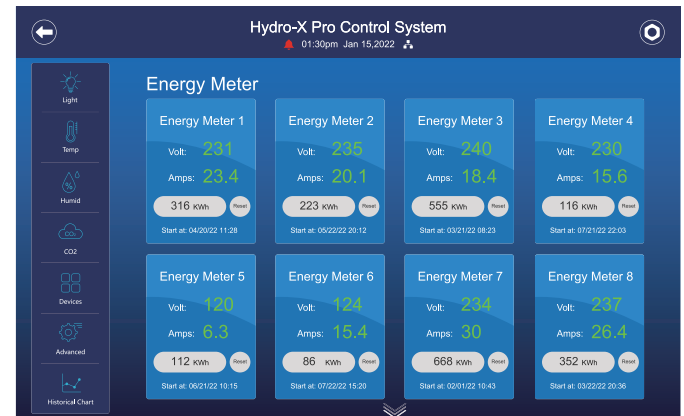


- Users can identify the zone number by looking in the top-left corner of a paired OPA-1 screen.



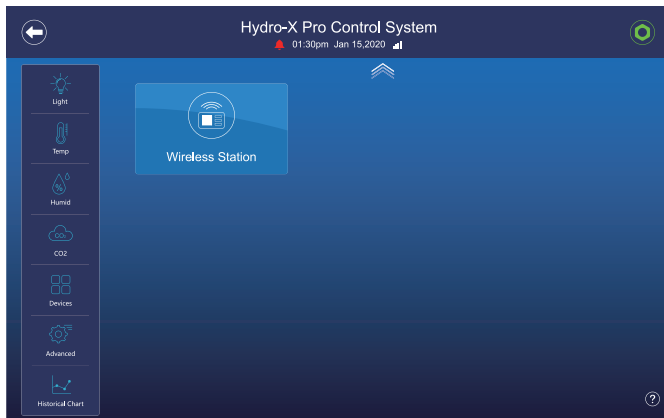
How to reset the Energy Consumption Meter

- Users can reset the energy consumption meter if necessary. Press the "Reset" button to reset the energy consumption meter.

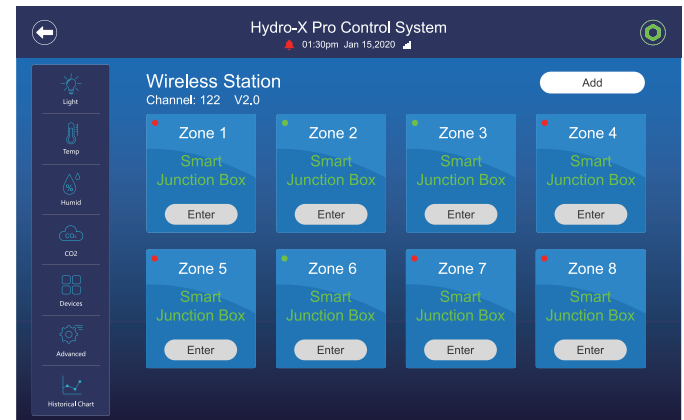


## How to reset the Energy Consumption Meter

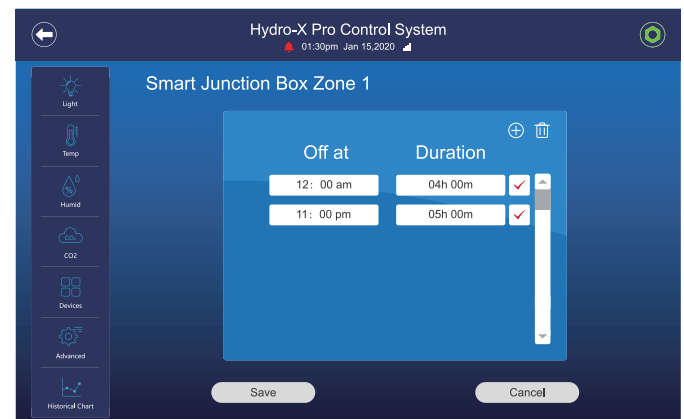
- Users can set their own daily operating schedules of the OPA-1 on the Hydro-X Pro controller (HCS-2) if necessary.
- Go to "Setting", and move to the next page. Then select the "Wireless Station" menu.



- Press "Enter" to select the OPA-1 schedule setting menu corresponding to its' zone.



- Add a schedule by pressing the "+" button at the top-right corner of the box.
- Then set the operating schedules by entering the power-off time and the off-time duration.
- Check the box on the right to select the schedules desired to be run, then press "save" to confirm the settings.



- To delete the schedules, press the recycle bin button in the top-right corner of the box, then press the "X" button next to each schedule. Once you have finished, press "save" to confirm the settings.



## FCC Statement

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.

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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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

This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and any part of your body.

## ISED Canada Statement

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

This device contains licence-exempt transmitter(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.

The device meets the exemption from the routine evaluation limits in section 2.5 of RSS-102 and compliance with RSS-102RF exposure, users can obtain Canadian information on RF exposure and compliance.

Le dispositif rencontre l'exemption des limites courantes d'évaluation dans la section 2.5 de RSS-102 et la conformité à l'exposition de RSS-102rf, utilisateurs peut obtenir l'information canadienne sur l'exposition et la conformité de rf.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Cet émetteur ne doit pas être Co-placé ou ne fonctionnant en même temps qu'aucune autre antenne ou émetteur. Cet équipement devrait être installé et actionné avec une distance minimum de 20 centimètres entre le radiateur et votre corps.



**WARNING :** DO NOT allow the Smart Junction Box to be exposed to water or excessive heat. DO NOT open or attempt to repair or disassemble the module, as there are no user-serviceable parts inside. Opening the module will void the warranty.

If the surface of the Smart Junction Box is dirty, wipe it with a dry towel. The Smart Junction Box operates under natural ventilation conditions.



**AVERTISSEMENT :** NE laissez PAS la boîte de jonction intelligente être exposée à l'eau ou à une chaleur excessive. NE PAS ouvrir ou tenter de réparer ou de démonter le module, car il ne contient aucune pièce réparable par l'utilisateur. L'ouverture du module annulera la garantie.

Si la surface de la Smart Junction Box est sale, essuyez-la avec une serviette sèche. La Smart Junction Box fonctionne dans des conditions de ventilation naturelle.



If you have any questions, please contact us:

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