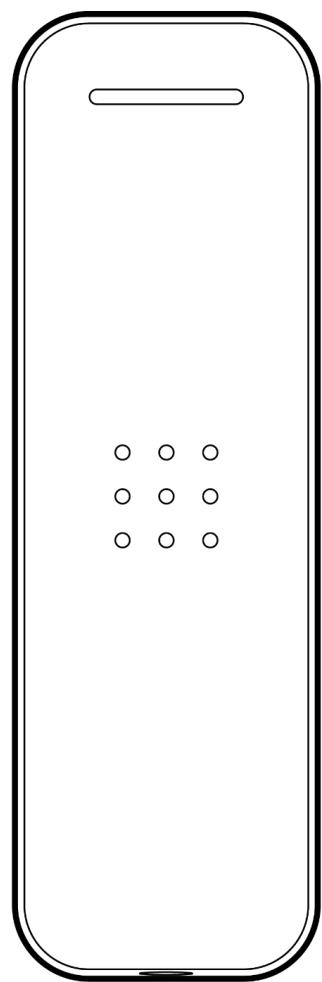


# AD34 Door Reader



## Document Details

### Version

**v1.2** (20240924)

(V1.0 first published 20240805)

### Firmware

Firmware version can be verified on Verkada Command command.verkada.com.

### Product Models

This install guide pertains to model AD34-HW.

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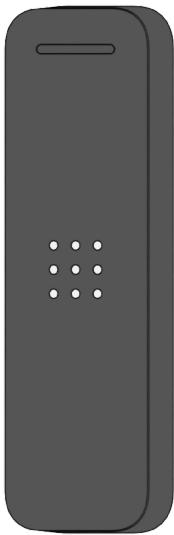
## Introduction

# Technical Specifications

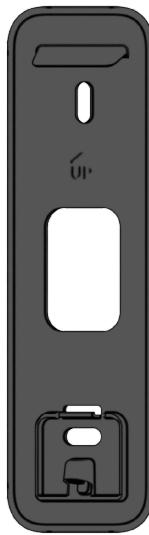
<b>Mullion Dimensions</b>	131.2 x 40.7 x 17.6mm
<b>Single Gang Dimensions</b>	145.0 x 80.0 x 20.1mm
<b>Weight</b>	118g
<b>Supported Credential Technologies</b>	Low Frequency (125 hHz) High Frequency (13.56 MHz) Mobile NFC (13.56MHz) Bluetooth Low Energy (2.4GHz)
<b>Ratings</b>	IP65, IK08
<b>Operating Temperature</b>	-40° to 65°C (-40° to 149°F) 5-90% RH non-condensing
<b>Controller Compatibility</b>	Requires an RS-485 connection to a Verkada access controller
<b>Power Consumption</b>	12V, 250mA max
<b>Included Accessories</b>	Mullion mount plate, single gang mount plate, T10 screwdriver, 2 wall mount screws, 2 M3 machine screws
<b>Mounting Options</b>	Unit ships with both standard single gang mounting plate and mullion mounting plate

## Introduction

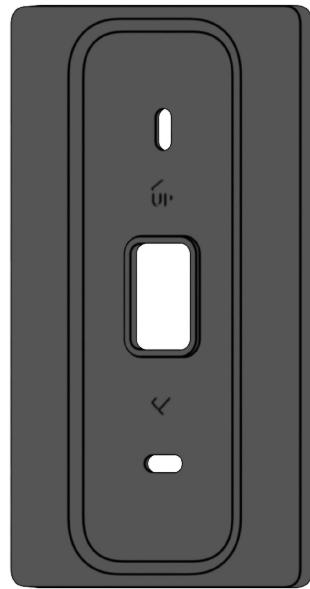
### What's in the box



**Door Reader**



**Mullion Mount**



**Single Gang Mount**



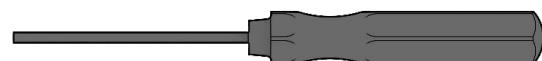
**Wall Mount Screws (2pcs)**

Length: 20mm Diameter: 3mm  
Drive: #2 Philips



**Machine Screws (2pcs)**

Length: 20mm Diameter: 3mm  
Drive: #2 Philips



**T10 Security Torx Screwdriver**

### What you'll need

- A working internet connection
- A smartphone or laptop
- A #2 Phillips driver (screwdriver or power drill)
- 1/8 inch (3mm) drill bit for pilot holes
- 1/2 inch (12.7mm) drill bit, or larger, for routing cable through wall

### Placement

Mount product on wall with RS485 cable routed and plugged into Verkada Access Controller.

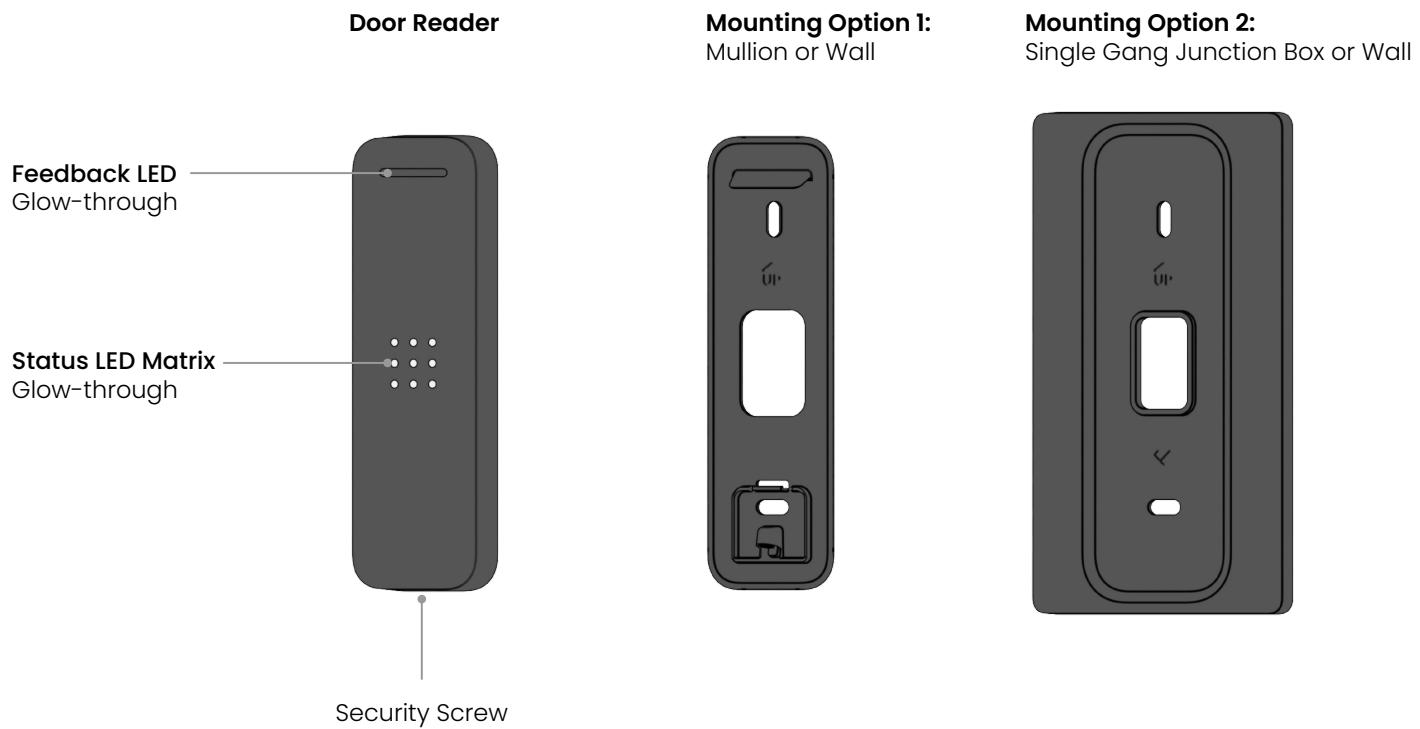
### Connect

For easy registration and setup, scan the QR code on the product.

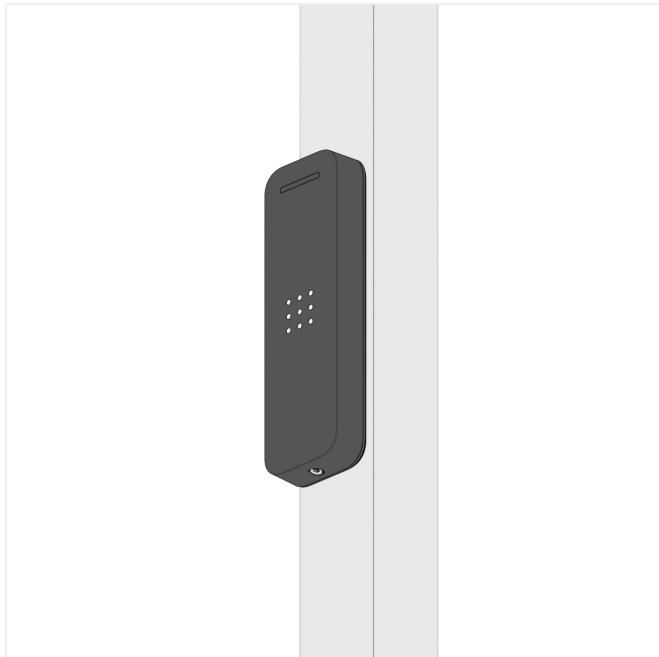
If you prefer to manually register your product, please proceed to:  
[verkada.com/start](http://verkada.com/start)

## Introduction

# Overview



## Mullion Configuration



## Single Gang Configuration



## LED Behaviors

### White LEDs

---



**Cycling**  
Booting up.



**Static**  
Powered and  
connected to the ACU.

### Color LEDs

---



**Green, Temporarily**  
Successfully  
processed a user  
scan and granted  
access.

**Green, Static**  
Unlock hold placed  
on door.

**Green, Pulsing**  
Emergency Release.



**Red, Temporarily**  
Successfully  
processed a user  
scan and denied  
access.

**Red, Static**  
Lock hold placed on  
door.

**Red, Pulsing**  
Emergency lockdown.

## Introduction

# Wiring

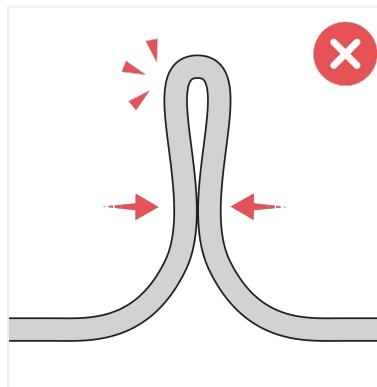
The following diagram shows the recommended wire types:

Signal	AWG	Twisted Pair	Shielded	Max Length
Reader Option 1 (22 AWG)	22	Yes	Yes	250 ft
Reader Option 2 (20 AWG)	20	Yes	Yes	300 ft
Reader Option 3 (18 AWG)	18	Yes	Yes	500 ft

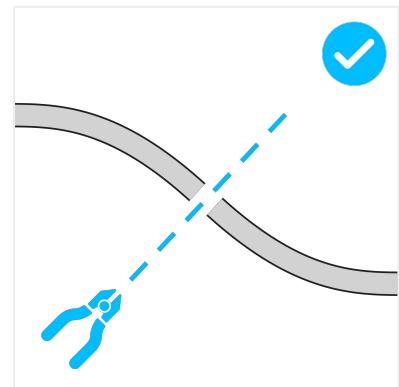
**Recommended use:** one twisted pair for GND and VIN (power) & one twisted pair for the data (D0/D1 or A/B). Wiring methods shall be in accordance with National Electrical Code, ANSI/NFPA 70.

## Excess Wire Trimming

Avoid pinching cables during install as that may affect performance. If excess cables, trim to reduce slack.

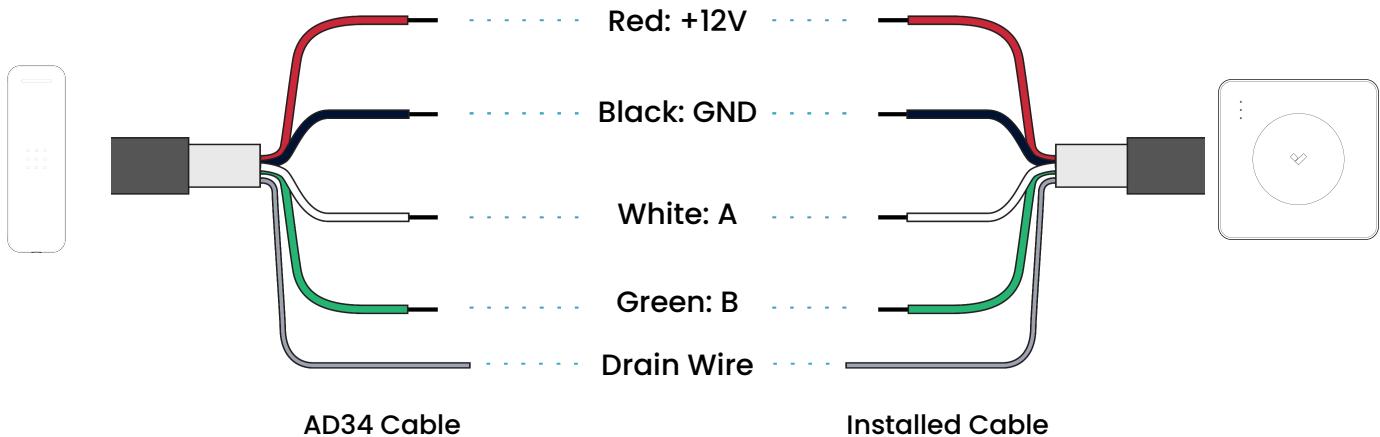


Avoid pinching the cable



Trim cable of excess

## Shield Wiring and Grounding



## Best Practices

### Critical Wiring Requirements

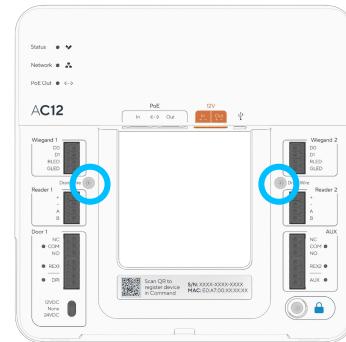
#### ⚠ You must use shielded wiring with the AD34

Connect the drain wire (bare metal) from the reader cable bundle to the drain wire in the shielded cabling. Then, connect the drain wire at the other end of the shielded cabling to Earth ground.

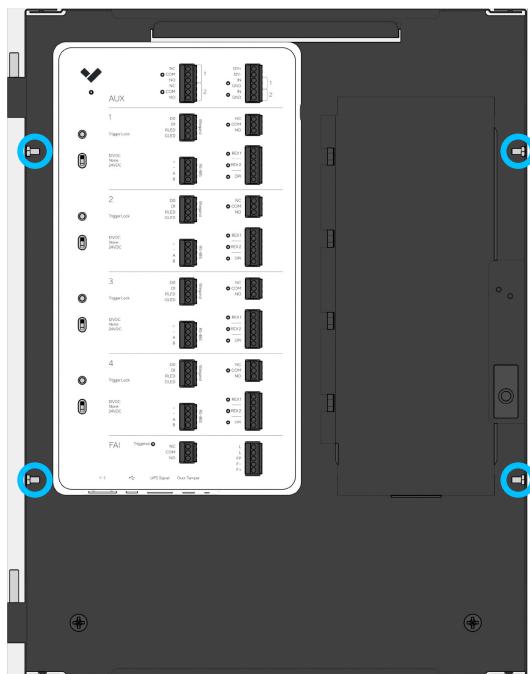
Improper grounding and shielding may result in unintended product behavior.

It is recommended to connect one of the chassis grounding screws to the building ground at the installation site.

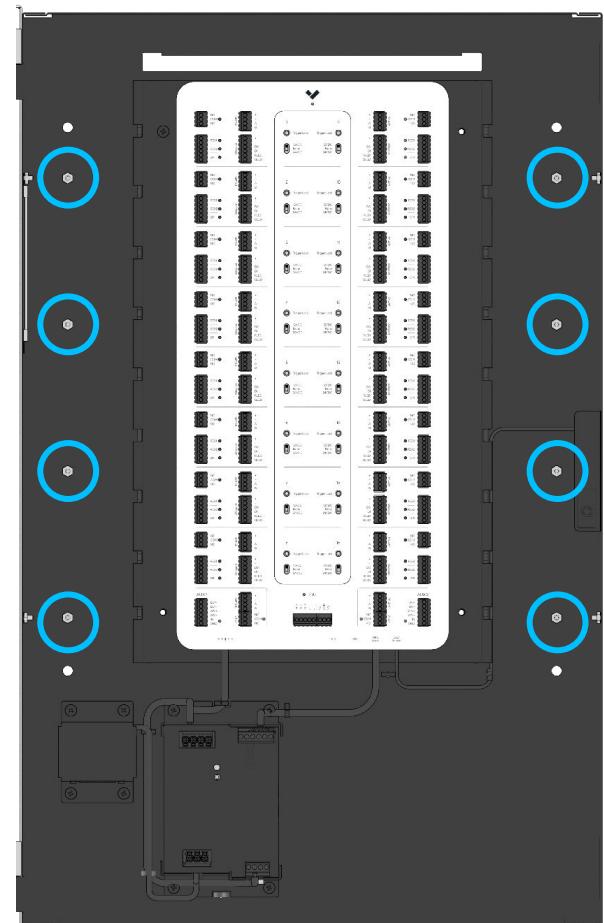
The drain wires from the shielded cabling can be connected to Earth ground on the following locations on the Verkada Access Controllers.



AC12 grounding locations



AC42 grounding locations



AC62 grounding locations

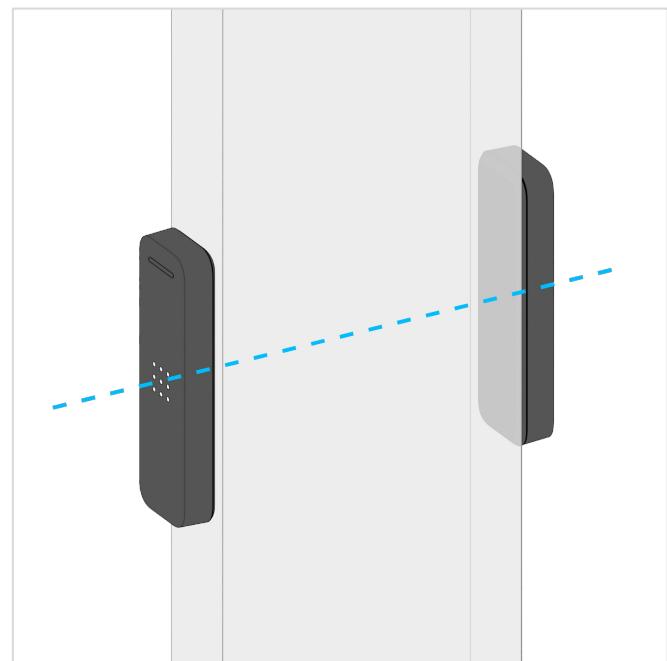
## Best Practices

### Back-to-Back Mounting Configuration

When using low-frequency/prox cards with two readers mounted to both sides of a surface, such as a wall or mullion frame, make sure to follow the below mounting requirements for optimal scan performance.

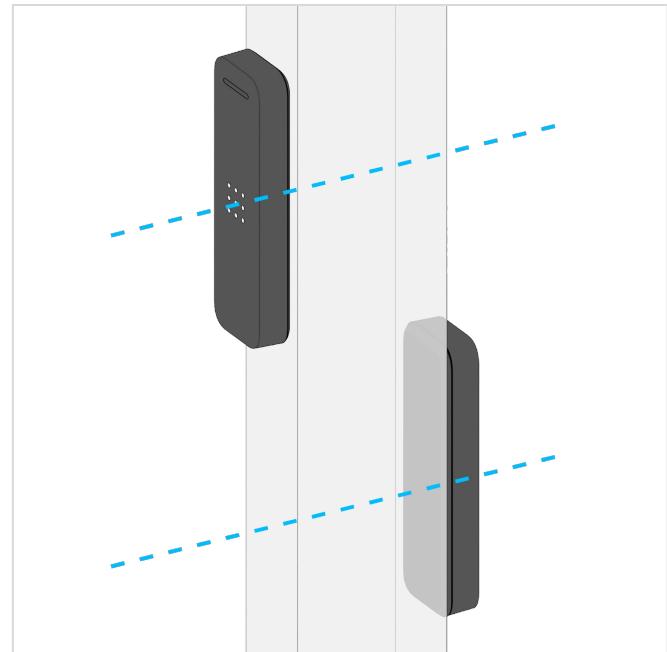
#### Surface thicker than 200mm/7.9"

The readers can be mounted directly back-to-back.



#### Surface thinner than 200mm/7.9"

The readers should be mounted with **at least a 130mm/5.1" vertical offset** between centers in order to have optimal scan performance.



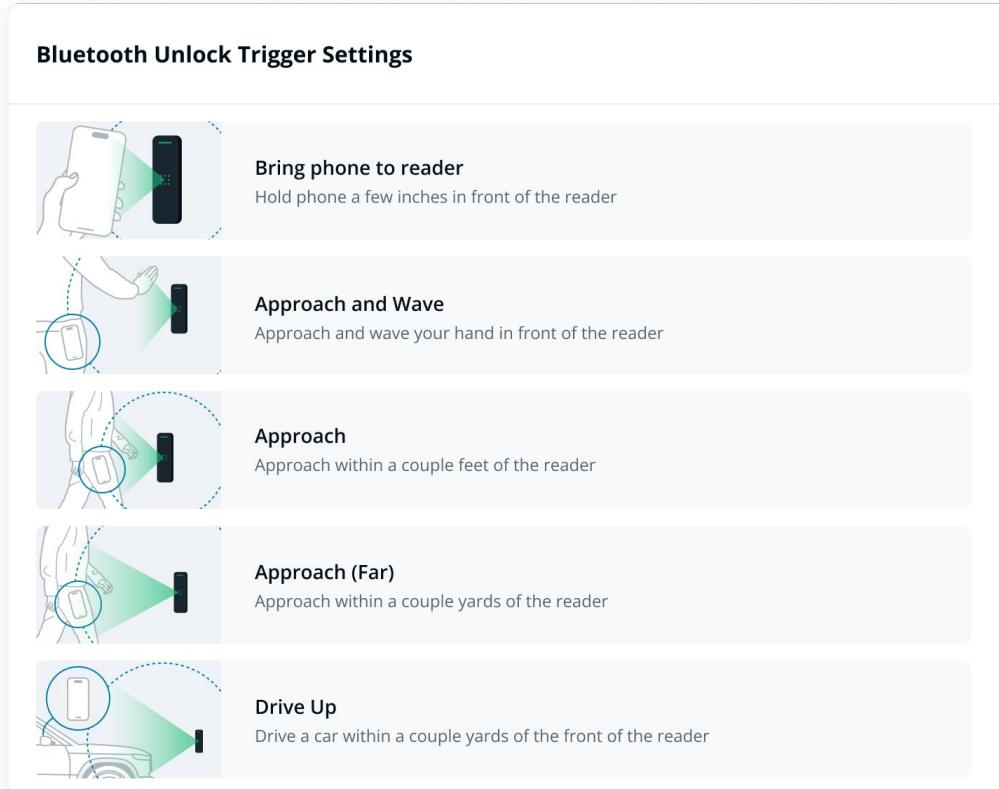
## Best Practices

# Bluetooth Intent Unlock Configurations and Mounting Guidelines

The AD34 can be configured in Command to enable Bluetooth Intent Unlock. Bluetooth Intent Unlock unlocks the door when two conditions are met:

- The mobile device of a user with access to the door and Bluetooth unlock enabled becomes sufficiently close to the AD34.
- The AD34 detects the presence of an object in front of it, such as a hand, body, or car.

The distance thresholds for these two conditions can be configured in Command to provide the Bluetooth Intent Unlock experience that is most appropriate for a given door. The following presets can be selected:



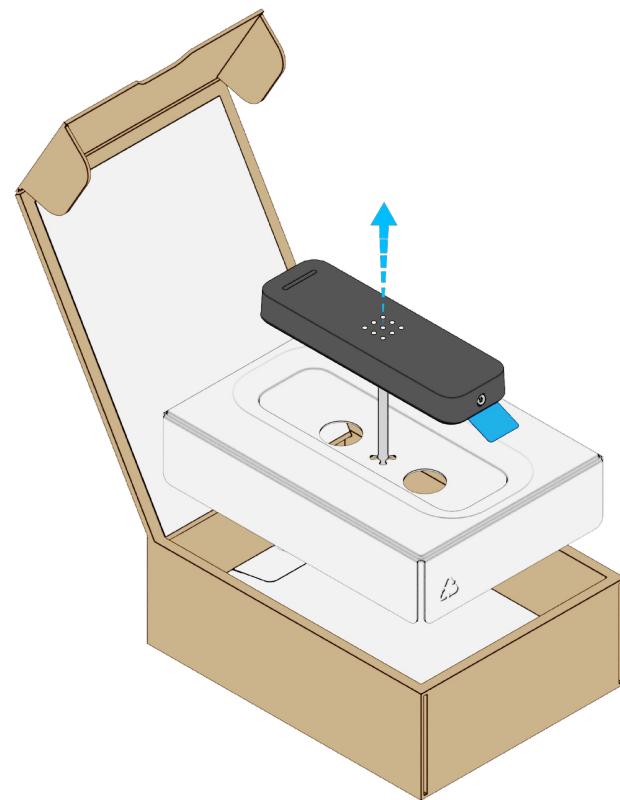
Additionally, it is possible to perform an advanced configuration, where the threshold for proximity of the mobile device and the threshold for proximity of an object in front of the reader can be set independently.

**Please Note:** If Bluetooth Intent Unlock will be used, consider the configuration of the unlock trigger when mounting the device.

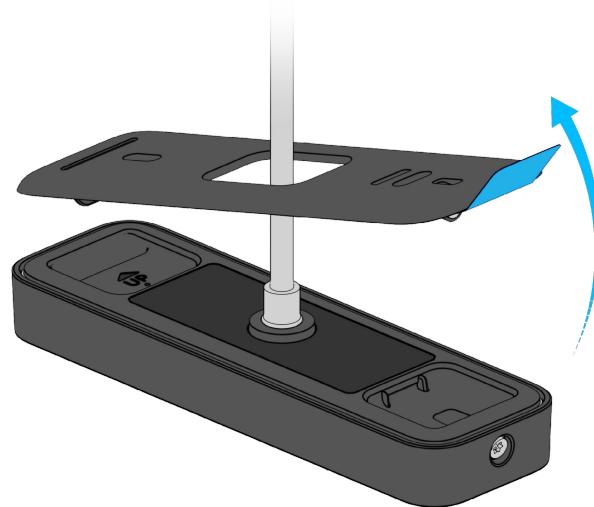
## Installation

### Preparation

Lift the Door Reader and pulp tray out of the box. Install Kit can be found under the information card.



Use the pull tab to remove the mount plate from the Door Reader in preparation for mounting.

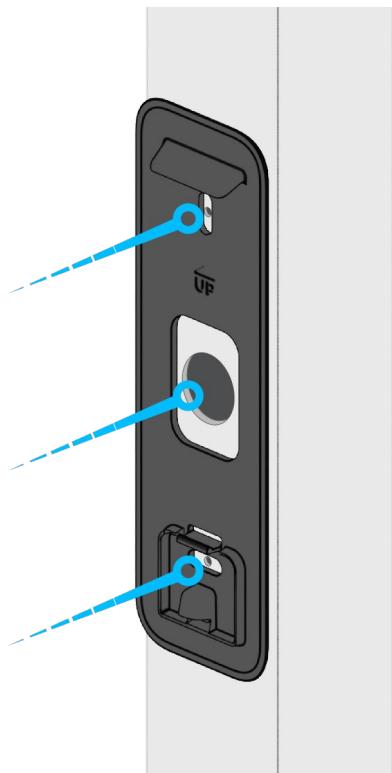


## Installation

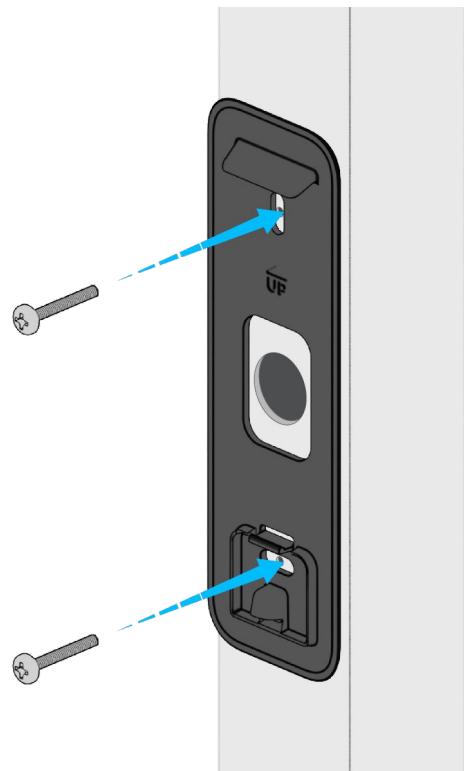
### Mounting Option 1: Mullion 1/4

Using the mount plate as your template, mark and drill two  $\frac{1}{8}$  inch (3mm) pilot holes at the top and bottom.

Drill a 1/2 inch (12.7mm) center hole for cable routing.



Secure the mullion mount to a mullion frame using the two provided machine screws. If you are mounting on a wall, use the two provided wall mount screws instead.



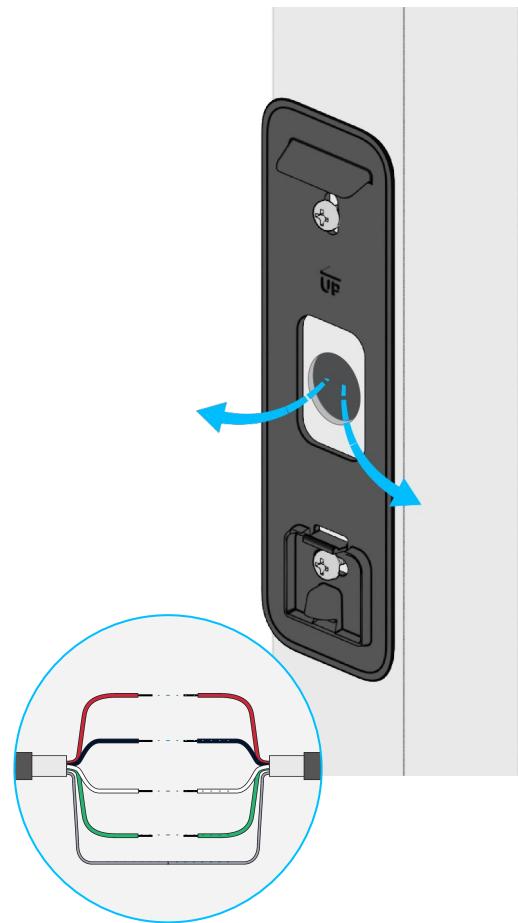
## Installation

### Mounting Option 1: Mullion 2/4

Route the installed cable through center opening on mullion mount.

Connect the wires.

See the **Wiring**-section of this document for wiring instructions.



To ensure that the Door Reader is receiving power, make sure that the LEDs are cycling.

The Door Reader is successfully connected to the Access Controller when the static matrix is visible.



Booting Up

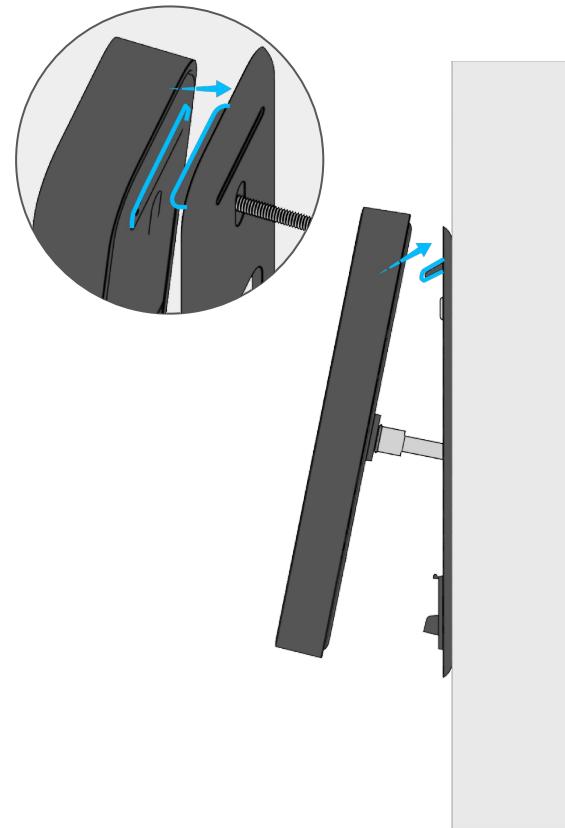
Connected



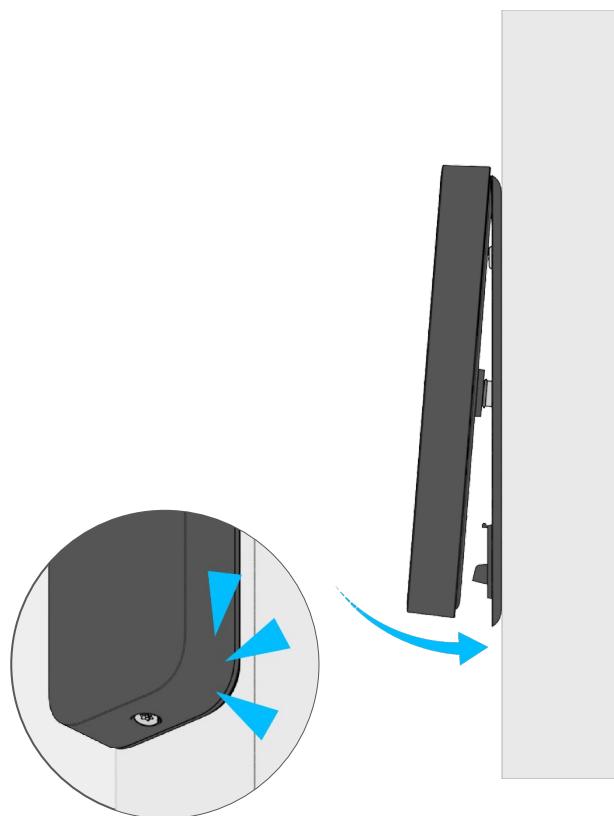
## Installation

### Mounting Option 1: Mullion 3/4

Slot the top of the Door Reader into the mount plate.



Once in position, swing the bottom of the door reader into the mount plate until an audible click is heard.

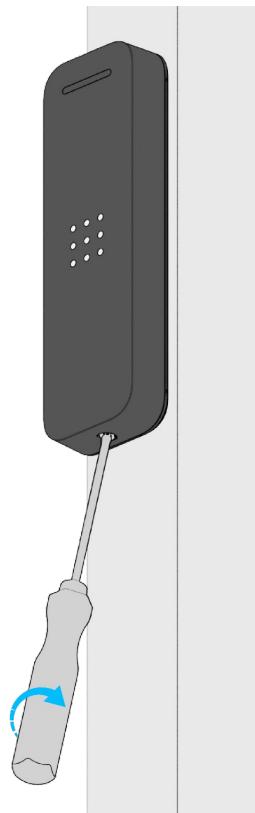


## Installation

### Mounting Option 1: Mullion 4/4

To secure, tighten the security screw on the bottom of the Door Reader using the provided T10 Security Torx Screwdriver.

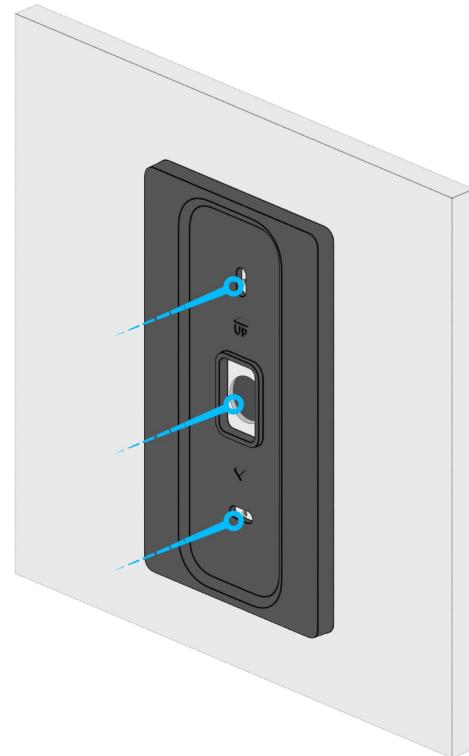
The screw is positioned at an angle to simplify installation.



## Installation

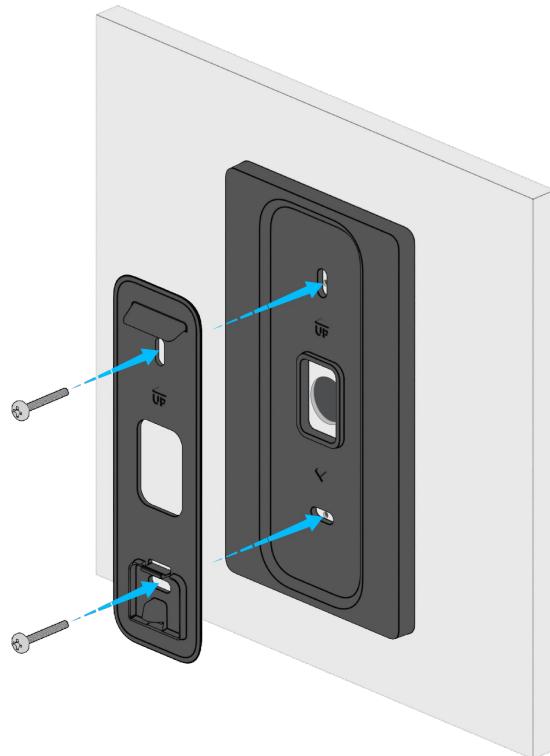
### Mounting Option 2: Single Gang 1/4

Using the single gang mount as your template, mark and drill two  $\frac{1}{8}$  inch (3mm) pilot holes at the top and bottom. Drill a 1/2 inch (12.7mm) center hole for cable routing.



Secure both the mullion and single gang mounts to a single gang junction box using the 2 provided M3 machine screws.

If you are installing on a wall, use the 2 provided wall mount screws instead.



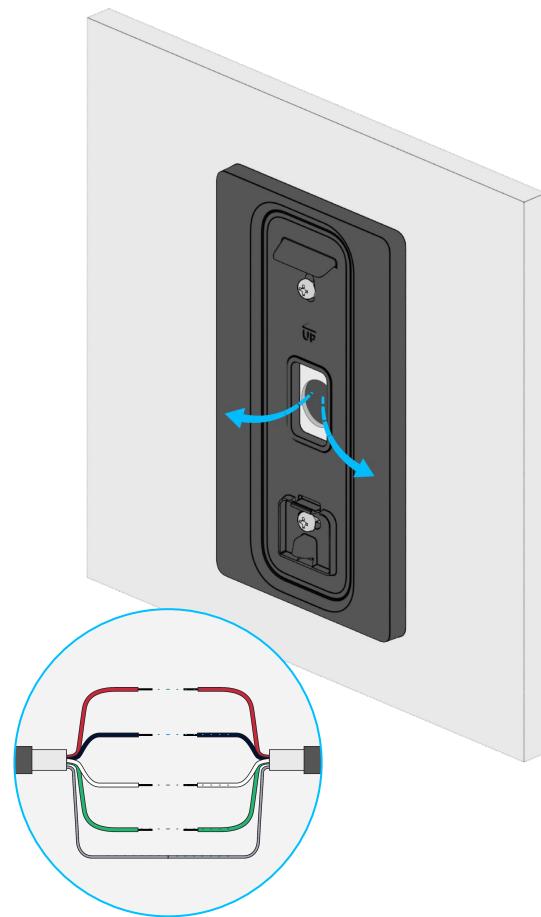
## Installation

### Mounting Option 2: Single Gang 2/4

Route the installed cable through the opening on both the single gang and mullion mount.

Connect the wires.

See the **Wiring**-section of this document for wiring instructions.



To ensure that the Door Reader is receiving power, make sure that the LEDs are cycling.

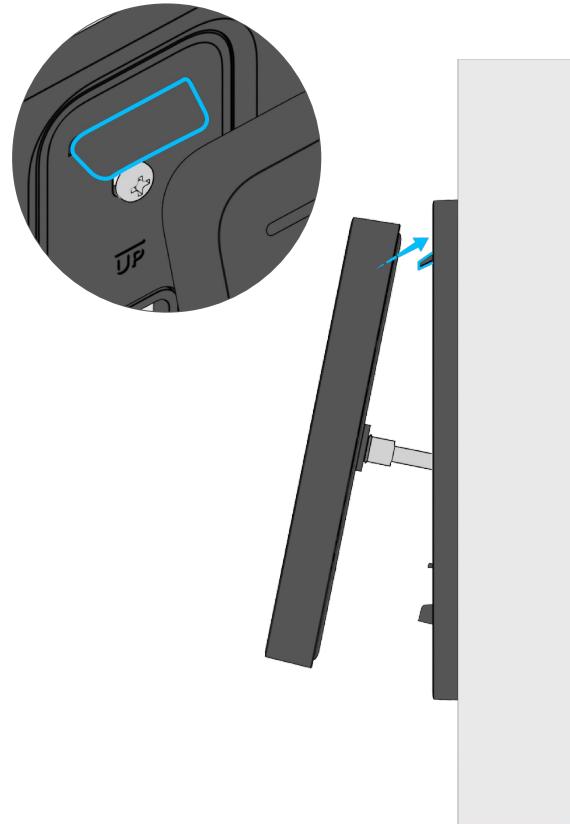
The Door Reader is successfully connected to the Access Controller when the static matrix is visible.



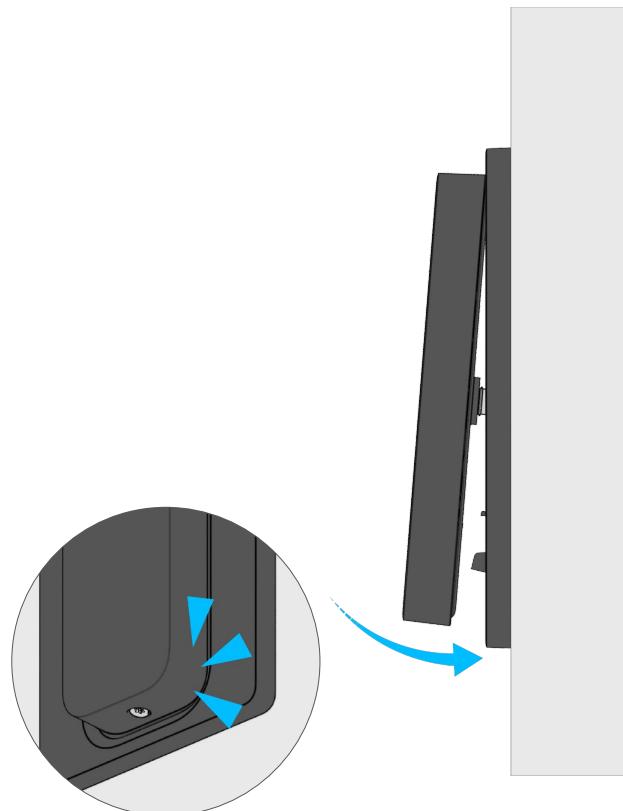
## Installation

### Mounting Option 2: Single Gang 3/4

Slot the top of the Door Reader into the mullion mount on top single gang mount.



Once in position, swing the bottom of the door reader into the mount plate until an audible click is heard.

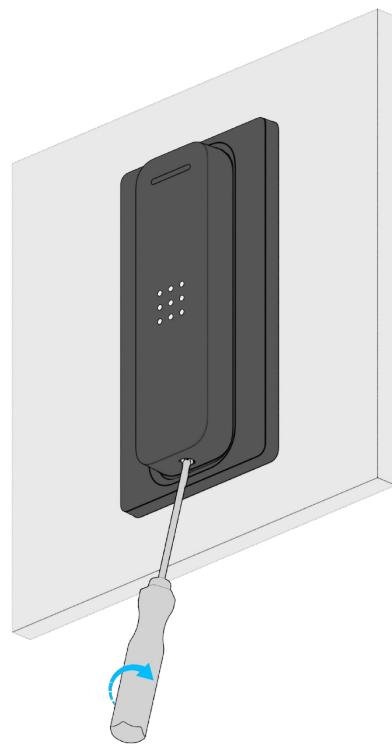


## Installation

### Mounting Option 2: Single Gang 4/4

To secure, tighten the security screw on the bottom of the Door Reader using the provided T10 Security Torx Screwdriver.

The screw is positioned at an angle to simplify installation.



## Appendix

# AD34 Compliance

<b>FCC Statement</b>	<p>This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:</p> <p>(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.</p> <p>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.</p> <p>These limits are designed to provide reasonable protection against harmful interference in a residential installation.</p> <p>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.</p> <p>However, there is no guarantee that interference will not occur in a particular installation.</p> <p>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 of the following measures:</p> <ul style="list-style-type: none"><li>• Reorient or relocate the receiving antenna.</li><li>• Increase the separation between the equipment and receiver.</li><li>• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.</li><li>• Consult the dealer or an experienced radio/TV technician for help.</li></ul> <p><b>FCC Caution:</b> Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.</p> <p>This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.</p> <p><b>Radiation Exposure Statement:</b> The product comply with the FCC portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual.</p> <p>The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.</p>
<b>IC Statement</b>	<p>This device complies with ISED's licence-exempt RSSs. Operation is subject to the following two conditions:</p> <p>(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.</p> <p>Le présent appareil est conforme aux CNR d' ISED applicables aux appareils radio exempts de licence.</p> <p>L'exploitation est autorisée aux deux conditions suivantes :</p> <p>(1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.</p> <p><b>Radiation Exposure Statement:</b> The product comply with the Canada portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual.</p> <p>The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.</p> <p><b>Déclaration d'exposition aux radiations:</b> Le produit est conforme aux limites d'exposition pour les appareils portables RF pour les Etats-Unis et le Canada établies pour un environnement non contrôlé.</p> <p>Le produit est sûr pour un fonctionnement tel que décrit dans ce manuel.</p> <p>La réduction aux expositions RF peut être augmentée si l'appareil peut être conservé aussi loin que possible du corps de l'utilisateur ou que le dispositif est réglé sur la puissance de sortie la plus faible si une telle fonction est disponible.</p>

## Appendix

### AD34 Compliance

<b>UL 294</b>	Attack Level/Grade: Level 1 Endurance Level/Grade: Level 1 Line Security Level/Grade: Level 1 Standby Power Level/Grade: Level 1
<b>CAN-ULC 60839-11-1</b>	Environmental Level: Outdoor Grade Assignment: Grade 1

#### Caution

Only use with Verkada Access Controllers certified under UL62368-1 (compliant with LPS) and UL294

À utiliser uniquement avec les contrôleurs d'accès Verkada certifiés sous UL 62368-1 (conforme à LPS) et UL294.

## Appendix

### **Support**

Thank you for purchasing this Verkada product. If for any reason you're experiencing issues or need assistance, please contact our 24/7 Technical Support Team immediately.

Sincerely,  
The Verkada Team  
[verkada.com/support](http://verkada.com/support)