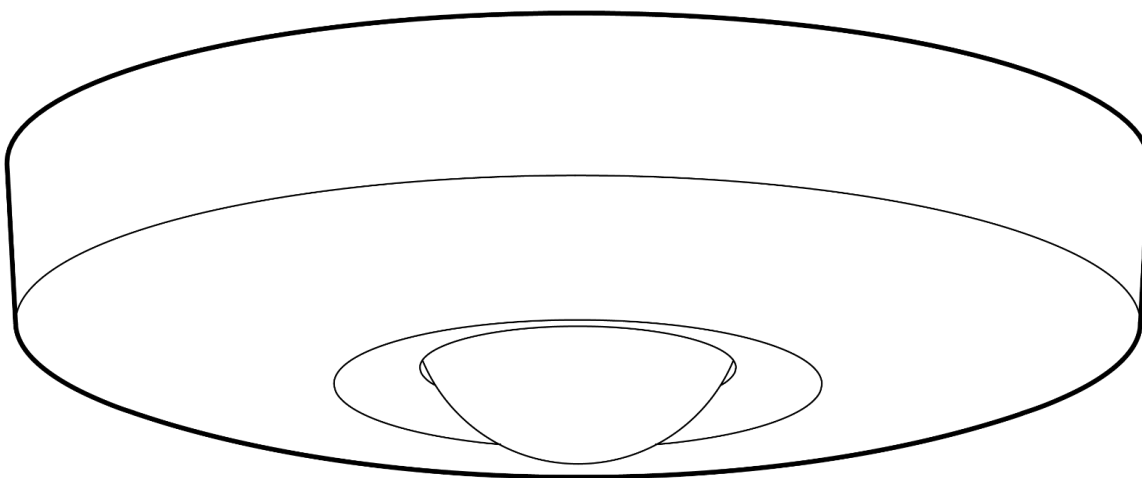


QM21-R BSP Ceiling-Mounted Motion Sensor



Document Details

Version

V1.0 20260706

(V1.0 published 20260706)

Firmware

Firmware version can be verified on Verkada

Command command.verkada.com.

Product Models

This install guide pertains to models QM21-R-HW

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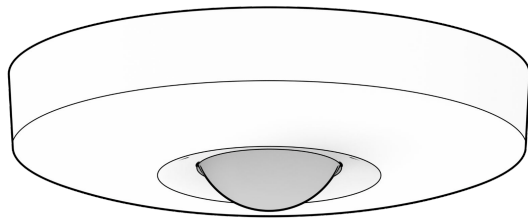
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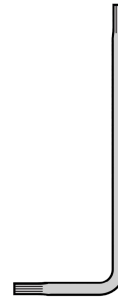
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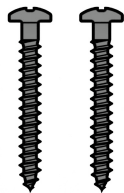
What's in the Box



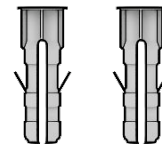
Motion Sensor



**T10 Security
Torx L-Key**



M3.5 Wood Screws
(2 pcs)



Wall Anchors
(2 pcs)

What you'll need

- A BSP-capable Alarm Panel or Expander (or a QX61 Adapter used with other BP or BE devices)
- A smartphone or laptop
- A working internet connection
- 1/4 inch (6.5mm) drill bit for wall anchors (if using mount plate)
- #2 Phillips head screwdriver/driver bit
- A flathead screwdriver/driver bit

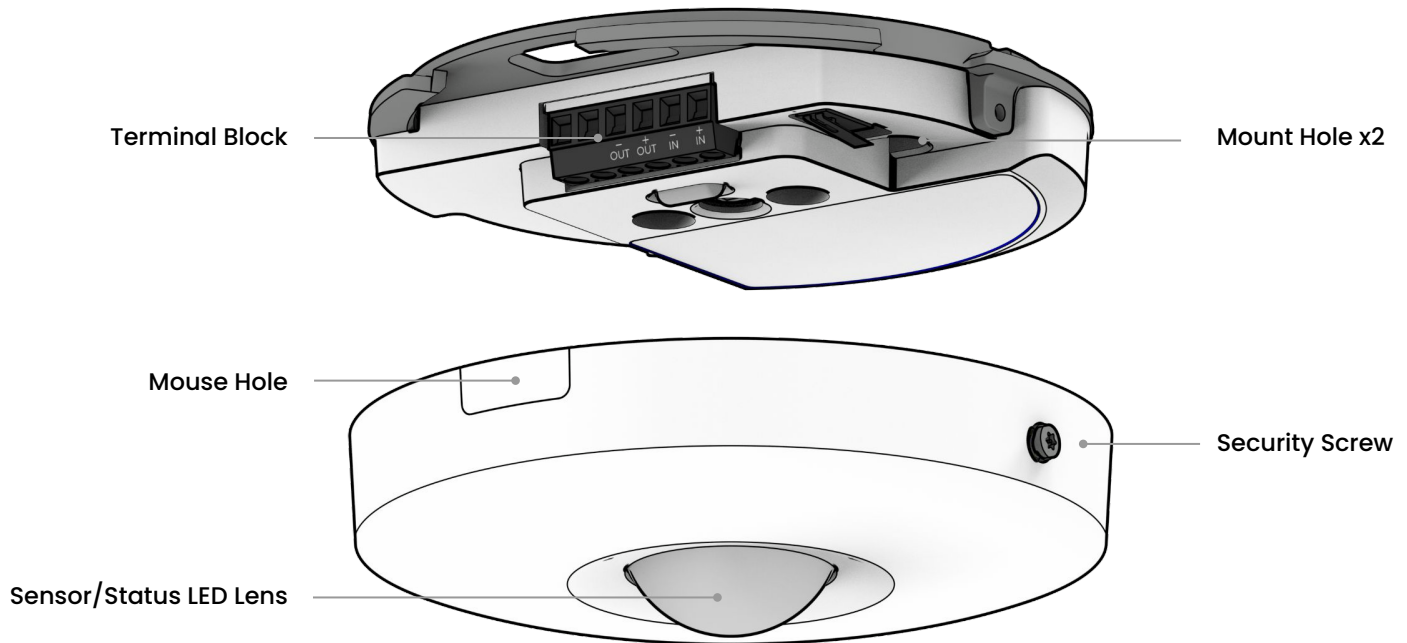
Connect

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

Overview



LED Behaviors

Install Mode

To enable Install Mode, power cycle the device by disconnecting power or enable on Command..

Note: After a power cycle, the device requires 60 seconds to warm up before the LEDs will remain active for 5 minutes.

- **Solid Green**
Sensor detected dual motion (PIR and Microwave).
- **Solid Yellow**
Sensor detected thermal motion (PIR).
- ☀ **Blinking Green**
Sensor is searching for a hub to connect to.
- ☀ **Blinking Red**
Sensor cannot find a hub to connect to.

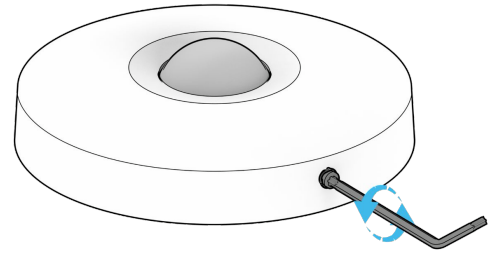
Technical Specifications

Power	0.3 W Max
Input Voltage	12 – 36 VDC input
IOs	2x BSP Ports
Microwave Frequency	X-Band Radar Module operating frequency range (10.52 – 10.53 GHz)
Detection Method	Dual Technology with PIR Sensor and X-Band Microwave Radar
Detection Range	29.5ft (9m) detection diameter with 360 degree FOV
Movement Detection Speed	1.0 – 8.2 ft/s (0.3 – 2.5m/s)
Anti-mask Detection Range	Up to 6 inches (15cm)
Tamper Detection	Yes, breakaway tab
Dimensions	4.61in (L) x 4.61in (W) x 1.26in (H) / 117mm (L) x 117mm (W) x 32mm (H)
Weight	5.12 Oz / 145.1g
Operating Temp. & Humidity	0°C–50°C / 32°F–122°, 0–90% RH non-condensing

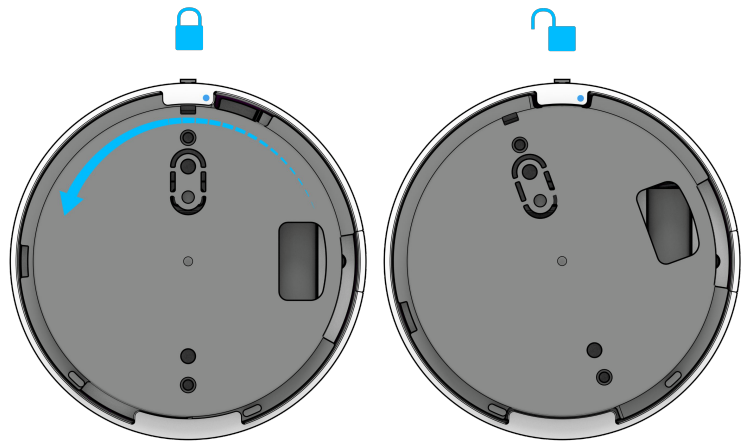
Installation

Preparation

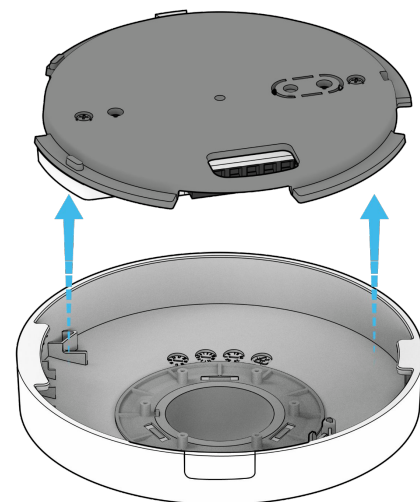
Use the provided T10 Security Torx L-Key to unscrew the security screw on the side of the device.



Rotate the device counterclockwise to unlock the top cover from the device.



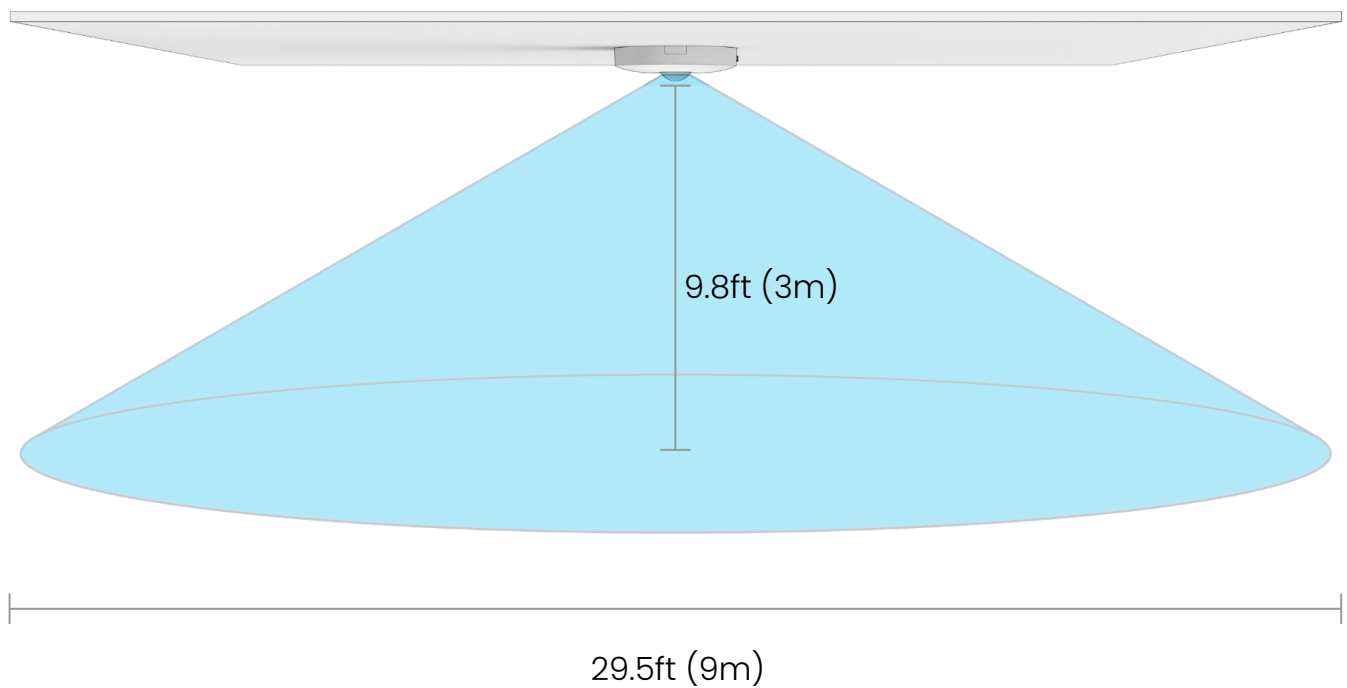
Pull the device away from the top cover.



Installation

Mounting Location

The recommended position for the motion sensor is 9.8ft (3.0m) from the floor to the ceiling, in the center of a room. The sensor will detect motion up to a 29.5ft (9m) detection diameter at a 360-degree field of view.

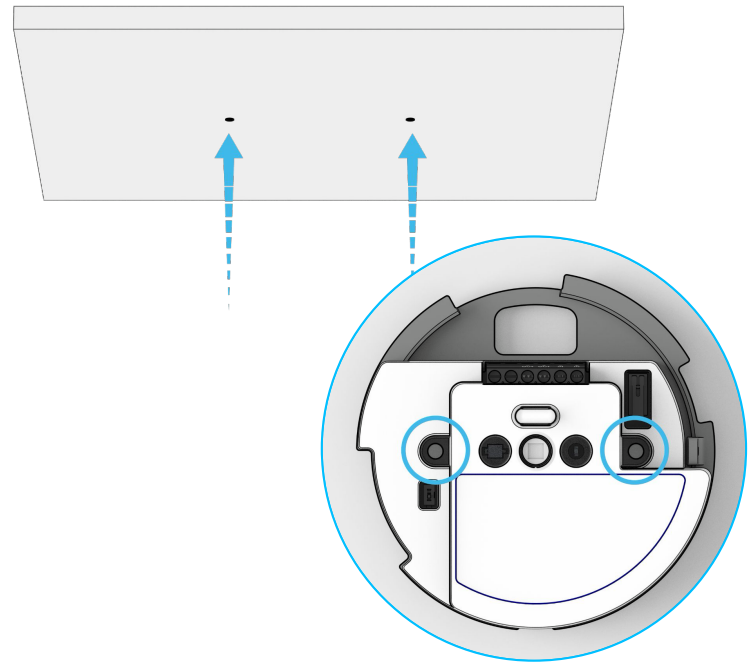


Installation

Mounting

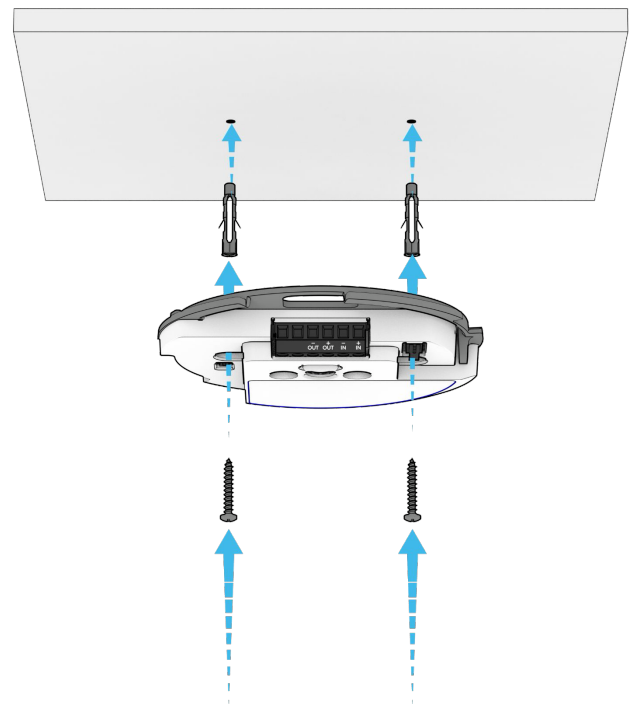
To install the device flush against the ceiling, use the device to mark the pilot holes.

Note: If routing the cable through the ceiling, ensure the opening in the mount plate is aligned with the cable location.



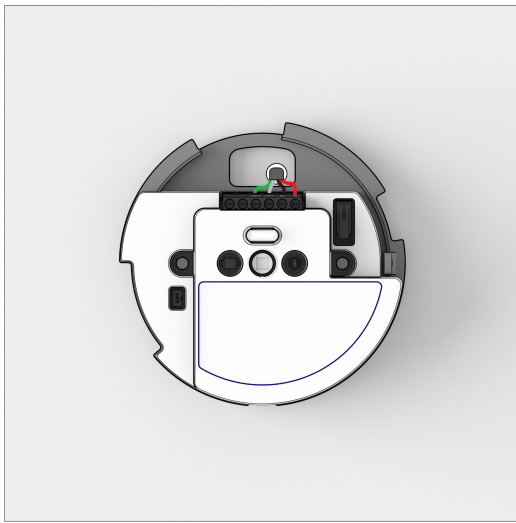
Drill two pilot holes. Wall anchors may be used if needed.

Secure the device to a flat surface using provided screws.

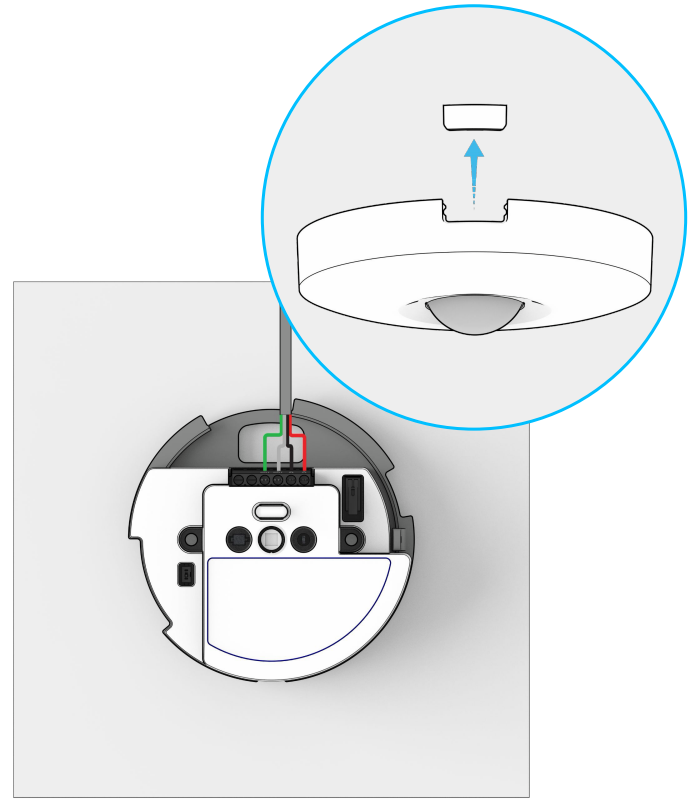


Wiring Options

Once the device is mounted to the wall, there are two options to route the wiring to the terminal block.



Through the mounting surface



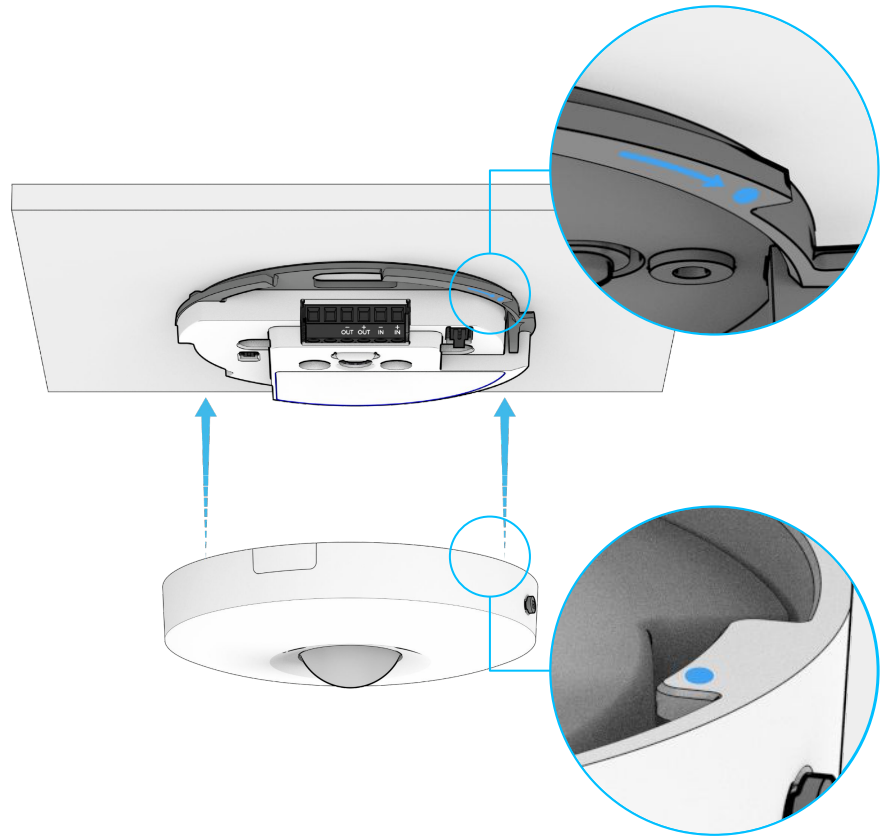
Along the mounting surface
(Remove the Mouse Hole cover if wiring along the mounting surface.)

Once the cable is correctly routed, terminate the conductors into the terminal blocks. Refer to the Wiring Diagram section for wiring instructions.

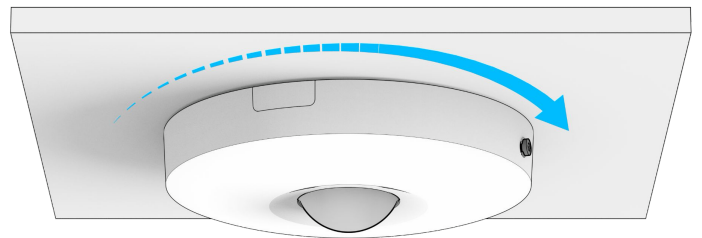
Installation

Mounting

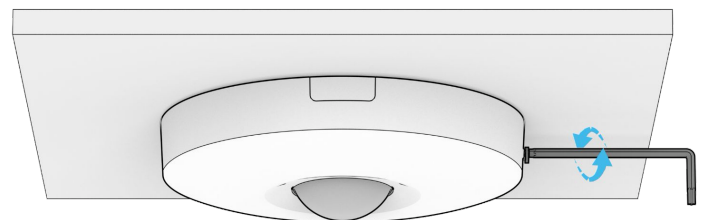
Match the blue dot on the top cover to the blue dot on the device.



Rotate the top cover clockwise until it stops.



Use the provided T10 Security Torx L-Key to tighten the security screw.



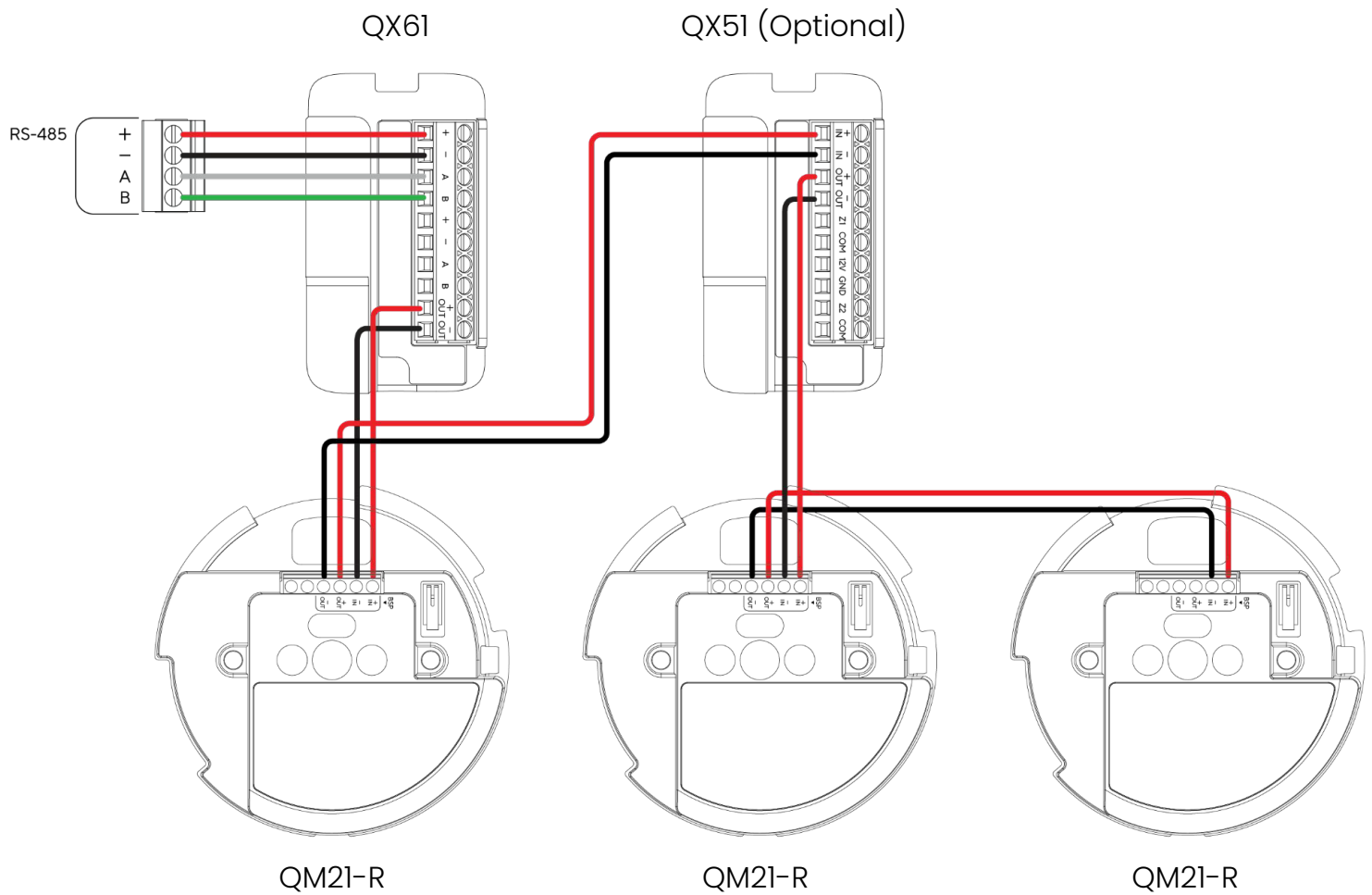
Wiring Diagram

BSP is Verkada's proprietary 2-wire communication protocol, supporting up to 100 daisy-chained BSP devices on a single wire run. Device limit depends on wire gauge, voltage, and device types; use Verkada's BSP calculator for specific system limits.

The QM21-R supports the Verkada BSP wiring architecture. Two common wiring examples are provided below.

The first scenario shows a mix of QM21-R with other BSP modules such as the QX51 to monitor motion and door events on a 2-wire cable run.

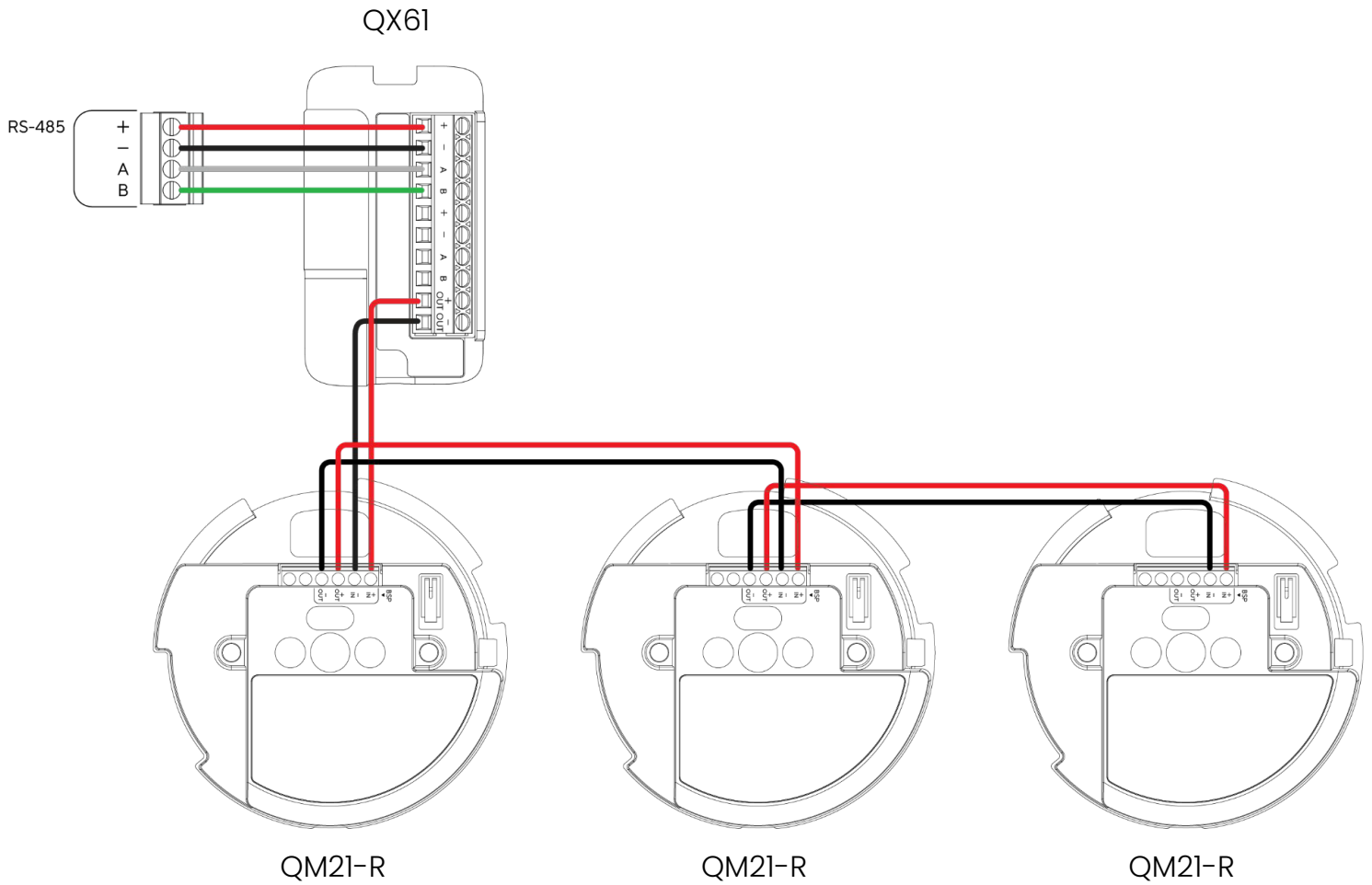
Daisy Chain with QX51s Mixed In



Wiring Diagram

The second scenario shows wiring with QM11-R devices only; used when an installation only requires monitoring motion sensors.

Daisy Chain with Only QM21-R



Appendix

Compliance

FCC Compliance

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 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.

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

FCC Radiation Exposure Statement :

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 40cm between the radiator & your body. Any changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

Professional Installation:

This device must be professionally installed. The intended use is generally not for the general public. It is generally for industrial and commercial use. Installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance and other FCC rules.

Appendix

Compliance

ISED Compliance

This device complies with ISED's licence-exempt RSSs. 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.

Le présent appareil est conforme aux CNR d'ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (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.

IC Radiation Exposure Statement:

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Déclaration d'exposition aux rayonnements d'IC : Cet équipement est conforme aux limites d'exposition aux rayonnements IC RSS-102 définies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 20cm entre le radiateur et votre corps.

Supported Antennas:

This radio transmitter 26271-60B6902 has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Le présent émetteur radio 26271-60B6902 a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué pour tout type figurant sur la liste, sont strictement interdits pour l'exploitation de l'émetteur.

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