Nokē
LV Repeater
Install Guide

Before Starting

This comprehensive guide provides step-by-step instructions for installing a Low Voltage (LV) Repeater at various locations to enhance the mesh network connectivity for locks and gateways throughout the NSE network system. The LV Repeaters are strategically located to fill in the gaps where locks and gateways need additional LoS connectivity. Each site provides a diagram designed to place the LV Repeaters where they are needed.

Note: The LV Repeaters should be tested and approved operational before signing off on the NSE system.

Make sure you have all the essential components listed below. If any parts are missing, contact your supplier for help. Additionally, the LV Repeater includes a software application (app) that can be conveniently downloaded from noke.app.

Parts

Surface Mounted LV Repeater (Item Code: 600493-0000

Surface Mounted Cone Dimensions

2.7" / 68.6mm   .8" / 21mm

1.5" / 38.12mm   3" / 77.1mm

WALL
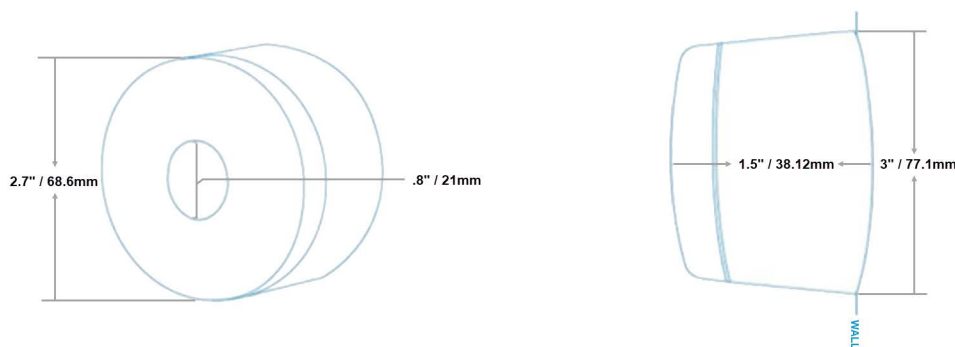
Technical Specifications for LV Repeater

- ❖ **Connectivity:** 2.4ghz Blue-tooth and 2.4ghz proprietary mesh technology
- ❖ **Power:** 12-24VDC
- ❖ **Input:** 25 mA operational current / Lock activation, 1.75 A – 0.01 sec to 25 sec.
- ❖ **Accessory Options:** PoE
- ❖ **Enclosure:** Surface Cone with faceplate
- ❖ **Blue-tooth Enabled:** Yes
- ❖ **Operating Temperature:** -40°F to 176°F / -40°C to 80°C
- ❖ **Water Resistance Rating:** IP66
- ❖ **Battery Backup:** None
- ❖ LV Repeaters can run with the Altronix power supply set to 12VDC or 24VDC.

Introduction

The Nokē LV Repeater helps to maintain the mesh network connection throughout the NSE system. Repeaters are strategically placed throughout the mesh network where they enhance the network connectivity.

Additionally, the LV Repeater requires a direct Line of Sight (LoS) connection to a Nokē gateway or another Nokē repeater for effectively relaying access codes and monitoring activity to the NSE system.
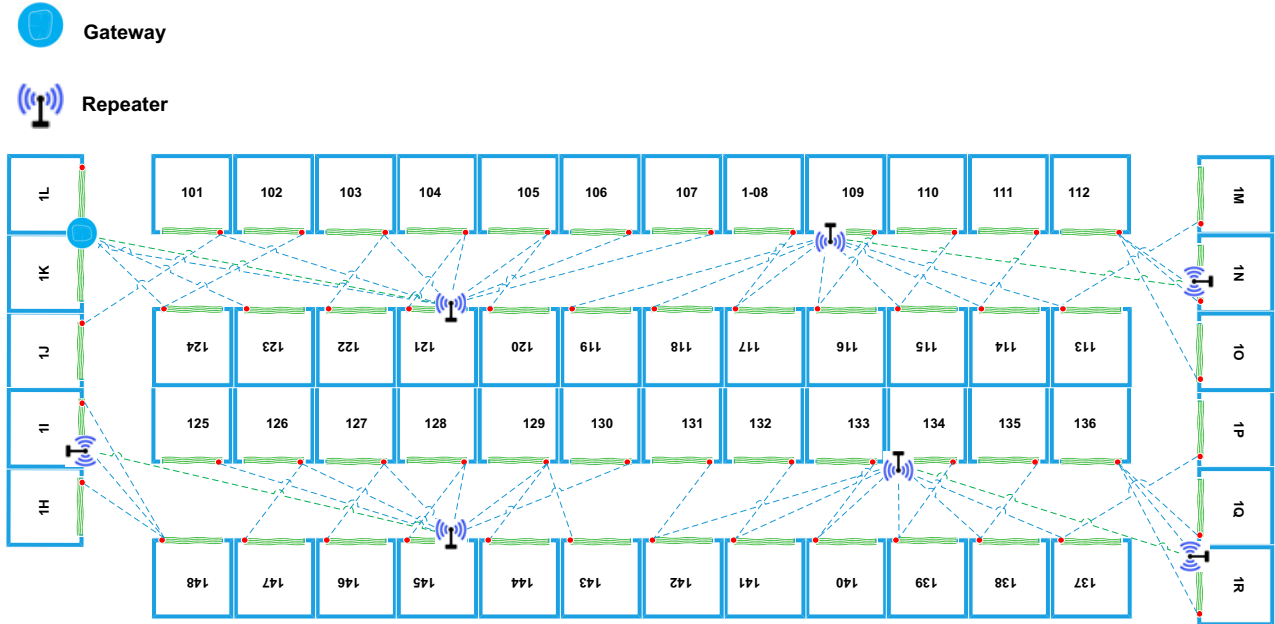
LoS connectivity between locks, repeaters, and gateways throughout the NSE mesh network.

When a tenant initiates an unlock command at a unit, the Nokē lock opens, that unlock activity is relayed to the repeaters and then to a gateway which sends it to the switch > router > cloud, and then to the NSE system and also the customer's property management software (PMS).

Nokē Smart Entry (NSE) Workflow
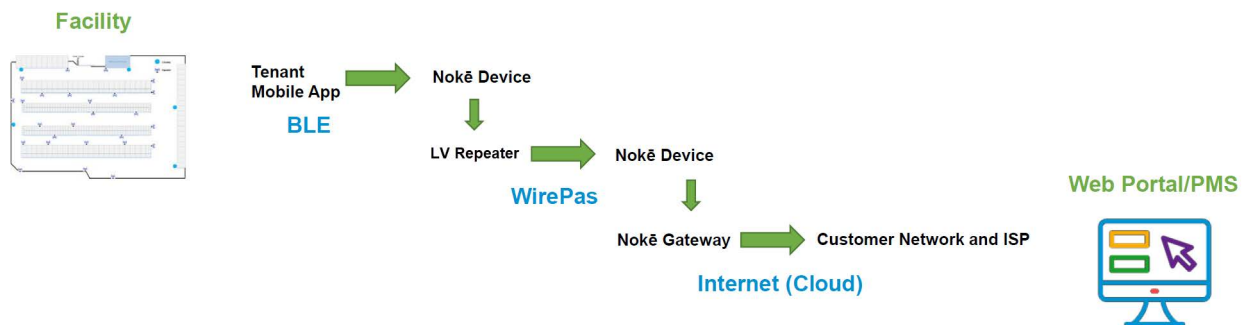
Note: LV Repeaters can either be 12-24VDC powered by an Altronix Power Supply, or they can be PoE powered via a direct connection to a switch or gateway.
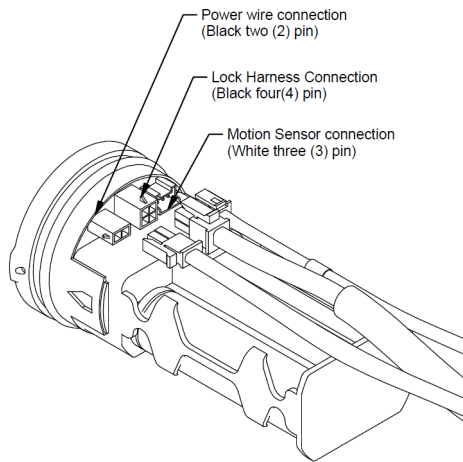
Janus/Nokē installers will handle the installation of the LV Repeaters at the specified location.

LV Repeater Installation Considerations

Nokē V3.2 Unit Controllers/Repeaters are used to bridge the gap between Nokē gateways, keypads, and locks. In most cases, the layout/ topography of the facility determines where and how repeaters are distributed throughout a facility. These repeaters can either be LV or PoE repeaters, depending upon which is the most feasible option.

❖ Ensure that all repeaters are mounted at a height between 8' and 12' when installing to their fixed locations.

❖ Ensure that all installation materials are outdoor-rated. In wetter regions, seal the cover plate of the repeater with RTV sealant.

❖ Ensure that the cover plate is tightened securely to prevent water intrusion.

❖ Ensure that the repeater is installed correctly (as illustrated). If it is installed upside down, the weep hole at the bottom of the repeater will gather water and destroy the unit.

❖ Repeaters require an LoS connection with a lock to communicate with one another in the mesh network.

❖ LoS means immediately in front of device with little to no degrees of variation and a maximum effective range of 75 ft.

❖ Gold Standard is a PoE or Low Voltage Repeater. If a solar repeater is requested/needed, it's better to use a PoE repeater, if possible.

Standard Wiring Layout for PoE Repeater

Power wire connection
(Black two (2) pin)

Lock Harness Connection
(Black four(4) pin)

Motion Sensor connection
(White three (3) pin)

Installing and Mounting the LV Repeater

There are two different wiring options available to power the LV Repeater: 12-24VDC low voltage power to an Altronix Power Supply and PoE power to a switch or gateway.

If you are using the 12-24VDC wiring option to the Altronix Power Supply, follow these steps.

Note: Before attaching the holster to the mounting surface, make sure to remove the 3M backing tape from the back of the holster.

To wire and mount directly to a metal post,

1. Remove the LV controller from the surface mounted cone body.

2. Feed the 18-2 Plenum wire coming out of the wall or metal post through the left side hole **C** to route the wires into the LV Repeater body.

3. Insert the **Red** wire into the (**+**) terminal and the **Black** wire into the (**-**) terminal and tighten the anchoring screws to secure the wires into the controller.

4. Peel the 3M backing from the backside of the surface mounted cone.
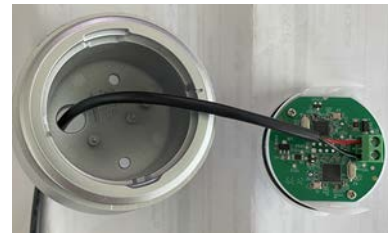
5. Place the holster over the hole and adhere it to the surface making sure that the **This Side Up** markings are facing correctly.

6. Drill the **A** and **B** holes for the two screws to secure the cone in place. **Caution:** Avoid using any hardware that is not specifically recommended in this guide. Using the wrong tools can lead to issues or harm the keypad during removal.

7. Ensure that these holes align and make contact with the goose neck.

8. Reinsert the controller into the body of the cone using the notched tabs.

9. Replace the faceplate onto the surface mounted cone.
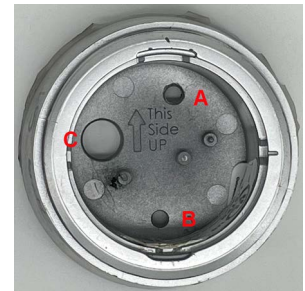
Note: Apply water-resistant silicone to the faceplate, the bottom of the surface-mounted cone, and the attachment holes to ensure that the LV Repeater is waterproof.

Setting up the LV Repeater from the Manager's Mobile App

You can set up the LV Repeater from the Nokē Storage Smart Entry manager's mobile app.

To do this,

1. Install the Nokē Storage Smart Entry mobile app from the Apple or Android app stores for your device.

2. Log into the Nokē Storage Smart Entry manager's mobile app.

3. Tap the **+** (**Plus** sign) in the top right corner.

4. Tap **Add Unit Controller**.
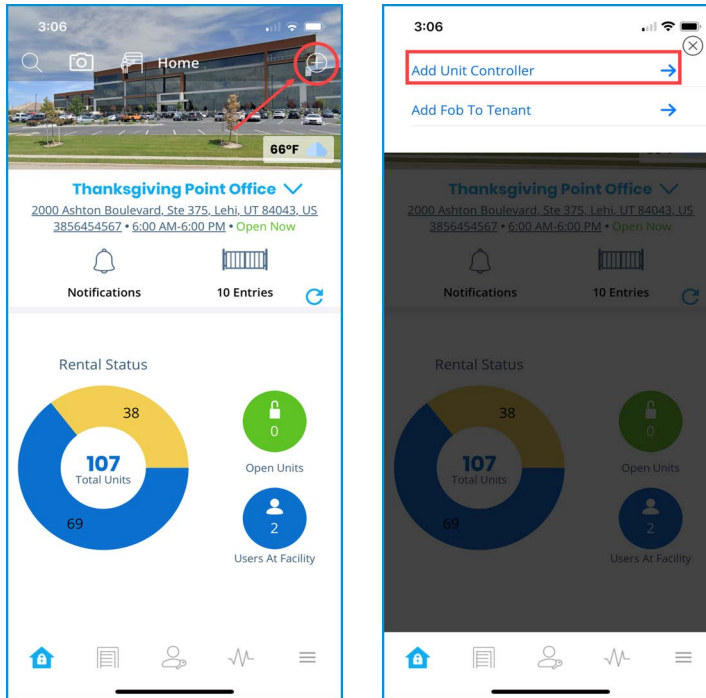
5. Place your mobile device near the **LV Repeater**.

6. From the **Devices** screen, locate the **LV Repeater** from the list. (Generally, this is the device with a green signal.

7. Tap on the device.

8. Fill out the information, as required:

    • Enter the **Name**. (e.g., *LV Repeater)*
    Note: You can take a photo, if needed.

    • Enter the **Device Type** as a *Repeater*.

    • Enter the **Location** of the repeater. (e.g., *Indoor*)

    • Enter the **Unit** nearest the repeater. (e.g., Unit 176)

    • Enter the **Zones**. (e.g., *Default Zone*)

9. Tap **Done**.

10. In the top right corner, tap **Upload**.
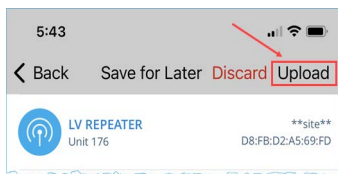
11. From the **Upload all units?** pop-up, tap **Upload** again.

12. A **Success** pop-up appears. SecurGuard powered by Nokē Mesh Hub is required and available from Janus, which automatically discovers and configures the LV Repeater.

13. Set up and manage your access codes from your property management software (PMS).

    • **Note:** Visit the **Janus International** website for a list of approved PMS packages or contact us for a custom integration quote.

Maintenance

Inspect the entire facility for tampering or damage at the end of the installation.

Disclaimer

Always install all network and devices in a safe manner and in full compliance with this manual and any applicable laws related thereto. No warranties express or implied are contained herein. Nokē or Janus International is not liable for any injuries or damages to any operators, property, or bystanders incurred as a result of using the networking devices by its customers.

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Contact Us

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Compliance Statement

Nokē Low Voltage Repeater
FCC ID 2BGPA-RPTLV1

IC 32315-RPTLV1

FCC Interference Statement

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, 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 the 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.

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This equipment complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

This device may not cause harmful interference, and

This device must accept any interference received, including interference that may cause undesired operation.

Safety Information

Retain and follow all safety and operating instructions provided with your equipment. In the event of a conflict between the instructions in this guide and the instructions in equipment documentation, follow the guidelines in the equipment documentation.

Observe all warnings on the product and in the operating instructions. To reduce the risk of bodily injury, electric shock, fire, and damage to the equipment, observe all precautions included in this guide.

You must become familiar with the safety information in this guide before you install, operate, or service Nokē products.

Chassis

- Do not block or cover the openings to the equipment.

- Never push objects of any kind through openings in the equipment. Dangerous voltages might be present.

- Conductive foreign objects can produce a short circuit and cause fire, electric shock, or damage to your equipment.

Batteries

- The equipment battery contains lithium manganese dioxide. If the battery pack is not handled properly, there is risk of fire and burns.

- Do not disassemble, crush, puncture, short external contacts, or dispose of the battery in fire or water.

- Do not expose the battery to temperatures higher than 60°C (140°F).

- If the battery is replaced by an incorrect type, there is danger of explosion. Replace the battery only with a spare designated for your equipment.

- Do not attempt to recharge the battery.

- Dispose of used batteries according to the instructions of the manufacturer. Do not dispose of batteries with the general office waste.

Equipment Modifications

- Do not make mechanical modifications to the system. Riverbed is not responsible for the regulatory compliance of Nokē equipment that has been modified.

RF Warning Statement

WARNING: Upon initialization, the radio within the device is dynamically assigned a specific country configuration based on the geographical location of the deployment. This process ensures that each radio's broadcast frequency bands, channels, and transmitted power levels are compliant with country-specific regulations when properly installed.

Only use the locality profile for the country in which you are using the device. Tempering or modification of assigned radio frequency parameters will render the operation of this device illegal. Wi-Fi or Wirepas devices for the United States are permanently locked to a fixed regulatory profile (FCC) and cannot be modified.

The use of software or firmware not supported/provided by the manufacturer may result that the equipment is no longer in compliance with regulatory requirements and may subject the end user to fines and equipment confiscation by Regulatory Agencies.

RF Exposure Compliance

This equipment complies with FCC/IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. 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 20cm between the radiator and your body.

Cet équipement est conforme aux limites d'exposition aux radiations FCC/IC CNR-102 établies pour un environnement non contrôlé. Cet émetteur ne doit pas être colocalisé ou fonctionner en conjonction avec une autre antenne ou un autre émetteur.

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.

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

Antenna

WARNING: Only use the supplied or approved antennas. Unauthorized use, modification, or attachments including the use of third-party amplifiers with the radio module could cause damages and may violate local laws and regulations.

Regulatory Approval

WARNING: Operation of the device without regulatory approval is illegal.

ISED Compliance 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.

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment.

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 :

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Cet équipement est conforme aux limites d'exposition aux radiations IC CNR-102 établies pour un environnement non contrôlé.

Waste Electrical and Electronic Equipment (WEEE) Compliance Statement

Do not discard a product. European Union Directive 2012/19/EU requires a product to be recycled at the end of its useful life. Follow all waste management actions defined by this directive. Directive requirements may be superseded by EU member nation law. Perform the following actions to identify pertinent information:

• Review the original purchase contract to determine a contact regarding waste management of a product

Restriction on Hazardous Substances (RoHS) Compliance Statement

The product complies with environmental requirements as set forth in European Union Directive

2011/65/EU with respect to the following hazardous substances:

- Cadmium

- Hexavalent chromium

- Lead

- Mercury

- Polybrominated biphenyl (PBB)

- Polybrominated diphenyl ether (PBDE)

Nokē Inc. here with declares that this unit complies with the fundamental requirements and relevant regulations set forth by Guideline 1999/5/EU. The declaration of conformity can be found at noke.com/ce or requested by e-mail: support@noke.com
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