

Sirix

Autonomous Security Box R4

Installation Guide



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Sirix's Autonomous Security Box

Fifth edition.

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Introduction

The Sirix’s Autonomous Security Box is designed for quick deployment to secure outdoor areas. This system includes three AI-enabled cameras for remote video monitoring, offering intelligent detection and analysis of security events. The box is equipped with one or more horn loudspeakers for audible alerts and voice interventions, enhancing its response capabilities.

Incorporating LTE communication, the box ensures reliable, high-speed wireless connectivity essential for transmitting surveillance data. A strobe light is also integrated for visual alerts, contributing to the effectiveness of the perimeter security.

This security tool is adaptable, with options for additional devices (various types of cameras, loudspeakers, sensors, radar, etc.) based on site requirements, ensuring comprehensive coverage and protection.

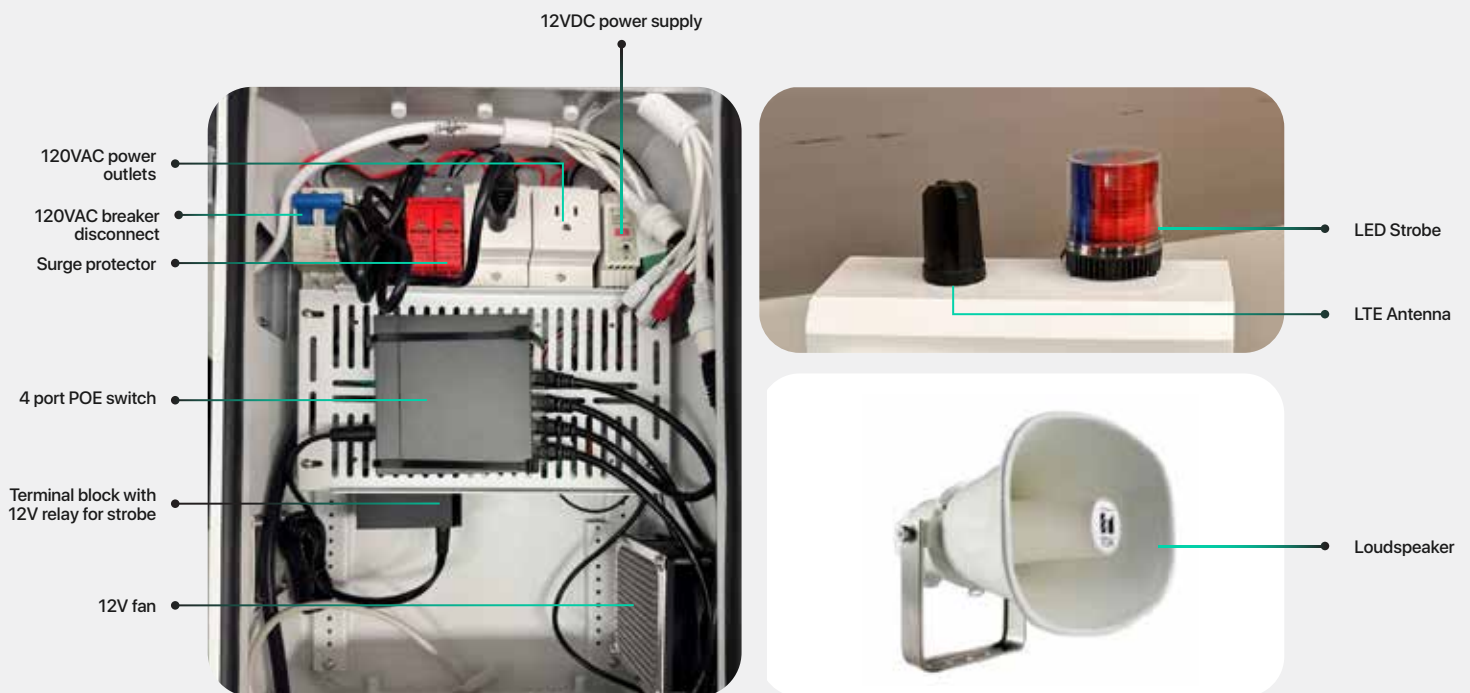
Installation. Electrical connection.

The NEMA 4 enclosure needs to be connected to a 120VAC, 50/60 Hz electrical circuit, which must be safeguarded by a 15A circuit breaker.

Connect the loudspeaker to the NEMA 4 enclosure using the CAT6 cable provided. Then, mount it following the instructions for your chosen mounting option.

NOTE: Installation of this unit must be carried out by a certified electrician.

Components



*Not shown in the image but included in all R4 boxes:
Temperature control unit.



External view of the box



Internal view of the box



Camera adjustment screws for vertical and horizontal positioning



Power cords for box activation.



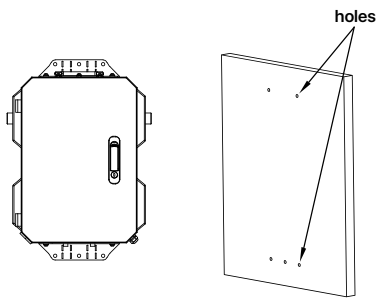
Box lock

Physical installation of the Autonomous Security Box R4

The R4 offers two versatile mounting options: Wall mount and Pole mount.

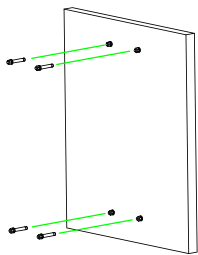
Follow the steps below to wall-mount the unit and ensure a secure installation.

Step-by-step wall mount (Visual helper)



Step 1

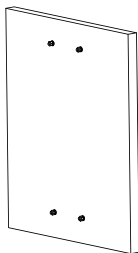
Drill four 10 mm diameter holes in the wall at the desired location according to the template.



M8x80 expansion bolts

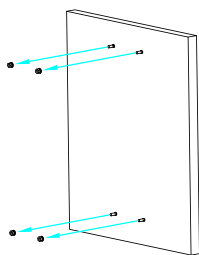
Step 2

Insert the M8x80 expansion bolts into each hole.



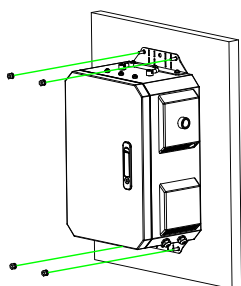
Step 3

Ensure the bolts are properly fixed in place.



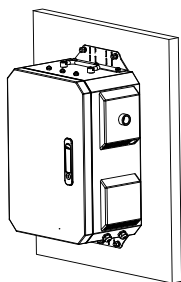
Step 4

Remove the nuts from the threaded rods.



Step 5

Place the box by aligning it with the threaded rods.



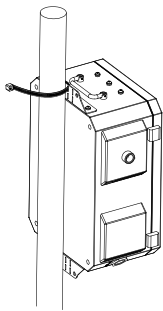
Step 6

Re-attach and tighten the nuts to securely fix the box in place.

Physical installation of the Autonomous Security Box R4

The R4 offers two versatile mounting options: Wall mount and Pole mount.
Follow the steps below to pole-mount the unit and ensure a secure installation.

Step-by-step pole mount (Visual helper)



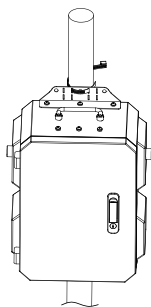
Metal straps

Step 1

Place the box against the pole at the desired height.

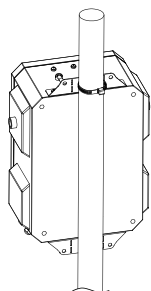
Step 2

Pass a metal strap through the top mounting slot, wrap it around the pole, and feed it back through the slot.



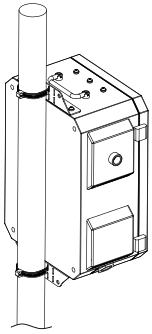
Step 3

Ensure the strap is properly inserted and positioned through the top slot.



Step 4

Tighten the strap securely using a screwdriver.



Step 5

Repeat the same step with a second strap through the bottom mounting slot.

Step 6

Check that both straps are tight and that the box is stable.

Waterproof housing installation for IP speaker (PoE connection)

Step 1.

Prepare the waterproof housing components

Ensure all components of the waterproof housing are present: the long plastic part, short plastic part, and silicone rings.



Step 2.

Insert the silicone ring

Place the silicone ring around the PoE (Power over Ethernet) port on the IP speaker to ensure a waterproof seal.



Step 3.

Feed the network cable

Pass the network cable (with RJ45 connector) through the long plastic part first, then through the short plastic part of the waterproof housing. Insert the RJ45 connector into the PoE port of the IP speaker.



Step 4.

Secure the long plastic housing

Screw the long plastic part of the housing onto the PoE port of the IP speaker. Ensure it is tight and firmly in place.



Step 5.

Seal with silicone ring

Push the silicone ring into the long plastic part until it sits flush. No part of the ring should protrude.



Step 6.

Final assembly

Then screw the short plastic part onto the long part to complete the waterproof seal.



The installation process

Upon delivery

Inspect the box. Check for any hardware damage upon delivery.

Contact Support. Email Sirix at support@sirixmonitoring.com to schedule initial testing. Include your site name and box number (starting with SASB) in the email. Initial testing ensures all components are functioning and the cameras are connected to Sirix's command center.

Initial testing (indoor)

Prepare. Have an Internet-connected laptop, an Ethernet cable, and the box's key ready in case of issues.

Plug the box.

- Connect the NEMA 4 enclosure to a 120VAC, 50/60 Hz electrical circuit protected by a 15A circuit breaker.
- Attach the loudspeaker to the enclosure using the provided CAT6 cable.
- Keep the box plugged in for at least 5 minutes before testing.

Call Support. At the scheduled time, call Sirix Support to conduct initial testing. Provide your site name and box number.

Book on-site testing. Schedule a meeting with Sirix Support for on-site installation and testing.

On-site installation & testing (outdoor)

Prepare. Have an Internet-connected laptop, an Ethernet cable, and the box's key ready.

Mount the box. Follow the mounting instructions provided in the "Physical Installation of the Autonomous Security Box" section.

Plug the box.

- Connect the NEMA 4 enclosure to a 120VAC, 50/60 Hz electrical circuit with a 15A circuit breaker.
- Attach the loudspeaker to the enclosure using the CAT6 cable.
- Ensure the box is plugged in for 5 minutes before testing.

Note: Installation must be performed by a certified electrician.

Call Support. At the scheduled time, call Sirix Support for on-site testing. Provide your site name and box number. Sirix's security specialist will confirm the box is connected to the command center and fully operational.

Post-installation setup procedures

ALTA H6SL BULLET CLOUD CAMERA

01

Camera adjustment

Use the adjustment screws to position the cameras' field of view (FOV) horizontally, vertically, and rotationally as desired.

02

Angle confirmation

Once the cameras are adjusted, confirm that the angles are correct with the Sirix Onboarding Department.

03

Masking & detection zone setup

After angle confirmation, the Onboarding Department will set up the masking and detection zones.

04

Voice down test

Conduct a test of the loudspeaker to adjust the volume and ensure the sound clarity.

05

Walk test

Perform walk tests to verify the effectiveness of the detection zones and confirm that alarms are being received at the Sirix Command Center.

***Routine maintenance recommendation.**

Periodic walk and voice down tests are recommended to ensure the system is functioning properly and remains in good working order.

Limitations

Key information for optimal performance with Sirix's R4.

Overlapping of cameras.

When two cameras are positioned to detect the same zone from different angles, it is said that the cameras are overlapping.

This practice is critical since it doubles the likelihood of detection in these zones. For example, if one camera misses the intruder because the detection angle is too steep and the visible area of the individual's body is too small for the camera to categorize it as human, another camera detecting the same zone from a different angle may catch the trespasser.

Camera coverage.

How far can your Autonomous Security Box's cameras see and detect intrusions?

To answer this question correctly, you need to know these THREE BASIC VALUES:

- The minimum pixel per meter (ppm) required to classify an object correctly is 6 PPF.
- The megapixel value used by the AI engine is 480p.
- Cameras have a detection range of 20 to 60 meters, depending on the horizontal field of view (HFOV), which refers to the width of the zoom.

For more details on camera coverage, contact a Sirix security specialist or visit:

<https://www.jvsg.com/calculators/cctv-lens-calculator/>

Object detection function.

Object detection is a computer vision technique that enables cameras to identify and locate objects, such as people or vehicles, within their field of view. The system analyzes the video feed using advanced algorithms and triggers an alarm when a human or vehicle is detected, tracking it as long as it remains in view. For detection to occur, the object must stay in the camera's field of view for at least 2 seconds.

Lighting.

Ensure all monitored areas are well-lit to capture clear images for security monitoring. To prevent glare, avoid positioning lights directly in front of your Autonomous Security Box's cameras. Also, steer clear of locations with drastic daylight changes or reflective surfaces, as they can reduce detection accuracy.

Optimal height & angle.

Mounting the Autonomous Security Box's cameras at the correct height and angle is critical for accurate detection. Cameras should be placed between 2.8m (9ft) and 3.7m (12ft) and angled 30° to 45° from the horizontal to ensure they capture the majority of a person or vehicle for reliable detection. Any vibration in the mounting surface can hinder the accuracy of object detection, so securing the Autonomous Security Box on a stable surface is essential.

For additional best practices on optimizing camera coverage and detection, consult our Remote Video Monitoring Installation & Performance Guide. Contact your sales representative to receive a digital copy.

Troubleshooting. Your step-by-step.

Enclosure integrity

Make sure the power bar switch is on and operational. Try plugging another device into the power bar to confirm it's working.

Breaker inside the box. Check the breaker inside the security box to make sure it hasn't tripped. If tripped, reset it.

Check LTE connectivity

Make sure the LTE connection is stable and working. Check signal strength or use a mobile device to test the connectivity in the same location.

If LTE is not working, ensure the SIM card is correctly installed and has an active data plan.

Restart or reset router

Soft reset. Try rebooting the router by powering it off for 10–30 seconds, then turning it back on.

Hard reset. If soft reset doesn't work, perform a factory reset (usually by pressing and holding the reset button for 10–15 seconds). Make sure to reconfigure the network after the reset if necessary.

Reset network switch

Power cycle the network switch by unplugging it and waiting 10–30 seconds before plugging it back in.

If problems persist, consider performing a hard reset (usually via a reset button) or checking for firmware updates.

Reset speaker

Power cycle. Turn off and on the speaker. Disconnect it from power; reboot the POE switch by disconnecting its power source. Wait for 5 minutes before checking if the speaker functionality and voice downs are restored.

Check network connectivity

Check wired connections. Ensure all Ethernet cables are firmly connected and undamaged.

Inspect physical connections

Make sure to securely plug all cables (power, network, audio, etc.) into the appropriate ports. Look for any signs of damage or wear on the cables.

Contact support

If the problem persists after all troubleshooting steps, contact Sirix support for more advanced assistance.

Maintenance

The integrated system, featuring the NEMA 4 enclosure and AI-powered cameras, requires minimal maintenance. However, we recommend cleaning the camera lenses twice a year for optimal performance, though this isn't mandatory. In environments with high temperatures, strong winds, dust, or near motorways and construction sites, more frequent cleaning may be needed. During routine or unscheduled site inspections, perform the following checks when opening the enclosure:



Enclosure integrity

Examine the top of the enclosure, especially around the external antenna mount, for any signs of leaks.



Rust inspection

Look for any signs of rusting on the enclosure.



Camera mounting area.

Check the door where the camera is mounted for leak indications.



Seal condition.

Inspect the door seal for any broken or dented areas that could compromise the enclosure's integrity.



Electrical connection

Regularly verify the integrity of the power cable, looking for any cuts, damage, or signs of wear that could impact functionality.

Specification sheet

For detailed specifications of each component in the Sirix's Autonomous Security Box, please refer to the corresponding links provided next to each item listed below.



TP-LINK 5-PORT GIGABIT EASY SMART SWITCH WITH 4-PORT POE+

*Model may vary based on availability.

- > 5 Ports
- > Gigabit Ethernet
- > 10/100/1000Base-T
- > Layer 2 Supported
- > 4.34 W Power Consumption
- > 120 W PoE Budget
- > Twisted Pair
- > PoE Ports

TELTONIKA RUT241

4G/LTE WiFi Industrial Cellular Router

TELTONIKA PR1KCO28

Combo MIMO Mobile/GNSS/WiFi Roof SMA Antenna

BULLET B7Z2812IP5MP-AI-N

<https://gsdgroup.ca/en/bullet/517-b7z2812ip5mp-ai-n>

PTZ PTZD4XIP4MP-AI

<https://gsdgroup.ca/en/total-view/609-ptzd4xip4mp-ai>

SPEAKER SIP 30W

Features:

- > Supports PoE and comply with IEEE802.3bt (PoE++).
- > The network horn loudspeaker integrated with network audio decoding, digital amplifier.
- > Empowered by high-speed dual-core (ARM + DSP) chip of industrial grade, startup in less than 1s.
- > IP67 water-proof horn speaker at 30W rated power.
- > Supports MP3,WMA,WAV and more decoding.
- > With a standard RJ45 network interface and supports online firmware upgrade from long distance.
- > CE & RoHS complied.
- > Supports SIP, ONVIF and VMS compatible with most of the platforms like Milestone, NX and more.
- > With built-in SD for recorded voice messages.

Sirix

Always watching. Always protecting.

For any questions or assistance with your Sirix's Autonomous Security Box, please contact our support team. We are dedicated to prompt problem resolution and mutual success.

info@sirixmonitoring.com | 1-855-788-1919 (24/7 SOC)

