

Autonomous Security Box R5

Installation Guide



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Sirix's Autonomous Security Box

Fourth edition.

Published: September 2025



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Introduction

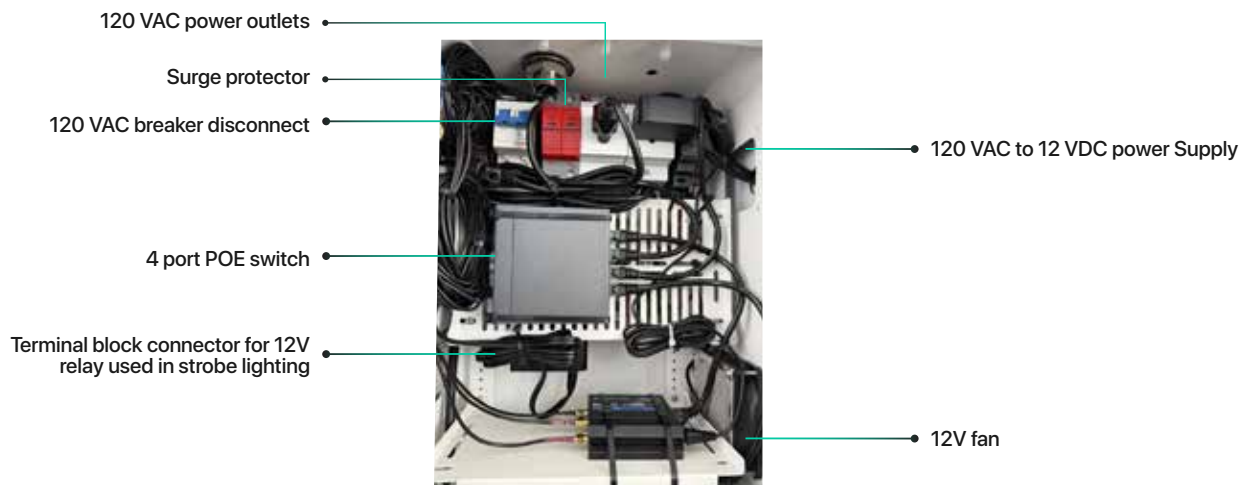
Introducing the R5. The most powerful Autonomous Security Box yet! Equipped with cutting-edge technology, the R5 combines Sirix’s expertise with Avigilon’s Alta H6SL bullet and dome cameras to provide unmatched outdoor protection. With enhanced object detection, the R5 covers a wide range from up to 95 ft at the widest angle (101°) to an impressive 295 ft at the narrowest angle (31°), offering sharp, clear, and far-reaching surveillance.

This robust security solution features LTE communication for seamless, high-speed data transmission, along with a strobe light for visual alerts and a horn loudspeaker for audible warnings and live voice intervention. Its adaptability allows for additional devices, including various cameras, loudspeakers, sensors, and radar, customizable to fit unique site requirements for maximum coverage and security.

The R5 sets a new standard in autonomous outdoor security, delivering a proactive response and peace of mind, even in the most challenging environments.

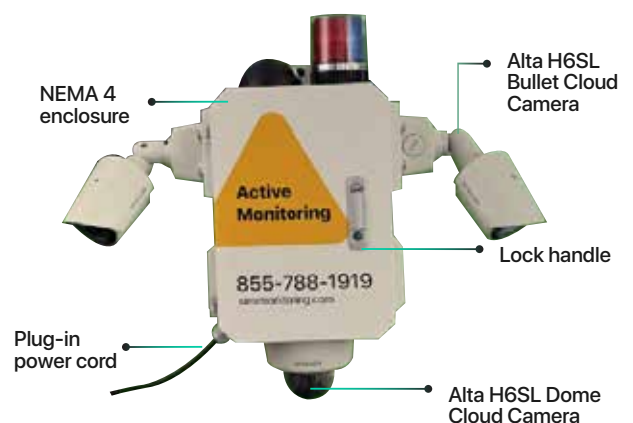
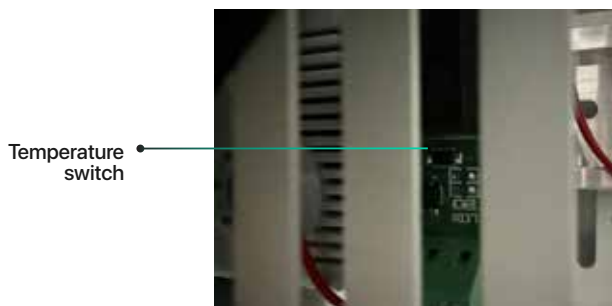
Components of the Autonomous Security Box R5

Explore the advanced features and key components that make the R5 the ultimate solution for autonomous outdoor security.



*Not shown in the image but included in all R5 boxes:

- Temperature switch
- 12V strobe relay



Exterior view of the box



Interior view of the box



Loudspeaker

Mounting holes



Back of the box



Power cord outlet

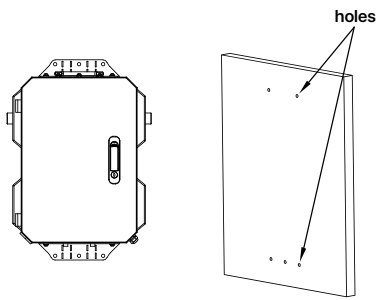


Physical installation of the Autonomous Security Box R5

The R5 offers two versatile mounting options: Wall mount and Pole mount.

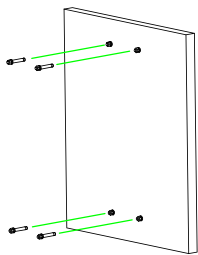
Follow the steps below to wall-mount the unit and ensure a secure installation.

Step-by-step wall mount (Visual helper)



Step 1

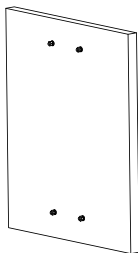
Drill four 10 mm diameter holes in the wall at the desired location according to the template.



M8x80 expansion bolts

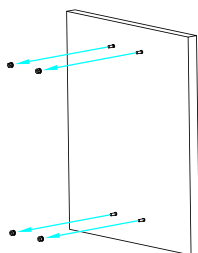
Step 2

Insert the M8x80 expansion bolts into each hole.



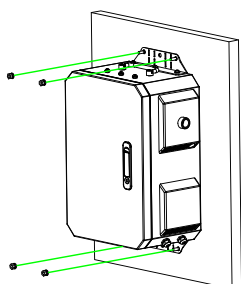
Step 3

Ensure the bolts are properly fixed in place.



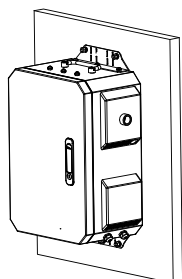
Step 4

Remove the nuts from the threaded rods.



Step 5

Place the box by aligning it with the threaded rods.



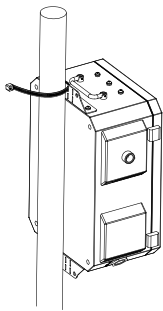
Step 6

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

Physical installation of the Autonomous Security Box R5

The R5 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)



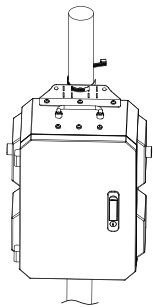
Metal straps

Step 1

Place the box against the pole at the desired height.

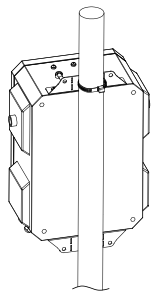
Step 2

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



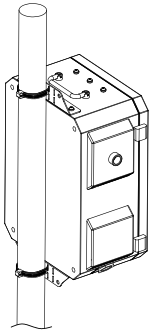
Step 3

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.

Final steps

Set up user access. Once the box is operational, Sirix will create user accounts for your team and send email invitations to join the Alta Aware platform. Use the temporary URL (<https://sirix-pilot.na3.aware.avasecurity.com/login>) provided in the email to complete registration and begin monitoring and managing your system.

Questions. Contact support@sirixmonitoring.com anytime for assistance.

Post-installation setup procedures

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 R5.

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 9 PPF at 1080p.
- The megapixel value used by the AI engine is 480p.
- Cameras have a detection range of 95 to 295 feet, 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.

For outdoor or large indoor areas, cameras should be mounted at a minimum height of 2.8 m (9 ft) and positioned level to the horizon and ground plane. Cameras can be tilted within 30° from the horizontal for optimal object classification, with a maximum tilt of 45° from the horizontal. Increasing the tilt angle can help detect targets that are directly approaching the camera.

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.

Note: The SASB R5 can be supplied with either the Avigilon Alta camera set or the GSD camera set below. Specification sheets are provided for all cameras. Refer to the models included with your unit.



ALTA H6SL BULLET CLOUD CAMERA

- **Resolutions.** 2 MP, 3 MP, and 5 MP
- **Lens Options.**
 - 3.4–10.5 mm (wide)
 - 10.9–29 mm (telephoto)
- **IR Illumination Range.** Up to 70 m (230 ft)
- **Dynamic Range.**
 - HDR Off: 83 dB
 - HDR On: 126 dB (2 MP), 130 dB (3 MP and 5 MP)
- **Weather Resistance.** IP66/IP67 and NEMA Type 4X rated
- **Impact Resistance.** IK10-rated
- **Operating Temperature.** –40°C to +60°C (–40°F to 140°F)

Power Supply.

PoE: IEEE 802.3af Class 3 compliant

12VDC auxiliary (Bullet model only)

- **Network Interface.** 100BASE-TX Ethernet
- **Video Compression.** H.264, Motion JPEG
- **Analytics.** Intelligent analytics with real-time alerts
- **Security.** Password protection, HTTPS encryption
- **Detection range.** 295 ft at 10.5 mm 31° | 95 ft at 3.4 mm – 101°

For more detailed information, please refer to the [Avigilon H6SL Cloud Camera datasheet](#).



ALTA H6SL DOME CLOUD CAMERA

- **Resolutions.** 2 MP, 3 MP, and 5 MP
- **Lens Options.** 3.4–10.5 mm
- **IR Illumination Range.** Up to 30 m (100 ft)
- **Dynamic Range.**
 - HDR Off: 83 dB
 - HDR On: 126 dB (2 MP), 130 dB (3 MP and 5 MP)
- **Weather Resistance.** IP66/IP67 and NEMA Type 4X rated (outdoor models)
- **Impact Resistance.** IK10-rated
- **Operating Temperature.** –40°C to +60°C (–40°F to 140°F)

Power Supply.

PoE: IEEE 802.3af Class 3 compliant

12VDC auxiliary (Bullet model only)

- **Network Interface.** 100BASE-TX Ethernet
- **Video Compression.** H.264, Motion JPEG
- **Analytics.** Intelligent analytics with real-time alerts
- **Security.** Password protection, HTTPS encryption
- **Detection range.** 295 ft at 10.5 mm 31° | 95 ft at 3.4 mm – 101°

For more detailed information, please refer to the [Avigilon H6SL Cloud Camera datasheet](#).

Specification sheets (continued)



GSD OCTAVUE BULLET AI CAMERA (5MP)

- **Model.** B7Z2812IP5MP-AI-N (NDAA compliant)
- **Resolutions.** 5 MP (2592 × 1944)
- **Lens Options.** 2.7–13.5 mm motorized varifocal lens
- **IR Illumination Range.** Up to 50 m (164 ft)
- **Image Sensor.** 1/2.7" progressive scan CMOS
- **Dynamic Range.** Wide Dynamic Range (WDR) for high-contrast environments
- **Weather Resistance.** IP66 rated enclosure, suitable for outdoor deployments
- **Operating Temperature.** -35°C to +60°C (-31°F to +140°F)
- **Power Supply.** PoE (IEEE 802.3af) or 12VDC
- **Network Interface.** 10/100BASE-T Ethernet
- **Video Compression.** H.265 / H.264 with triple-stream capability
- **Alarm and Audio.** 1 alarm input/output, 1 audio input/output (RCA)
- **Analytics.** AI-powered human and vehicle detection, perimeter intrusion, line crossing and face detection
- **Security.** HTTPS support, enforced complex passwords and IP address filtering
Please refer to the [datasheet](#) for additional information.



GSD OCTAVUE PTZ DOME AI CAMERA (4MP)

- **Model.** PTZD4XIP4MP-AI
- **Resolutions.** 4 MP (2560 × 1440)
- **Lens Options.** 2.8–12 mm motorized lens with 4× optical zoom
- **Pan / Tilt Range.** 350° pan, 0° to 80° tilt, 255 presets
- **IR Illumination Range.** Up to 20 m (66 ft), IR and warm light for color night vision
- **Image sensor.** 1/1.8" progressive scan CMOS
- **Dynamic Range.** True Wide Dynamic Range (120 dB)
- **Weather Resistance.** IP66 rated enclosure, suitable for outdoor deployments
- **Impact Resistance.** IK10-rated vandal resistance
- **Operating Temperature.** -30°C to +60°C (-22°F to +140°F)
- **Power supply.** PoE or 12VDC (max. 13 W)
- **Network Interface.** 10/100BASE-T Ethernet
- **Video Compression.** H.265+ / H.265 / H.264+ / H.264
- **Audio.** Built-in microphone and speaker for two-way communication
- **Analytics.** AI-powered human and vehicle detection, perimeter intrusion, line crossing and face detection
- **Security.** HTTPS encryption, password protection and IP address filtering
Please refer to the [datasheet](#) for additional information.



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

- **WAN Interface.** 1x WAN port, 10/100/1000 Mbps, IEEE 802.3az compliant
- **DLMS Support.** Standard protocol for utility meter data exchange
- **Wireless Mode.** 802.11 b/g/n/ac, supports Access Point and Station modes
- **Wi-Fi Security.** WPA2-Enterprise (PEAP), WPA2-PSK, WEP, WPA-EAP, WPA-PSK; AES-CCMP, TKIP, Auto Cipher, client separation
- **Max Wi-Fi Users.** Supports up to 50 simultaneous connections



TELTONIKA PR1KCO28

- **Frequencies.** LTE 698–960/1710–2690 MHz, GNSS 1575.42–1610 MHz, Wi-Fi 2400–2483.5/4900–5825 MHz
- **Polarization.** Linear, RHCP
- **Dimensions.** 110 mm × 55 mm
- **Temperature Range.** –40 °C to 85 °C
- **Antenna Placement.** External
- **Technology.** 5-in-1 (LTE, LTE MIMO, GNSS, Wi-Fi)
- **Mounting.** Screw and Vehicle Mount
- **Cable Length.** 3 m
- **Connectors.** SMA (M) Straight, RP-SMA (M) Straight
- **Gain.** 2 dBi, 3 dBi, 28 dBi
- **Impedance.** 50 Ω
- **Certifications.** RoHS (EU)
- **Form Factor.** Dome with Screw Mount
- **VSWR.** ≤1.5 (GNSS), <3.0 (Cellular), <2.5 (Wi-Fi)



SPK-30W-12V

- Supports PoE and complies 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)

