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Sonew -100L

Sonew Invisible Beam Barrier Infrared Motion Detector

MODEL: -100L INSTRUCTION MANUAL

Brand: Sonew

1. Introduction

The Sonew Invisible Beam Barrier Infrared Motion Detector, Model -100L, is designed to provide reliable perimeter security through active digital pulse infrared detection. This system is suitable for various applications including homes, driveways, farms, and factories, offering intelligent detection and adaptability to diverse environments. The device features a smart chip that automatically adjusts transmit power based on environmental conditions, extending product lifespan and reducing power consumption. Its robust, integrated sealing structure with an IP55 rating ensures waterproof and tamper-proof operation, making it suitable for outdoor use in various weather conditions.

2. Package Contents

Verify that all items listed below are included in your package:

- 1 x Transmitter Unit
- 1 x Receiver Unit
- 3 x Mounting Brackets
- 4 x Screws

3. Specifications

Feature	Specification
Model	-100L
Material	ABS
Color	Black

Alarm Output	NC and NO rating AV/DC 30V, 0.5A
Detection Method	Covers the light at the same time
Warning Distance	100m / 328ft
Light Source	Digital pulse infrared
Induction Rate	50-700ms
Horizontal Adjustment Axis	180° ± 90°
Vertical Adjustment Axis	±10°
Input Voltage	DC 12-24V, AC 11-18V
Working Current	100mA
Weight	723g / 25.5oz (approx. 1.55 lbs)
Product Dimensions	17 x 8.2 x 8 cm / 6.7 x 3.2 x 3.1 inches

4. Setup

Proper installation and alignment are crucial for optimal performance of your Invisible Beam Barrier.

4.1. Mounting

The system consists of two units: a transmitter and a receiver. These units must be installed facing each other with a clear line of sight to create the invisible beam. Ensure the mounting surface is stable and secure.

1. **Choose Location:** Select a location where the beam will cover the desired detection area. Ensure there are no permanent obstructions between the transmitter and receiver.
2. **Height:** Install both the transmitter and receiver at least 20cm (approximately 8 inches) above the ground to avoid false alarms from small animals or debris.
3. **Mark Holes:** Use the provided mounting brackets to mark the drilling points on your chosen surface.
4. **Drill & Secure:** Drill the marked holes and securely attach the brackets using the provided screws. For enhanced stability, consider placing a rubber pad (not included) between the sensor and the mounting surface.
5. **Attach Units:** Mount the transmitter and receiver units onto their respective brackets.



Image: The transmitter and receiver units of the Sonew Invisible Beam Barrier.

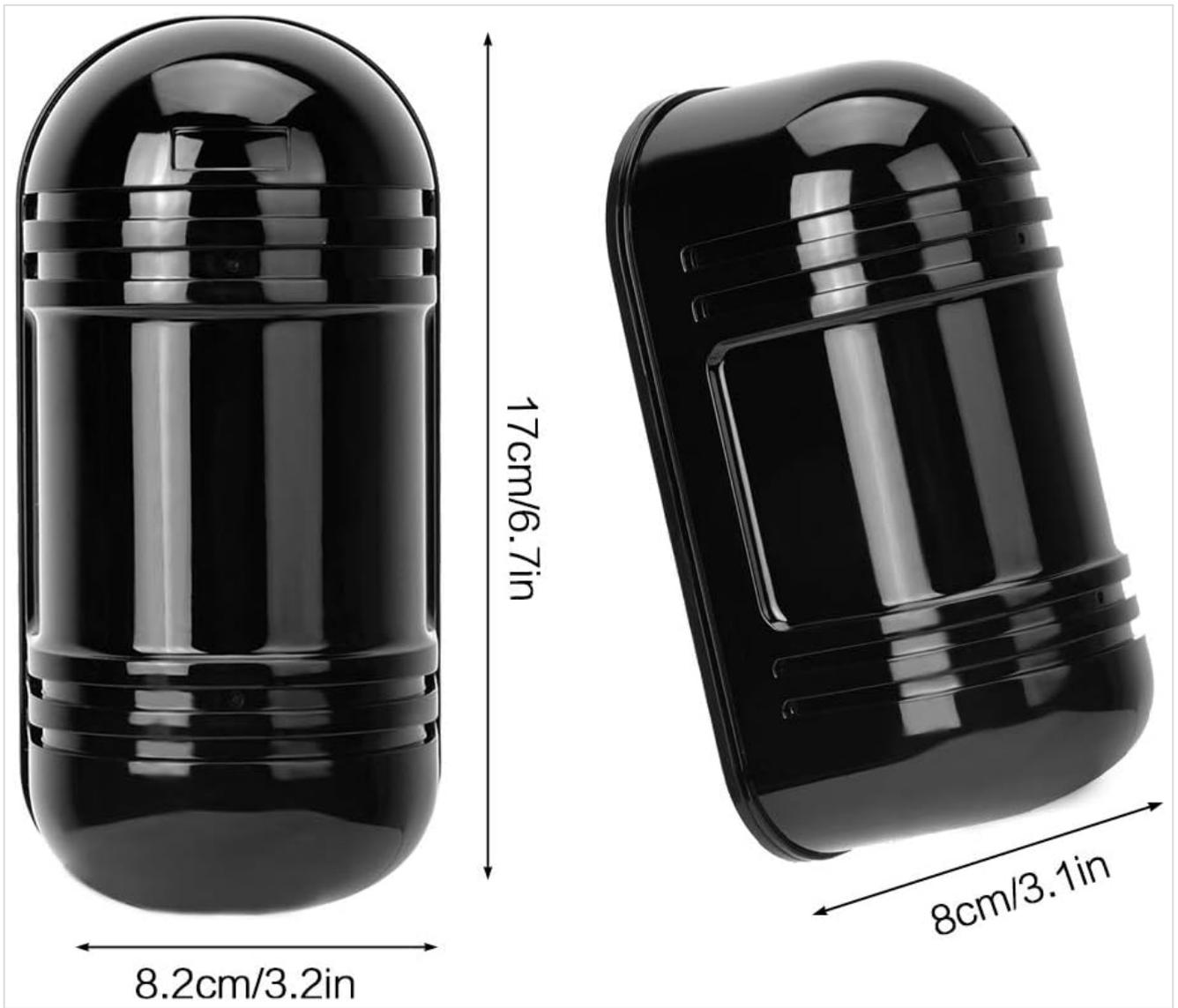


Image: Dimensions of the Sonew Invisible Beam Barrier units.



Image: Example of outdoor installation for the Sonew Invisible Beam Barrier.

4.2. Wiring

Connect the power supply and alarm output wires according to the diagram below. Ensure all connections are secure and insulated.

1. **Power Connection:** Connect the power wires to the DC 12-24V or AC 11-18V power source. Refer to the unit's terminals for positive and negative connections.
2. **Alarm Output:** Connect the alarm output wires (NC/NO) to your alarm system's input. The alarm output is rated AV/DC 30V, 0.5A.

Your browser does not support the video tag.

Video: This video demonstrates the wiring and installation process for a similar infrared photocell sensor, including connecting to power and a control board. It shows how to remove housings, connect 2-core and 4-core wires, and power the sensors.

4.3. Alignment

Accurate alignment between the transmitter and receiver is critical for the system's effectiveness.

1. **Initial Power-Up:** After wiring, power on both units. Observe the LED indicators on the units.
2. **Rough Alignment:** Visually align the transmitter and receiver so they are generally pointing at each other.

3. **Fine Alignment:** Use the horizontal ($180^\circ \pm 90^\circ$) and vertical ($\pm 10^\circ$) adjustment axes to fine-tune the alignment. The receiver unit typically has an indicator (e.g., an OFF LED) that will turn off or change color when a strong, clear beam is detected. Adjust until this indicator confirms optimal alignment.
4. **Test:** Once aligned, test the system by breaking the beam to ensure the alarm triggers correctly.

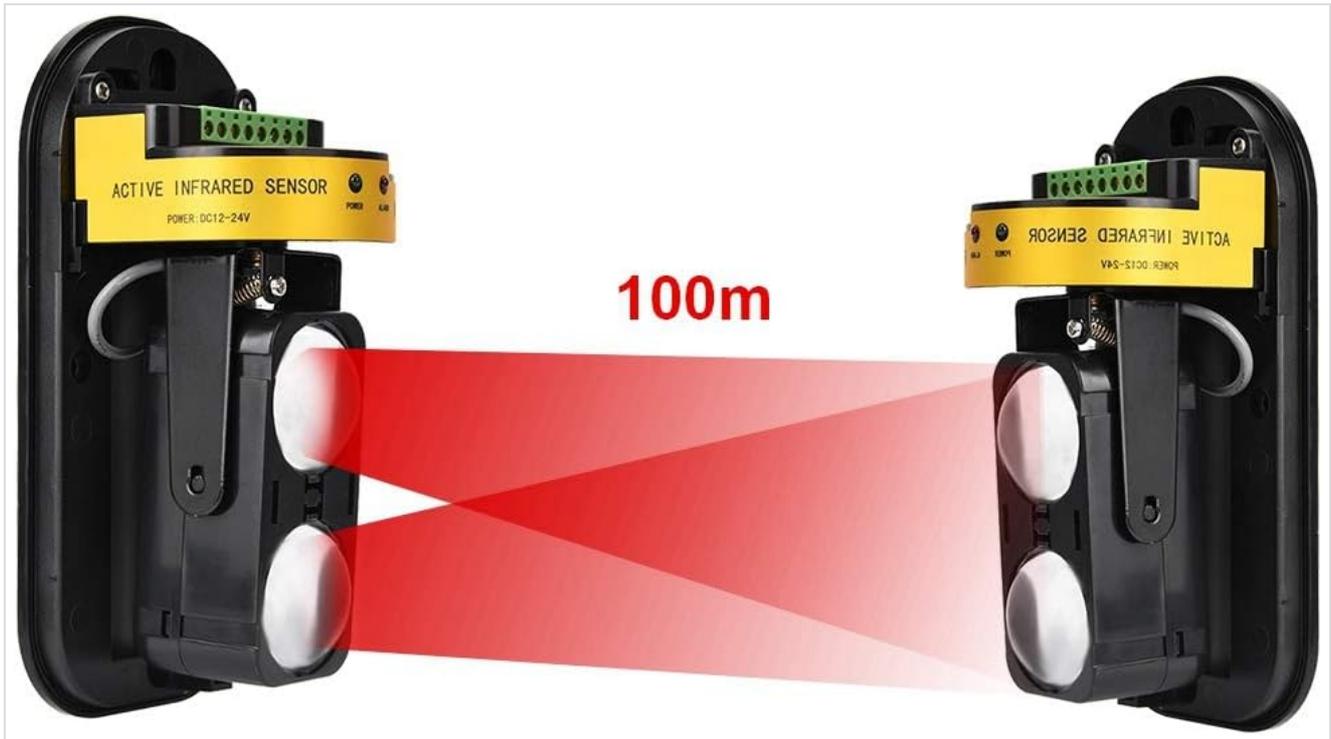


Image: Illustration of the infrared beam between the transmitter and receiver units, demonstrating the 100m range.

5. Operating Instructions

The Sonew Invisible Beam Barrier operates automatically once properly installed and aligned.

1. **Intelligent Detection:** The system continuously emits a digital pulse infrared beam. When this beam is interrupted by an object or person, the receiver detects the change.
2. **Alarm Trigger:** Upon detection of a broken beam, the receiver activates its alarm output (NC/NO), which can be connected to a siren, security panel, or other alert system. The induction rate is 50-700ms, ensuring quick response.
3. **Environmental Adaptability:** The intelligent chip automatically adjusts the radio's transmit power based on environmental conditions, maintaining performance and extending the life of the launch tube.

6. Maintenance

Regular maintenance helps ensure the longevity and reliable operation of your beam barrier system.

- **Clean Lenses:** Periodically clean the lenses of both the transmitter and receiver units with a soft, damp cloth to remove dust, dirt, or spiderwebs that could obstruct the beam and cause false alarms.
- **Check Alignment:** Verify that the units remain properly aligned, especially after strong winds or physical impacts. Re-align if necessary.
- **Inspect Wiring:** Check all wiring connections for corrosion, damage, or loose terminals. Ensure they are secure and protected from the elements.
- **Weather Protection:** The IP55 rating provides protection against dust and water jets. However, extreme weather conditions may still affect performance. Ensure units are not submerged in water.

Integrated sealing structure IP55, Protective grade



Image: The IP55 weatherproof rating of the Sonew Invisible Beam Barrier, highlighting its integrated sealing structure.

7. Troubleshooting

If you encounter issues with your Invisible Beam Barrier, refer to the following common problems and solutions:

- **No Alarm Triggered:**

- Check power supply to both units.
- Verify proper alignment of transmitter and receiver.
- Ensure alarm output wires are correctly connected to your alarm system.
- Clean the lenses for any obstructions.

- **False Alarms:**

- Check for any moving objects (e.g., swaying branches, large animals) that might intermittently break the beam.
- Re-align the units precisely to minimize interference.
- Ensure units are mounted at the recommended height (at least 20cm above ground).
- Clean the lenses thoroughly.

- **Power Indicator Off:**

- Check the power source and all power connections.
- Ensure the correct voltage (DC 12-24V, AC 11-18V) is supplied.

8. Warranty and Support

For warranty information, technical support, or service inquiries, please contact your retailer or the manufacturer directly. Keep your purchase receipt as proof of purchase.

