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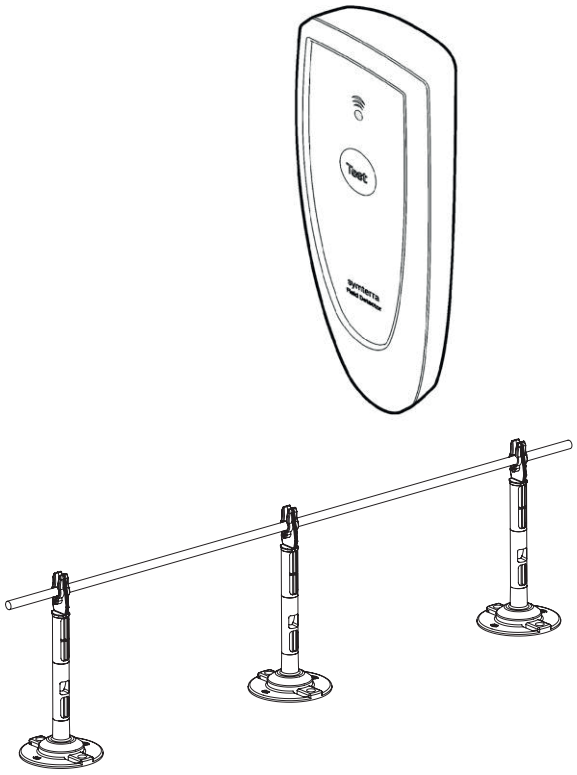

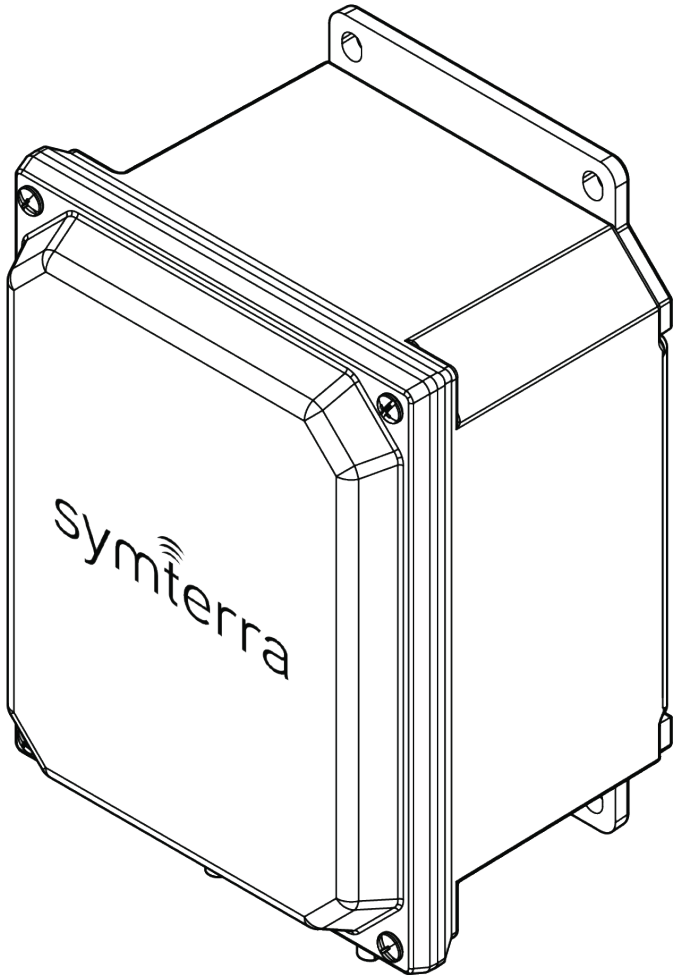

Installation Manual
Symterra Pulse

Bird Repellent System
Model SMT-01
(Patent Pending)

VERSION 2.0 - EN 2025

symterra

Address & Contact Information:

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Support Information:
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Manual info:
These are the original instructions. The English language is binding.

Table of Contents

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1. Important Safety Instructions

List of Abbreviations:

HVAC: Heating, Ventilation, and Air Conditioning
PPE: Personal Protective Equipment
GFCI: Ground Fault Circuit Interrupter

1.1 Safety Warnings

When properly installed, the Symterra Pulse System keeps multiple species of birds away from the area where the system is installed.

NOTICE

- Read this manual carefully before installing the Pulse System to understand its correct use. Follow each step outlined in this Installation Manual for optimal results.
- Incorrect handling of the equipment could result in personal injury or physical damage.
- The manufacturer assumes no responsibility for any damage caused by mishandling beyond normal usage defined in this manual.
- To ensure the functionality of the Symterra system, you must use only Symterra approved components.
- Symterra must approve any modification or adjustment before installation.
- To ensure the correct functionality of the Symterra system, it must be used at an altitude of 2,000 m or lower.
- Power cords or external connectors must not be replaced by anyone other than Symterra-approved personnel.

WARNING!

A violation of the above can result in the loss of warranty.

SAFETY WARNINGS

The IFU shall contain the substance of: “This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.”

NOTICE

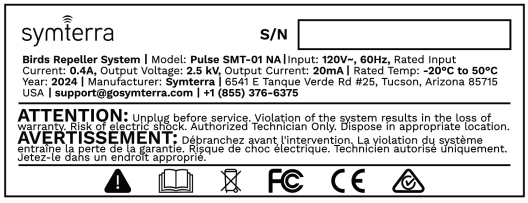
This system produces an electrical current, which could potentially cause injuries if the Emitter Line contains a break in the insulation. Always power off the system to avoid electric shock before repairing or maintaining the system.

Working at elevated heights must be done according to the safety standards applicable to this type of work. Always use approved Fall Protection Equipment when working at heights. Failure to use proper fall protection can result in serious injury or death.

The system is not designed for use by children. Ensure that all components are securely installed and inaccessible to children to prevent accidental injury or damage. Adult supervision is always required when the system is in use. Failure to follow these precautions may result in serious injury or harm. Device to only be used in controlled areas including areas where children are not present.

Regular quarterly preventive maintenance, including visual inspections and verification of securely fastened wiring is required.

Label
Pulse SMT-01
US/C



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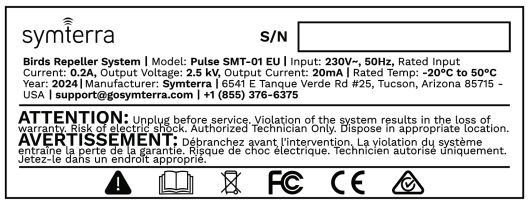
Pulse SMT-01
EU



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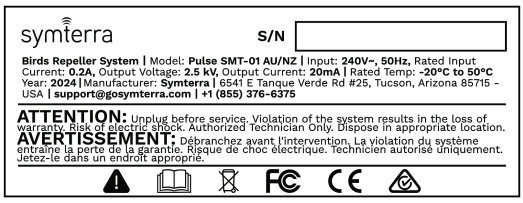
AU/NZ



1.2 Unintended Use

This product is designed for specific applications as outlined in this manual. Any use of the product outside its intended purpose or environment may result in damage to the system, void the warranty, or cause injury. The manufacturer is not responsible for any malfunctions, damage, or accidents caused by unintended use or modification of the product. Always follow the instructions and safety guidelines provided to ensure proper operation.

1.3 Personal Protective Equipment (PPE)

While handling, assembling, and installing the Symterra Pulse System, adhere to all recommended safety instructions and ensure that the correct Personal Protective Equipment (PPE) is used.

General Guidelines

- Assess Hazards: Determine the risks present in the work area and select appropriate PPE based on hazard assessment.
- Inspect PPE Before Use: Check for any visible damage such as tears, cracks, or signs of wear. Do not use damaged equipment.
- Proper Fit: Ensure that PPE fits properly. Ill-fitting PPE can reduce effectiveness and increase the risk of injury.
- Training: Workers should be trained on the proper use, limitations, maintenance, and storage of PPE.
-

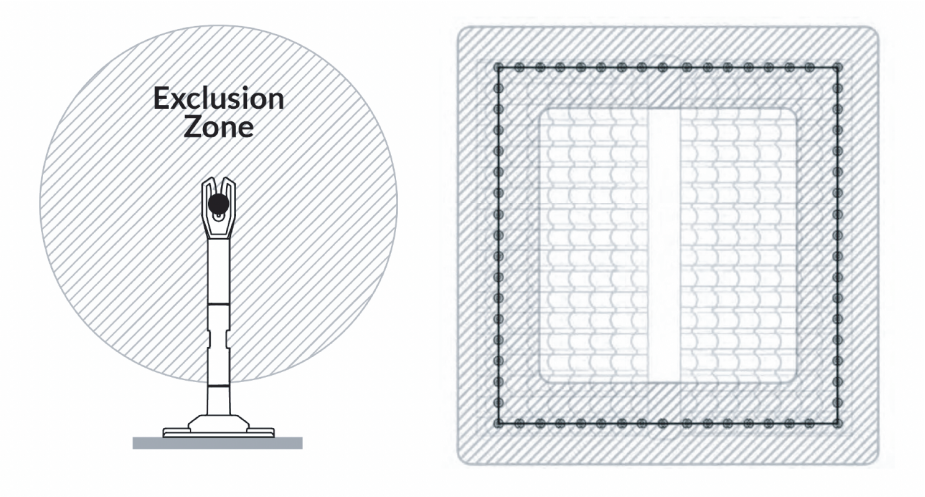
1.4 Local Building Codes and Regulations

Before installation, it is crucial to check local building codes, regulations, and electrical requirements to ensure compliance. These rules vary by region and can impact installation methods, safety standards, and overall system performance. Verifying compliance in advance helps avoid costly modifications, fines, or potential safety hazards. Always consult with local authorities or a licensed professional to ensure a smooth and legal installation.

2. Understanding the Technology

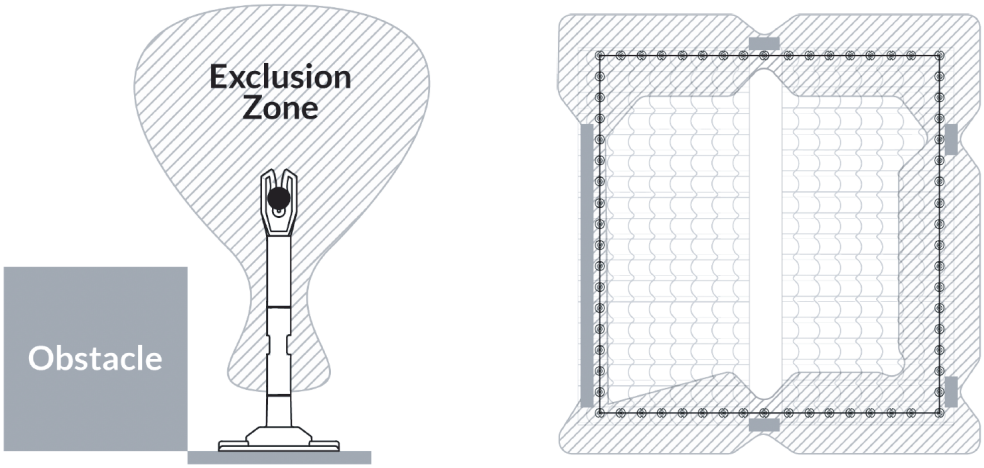
2.1 Exclusion Zones

Utilizing proprietary technology, Symterra Pulse creates an invisible barrier (exclusion zone) that deters birds from landing or nesting on structures.



2.2 Interaction with Substrates, Structures, & Obstacles

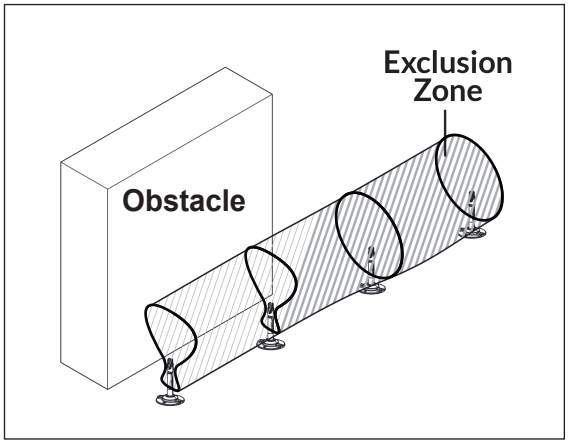
The signal range and performance of exclusion zones are influenced by the surrounding environment. This occurs because different types of substrates or obstacles near the system absorb portions of the signal.

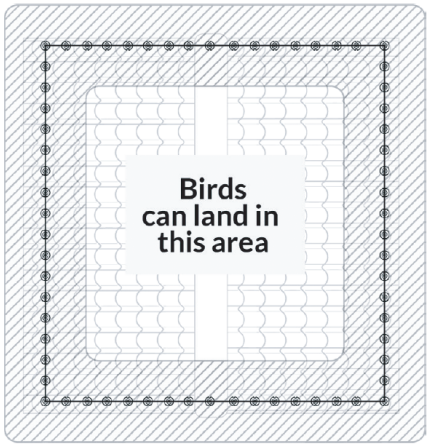


The signal attenuation is localized around the obstacle.

If an obstacle, such as a wall or nearby metal structure, runs along the length of the line, the deterrent signal will be affected by the obstacle. In this case, the obstacle is considered a substrate, therefore reducing the efficacy of the system.

Certain substrates, such as metal structures, exert a greater influence on system performance. Refer to the “Height Recommendations for Substrates” section on page (p. 21) to mitigate these effects.

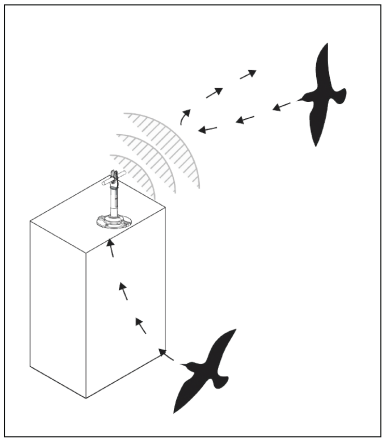




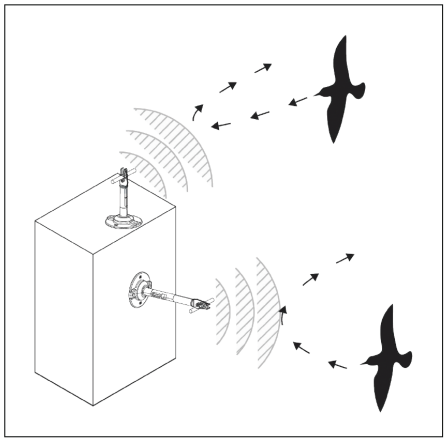
2.3 Birds Landing vs. Walking

The Symterra Pulse signal effectively deters birds from landing in protected areas. However, certain bird species may land in adjacent areas and approach the system by walking. To ensure effectiveness, it is crucial to install the system in a manner that prevents birds from landing on the structure.

2.4 Line of Sight

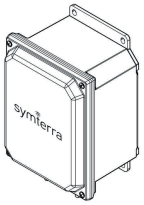
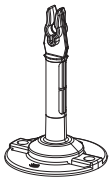
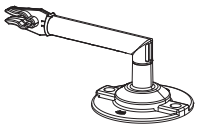
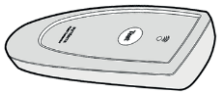


The Symterra Pulse System is most effective when the supports point in the direction of a bird’s line of sight.



Both line of sights covered to prevent birds from landing in the building.

3. Components

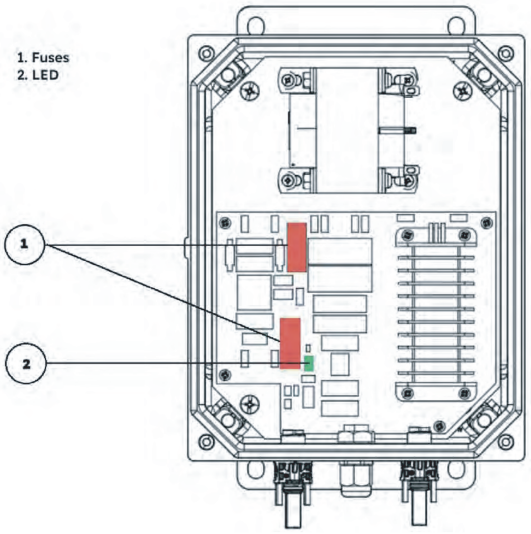
Figure	Component Name	Properties
	Control Hub	Voltage: 110/220-240 Volts Current: 20mA Power Consumption: 50 Watts Operation Voltage: 2,500 Volts Ingress Protection: IP65 Temperature rating: -40°C to 130°C (-40°F to 266°F) Weight: 6 lb (2.72 kg) Dimensions: 9 x 6 x 4 in (229 x 152 x 102 mm) (L x W x H)
	Emitter Line	Length: 100 ft / 30 m
	Male Crimp Bushing	To connect Emitter Line with Male Line Extender
	Male Line Extender	Used to create an insulated end on a line that can be extended with the appropriate mating female connector
	Female Crimp Bushing	To connect Emitter Line with Female Line Extender
	Female Line Extender	Used to create an insulated end on a line that can be extended with the appropriate mating male connector
	Y-Connector Assembly	Used to create branches off of the main line. Wire-ends with insulated line extenders are used to connect
	Support	Positions the Emitter Line away from the substrate
	L-shaped Connector	To allow mounting wires off roof edge, mount on vertical surfaces, or under soffits
	Male/Female Click Extension Spacer	To increase the height of insulator poles by two inches
	End Cap	Used to terminate the Emitter Line
	Signal Detector	To verify signal range
	Crimp Pliers	Suitable for three crimp sizes

3.1 Control Hub

At the heart of the Symterra Pulse System, the Control Hub generates and manages the proprietary signals that create the deterrent zone. It is easy to install and connect to your existing power source, providing continuous protection with minimal energy use.

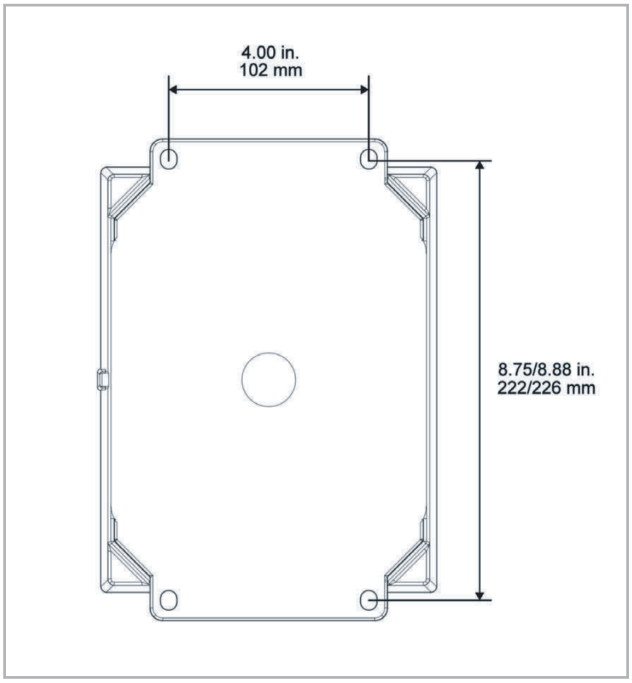
WARNING, HIGH VOLTAGE!

The Control Hub must only be opened by a trained user with the unit UNPLUGGED from the power outlet.



Mounting Hole Pattern

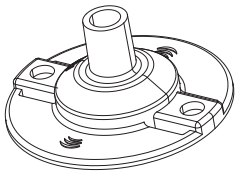
- Fasteners should be placed in the 4 holes designated for the mounting hardware and are NOT supplied with the system.
- Maximum screw size is 5/16 inch or an M8.



3.2 Supports

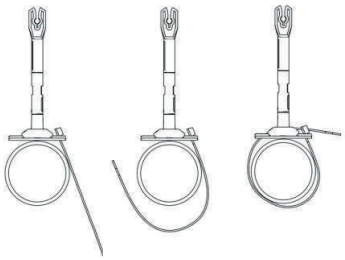
These slim supports secure the Emitter Line in place while ensuring it maintains the proper height and alignment for optimal performance. Supports are available in various heights to accommodate different installation requirements and surfaces.

There are several ways to mount the supports on the structure and are based on the type of substrate they are being adhered to.

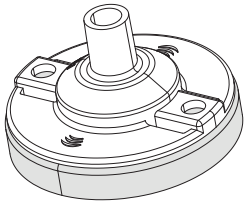


The **Standard Support Base** can be attached in several ways:

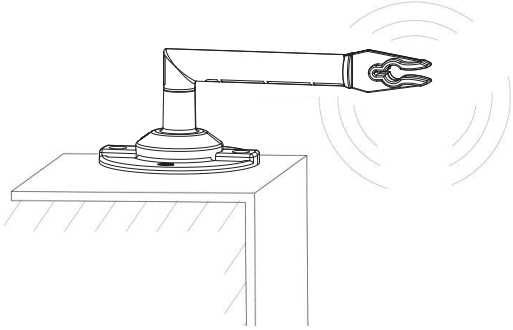
- Screws (not supplied by Symterra)
- UV-resistant zip ties (not supplied by Symterra)
- Epoxy (not supplied by Symterra)



When using epoxy, it is crucial to ensure that you are selecting the correct type for your specific substrate. Different surfaces—such as concrete, metal, or plastic—require different epoxy formulations to ensure proper adhesion, durability, and performance. Using the wrong epoxy can lead to bonding failures, reduced longevity, and potential rework. Always verify compatibility with the substrate before application.



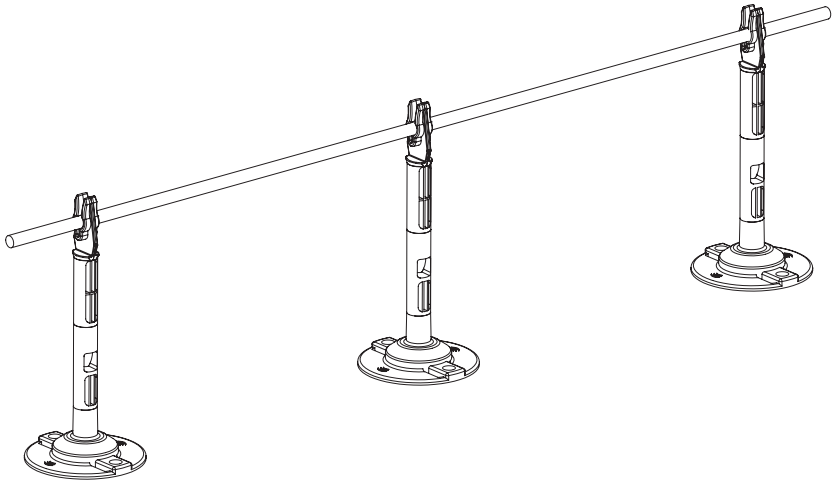
A **Magnet Base** is available for placement on the underside of the Standard Support Base and is ideal for structural metal.



The **L-bracket Support Head** is included with the system and can be used in multiple ways. Please consult with your Symterra Representative should you have questions about its usage.

3.3 Emitter Line

The Emitter Line is the primary physical component that extends the deterrent signal across the install area. It is designed to be flexible and can be installed on various surfaces such as rooftops, ledges, or beams.

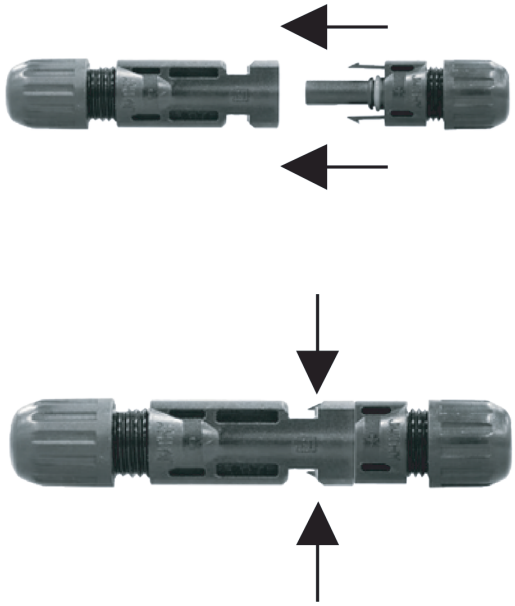


NOTE	
	The maximum coverage provided by one (1) Symterra system is 600 linear feet or 180 linear meters. If additional coverage is required, additional systems must be used.

3.4 Connectors

These connectors are used to join multiple sections of the Emitter Line together, ensuring a secure and seamless connection. Line Extenders are durable and designed to maintain the integrity of the signal throughout the entire system.

These connectors also have an IP66 rating and are designed to be dust-tight and highly water-resistant. The IP66 rating means it is completely sealed against dust and other small particles, as well as it can withstand powerful water jets from any direction without letting water in. These types of connectors are ideal for outdoor and industrial environments, where they protect electrical connections from harsh conditions like rain, dust, and high-pressure cleaning.



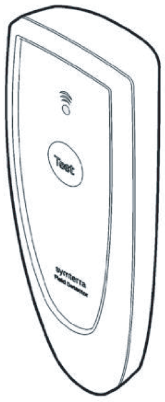
■ Simply connect the male and female ends of the two sections together.

■ You will hear an audible click when they are fully seated together.

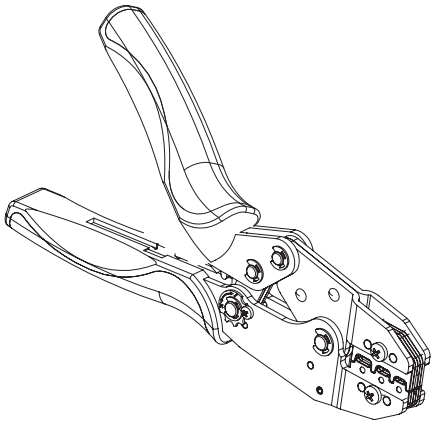
■ Once the connectors have made an audible click, they are securely in place and cannot be easily removed.

If they need to be disconnected for any reason, there are two prongs inside that need to be released for the two sides to come loose. We recommend using a very small flat head screwdriver or ring plier to achieve this.

3.5 Tools



■ Signal Detector



■ Crimp Pliers

3.6 Additional Required Tools *(not provided by Symterra)*

We also recommend you have the following on hand as these items will ensure your installation goes smoothly.

■ Mounting screws for your Control Hub
■ Wire Cutters
■ Ring Pliers
■ Screws for the Support Bases (if using the Standard system)
■ Epoxy (if using the Standard system)
■ UV resistant zip ties (if using the Standard system)

4. Installation of Symterra Pulse

4.1 Conducting a Site Survey

It is recommended to conduct a site survey to locate power outlets and identify substrate types, bird species in the area, and landing patterns. This will guide the layout if not done prior to installation. Some details to pay close attention to are:

- Power outlet location(s)
- Type of substrates
- Emitter Line expected length
- Bird species
- Bird landing patterns
- Bird pressure
- Bird behavior

The Symterra System has been tested on the following bird species. Please contact your Symterra Sales Representative before making a purchase if you are planning to install for a species not listed here.

- Pigeons
- Seagulls
- Sparrows
- Swallows
- Starlings
- Grackles
- Crows

WARNING!

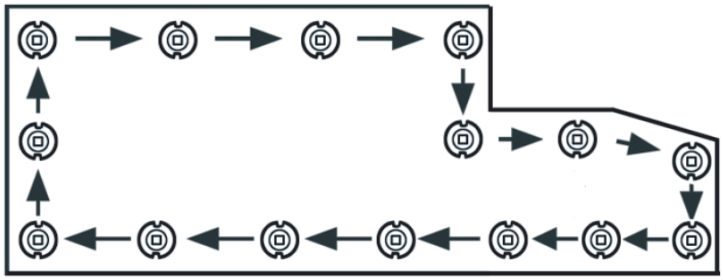
You MUST know the species of bird to determine whether it is protected or not. If you have any doubts, reach out to your local wildlife authorities.

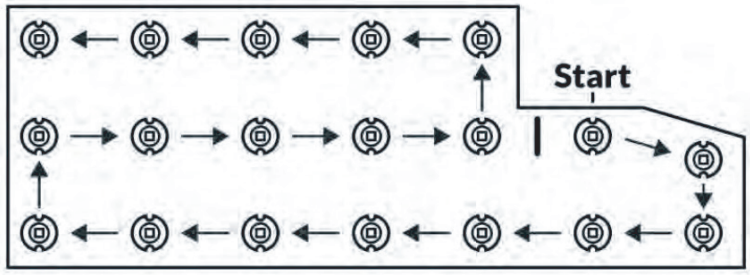
4.2 Cleaning & Sanitizing

It is MANDATORY to begin with site preparation. Clearing the area of any bird debris and sanitizing prior to installing the Symterra system is crucial for its long-term effectiveness. Birds are highly territorial and attracted to their own scent markers, droppings, and nesting materials. Cleaning the area eliminates these attractants, reduces the risk of disease transmission, and ensures the system functions as intended.

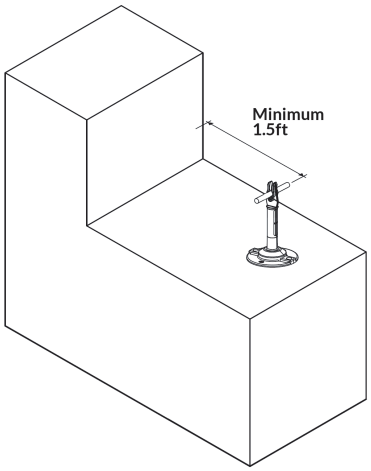
4.3 Planning your Symterra System Layout

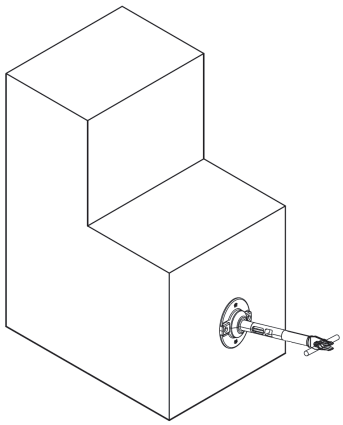
Layout & Attach





■ In areas with small birds or heavy bird infestations, it may be necessary to add additional lines.

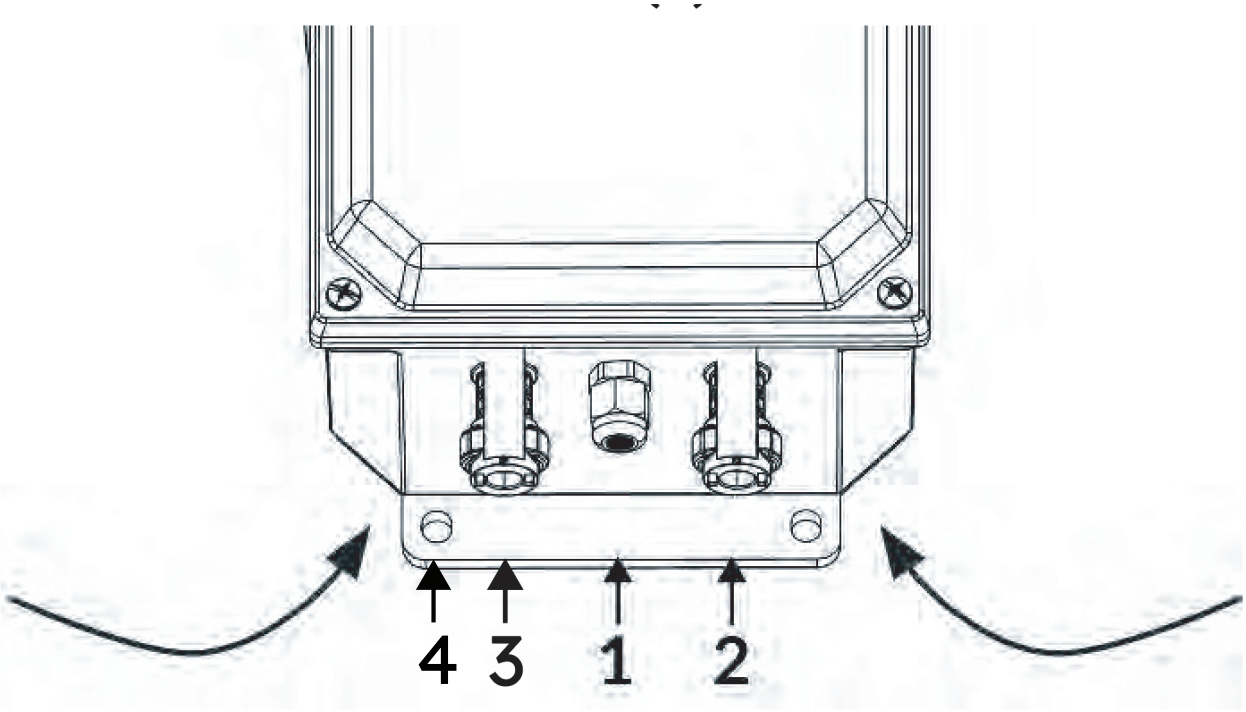




■ If a wall or substrate is present beside the support, a distance of 1 to 1.5 ft (30 to 45 cm) should be allotted for optimal signal performance. If space is not available, the support structure must be mounted perpendicular to the wall. For support height, refer to the *Height Recommendations table.*

4.4 Installation of Symterra Pulse

Step 1: Installing the Control Hub



1) Power Input Cable
2) Emitter Line Terminal
3) Grounding Terminal
4) Mounting Holes

Mount the Control Hub firmly to the structure using the appropriate fasteners placed in the four (4) holes designated for the mounting hardware.

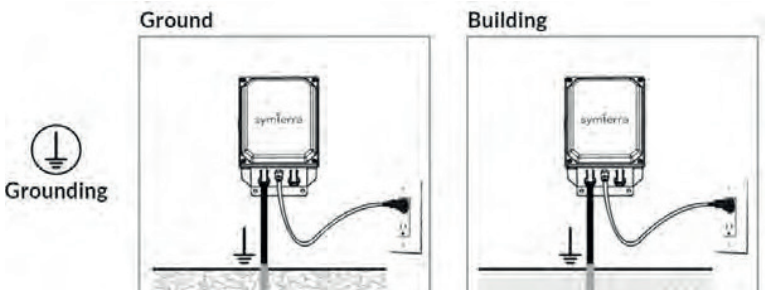
WARNING!
DO NOT power the system on until the Emitter Line(s) are connected to the Control Hub and all components are securely in place.

Step 2: Grounding the System

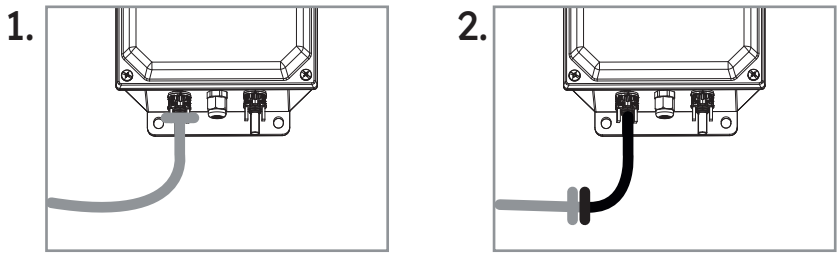
Grounding is essential for the safe operation of the Symterra system. Always check your local grounding requirements before installation and adhere to the National Electrical Code (NEC) or local regulations.

The most common form of grounding is through the use of a grounding electrode. This conductor connects the system to the earth via ground rods, water pipes, or grounding plates.

■ Using the terminal marked “Grounding” on the Control Hub, connect the panel-mounted ground connector to a grounding rod installed 4ft/1.2m deep in moist soil or the nearest electrical conduit.
■ Preference should be given to the shortest possible electrical path while choosing the source for grounding.
■ The system may be grounded to existing metal conduit in the roof ONLY if the metal conduit itself is grounded and can be verified through a visual inspection or continuity test.
■ The images below are for reference only and the installer must follow local regulations for grounding techniques.



■ The grounding line can also be attached using the Female Line Extender and a wire with an outer diameter of 5.5 mm ± 0.2 mm (0.217 in ± 0.008 in) and an internal conductor outer diameter of 1.8 mm ± 0.2 mm (0.071 in ± 0.008 in).
■ The grounding wire should be rated according to your local grid voltage. For example, 110V in the United States, 230V in Australia, etc.
■ Female Line Extenders with a small portion of Symterra's Emitter Line can be used to connect to the Control Hub followed by any wire at hand that matches local regulations.



■ Connection between the two wires should be done as per local regulations.

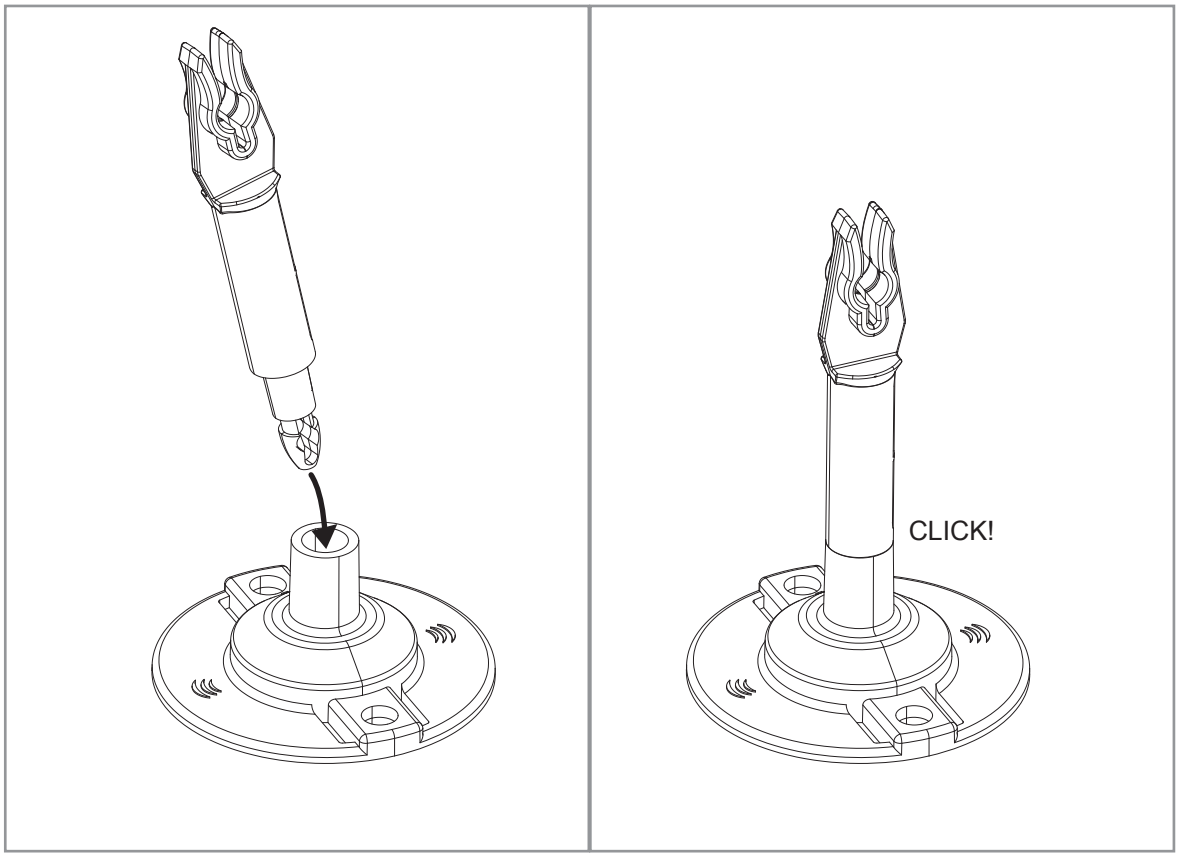
WARNING!
DO NOT ground the system to OR operate near gas pipes, water conduits, metal substrates!

Step 3: Building & Attaching the Supports

To build your supports, simply click the necessary pieces together.

For optimal system performance and structural integrity, supports should ideally be spaced 5 feet (1.52 meters) apart. However, actual spacing requirements may vary depending on the specific characteristics of the installation site, including structural materials, geometry, and environmental conditions.

Installers should assess the layout and consult engineering plans or contact technical support if deviations from the standard spacing are necessary.



IMPORTANT!
Once the pieces are snapped together, they cannot be taken apart, therefore, it is imperative to ensure everything is aligned and assembled correctly from the beginning.

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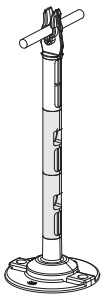
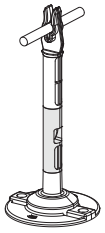
Substrates
Height Recommendations & System Coverage Amounts

The Symterra Pulse System is designed for maximum versatility, allowing you to configure the optimal layout based on site conditions.

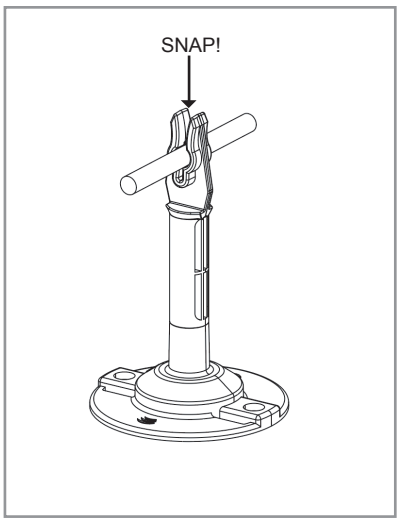
When determining the height of supports used for your particular installation, it is imperative to know the type of substrate the product is being installed on. Signal range and performance of the system is influenced by the surrounding environment due to signal absorption by various substrates or obstacles nearby. By adjusting the height of the supports, you will be able to maximize your system's performance.

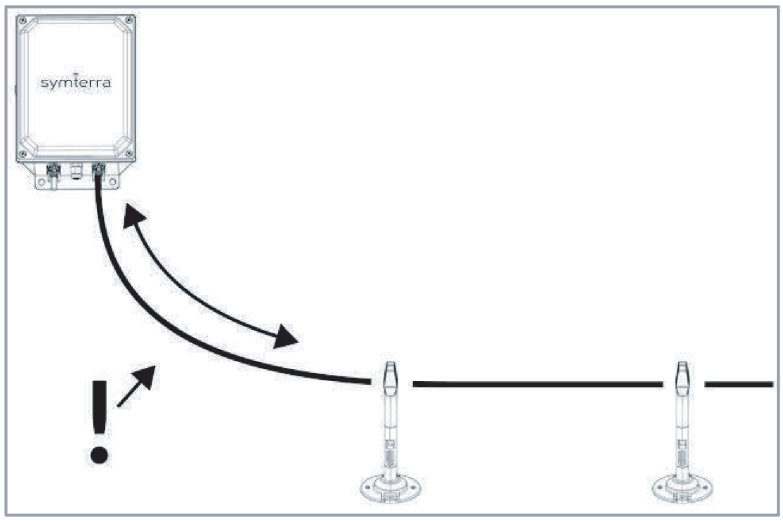
It is also important to recognize that factors such as bird species, their size and behavior and complex layouts can impact system performance. While the recommendations serve as guidelines, they do not replace the value of user experience in fine-tuning the system.

Substrate	Support height	Coverage Amount	Illustration
Metal	6 inches/15 cm from substrate *(Requires two extension spacers)*	400 ft (122 m)	
Concrete	4 inches/10 cm from substrate *(Requires one extension spacer)*	500 ft (152 m)	
Wood	2 inches/5 cm from substrate *(No extension spacer required)*	600 ft (183 m)	
Adobe	2 inches/5 cm from substrate *(No extension spacer required)*	600 ft (183 m)	

Step 4: Installing the Emitter Line

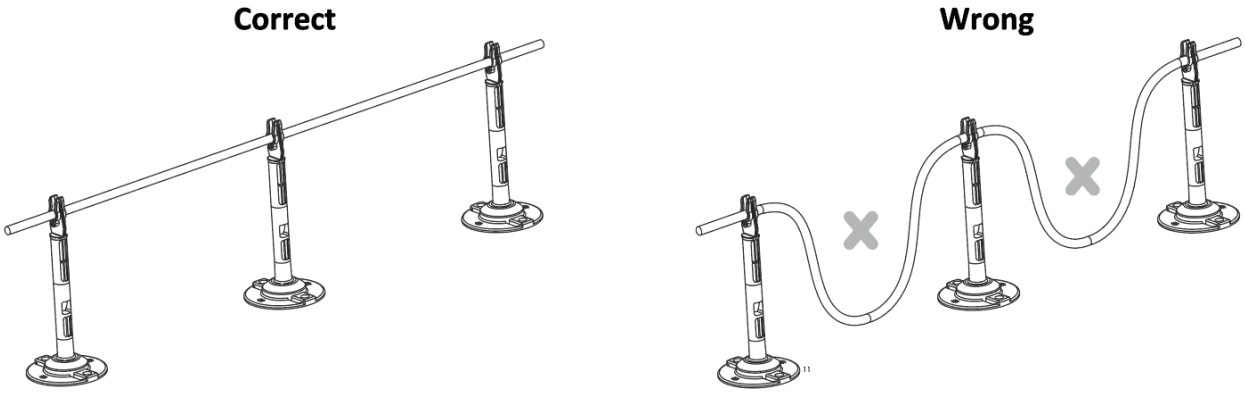
Press the line firmly until it snaps entirely in the circular recess in the support.





Note:
The portion of the Line between the Control Hub and the first Support should always be a minimum of 2 inches / 5 cm from the substrate.

Correct Emitter Line Installation

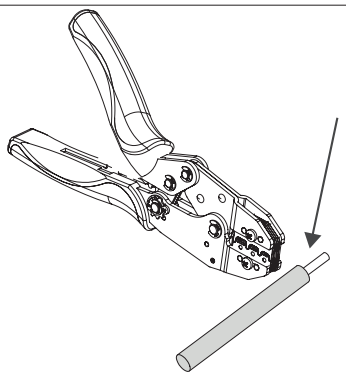


IMPORTANT!
Maintaining the Emitter Line at the optimal distance from the substrate and other surfaces will maximize system performance.

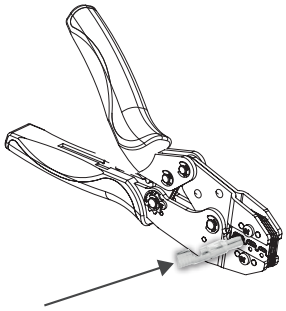
Step 5: Line Extending Connectors

Install the appropriate line extending connectors (as shown below) when joining wires, branching and terminating lines.

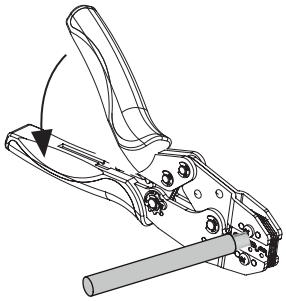
1. Strip off the insulation on the Emitter Line 1/2in (1.27cm) from the end to expose the conductor (stranded wire).



2. Insert the male or female crimp bushing into the crimper and slightly press the level to grip the bushing.



3. Insert the stripped section of the Emitter Line into the bushing held in crimper and firmly press the lever to crimp the wire and bushing together.



IMPORTANT!

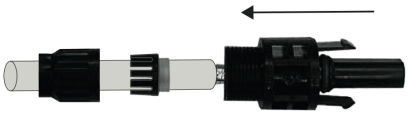
Only use the connectors provided by Symterra, along with the designated crimp tool, to connect segments of the emitter line.

Using any other method will compromise the system, violate safety standards, and void the product warranty.

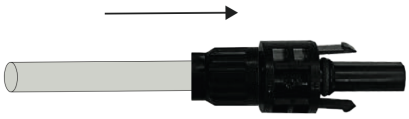
4. Unscrew the back nut of the male or female line extender and pass the nut and sealing gasket over the crimped wire.

NOTE: It is imperative to have the sealing gasket inserted over the wire to maintain the IP rating.

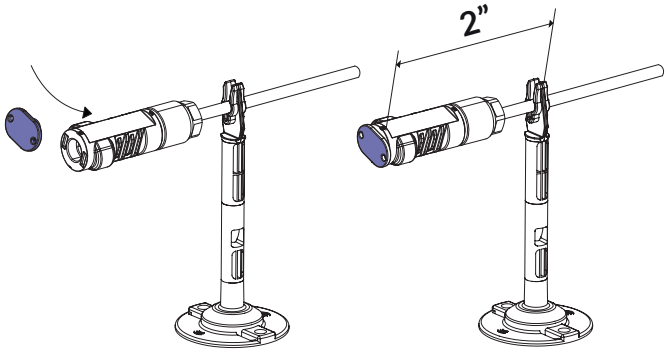
5. Push the crimped wire inside the line extender until you hear a snapping sound indicating a secure connection.



6. Screw the nut tightly in place to complete the crimping process.



Terminating Connections

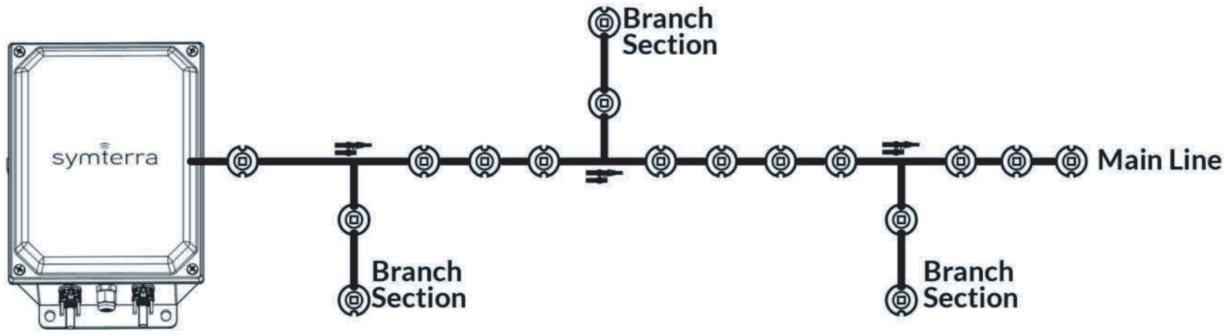


■ Terminate the end of the Emitter Line by crimping a line extending connector onto the line and attaching an end cap. Ensure that no more than 2 inches/5cm of wire is hanging off of the final support.

■ This orientation ensures that the insulating connector will not make contact with the surrounding substrate.

Step 6: Branching

Symterra Pulse allows you to branch the system to optimize the installation. Use the provided Y-Connectors to create branches as required.



Branching Specifications:

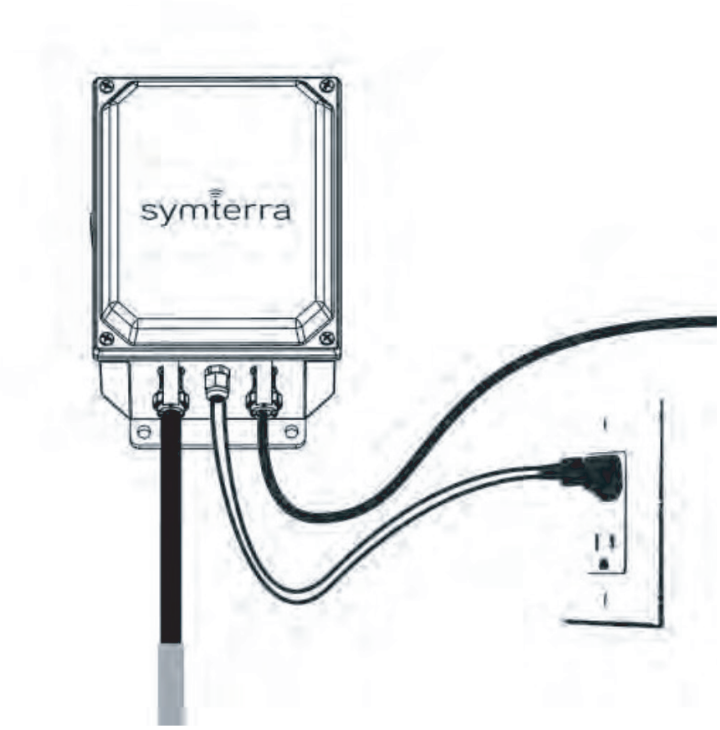
- Branch lengths should NEVER exceed a length of 15 ft (4.6 m) per section.
- Crimp pliers should be used to connect lines with line extenders.
- Use a male/female crimp connector where needed.
- Connect line extenders with Y-connectors to complete the branching.

NOTE: To yield maximum performance from the Symterra system, please follow the recommendations in the table below.

	Maximum Branching Length			
Total System Length	**Metal**	**Concrete**	**Wood**	**Adobe**
100ft / 30m	30ft / 9m	30ft / 9m	40ft / 12m	40ft / 12m
200ft / 60m	60ft / 18m	60ft / 18m	80ft / 24m	80ft / 24m
300ft / 90m	90ft / 27m	90ft / 27m	120ft / 36m	120ft / 36m
400ft / 120m	120ft / 36m	120ft / 36m	160ft / 48m	160ft / 48m
500ft / 150m	120ft / 36m	150ft / 45m	180ft / 54m	180ft / 54m
600ft / 180m	120ft / 36m	150ft / 45m	200ft / 60m	200ft / 60m

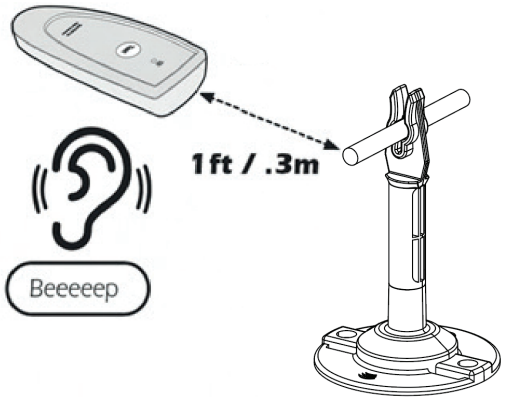
Step 7: Powering the System ON

Before the Symterra system is powered on, ensure all connections are secure, branch lengths comply with guidelines, proper grounding has taken place and components are properly installed. **Once this is completed, it is now safe to plug the Control Hub into the power source.**



Step 8: Final Checks & Testing

To verify the system is on and working properly, test the system using the Symterra Signal Detector to confirm that the signal range is active across all sections.



■ Press the button down on the detector while holding it closely to the Emitter line.

■ There will be an audible ‘beep’ when the button is pressed.

■ Back your arm away from the Emitter line. When the beeping stops, the signal is no longer present.

■ The signal should be detectable from a distance of at least 1ft/30cm away from the line.

5. Troubleshooting

Problem	Possible Cause	Solution
Symterra Control Hub fails to turn on	- Poor power cable connection. - The GFCI is switched off.	- Use a non-contact voltage meter to check the power connections. - Reset the circuit interrupter on the GFCI.
The system does not repel birds.	- No power. - Bad signals.	- Check the LED light on the Control Hub. - Check the signal range. Ensure you are receiving a signal at least 1 ft /30cm away from the components. - Check that a problematic segment is connected correctly if a signal is undetected. - Check to see if the system is grounded or not. Ensure the grounding rod is secured and has a clear, uninterrupted connection to the Control Hub. - Ensure that the support heights align with the provided table, and verify that the emitter line does not touch the substrate or come too close, as this could degrade the deterring signal.

Ensure the fuses are intact. If necessary, replace fuses only with appropriate replacements rated to:

- Current: 500 mA
- Voltage AC: 250 Volts
- Breaking current capacity @ 250 Volts: 35 A
- Size: 0.205 x 0.787 inches / 5 mm x 20 mm
- Response time: Slow Blow

IMPORTANT!

If you encounter any issues, please contact Symterra Support by emailing us at: support@gosymterra.com.

6 Warranty

Seller warrants to Customer that for a period of twenty-four (24) months from the date of shipment by Seller, all Goods will:

(a) be free from any defects in workmanship, material and design;
(b) conform to applicable specifications and other requirements specified by Seller;
(c) be fit for their intended purpose and operate as intended;
(d) be merchantable;
(e) be free and clear of all liens, security interests or other encumbrances.

Customers may return Goods for a full refund (less shipping and restocking fee) within thirty (30) days from the date of shipment by Seller if not completely satisfied with the performance of the Goods. This warranty is valid only for the original purchaser and is non-transferable. Proof of purchase, such as a dated sales receipt or invoice, may be required to obtain warranty service. The warranty does not cover damages resulting from misuse, improper installation, accidents, unauthorized repairs, alterations, or acts beyond the control of Symterra.

6.1 Claims Process

If the product fails due to defects in materials or workmanship during the coverage period, we will replace the product at no additional cost. Replacement products may be new or refurbished at our discretion.

To initiate the claims process, please contact our Customer Care Team by sending an email to support@gosymterra.com and a Symterra representative will contact you within three (3) business days. It is imperative to include the following information in your correspondence:

- Date of System Installation & Date of Noted Issue
- Serial Number(s)
- Please include an image of the unit in your claim to verify the unit is free of damage.
- Shipping Address
- Proof of purchase of the extended warranty coverage

If your Claim is approved, a Return Shipping Label will be provided to you. You must return the faulty unit before the replacement unit will be sent to the address provided.

Lost/Damaged Shipments: In the event that a defective unit is being returned under this warranty, the customer is not responsible for any loss or damage that may occur during shipping. Once the defective unit is handed over to the shipping carrier, liability for the safe and timely delivery of the unit is transferred to the shipping carrier and/or Symterra. If the shipping carrier loses the unit or if it is damaged in transit, the customer will not be held liable. Symterra will ensure that the customer receives either a replacement unit or a full refund, as outlined in the warranty terms.

6.2 Disclaimer

Symterra assumes no liability for improper installation, misuse, or failure to follow safety guidelines. Performance may vary based on environmental conditions, such as rain and snow, and site-specific factors. The user is responsible for ensuring compliance with local regulations. The manufacturer disclaims all warranties, express or implied, except as explicitly stated in the product warranty.