

Smartfield™

Growing a Greener Future



PivotScout™ Base Station Installation Guide

Only Smartfield™ trained and certified installers are authorized to install and maintain equipment.

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This guide is frequently updated to reflect changes in the product. The latest version can always be found at <http://www.smartfield.com/>

Instructions to the User

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 reception, 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 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.

In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operations with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

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Introduction

Congratulations, you have just purchased the PivotScout™, one of the most advanced irrigation management tools available.

PivotScout™




PivotScout™ is an add-on device for the SmartCrop® Base Station, which provides information gathered directly from the pivot and sends this information directly to the grower's home computer. This system measures the GPS coordinates from the pivot to show the Grower where the pivot is, as well as, the pressure. In knowing the pressure of the pivot, the Grower would then know if the pivot system was active or not. With the SmartCrop® Base Station reading ambient and canopy temperatures and tracking rain events, the Grower would know when to turn the pivot off or not.

PivotScout™ communicates with the SmartCrop® Base Station to reliably monitor the pivot's status including location and activity.




Guidebook Conventions

To highlight the most important points – we have used a set of simple icons, which draw attention to key information and settings.

Key:

	The Check Icon indicates a setting that we recommend you use or enable.
	The Info Icon highlights important facts and information about PivotScout™, to help you make better use of the product.
	The Hazard Icon highlights areas where potential problems can arise.

Important Safety Precautions

	Only Smartfield trained and certified installers are authorized to install and maintain equipment; non-certified installations void equipment warranty.
	Important: DO NOT begin installation until all utility lines have been located and marked by your local utility company. Digging without knowing the location of utility lines can result in a damaged system, injury or death.
	This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner and / or operator of this equipment.
	Warning: Before installing this product, read and follow all warning notices and instructions, which are included. Failure to follow safety warnings and instructions can result in severe injury or property damage.
	CAUTION: To comply with FCC RF exposure compliance requirements, a separation distance of 20 cm must be maintained between the antenna of this device and all persons.

Contents

One (1) PivotScout™ system
One (1) RF Antenna
One (1) Pressure switch
Two (2) hose clamps

Other Materials Needed

¼ inch pipe 90° elbow with ¼ inch Reducing Bushing

Hardware Kit

Seven (7) ¼ x 2 ¼ bolts
Two (2) ¼ x ½ bolts
One (1) four arm knob
Eight (8) ¾ locknut
One (1) spade

Tools Needed

5/16 inch nut driver
Flathead screwdriver
20-foot extension ladder
Crescent Wrench
Thread Sealant

Installation

- Location
 - The PivotScout™ system should be installed on the first open drop location of the second or third Pivot tower. Note: Easiest to locate where installer can see the tower ladder.
- Installing Pipe
 - Remove the Pivot cap
 - Install the ¼ inch pipe 90° elbow with ¼ inch reducing bushing into the opening using thread sealant, install bushing to elbow
 - Using thread sealant, install elbow to pivot so as to prevent water leaks.
 - Using thread sealant install pressure sensor into bushing.
- Mounting PivotScout™
 - Mount the PivotScout™ system using the provided hose clamps.



Make sure the attached Solar Panel is facing up.

- Mounting & Connecting RF Antenna
 - Place the RF Antenna on the Solar Panel mounting bracket tab
 - Locate the RF Antenna cable and fasten to the correct outlet found on the bottom of the system.

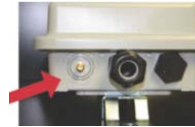


Figure 1: Showing the RF Antenna outlet located on the bottom of the system.

- Connecting the pressure transducer
 - Inside the PivotScout™ system, locate the green J3 terminal strip, found in the bottom right corner. Connect the wires to the appropriate terminal using the printed reference designators.

Red – “U+”
White – “Pressure”
Black & Shield – “Ground”



Figure 2: Showing the J3 terminal strip for the pressure transducer wires.

- Connecting the Solar Panel
 - Locate the Solar Panel power cord. With the system door still open, run the cord through the opening at the bottom of the system and plug into the motherboard pins labeled “Solar Panel”.
- Connecting the Battery
 - Locate the battery power cord and plug into the motherboard pins labeled “Battery”.
 - Verify that the power LED display lights up and the motion LED flashes.



Figure 3: Showing the Battery & Solar Panel power cords plugged into the motherboard labeled “Battery” and “Solar Panel” pins.

- Verifying communication
 - Back at the Base Station, verify the PivotScout™ serial numbers appear on the Base Station screen.
 - Scroll and select each serial number. Then scroll and press “Finish” twice to go back to home screen.

Smartfield One (1) Year Limited Warranty

Smartfield's warranty obligations for these hardware products are limited to the terms set forth below: Smartfield, Inc. ("Smartfield") warrants SmartCrop®, SmartRate™, SmartRate™ PRO, SmartWeather™, PivotScout™, PivotScout™PRO, SmartProfile™, and other Smartfield-branded hardware products against defects in materials and workmanship under normal use for a period of ONE

(1) YEAR from the date of retail purchase by the original end-user purchaser ("Warranty Period"). If a hardware defect arises and a valid claim is received within the Warranty Period, at its option and to the extent permitted by law, Smartfield will either (1) repair the hardware defect at no charge, using new or refurbished replacement parts, (2) exchange the product with a product that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original product, or (3) refund the purchase price of the product. Smartfield may request that you replace defective parts with new or refurbished user-installable parts that Smartfield provides in fulfillment of its warranty obligation.

A replacement product or part, including a user-installable part that has been installed in accordance with instructions provided by Smartfield, assumes the remaining warranty of the original product or ninety (90) days from the date of replacement or repair, whichever provides longer coverage for you. When a product or part is exchanged, any replacement item becomes your property and the replaced item becomes Smartfield's property. Parts provided by Smartfield in fulfillment of its warranty obligation must be used in products for which warranty service is claimed. When a refund is given, the product for which the refund is provided must be returned to Smartfield and becomes Smartfield's property.

EXCLUSIONS AND LIMITATIONS

This Limited Warranty applies only to hardware products manufactured by or for Smartfield that can be identified by the "Smartfield" trademark or "SmartCrop" trademark, trade name, or logo affixed to them. The Limited Warranty does not apply to any non-Smartfield hardware products or any software, even if packaged or sold with Smartfield hardware. Manufacturers, suppliers, or publishers, other than Smartfield, may provide their own warranties to the end user purchaser, but Smartfield, in so far as permitted by law, provides their products "as is". Software distributed by Smartfield with or without the Smartfield or SmartCrop brand name (including, but not limited to system software) is not covered under this Limited Warranty. Refer to the licensing agreement accompanying the software for details of your rights with respect to its use.

Smartfield does not warrant that the operation of the product will be uninterrupted or error-free. Smartfield is not responsible for damage arising from failure to follow instructions relating to the product's use.

This warranty does not apply: (a) to damage caused by use with non-Smartfield products; (b) to damage caused by accident, abuse, misuse, flood, fire, earthquake or other external causes; (c) to damage caused by operating the product outside the permitted or intended uses described by Smartfield;

(d) to damage caused by service (including upgrades and expansions) performed by anyone who is not a representative of Smartfield; (e) to a product or part that has been modified to alter functionality or capability without the written permission of Smartfield; (f) to consumable parts, such as batteries, unless damage has occurred due

to a defect in materials or workmanship; (g) to cosmetic damage, including but not limited to scratches, dents and broken plastic on ports; or (h) if any Smartfield serial number has been removed or defaced.

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EXCEPT AS PROVIDED IN THIS WARRANTY AND TO THE EXTENT PERMITTED BY LAW, SMARTFIELD IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY, INCLUDING BUT NOT LIMITED TO LOSS OF USE; LOSS OF REVENUE; LOSS OF ACTUAL OR ANTICIPATED PROFITS (INCLUDING LOSS OF PROFITS ON CONTRACTS); LOSS OF THE USE OF MONEY; LOSS OF ANTICIPATED SAVINGS; LOSS OF BUSINESS; LOSS OF OPPORTUNITY; LOSS OF GOODWILL; LOSS OF REPUTATION; LOSS OF, DAMAGE TO OR CORRUPTION OF DATA; OR ANY INDIRECT OR CONSEQUENTIAL LOSS OR DAMAGE HOWSOEVER CAUSED INCLUDING THE REPLACEMENT OF EQUIPMENT AND PROPERTY, ANY COSTS OF RECOVERING, PROGRAMMING, OR REPRODUCING ANY PROGRAM OR DATA STORED OR USED WITH SMARTFIELD PRODUCTS AND ANY FAILURE TO MAINTAIN THE CONFIDENTIALITY OF DATA STORED ON THE PRODUCT. THE FOREGOING LIMITATION SHALL NOT APPLY TO DEATH OR PERSONAL INJURY CLAIMS, OR ANY STATUTORY LIABILITY FOR INTENTIONAL AND GROSS NEGLIGENT ACTS AND/OR OMISSIONS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES. SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

OBTAINING WARRANTY SERVICE

Please access and review the online help resources referred to in the documentation accompanying this hardware product before requesting warranty service. If the product is still not functioning properly after making use of these resources, please contact the Smartfield representatives using the information provided in the documentation. When contacting Smartfield via telephone, other charges may apply depending on your location. When calling, a Smartfield representative will help determine whether your product requires service and, if it does, will inform you how Smartfield will provide it. You must assist in diagnosing issues with your product and follow Smartfield's warranty processes.

Smartfield may restrict service to the fifty states of the United States of America and the District of Columbia, and provide warranty service (i) at a Smartfield repair service location, (ii) by sending you prepaid way bills (and if you no longer have the original packaging, Smartfield may send you packaging material) to enable you to ship the product to Smartfield's repair service location for service, or (iii) by sending you new or refurbished customer-installable replacement product or parts to enable you to service or exchange your own product ("DIY Service"). Upon receipt of the replacement product or part, the original product or part becomes the property of Smartfield and you agree to follow instructions, including, if required, arranging the return of original product or part to Smartfield in a timely manner.

When providing DIY Service requiring the return of the original product or part, Smartfield may require a credit card authorization as security for the retail price of the replacement product or part and applicable shipping costs. If you follow instructions, Smartfield will cancel the credit card authorization, so you will not be charged for the product or part and shipping costs. If you fail to return the replaced product or part as instructed, Smartfield will charge the credit card for the authorized amount.

Service options, parts availability and response times may vary. Service options are subject to change at any time. In accordance with applicable law, Smartfield may require that you furnish proof of purchase details and/or comply with registration requirements before receiving warranty service. Please refer to the accompanying documentation for more details on this and other matters on obtaining warranty service.

If your product is capable of storing software programs, data and other information, you should protect its contents against possible operational failures. Before you deliver your product for warranty service it is your responsibility to keep a separate backup copy of the contents and disable any security passwords. THE CONTENTS OF YOUR PRODUCT WILL BE DELETED AND THE STORAGE MEDIA REFORMATTED IN THE COURSE OF WARRANTY SERVICE.

Your product will be returned to you configured as originally purchased, subject to applicable updates. You will be responsible for reinstalling all other software programs, data and passwords. Recovery and reinstallation of software programs and user data are not covered under this Limited Warranty.

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