



**Health monitoring  
device for calves.**



**farmfit**<sup>TM</sup>

# Manual.

System instalation



powered by **STgenetics**

To install the Farm Fit system you will need the following things:

- **An equipment location site plan, assembled during the site survey.**

A copy of this should be included with the equipment package. If not, contact an ST Insight representative to obtain a copy.

- **An equipment package.**

This will include not only the equipment that needs to be installed but also the necessary hardware.

- **Tools**

Before beginning installation, open the equipment package and **inspect the contents**. Each package will have a minimum of 1 of each of the following items.

## Industrial Gateway

An Industrial Gateway will come packaged with these items.

- Gateway
- Power Cable
- 2.4GHz Antenna
- Cat-5 Ethernet Cable
- Zip Ties
- Mounting Hardware

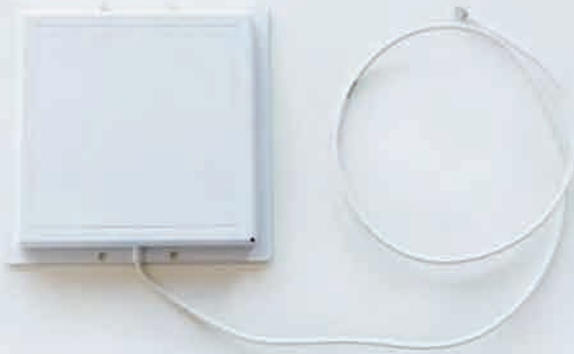


## Collector

A Collector kit will come packaged with these items.

- Collector
- Power Cable
- 2.4GHz Antenna
- High Frequency Antenna
- Brackets
- Zip Ties
- Mounting Hardware





## High Frequency Directional Antenna

## Bolus

Boluses will come in boxes of 100 units  
Beginners kit comes with 50-100

(depending on the size of the facility)



## Additional items

The equipment package may come with additional pieces not discussed above. These can be items such as Gateway Range Extenders or Solar Powered Collectors.

These items, as well as their necessary locations, will be called out specifically in the Equipment Location Site plan.

It is important to note that these items are specialty case use and may or may not be included in your equipment package.

## Necessary Tools

You will need the following tools to install the equipment.

- Cordless drill
- Ladder (8ft.)
- Phillips head screwdriver/bit
- 5/16" Hex head driver/bit
- 1/4" Hex head driver/bit
- Side cutter
- 1/8" Drill bit

## Installation Instructions

Begin by consulting the equipment location site plan and matching the items in the equipment package with the equipment locations in the plan. Make sure that all of the necessary pieces have been allocated for the locations in the site plan. If there are any pieces missing, consult an ST Insight representative to obtain the missing pieces.

The first item that needs to be installed is the Industrial Gateway. There should be a location marked on the site plan for this with notes for where to mount the device and any special considerations that should be taken for the system to operate optimally

### Gateway Set Up

- **Step 1.**

Mount the Gateway in the location specified in the site plan. If no location is specified, locate the Gateway near enough to the internet connection point specified in the site plan that the included Cat-5 Network Cable will reach, and close enough to an outlet that the included power can also reach.

- **Step 2.**

If mounting to a wall, use the included wall anchors by marking the mounting hole locations on the gateway, drilling a 1/8" hole in each location, and inserting the anchors into the holes. Then use the phillips head screws to attach the Gateway to the wall.

- **Step 3.**

Attach the 2.4GHz Antenna to the Gateway by screwing it on. Once it is snugly threaded on, rotate the antenna and bend it if necessary so that it is perpendicular to the ground.



- **Step 4.**

Connect one end of the Cat-5 Network Cable to the network port on the Gateway.

- **Step 5.**

Connect the other end of the Cat-5 Network Cable to an open network port on the facility's existing Internet network. An empty port on a router or switch is sufficient, as long as it has Internet connection.



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- **Step 6.**

Plug the included power supply into an open outlet.

- **Step 7.**

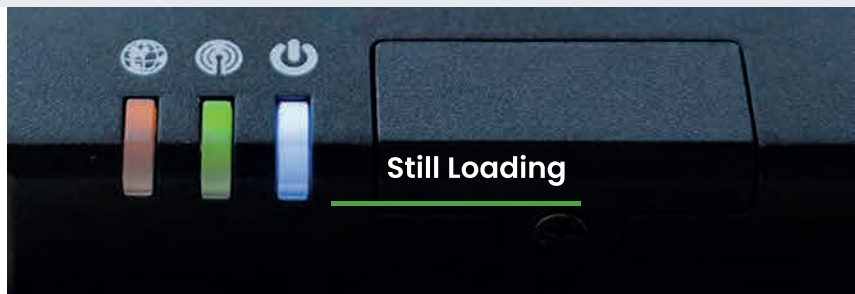
Plug the power supply's barrel connection into the power port on the Gateway.

- **Step 8.**

Use the included cable ties to secure the Network cable and Power cable out of the way if necessary.



It will take a moment for the Gateway to boot up and connect the Internet. When the lights on the front have all gone green, the device is online.



Once the Gateway is in place and activated, begin installing the Collectors.

The locations for these will be marked on the equipment location site plan. If applicable, the site plan will have notes for each collector location that will detail specific instructions that will need to be followed to obtain satisfactory performance from the system.

**CAUTION:** Failure to follow these instructions may result in poor system performance. Every effort should be taken to adhere to these specific notes, where applicable, to ensure proper system performance.

The following steps should be followed for each Collector being installed.

## Collector Installation

- **Step 1.**

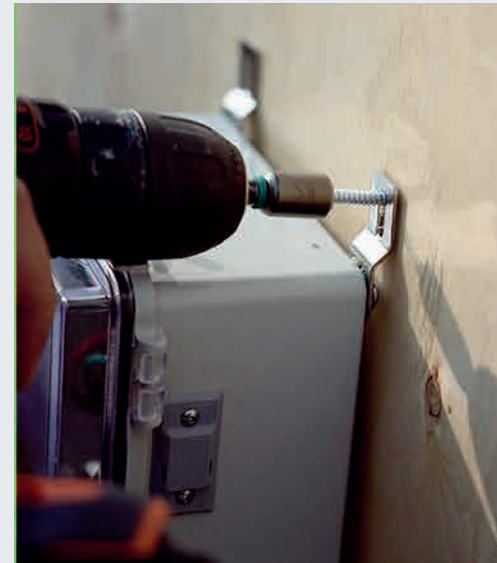
Consult the site plan, and any installation notes to identify the Collector location.

- **Step 2.**

Attach the appropriate mounting material to the collector.

- **Step 3.**

If mounting to a wall or wooden post, attach the included stainless steel mounting feet to the back of the Collector housing using the included phillips head screws. use a minimum of 2, 5/16" hex head self tapping screws and a cordless drill with a 5/16" nut driver attachment to secure the Collectors' stainless steel mounting feet to the surface.



- **Step 4.**

If mounting to a round pole, attach the pole mounting bracket using the included bracket instructions. Then, use a minimum of 2, 5/16" hex head self tapping screws and a cordless drill with a 5/16" nut driver attachment to secure the Collectors' stainless steel mounting feet to the surface of the pole bracket.

- **Step 5.**

Attach the 2.4GHz antenna (approximately 3 inches in length) to the Collector by screwing it snugly onto the threaded antenna fitting to the LEFT side of the Collector housing.



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- **Step 6.**

Mount the High Frequency directional antenna (large white square) using a minimum of 2, 5/16" hex head self tapping screws.

**NOTE:** When mounting this antenna, care should be taken to ensure that it is mounted so that the cable from the antenna is coming from the **BOTTOM** of the antenna housing. If the cable is coming out in any other direction, then the antenna housing may fill with condensation over time and cause failure. There are drain holes at the bottom of the antenna housing to allow moisture to leave so correctly mounting the antenna will prevent any future issues that may lead to failure.

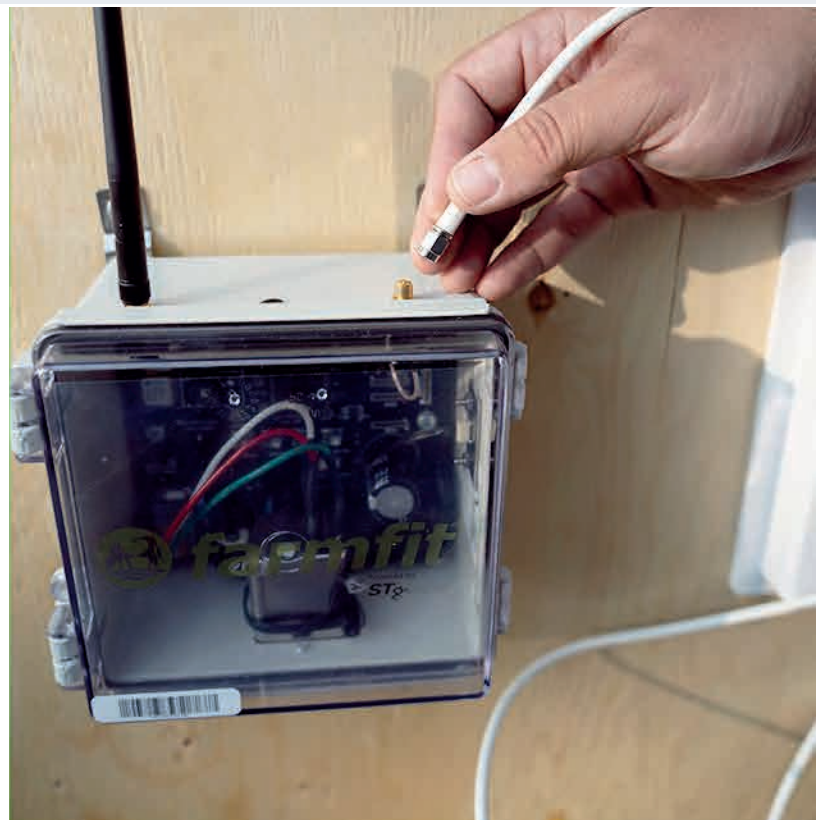


- **Step 7.**

Attach the RP-SMA fitting on the end of the antenna cable to the threaded antenna fitting on the **RIGHT** side of the Collector housing by screwing it on.

**NOTE:** It is important that this fitting be completely screwed on. If the cable is pulled to the side it can bind the fitting and make it seem like it is completely attached when it is not.

Double check the tightness of this fitting by moving the cable to remove any strain and tightening by hand again. Care should be taken not to over tighten the connection, as this can cause damage. Hand tightening and then giving it one snug twist with a pair of pliers should be sufficient.





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- **Step 8.**

Connect the power cable by plugging the female end of the cable into the power block connection on the bottom of the Collector housing, then plug the male blade end into a nearby outlet.

**NOTE:** Once the power cable is connected you should see the LED's inside the Collector housing light up. If they do not activate, push the power switch located next to the power cable on the bottom of the collector housing to the ON position.

- **Step 9.**

Verify that the Collector is functioning. The LED on the LEFT side of the board inside the housing will turn on solid to indicate that the Collector is active. After a few seconds this will begin blinking as one of the onboard radio systems connects to the Gateway, which was previously installed.



- **Step 10.**

Secure any cables using the included cable ties and self tapping screws as needed.

If the equipment site plan requires a Solar Powered Collector the installation will be slightly different. Each solar powered collector will come in a single large enclosure with a separate support arm for the solar panel. These can be mounted to metal or wooden posts in the locations specified in the equipment location site plan.

The steps below should be followed for each Solar Powered Collector being installed.



## Solar Powered Collector Installation

- **Step 1.**

Consult the site plan, and any installation notes to identify the Solar Powered Collector location.

- **Step 2.**

Mount the solar panel to the support arm following the enclosed instructions. Set the solar panel aside, face down.

**CAUTION:** Once the solar panel is exposed to light it will begin generating electricity. Care should be taken to avoid shorting the wire ends. Cover the positive (RED) wire with electrical tape to insulate it until you are ready to connect it to the charge controller.

- **Step 3.**

If mounting to a wall use 4, 1.5" long 5/16" hex head self tapping screws and a cordless drill with a 5/16" nut driver attachment to secure the solar enclosures' mounting tabs to the wall.

- **Step 4.**

If mounting to a round pole, attach the solar enclosures' mounting tabs to the pole using the included round clamps. Tighten using a 5/16" nut driver and a cordless drill.

- **Step 5.**

Attach the solar panel bracket assembly to the mounting surface in the same manner as the enclosure. This should be mounted above the enclosure so that it faces the sun, and at a sufficient height above the enclosure as to not interfere with antenna placement.

- **Step 6.**

Attach the 2.4GHz antenna (approximately 3 inches in length) to the enclosure by screwing it snugly onto the threaded antenna fitting to the LEFT side of the enclosure

- **Step 7.**

Mount the High Frequency directional antenna (large white square) using a minimum of 2, 5/16" hex head self tapping screws.

**NOTE:** When mounting this antenna, care should be taken to ensure that it is mounted so that the cable from the antenna is coming from the **BOTTOM** of the antenna housing. If the cable is coming out in any other direction, then the antenna housing may fill with condensation over time and cause failure. There are drain holes at the bottom of the antenna housing to allow moisture to leave so correctly mounting the antenna will prevent any future issues that may lead to failure.

- **Step 8.**

Attach the RP-SMA fitting on the end of the antenna cable to the threaded antenna fitting on the RIGHT side of the enclosure by screwing it on.

**NOTE: It is important that this fitting be completely screwed on. If the cable is pulled to the side it can bind the fitting and make it seem like it is completely attached when it is not. Double check the tightness of this fitting by moving the cable to remove any strain and tightening by hand again. Care should be taken not to over tighten the connection, as this can cause damage. Hand tightening and then giving it one snug twist with a pair of pliers should be sufficient.**

- **Step 9.**

Run the power cable from the solar panel into the enclosure. To do this, first open the enclosure by clicking the two tabs on the right side and swing the door open. Next, locate the split rubber grommet on the bottom of the enclosure. Feed the power cable from the solar panel into this grommet.

- **Step 10.**

Connect the power cable to charge controller beginning with the negative (BLACK) wire. The location to connect this is marked on the charge controller. Feed the bare wire into the connector and then tighten it down using a flat head screw driver. Once the negative wire is connected, remove the electrical tape from the positive wire and repeat the same steps as before in the positive connection location.

- **Step 11.**

Using the LCD display on the charge controller, verify the power output to the collector board mounted inside. This should be between 11 volts and 15 volts.

- **Step 12.**

Verify that the Collector is functioning. The LED on the LEFT side of the board on the door will turn on solid to indicate that the Collector is active. After a few seconds this will begin blinking as one of the onboard radio systems connects to the Gateway, which was previously installed.

- **Step 13.**

Secure any cables using the included cable ties and self tapping screws as needed.