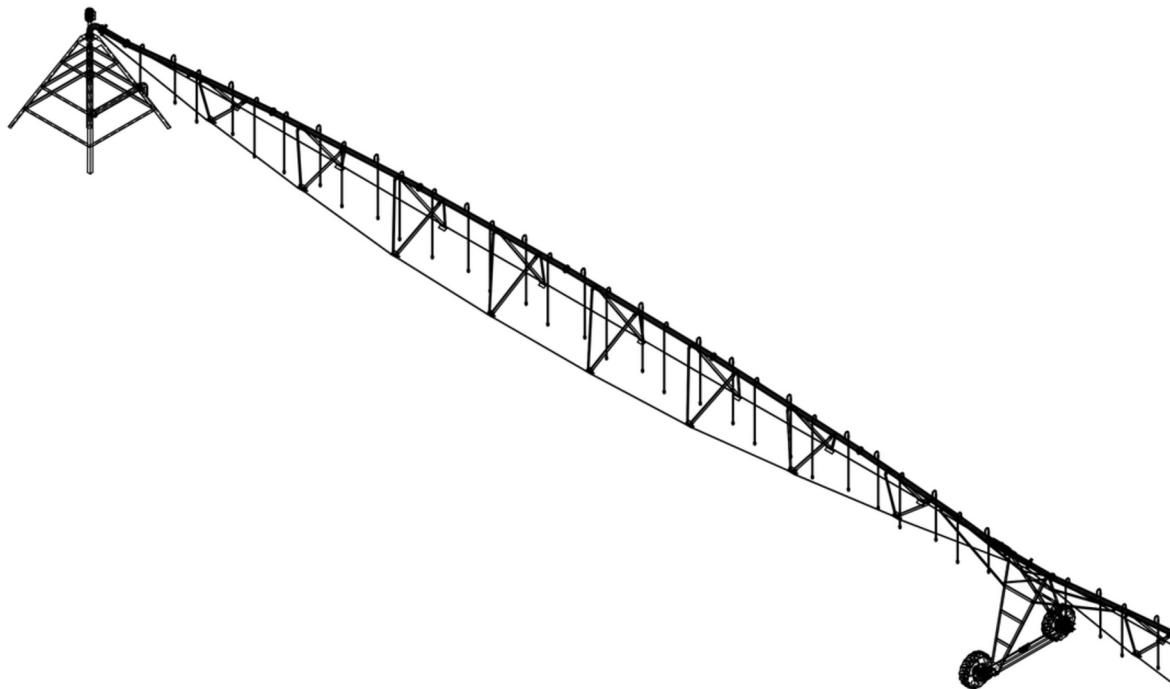


# FarmHQ PIVOT INSTALLATION

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**[www.farmhq.com](http://www.farmhq.com)**

August 2024 • Version 1.0

# TC-3 PIVOT INSTALLATION



**⚠️ WARNING ⚠️** -DO NOT INSTALL WHILE YOUR EQUIPMENT IS RUNNING. FAILURE TO COMPLY MAY CAUSE INJURY OR DEATH.

## TOOLS YOU WILL NEED

- METRIC ALLEN WRENCHES
- CRESCENT WRENCH
- WIRE STRIPPERS
- CRIMPERS
- OPEN END WRENCH SET
- TEFLON TAPE

## CONTACT US AT

- SUPPORT@FARMHQ.COM
- +1 360-818-2632

## FARMHQ APP

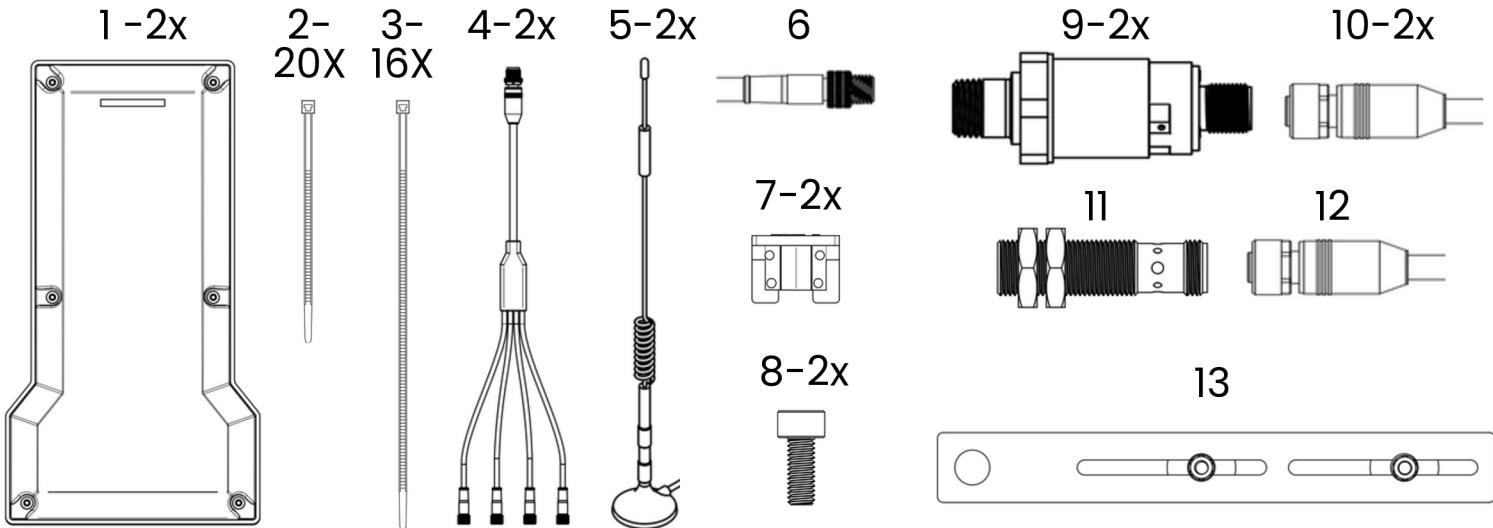


## SUPPORT

- If you have any trouble during install, reference the user manual at [FarmHQ.com/support](https://www.farmhq.com/support)

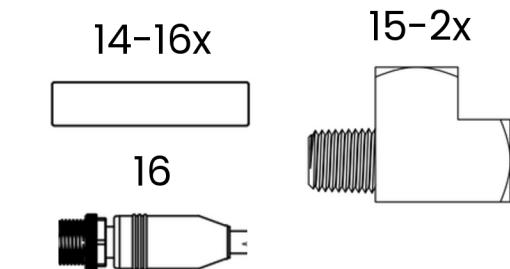


# INSTALLATION HARDWARE

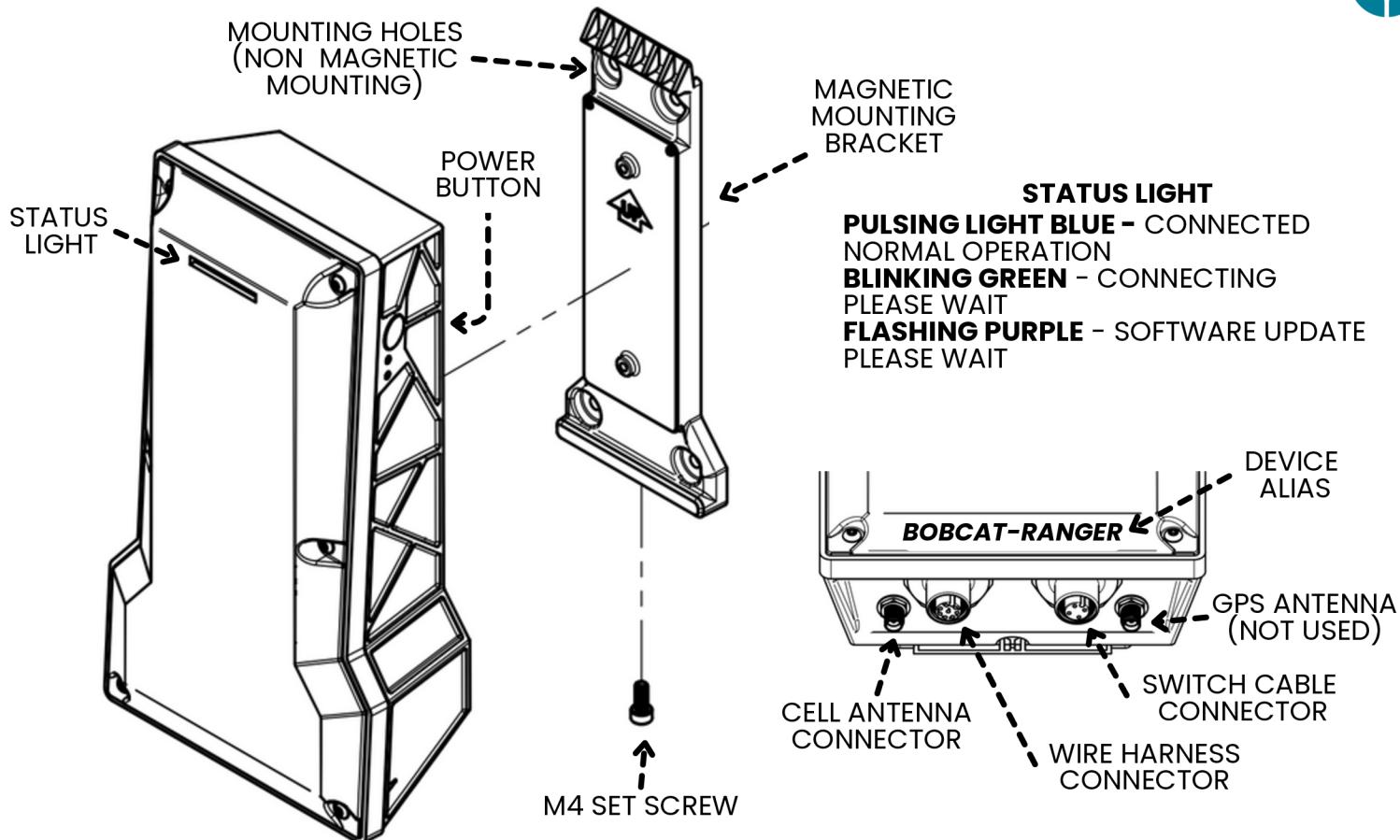


- 1. TC-3
- 2. 6" CABLE TIES
- 3. 11" CABLE TIES
- 4. TC-3 WIRE HARNESS
- 5. ANTENNA
- 6. 3M POWER CABLE
- 7. SPARE 5A BLADE FUSE
- 8. M4 SET SCREW

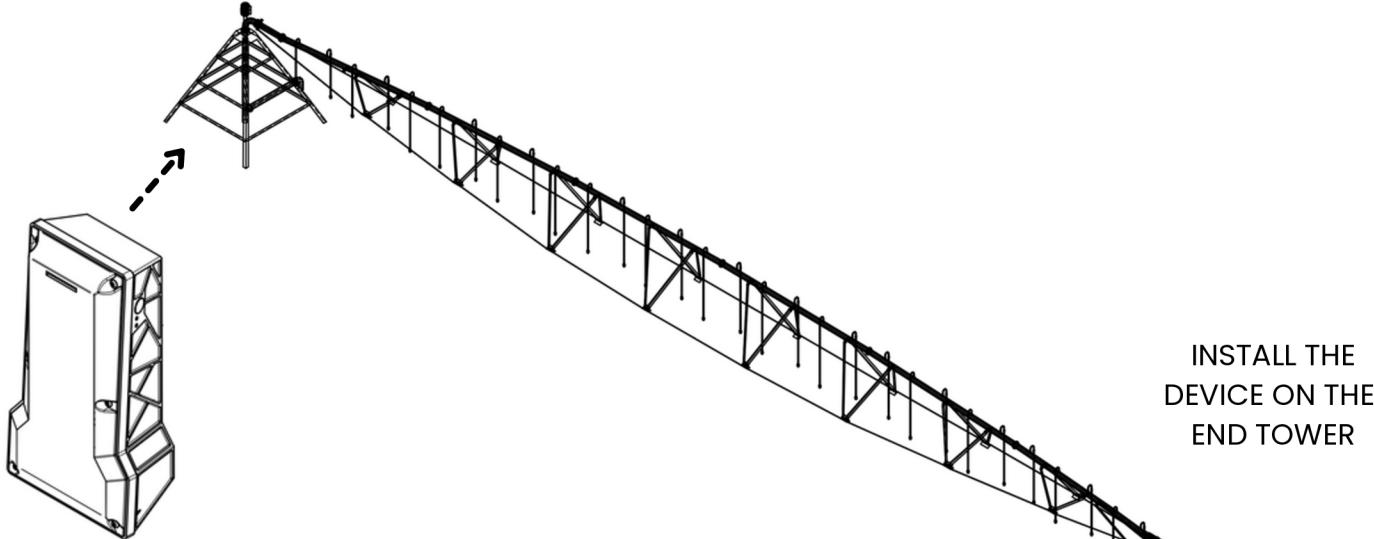
- 9. PRESSURE SENSOR
- 10. PRESSURE SENSOR CABLE (15')
- 11. MAGNETIC SENSOR
- 12. MAGNETIC SENSOR CABLE (15')
- 13. MAGNETIC SENSOR BRACKET
- 14. SENSOR MAGNETS
- 15. 1/4" NPT BRASS STREET TEE
- 16. SWITCH CABLE



# DEVICE OVERVIEW

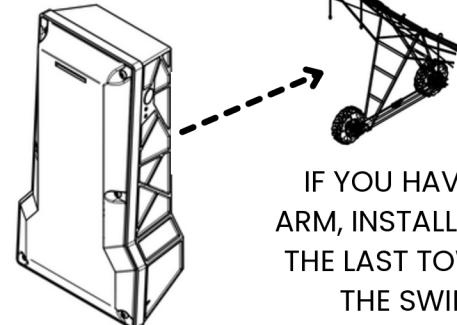


# PIVOT INSTALLATION OVERVIEW



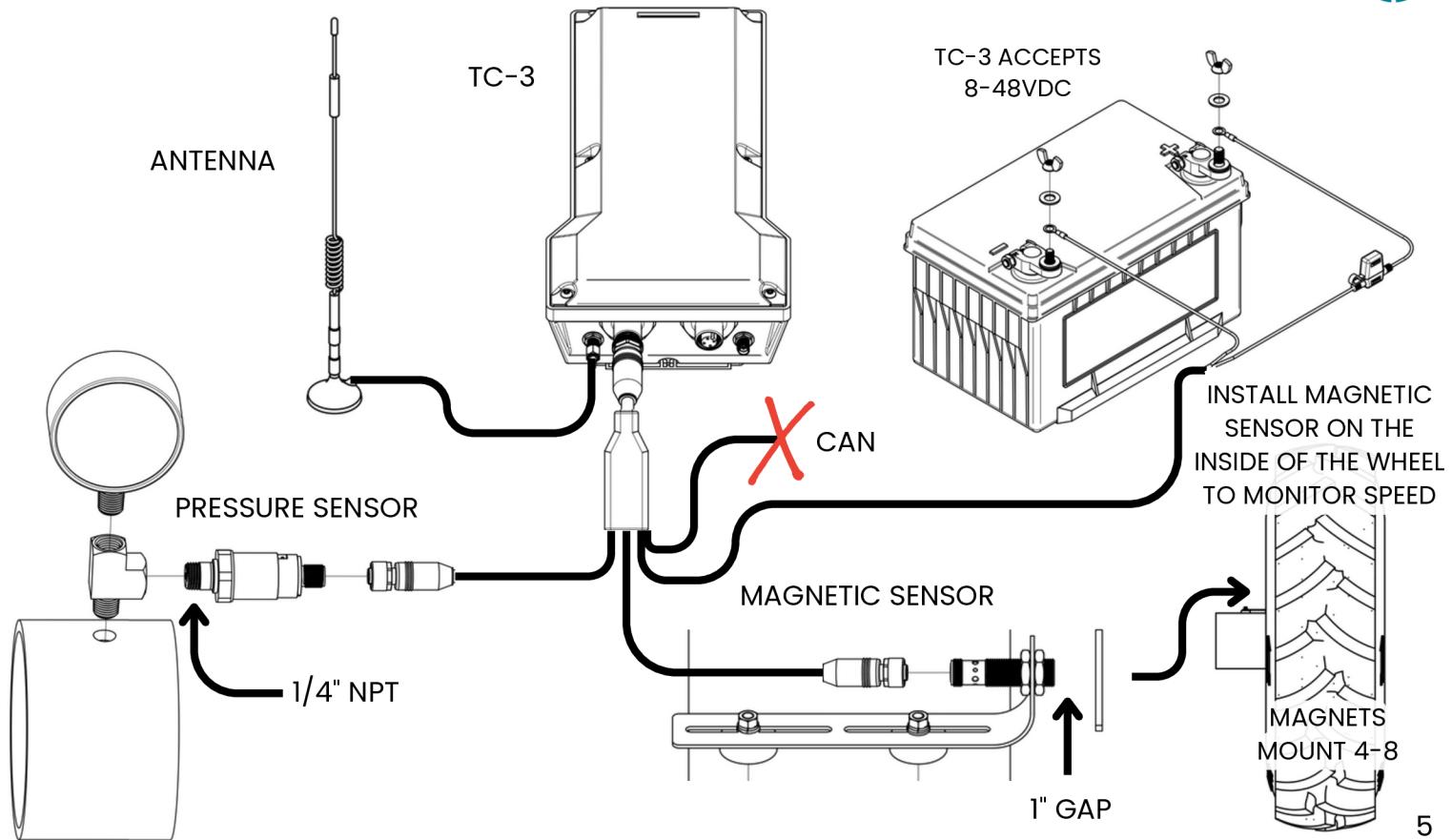
INSTALL THE  
DEVICE ON THE  
END TOWER

**OPTIONAL –** INSTALL A DEVICE ON  
THE PIVOT CONTROL PANEL.

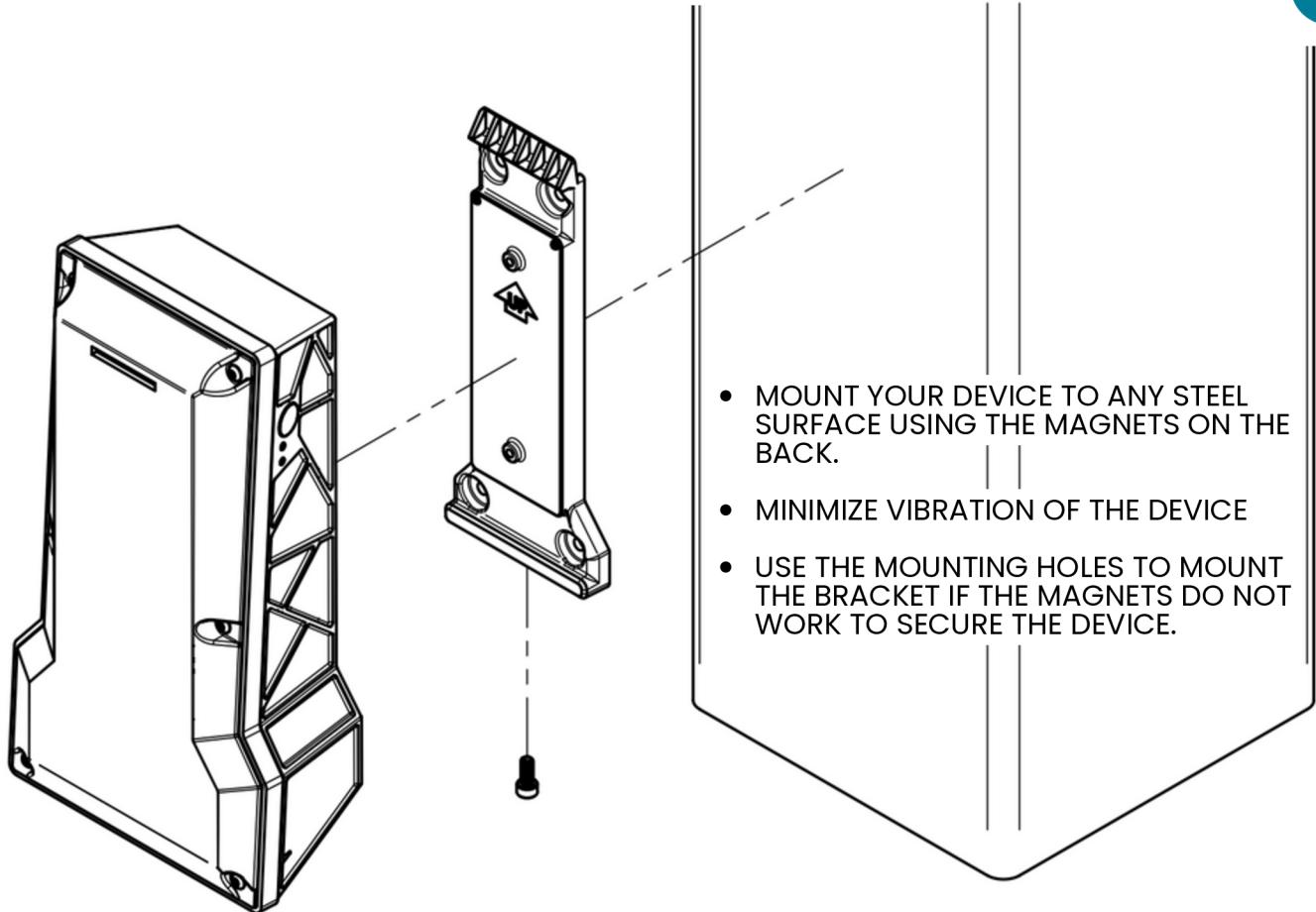


IF YOU HAVE A SWING  
ARM, INSTALL FARMHQ ON  
THE LAST TOWER BEFORE  
THE SWING ARM.

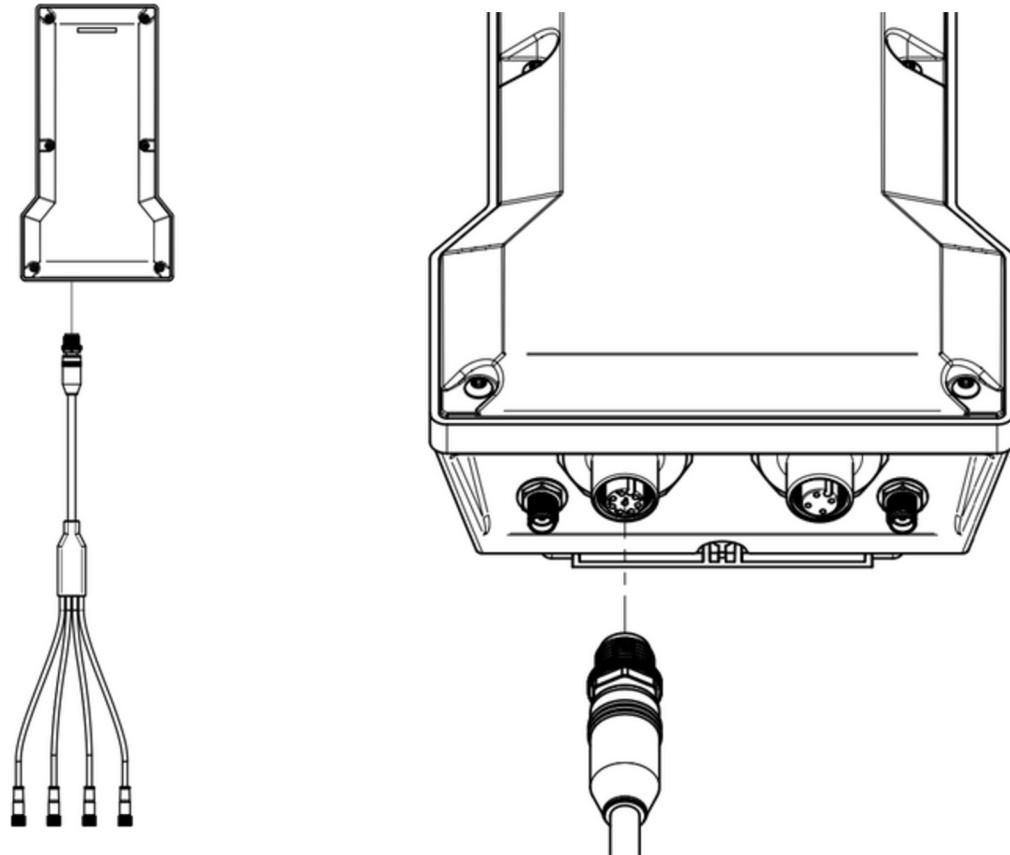
# END TOWER INSTALLATION OVERVIEW



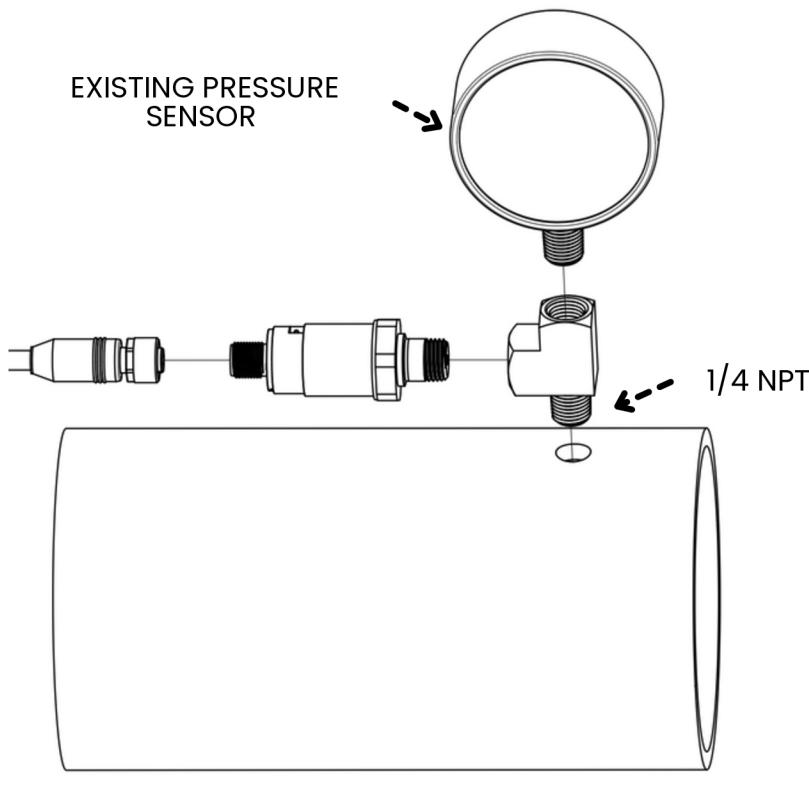
# 1. MOUNT YOUR DEVICE



## 2. CONNECT WIRE HARNESS



### 3. CONNECT PRESSURE SENSOR

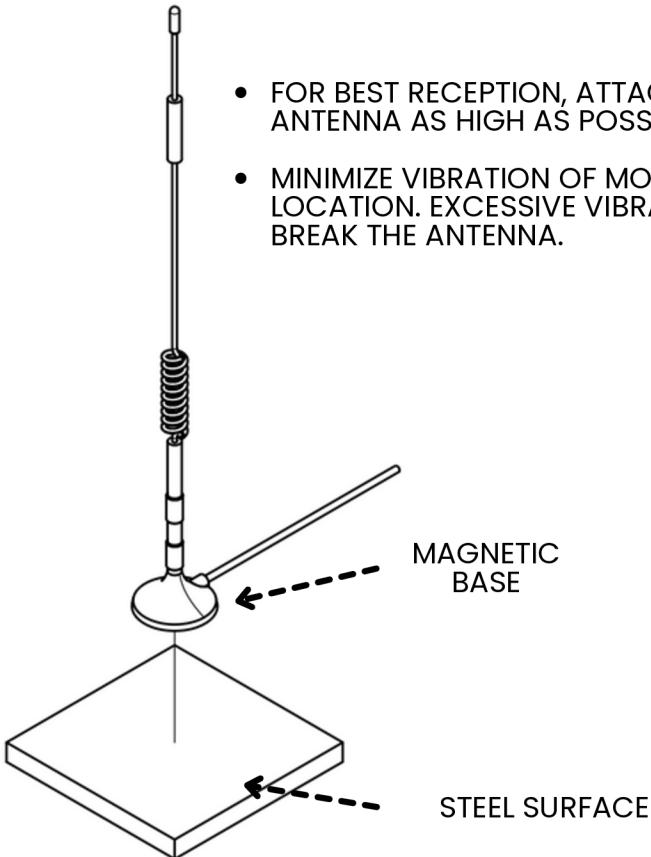


CONNECT TO  
SENSOR 2

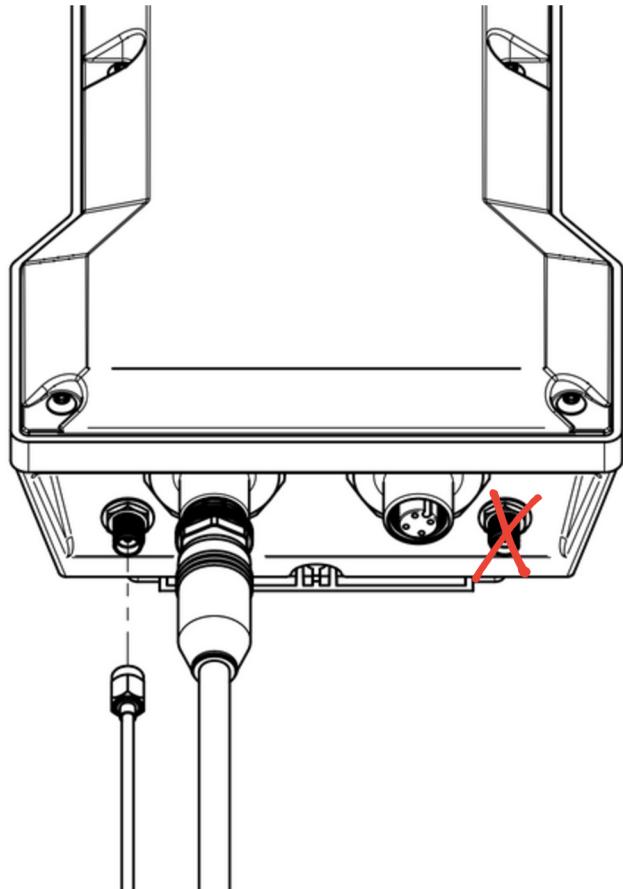


PRESSURE SENSOR CABLE AND  
MAGNETIC SENSOR CABLE ARE  
INTERCHANGEABLE

# 4. CONNECT THE ANTENNA



- FOR BEST RECEPTION, ATTACH ANTENNA AS HIGH AS POSSIBLE.
- MINIMIZE VIBRATION OF MOUNTING LOCATION. EXCESSIVE VIBRATION WILL BREAK THE ANTENNA.



# 5. CONNECT TO POWER (8-48VDC)



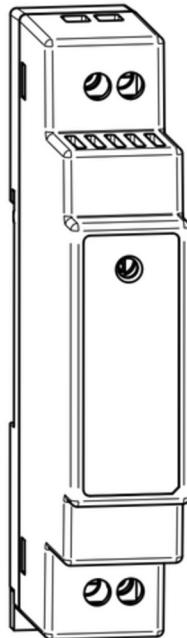
THE TC-3 ACCEPTS 8VDC-48VDC. IF THIS VOLTAGE IS NOT AVAILABLE, FarmHQ CAN PROVIDE A DIN RAIL MOUNT POWER SUPPLY OR A SOLAR POWERED OPTION.

## POWER SUPPLY SPECS:

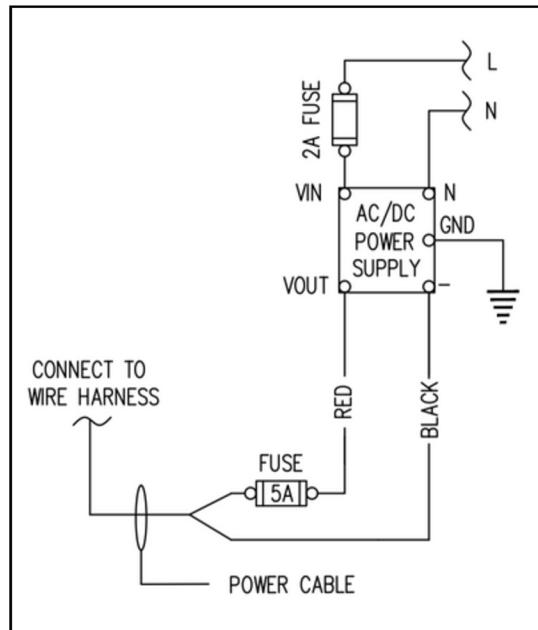
- 20W MIN
- 8-48VDC OUTPUT



INSTALL A 12V OR 24V POWER SUPPLY. FARMHQ CAN ACCEPT 8-48V



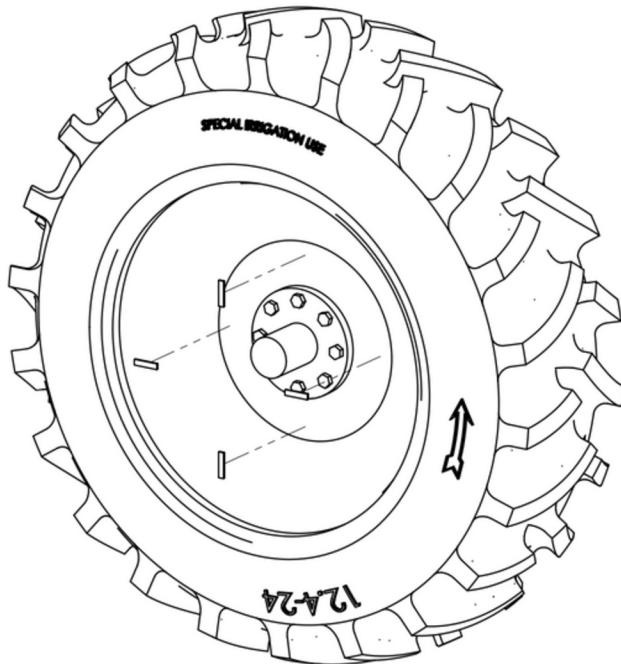
## AC/DC POWER SUPPLY WIRING DIAGRAM



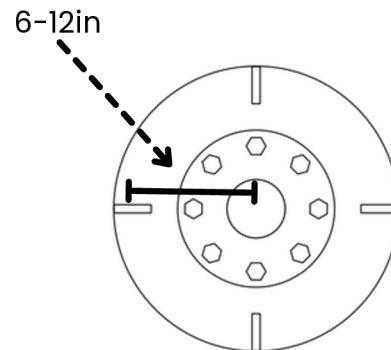
# 6. INSTALL THE MAGNETS



PLACE 4-8 MAGNETS EVENLY  
ON THE WHEEL.



PLACE MAGNETS 6-12in (15-30 cm) FROM  
THE AXIS OF THE WHEEL

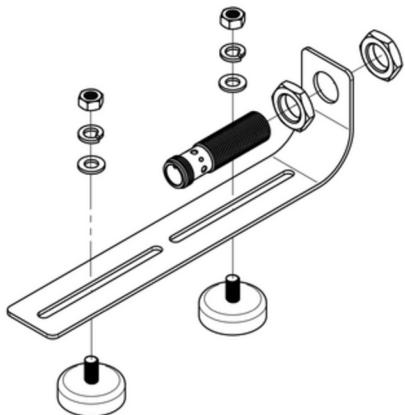


# 7. INSTALL MAGNETIC SENSOR

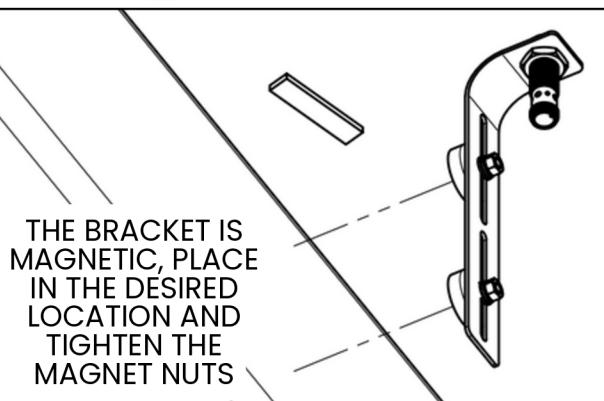
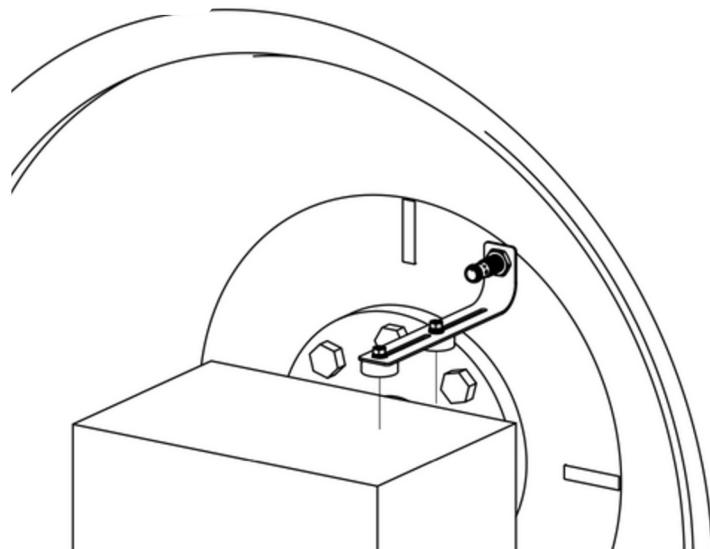


CONNECT  
TO SENSOR 1

BEND BRACKET  
TO DESIRED SHAPE

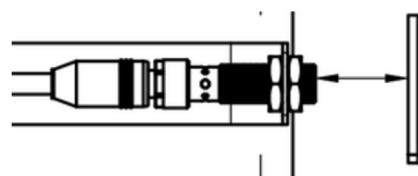


PLACE THE SENSOR SO THAT IT DOES NOT GET  
KNOCKED OFF BY YOUR CROP OR MUD AS THE  
PIVOT MOVES



THE BRACKET IS  
MAGNETIC, PLACE  
IN THE DESIRED  
LOCATION AND  
TIGHTEN THE  
MAGNET NUTS

SET THE DISTANCE BETWEEN MAGNETS AND SENSOR TO 1in  
(2.5cm). IF THE MAGNETS DO NOT STICK TO THE WHEEL, USE  
SILICONE OR SIMILAR ADHESIVE TO ATTACH THE MAGNETS.



# 8. GETTING STARTED WITH THE APP



## A. DOWNLOAD THE FARMHQ APP

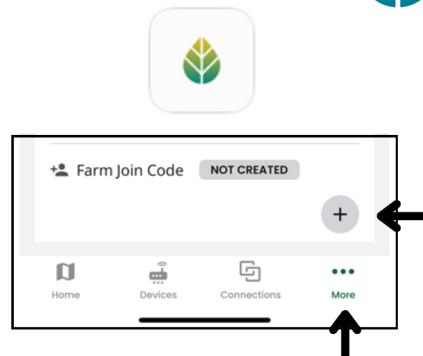
## B. SIGN UP, CREATE OR JOIN AN ACCOUNT

CREATE YOUR OWN USER ACCOUNT. EVERY USER NEEDS TO HAVE AN ACCOUNT. FOLLOW THE PROMPTS TO VERIFY YOUR EMAIL ADDRESS AND PHONE NUMBER. NEXT CREATE A NEW FARM ACCOUNT. IF A FARM ACCOUNT ALREADY EXISTS, USE A FARM JOIN CODE TO BE ADDED TO THE EXISTING FARM. SOMEONE WHO HAS ACCESS TO THE ACCOUNT CAN GENERATE ONE FOR YOU.

## C. ADD A DEVICE

FROM THE DEVICES TAB ADD A NEW DEVICE. INPUT THE DEVICE ALIAS PRINTED ON THE FRONT OF THE DEVICE. THE CONFIGURATION WORKFLOW GUIDES YOU STEP BY STEP. YOU CAN CHANGE CONFIGURATION DETAILS LATER IF YOU NEED TO.

**APP BASICS** - GO TO [www.farmHQ.com/support](http://www.farmHQ.com/support) FOR AN OVERVIEW OF HOW THE APP WORKS





# 9. VERIFY CORRECT OPERATION

**PLEASE DON'T SKIP THIS STEP. IF YOU DO NOT HAVE THE ABILITY TO RUN THE PIVOT AT THE TIME OF INSTALL MAKE SURE YOU VERIFY PRESSURE NEXT TIME THE PIVOT IS RUNNING.**

## **A. VERIFY MAGNETIC SENSOR FUNCTIONALITY.**

WAVE A MAGNET IN FRONT OF THE MAGNETIC SENSOR ONCE PER SECOND FOR 10 SECONDS. CHECK THE STATUS OF THE DEVICE IN THE FARMHQ APP. YOU SHOULD SEE THE STATUS OF THE PIVOT CHANGE FROM STOPPED TO MOVING. IF YOU DO NOT SEE THE PIVOT STATUS CHANGE, GO TO TROUBLESHOOTING.

## **B. VERIFY MAGNET PLACEMENT**

THE FIRST TIME YOU MOVE THE PIVOT, CHECK THE MAGNETS TO MAKE SURE THAT EVERY MAGNET PASSES IN FRONT OF THE MAGNETIC SENSOR. **INCORRECT MAGNET PLACEMENT AND SENSOR ALIGNMENT IS THE MOST COMMON PROBLEM WITH NEW INSTALLATIONS.**

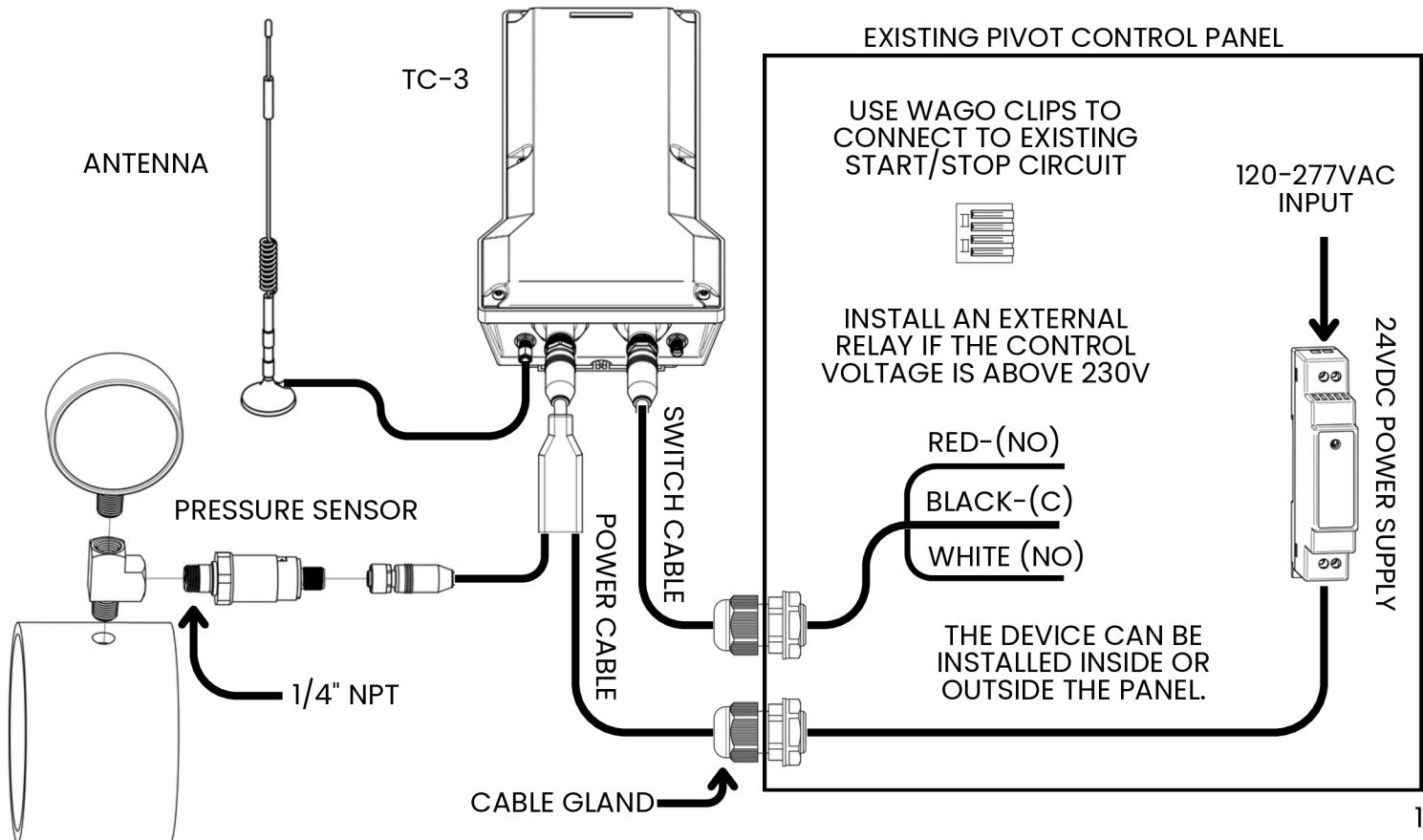
## **C. VERIFY PRESSURE.**

MAKE SURE THE APP IS REPORTING THE SAME PRESSURE AS THE GAUGE ON THE PIVOT.

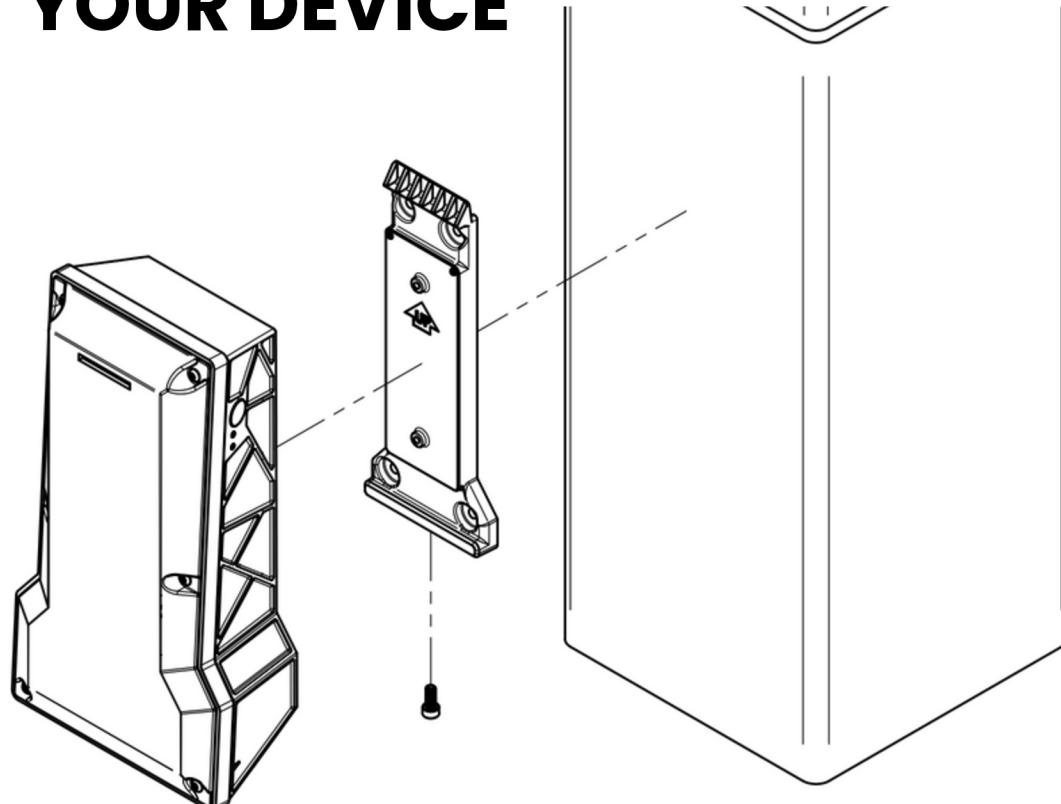
## **D. VERIFY GPS LOCATION.**

THE DEVICE SHOULD ACQUIRE A GPS SIGNAL AND SHOW UP ON THE STATUS MAP WITHIN FIVE MINUTES. IF YOU ARE INSTALLING INSIDE A BUILDING IT MAY NOT GET GPS. LIKELY THE DEVICE WILL GET GPS SERVICE ONCE IT IS IN THE FIELD.

# PIVOT CONTROL PANEL INSTALLATION OVERVIEW

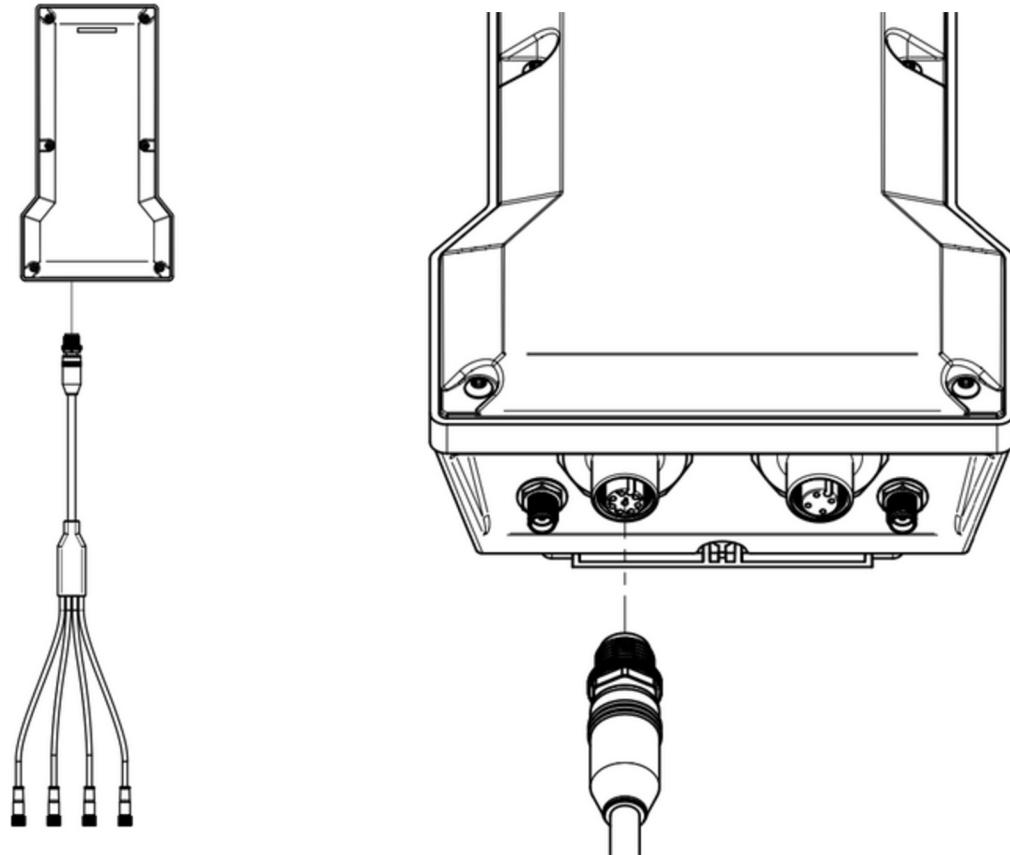


# 1. MOUNT YOUR DEVICE

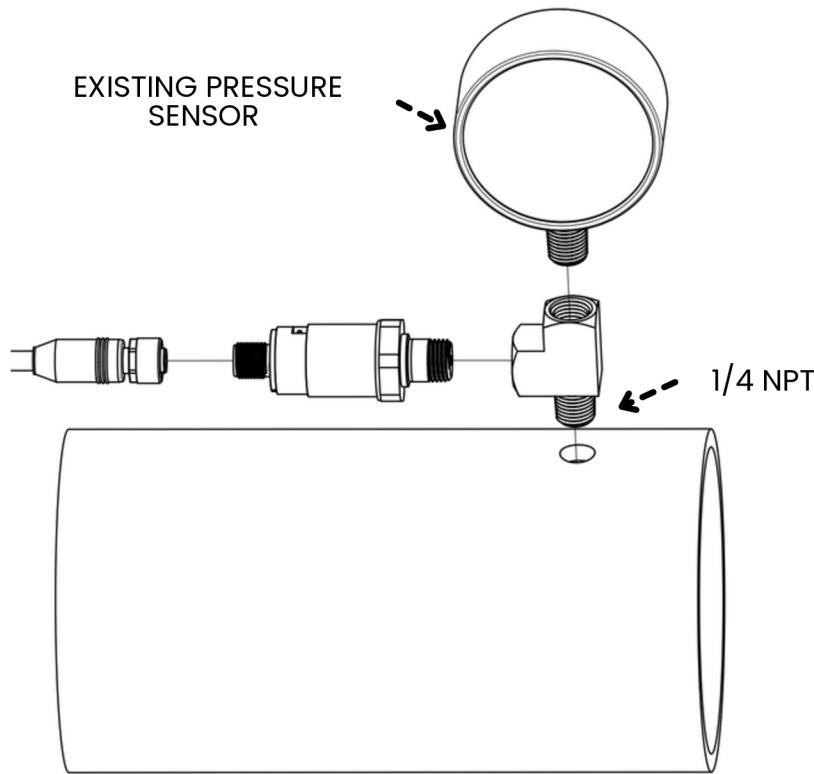


**INSTALLATION LOCATION** - FEEL FREE TO MOUNT YOUR DEVICE INSIDE AN ELECTRICAL PANEL. WHEN MOUNTING INSIDE OF AN ELECTRIC PANEL, MAKE SURE THE DEVICE, ANTENNA AND ANTENNA WIRE IS FAR AWAY FROM ANYTHING CARRYING HIGH CURRENT. THIS WILL DISRUPT THE CELLULAR CONNECTIVITY OF THE DEVICE. THE GPS LOCATION OF THE DEVICE MAY NEED TO BE ADDED AS THE ENCLOSURE OR ROOF CAN INTERFERE WITH THE GPS SIGNAL. THIS CAN BE SET ON THE DEVICE DETAIL PAGE.

## 2. CONNECT WIRE HARNESS



### 3. CONNECT PRESSURE SENSOR

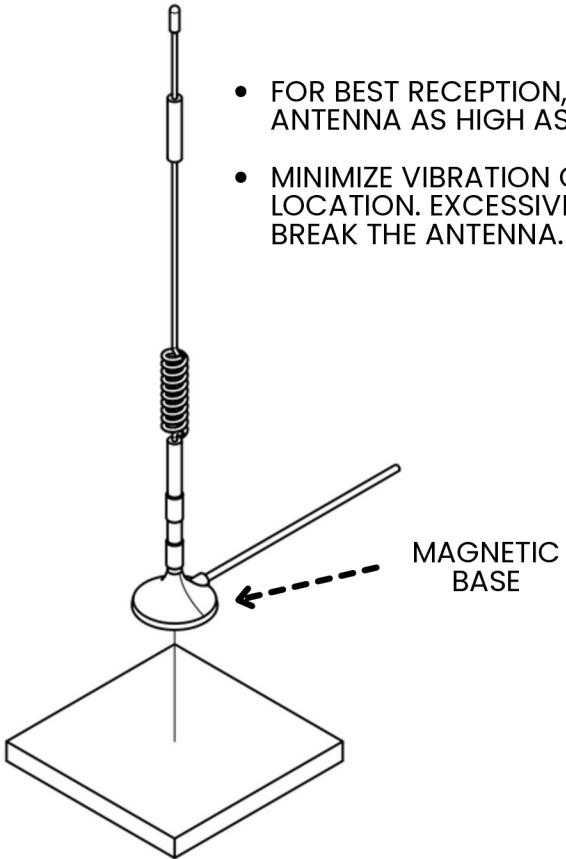


CONNECT TO  
SENSOR 2

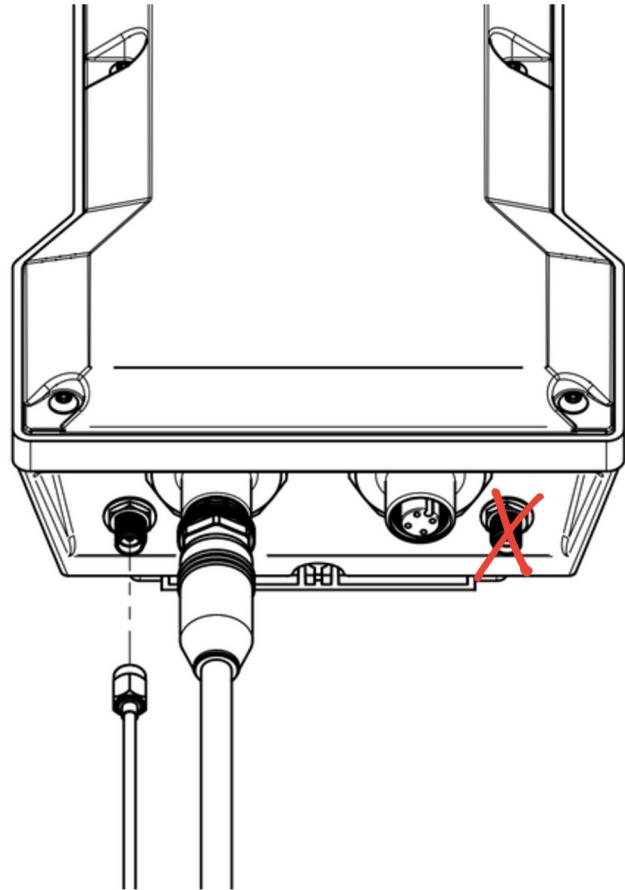


PRESSURE SENSOR CABLE AND  
MAGNETIC SENSOR CABLE ARE  
INTERCHANGEABLE

# 4. CONNECT THE ANTENNA



- FOR BEST RECEPTION, ATTACH ANTENNA AS HIGH AS POSSIBLE.
- MINIMIZE VIBRATION OF MOUNTING LOCATION. EXCESSIVE VIBRATION WILL BREAK THE ANTENNA.



# 5. CONNECT TO POWER (8-48VDC)



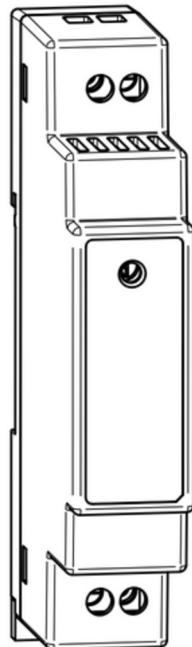
THE TC-3 ACCEPTS 8VDC-48VDC. IF THIS VOLTAGE IS NOT AVAILABLE, FarmHQ CAN PROVIDE 24V POWER SUPPLY

## POWER SUPPLY SPECS:

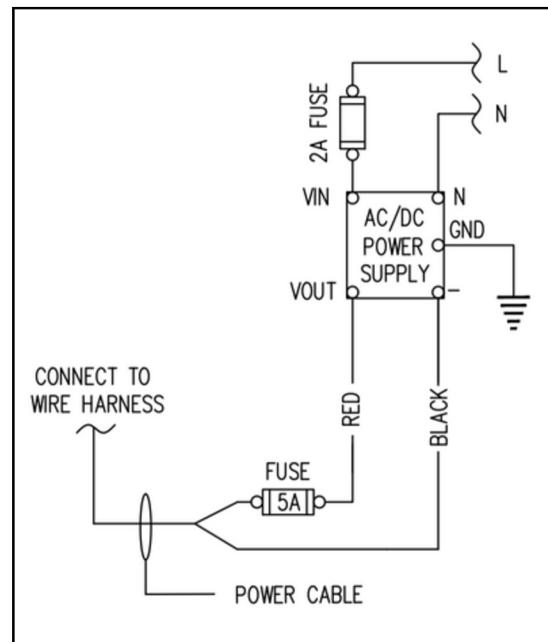
- 20W MIN
- 8-48VDC OUTPUT



INSTALL A 12V OR 24V POWER SUPPLY. FARMHQ CAN ACCEPT 8-48V

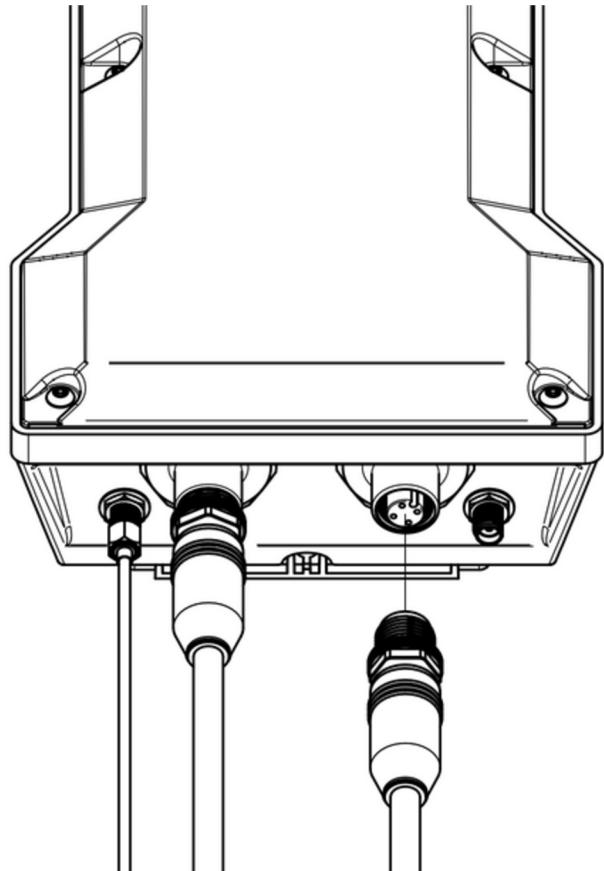


## AC/DC POWER SUPPLY WIRING DIAGRAM

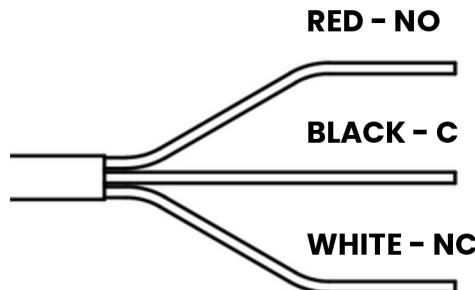




# 6. CONNECT SWITCH CABLE



THE TC-3 HAS AN INTERNAL RELAY RATED FOR 4A, 250V FOR USE TO START/STOP YOUR PIVOT. THE SWICH CABLE EXPOSES THE NO, NC, AND C CONTACTS OF THE REALY. EACH PIVOT IS DIFFERENT SO YOU WILL NEED TO DETERMINE HOW TO PROPERLY WIRE IN FarmHQ FOR PROPER START/STOP FUNCTIONALITY.



**NO - NORMALLY OPEN**

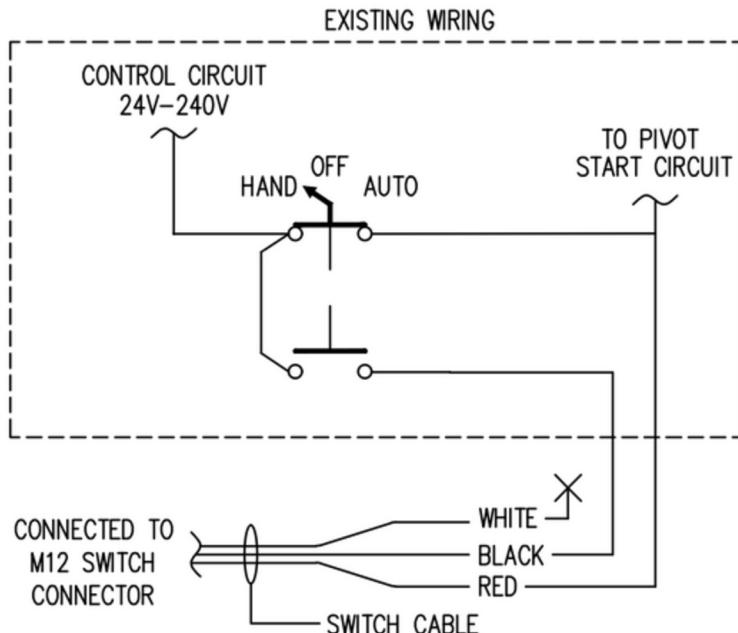
**C - COMMON**

**NC - NORMALLY CLOSED**

# 7. WIRE INTO PIVOT RUN CIRCUIT



WIRE FARMHQ INTO THE RUN CIRCUIT, ALLOWING IT TO START/STOP YOUR PIVOT. IT IS RECOMMENDED TO CONNECT THROUGH THE HOA SWITCH ON THE PANEL. REFER TO THE SIMPLIFIED WIRING DIAGRAM, NOTING THAT YOUR PIVOT WIRING MAY DIFFER. USE THE PROVIDED WAGO CLIPS TO CONNECT THE SWITCH CABLE TO THE EXISTING RUN CIRCUIT.



# 8. GETTING STARTED WITH THE APP



## A. DOWNLOAD THE FARMHQ APP

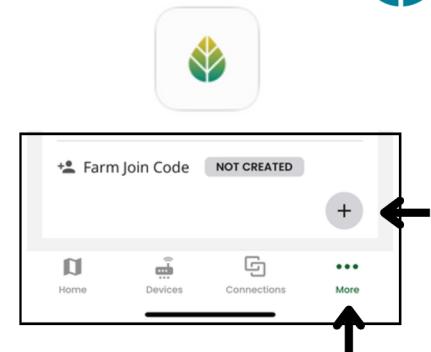
## B. SIGN UP, CREATE OR JOIN AN ACCOUNT

CREATE YOUR OWN USER ACCOUNT. EVERY USER NEEDS TO HAVE AN ACCOUNT. FOLLOW THE PROMPTS TO VERIFY YOUR EMAIL ADDRESS AND PHONE NUMBER. NEXT CREATE A NEW FARM ACCOUNT. IF A FARM ACCOUNT ALREADY EXISTS, USE A FARM JOIN CODE TO BE ADDED TO THE EXISTING FARM. SOMEONE WHO HAS ACCESS TO THE ACCOUNT CAN GENERATE ONE FOR YOU.

## C. ADD A DEVICE

FROM THE DEVICES TAB ADD A NEW DEVICE. INPUT THE DEVICE ALIAS PRINTED ON THE FRONT OF THE DEVICE. THE CONFIGURATION WORKFLOW GUIDES YOU STEP BY STEP. YOU CAN CHANGE CONFIGURATION DETAILS LATER IF YOU NEED TO.

**APP BASICS** - GO TO [www.farmHQ.com/support](http://www.farmHQ.com/support) FOR AN OVERVIEW OF HOW THE APP WORKS



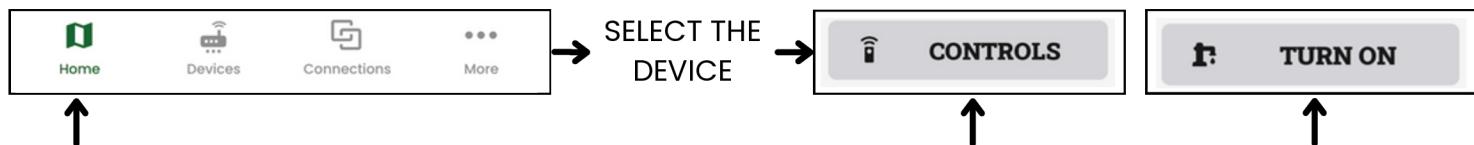
# 9. VERIFY YOUR INSTALL



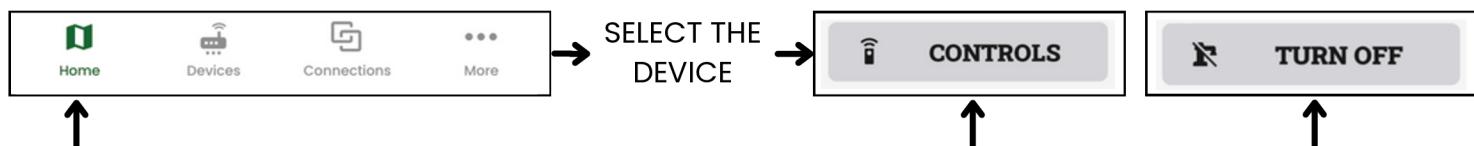
**PLEASE DON'T SKIP THIS STEP. IF YOU DO NOT HAVE THE ABILITY TO RUN THE PIVOT AT THE TIME OF INSTALL MAKE SURE YOU VERIFY STEPS NEXT TIME THE PIVOT IS RUNNING.**

**A. NAVIGATE TO DEVICE CONTROLS.**

**B. CLICK - "TURN ON"**



**C. VERIFY PIVOT TURNS ON. IF YOU CAN RUN WATER, VERIFY THE APP IS REPORTING THE SAME PRESSURE AS THE GAUGE ON THE PIVOT**



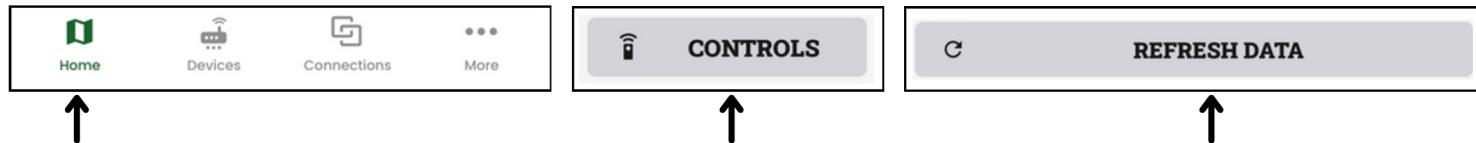
**D. CLICK - "TURN OFF"**

**E. VERIFY THE PIVOT SHUTS DOWN**

# TROUBLESHOOTING - BASIC CHECKS

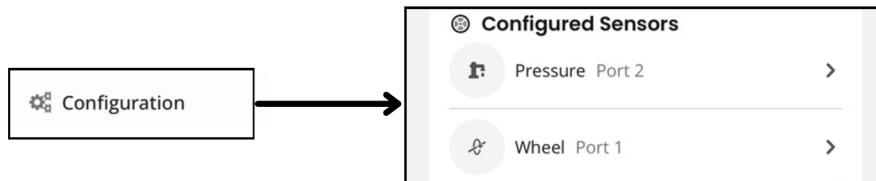
A. CHECK THAT THE TC-3 IS POWERED ON AND THE STATUS LIGHT IS PULSING LIGHT BLUE.

B. CLICK ON THE HOME TAB AND CLICK ON THE DESIRED DEVICE. CLICK "REFRESH DATA"

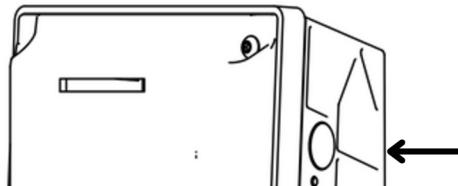


C. VERIFY THE CONFIGURATION. CHECK THE FOLLOWING.

1. MAKE SURE YOU SELECTED THE CORRECT DEVICE TYPE
2. MAKE SURE THE SENSOR PORT MATCHES HOW IT IS CONNECTED TO THE WIRE HARNESS



D. RESTART THE DEVICE - HOLD THE POWER BUTTON UNTIL THE LIGHT TURNS GREEN (3 SECONDS) THEN LET GO. PRESS THE BUTTON ON THE RIGHT SIDE AGAIN TO TURN IT BACK ON. WAIT FOR THE DEVICE TO BEGIN PULSING LIGHT BLUE. THE DEVICE WON'T

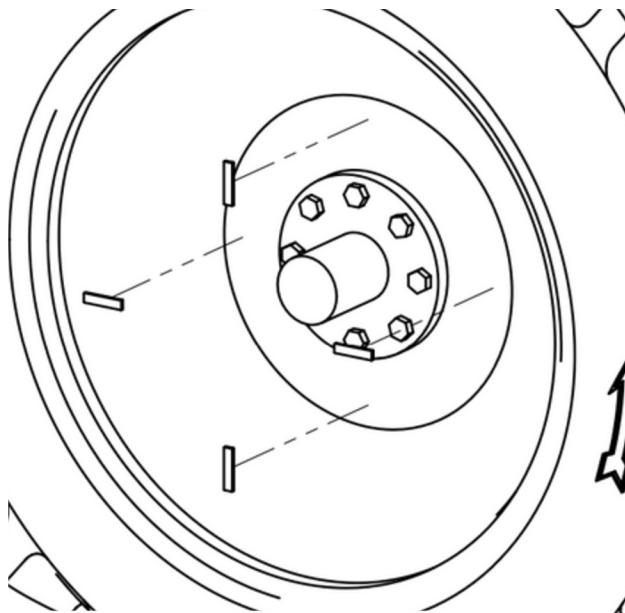


# TROUBLESHOOTING - PIVOT SPEED

START TROUBLESHOOTING WITH BASIC CHECKS BEFORE COMING HERE

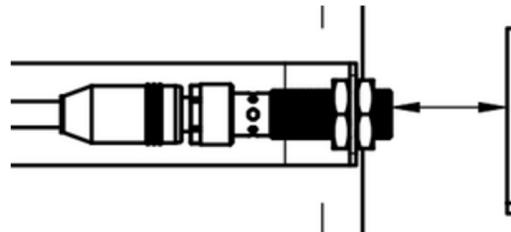


A. MAKE SURE THE MAGNETS ARE EVENLY SPACED ON THE WHEEL.



B. BEGIN TO MOVE THE PIVOT. MAKE SURE THE MAGNETIC SENSOR PASSES IN FRONT OF EACH MAGNET. IF ANY OF YOUR MAGNETS MOVED AFTER INSTALL, USE SILICONE CAULK OR SIMILAR ADHESIVE TO ATTACH THE MAGNETS TO THE PIVOT IF THEY MOVE AFTER INSTALL.

C. CHECK THE DISTANCE BETWEEN THE MAGNETIC SENSOR AND THE MAGNETS. MAKE SURE IT IS SET TO 1IN (2.5CM)



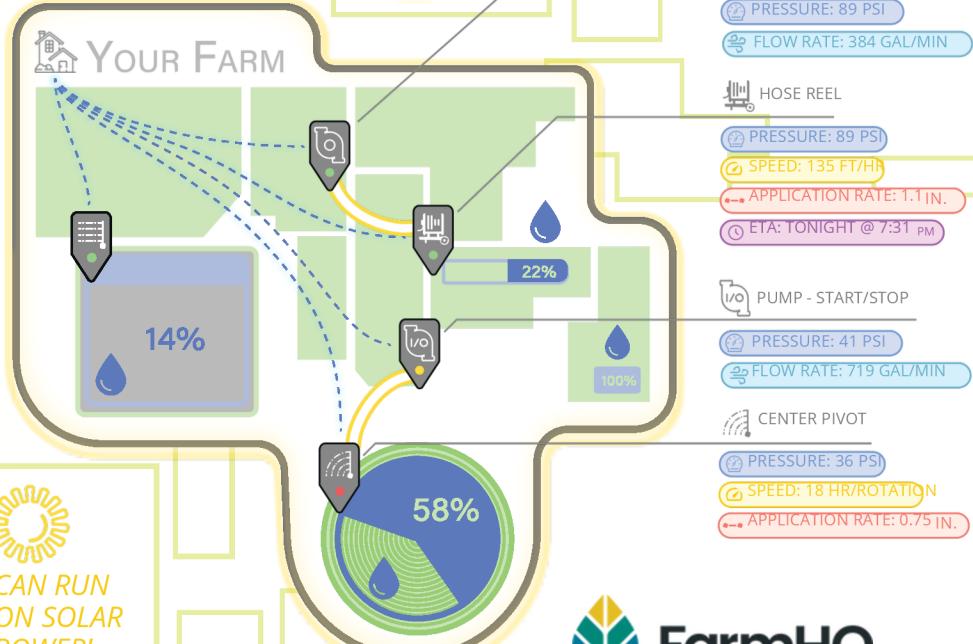
D. CHECK THE WHEEL DIAMETER. MAKE SURE THE DIMENSIONS ARE ACCURATE. IF THE DIMENSIONS ARE OFF THIS CAN CAUSE LARGE VARIATIONS IN THE SPEED

Wheel Diameter	48 in
----------------	-------

# SMART IRRIGATION CONTROL FOR EVERY FARM

Get all your irrigation equipment online and in sync to save time, cut stress, and lower your costs.

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 **FarmHQ**  
[www.FarmHQ.com](http://www.FarmHQ.com)

## APPLICATIONS

- |   |                    |   |             |
|---|--------------------|---|-------------|
|  | SHUTDOWN ONLY      |  | START/STOP  |
|  | VARIABLE FREQUENCY |  | FLOW METERS |
|  | CENTER PIVOT       |  | LINEAR MOVE |
|  | VALVES             |  | HOSE REELS  |

Real-time monitoring, text message alerts, records and usage analytics, machine-to machine communication, and much, much more.