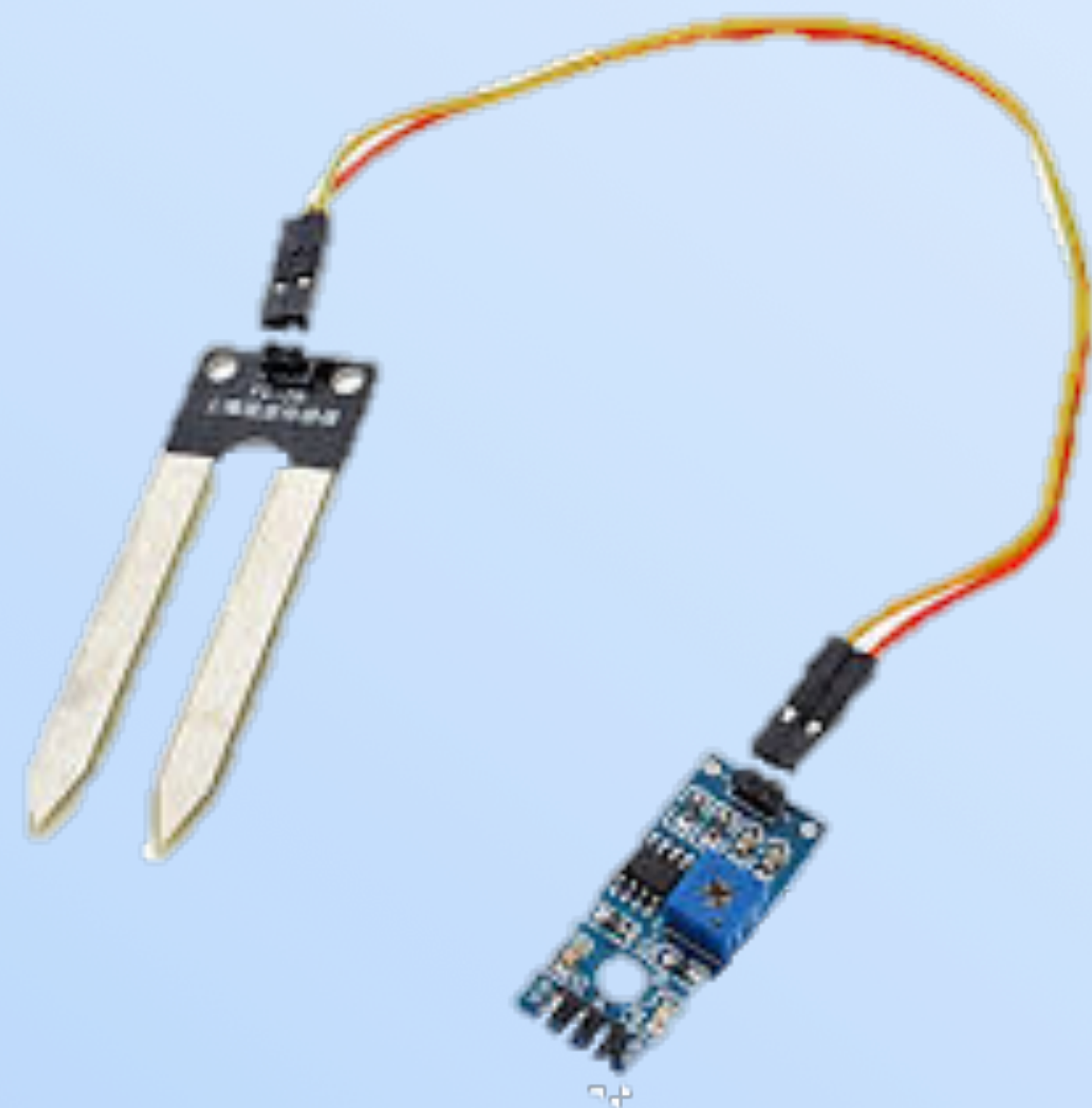


# SOIL SOLUTIONS

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TA: NATALIE NG

## F-28-D Soil Moisture Sensor

The moisture sensors we purchased detect the amount of moisture the soil contains. They connect with the peristaltic pump and if the moisture levels get too low, it sends a signal to turn on the pump and water the plants.

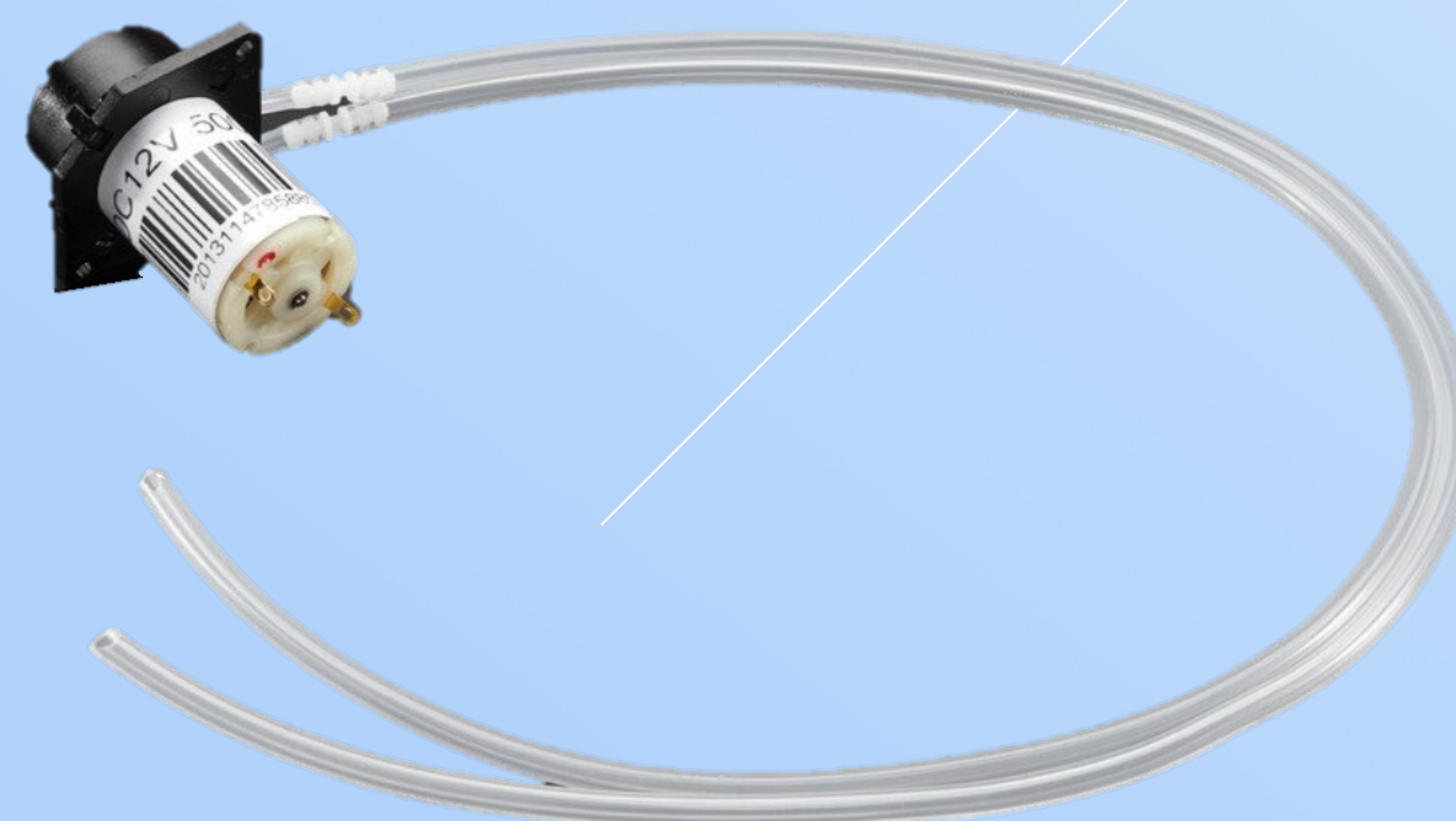


## Description:

We wanted to make an automated irrigation system for house plants. This system also records data and uploads it to our website <http://ese205soil.com>. This irrigation system measures the moisture content in the soil and uses a peristaltic pump to water the plant when the moisture content gets too low. The website displays and records the water level in our water source, the moisture content of our plant and the date.

## Peristaltic Liquid Pump with Silicone Tubing

When this pump receives a signal from the moisture sensor, the pump pull water through the tubing and waters the plants. We chose to go with a pump design because other options like solenoids were leaky and unreliable. This provides the most efficient method to watering the plants.

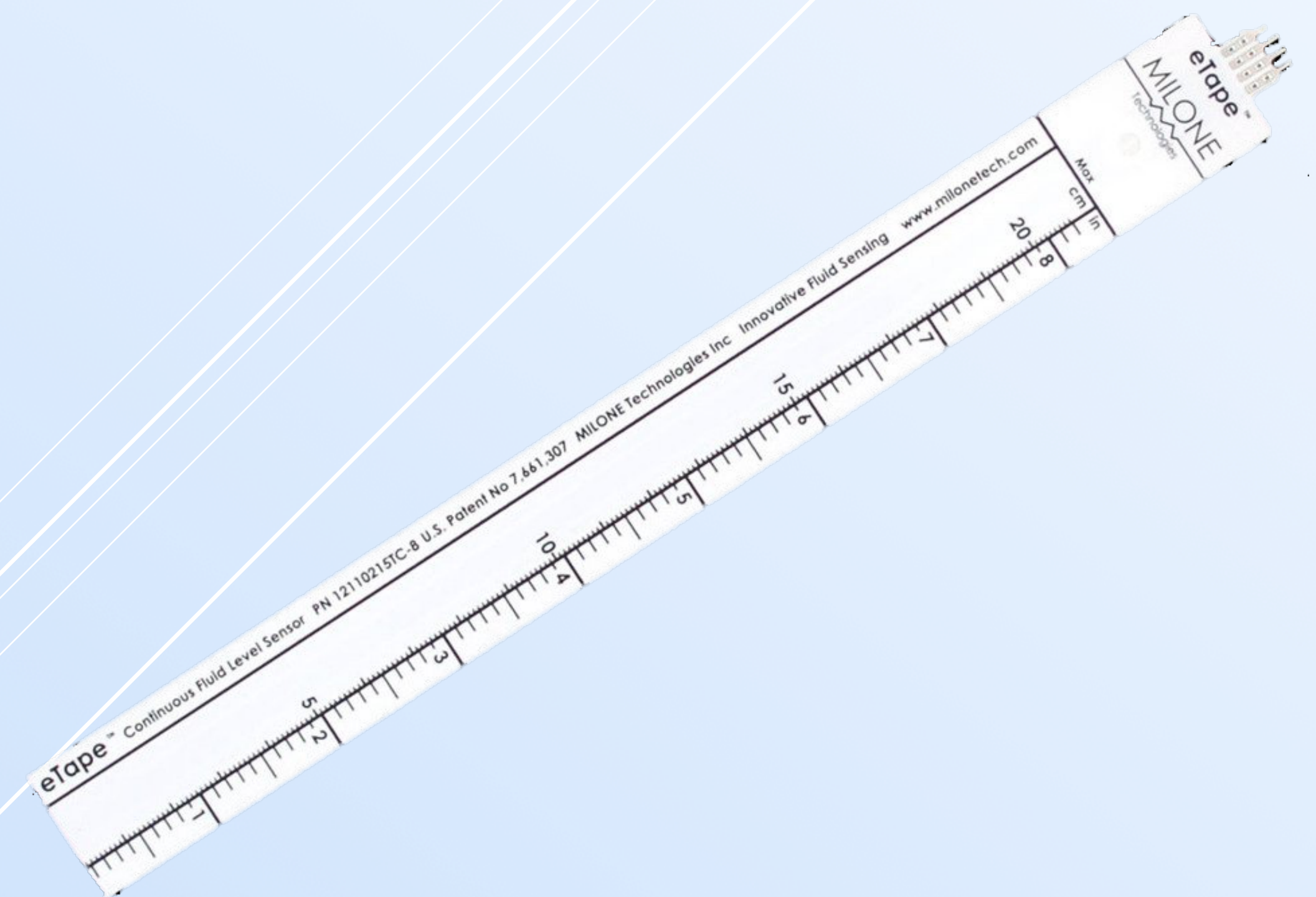


## Objectives:

- 1: We would like make a system that water efficient
- 2: We would like this system to be compact so that it would be easy to install
- 3: Allow the system to detect the water level in the water source
- 4: Make a website that accurately displays our data

## Milone eTape Fluid Level Sensor

The water level sensor is another amenity that allows the user to check on the website if he or she needs to refill their tank. It does not directly interact with the pump or the moisture sensor. It is only used for reminders about how much water the water source has left.



Estimated  
Total Cost:  
\$125.16