Gen 2

Conductivity Probe K 1.0

Graphite

Reads	**Conductivity**
Range	**5 – 200,000 µS/cm**
Accuracy	**+/ – 2%**
Response time	**90% in 1s**
Temperature range °C	**0 – 60 °C**
Max pressure	**200 PSI**
Max depth	**141m (463 ft)**
Connector	**Tinned leads**
Cable length	**3 meters**
Pipe fitting	**3/4" threaded NPT**
Internal temperature sensor	**Yes (PT-1000)**
Time before recalibration	**~10 years**
Life expectancy	**~10 years**

RoHS COMPLIANT

Measurements

Cable Length
3m (10')

Ø 4.3mm

Ø 5.2mm

146.4mm
(5.7")

52.5mm
(2")

3/4"
NPT

67.1mm (2.6")

Conductivty

PT-1000
(There is no polarity)
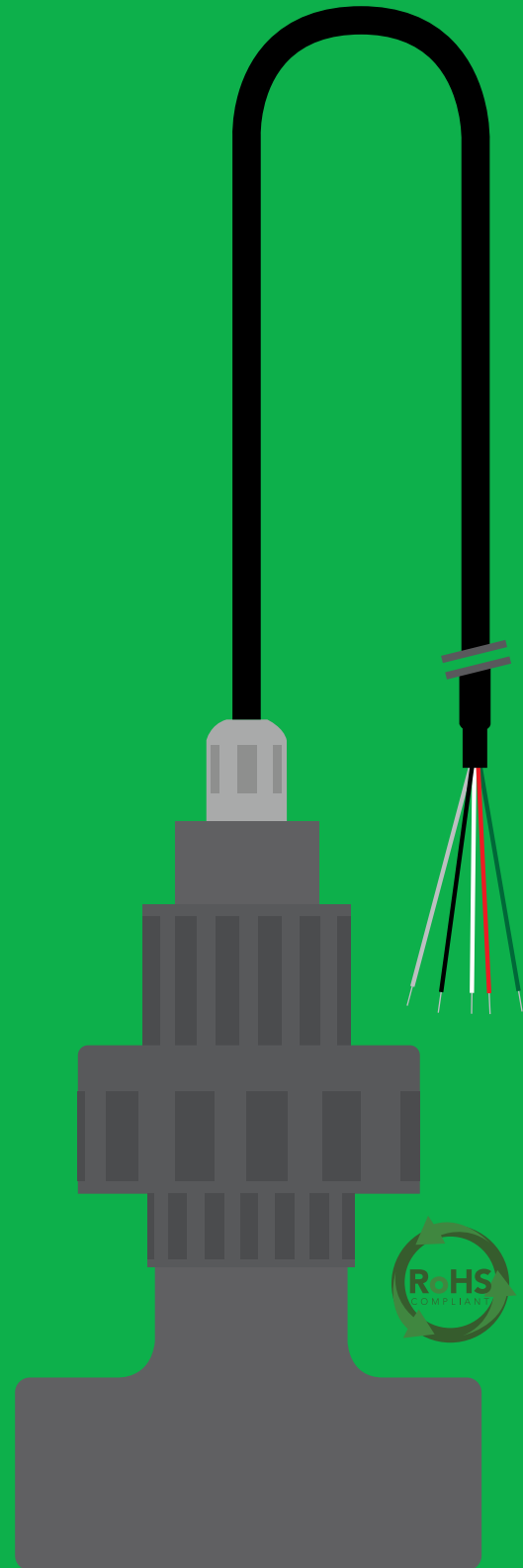
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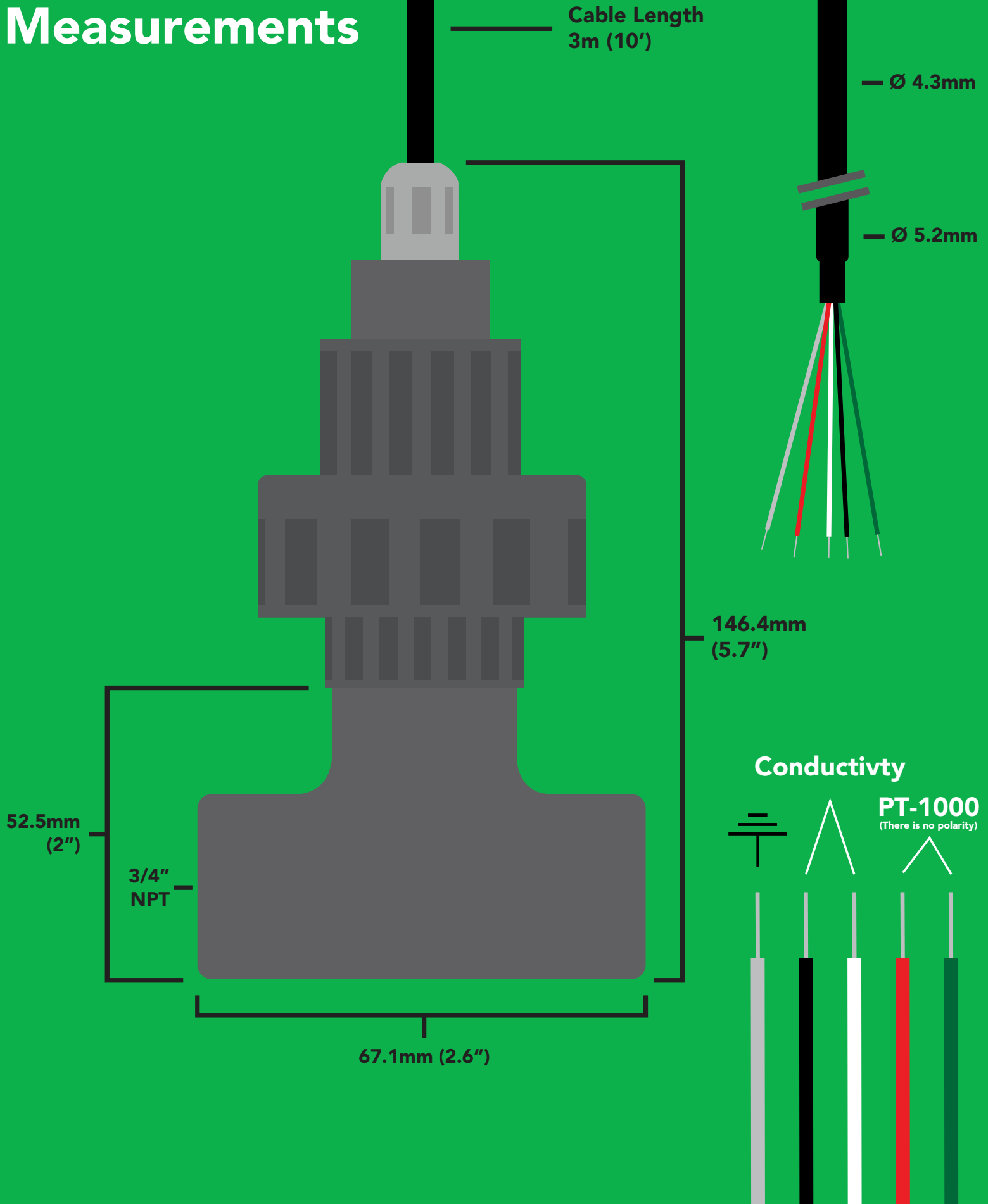
Specifications

|	
K 1.0	5 µS – 200,000 µS
Body material	PVC
Max depth	141m (463 ft)
Cable length	3m (10 feet)
Internal temp. probe	Yes
Temp. probe type	Class A platinum, RTD
Temp. accuracy	+/- (0.15 + (0.002*t))
Tinned leads	Yes
Weight	354 grams
Threading	(3/4") NPT
Sterilization	Chemical only
Pipe fitting	3/4" threaded NPT

Materials

PVC

PVC

Polyethylene
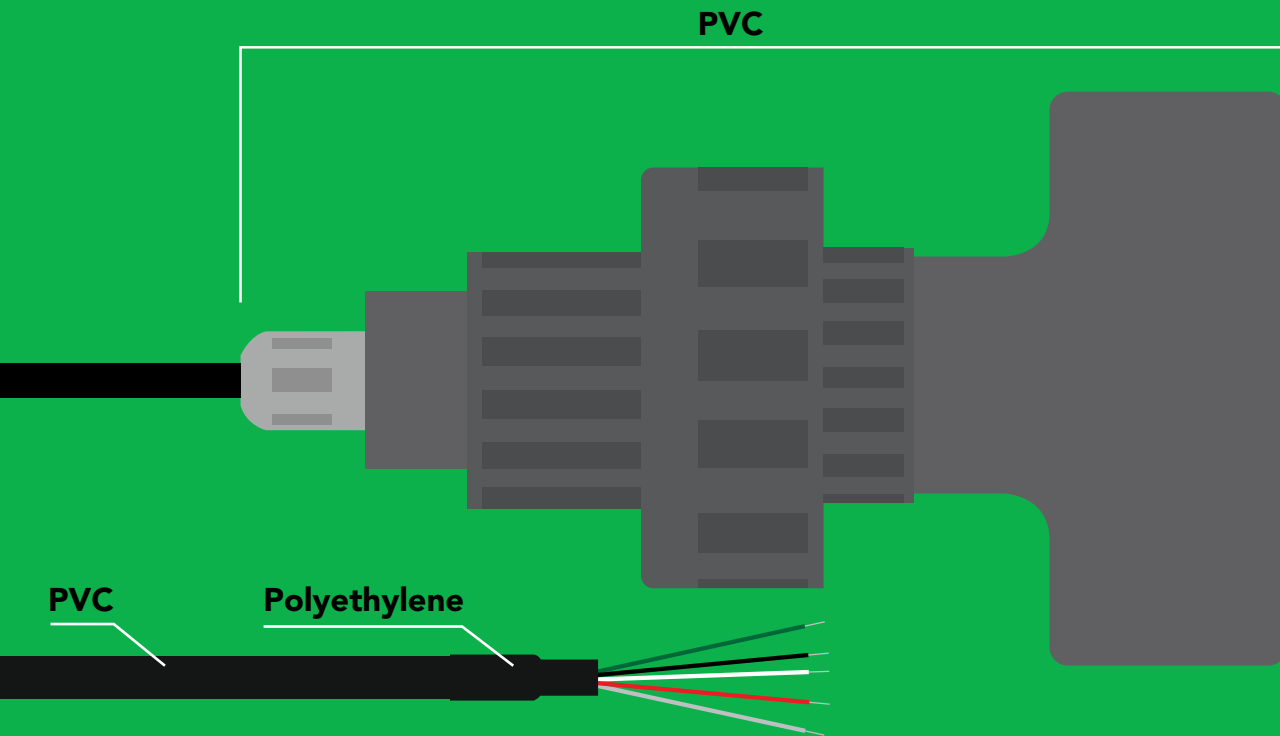
Connecting this probe to these devices will give you a sensing range of:

EC-EZO™ 5 – 200,000 µS	EC-OEM™ 5 – 200,000 µS	IXIAN™ 1 – 25,000 µS

The Industrial Conductivity Probe is meant for inline use.
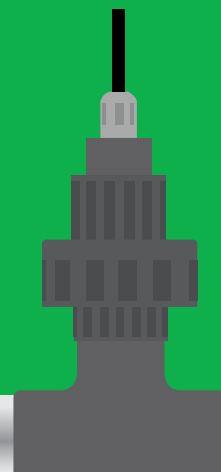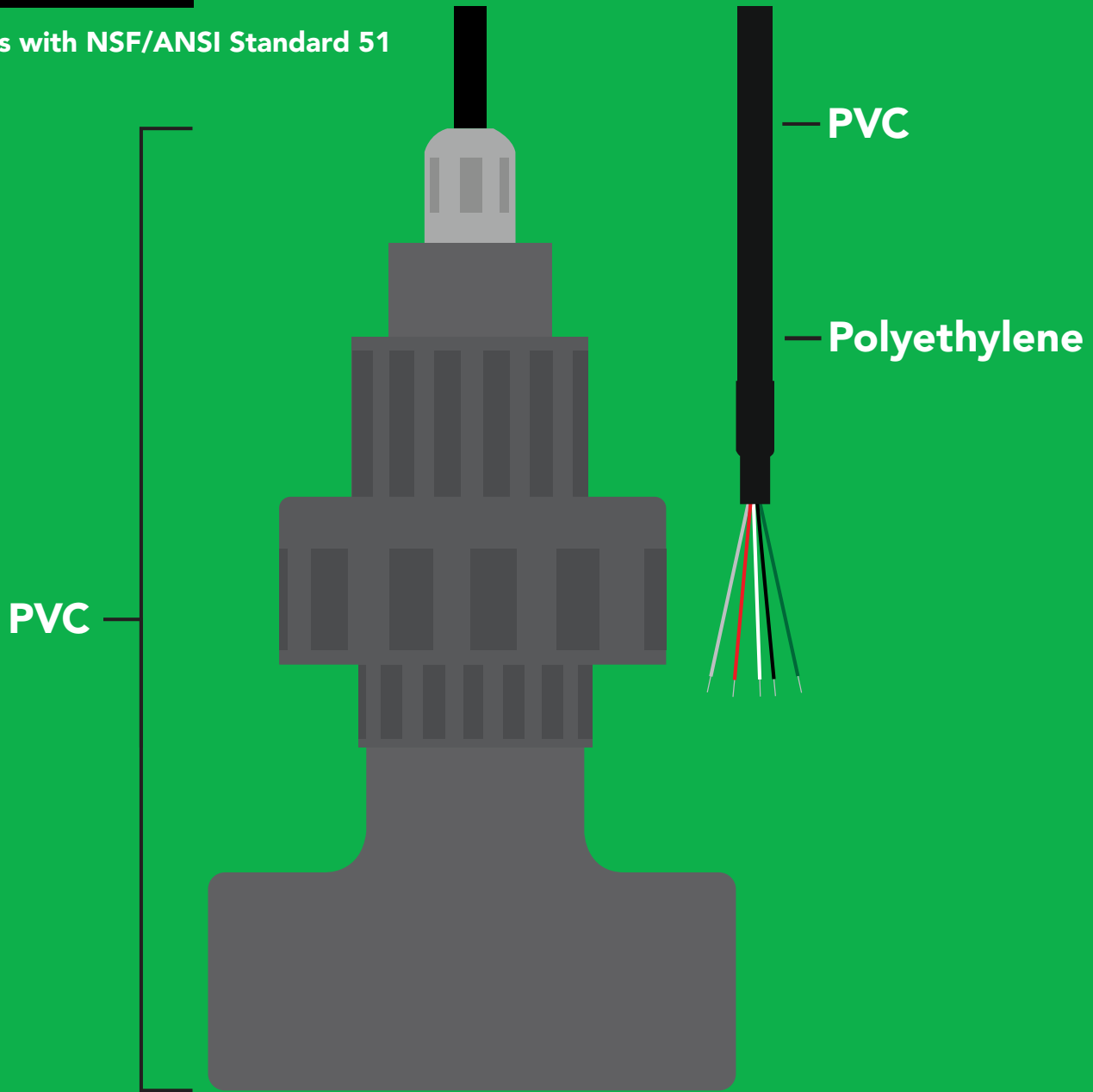
NSF/ANSI 51 Compliant
Food Safe

Atlas Scientific LLC, hereby certifies that,

Industrial Conductivity Probe K 1.0
Part # ENV-50-EC-1.0

Complies with NSF/ANSI Standard 51

PVC

Polyethylene

PVC

✓ **PVC**
NSF-51 Compliant

✓ **Polyethylene**
NSF-51 Compliant

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Operating principle

An E.C. *(electrical conductivity)* probe measures the electrical conductivity in a solution. It is commonly used in hydroponics, aquaculture and freshwater systems to monitor the amount of nutrients, salts or impurities in the water.
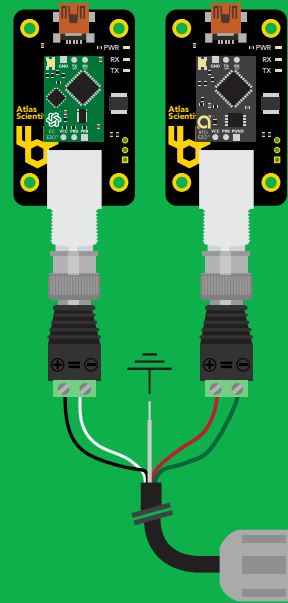
Inside the industrial conductivity probe, two electrodes are positioned adjacent to each other, an AC voltage is applied to the electrodes causing cations to move to the negatively charged electrode, while the anions move to the positively electrode. The more free electrolyte the liquid contains, the higher the electrical conductivity.
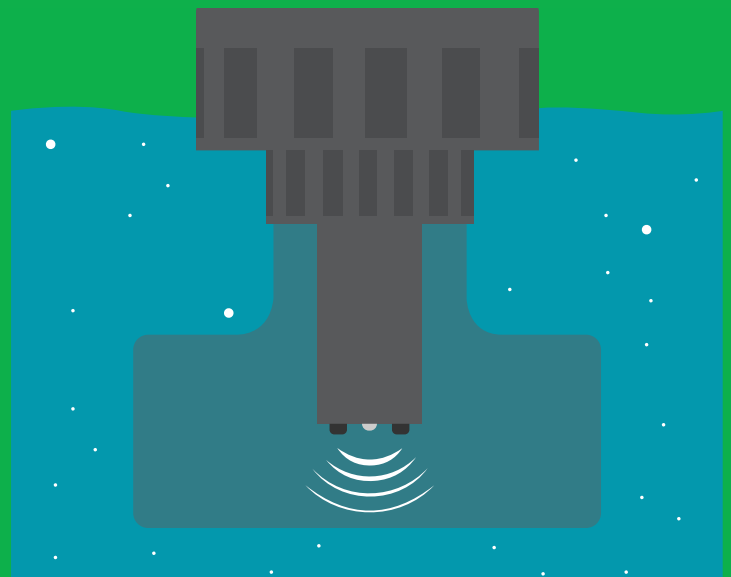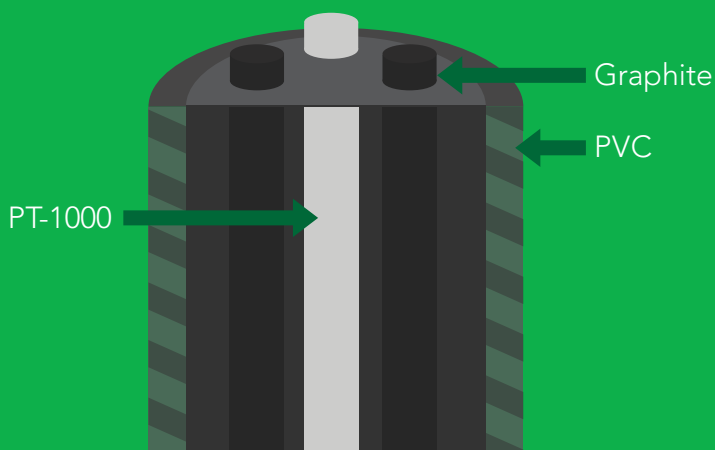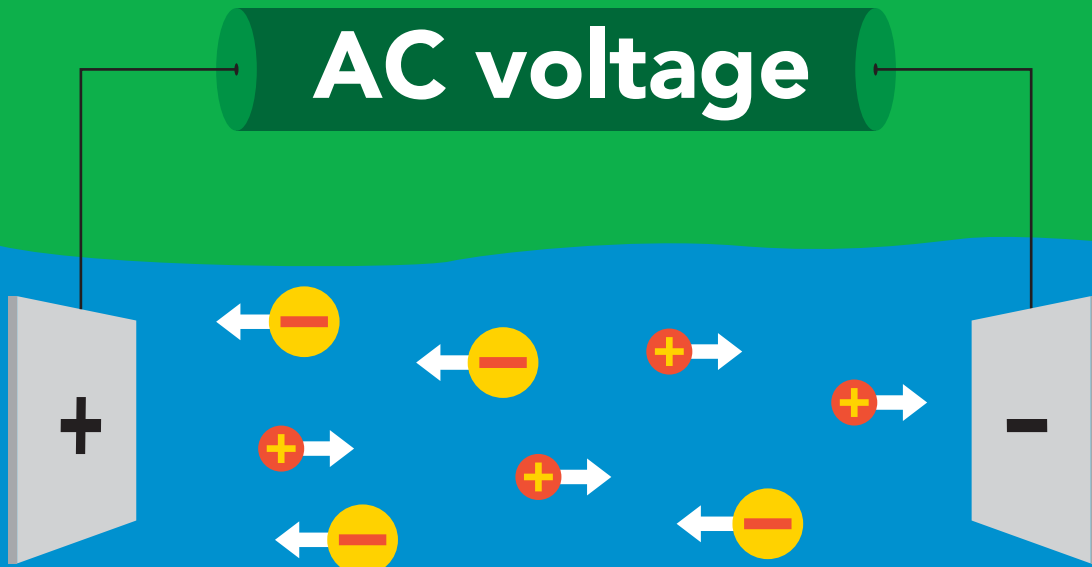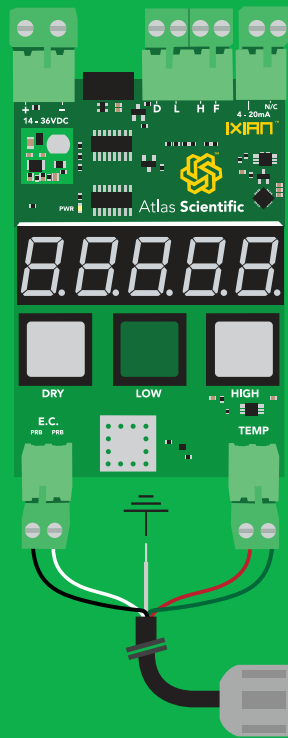

Graphite

PVC

PT-1000

In order for the industrial conductivity probe to function correctly, the pipe fitting must be attached to the probe.

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How to connect the industrial Conductivity probe

The Atlas-Scientific™ Industrial Conductivity probe can be connected in several different ways. The following images show two examples.

Using two **BNC with Terminal Screws**, you can easily connect the Industrial Conductivity probe to our **EZO Conductivity Circuit** and **EZO™ RTD Circuit** via our **Electrically Isolated USB EZO™ Carrier Board**.

For industrial purposes, the Industrial pH probe connects easily to our **IXIAN™ Conductivity Transmitter**.

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Calibration

In order for the industrial conductivity probe to function correctly, the pipe fitting must be attached to the probe.

Fixed space
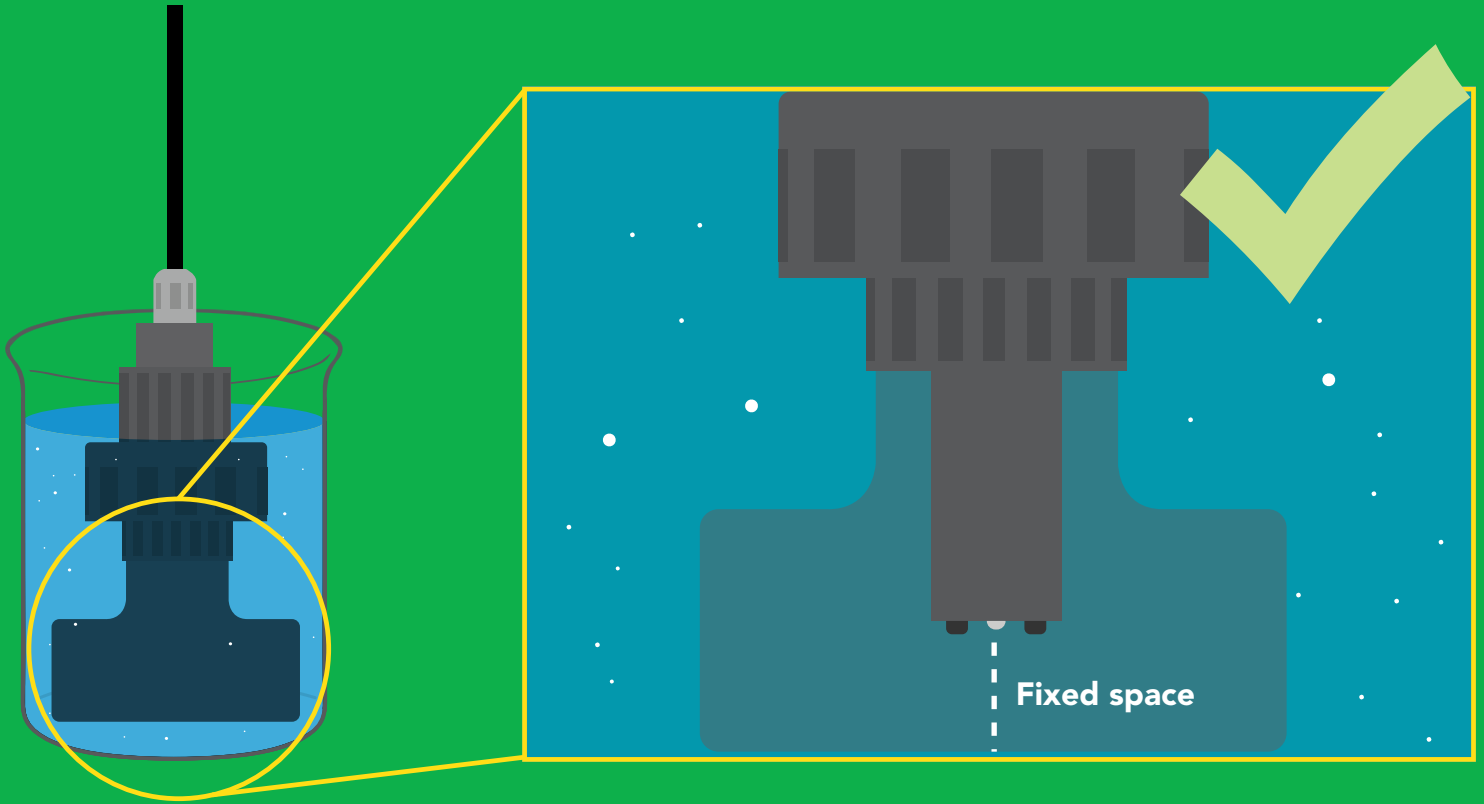
Calibrating and / or using the probe without the pipe fitting attached will cause irregular readings.

Not enough space
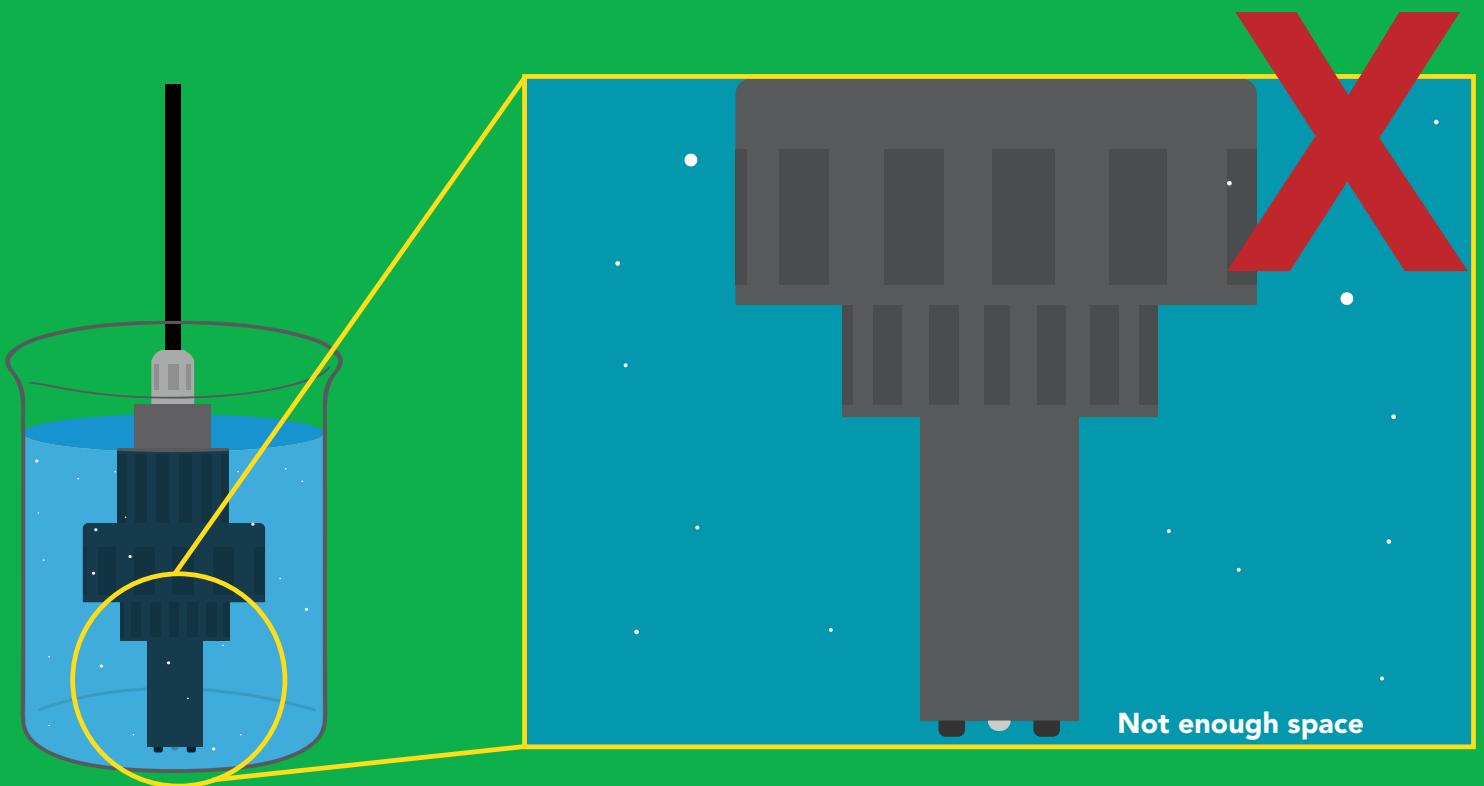
A conductivity probe is a very simple device. It is just two conductors with a fixed surface area at a fixed distance from each other. This distance and surface area is known as the conductivity cell. The cells distance and surface area is quantified as the conductivity cells K constant.

Result will *always* read zero.
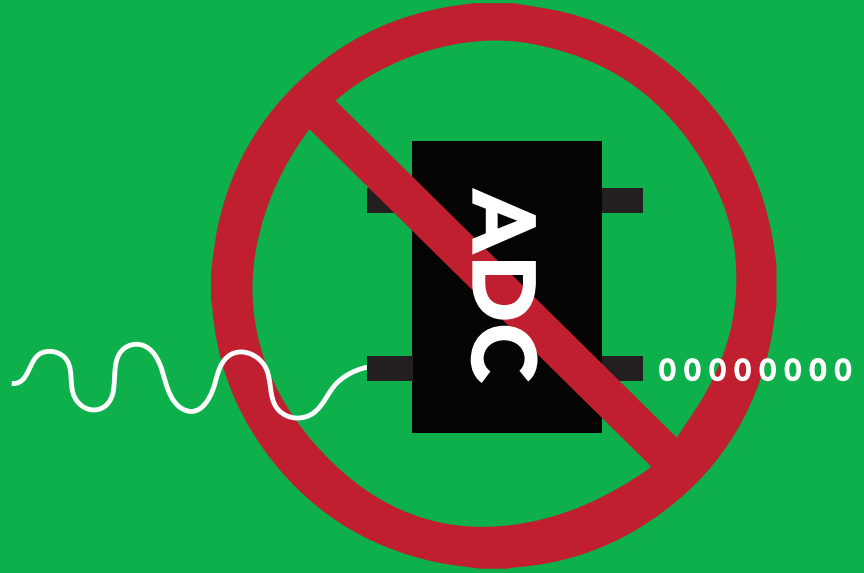
Result will *always* read zero.

How often do you need to recalibrate a conductivity probe?

Conductivity probes work by measuring the electrical current of the water between two graphite plates. The plates do not go bad, or change, so recalibration is not necessary. After the first calibration your conductivity probe is good to go.

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Probe cleaning

Over time conductivity probes can become dirty and covered in deposits, which can change the basic electrical properties of the probe and cause inaccurate readings.

Soft coatings can be removed by lightly brushing around the conducting area.

Remove pipe fitting before cleaning.

Hard coatings should be chemically removed. We highly recommend you use the **Atlas Scientific conductivity probe cleaner**.

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