



# QUICKSTART GUIDE

**WATER LEVEL SENSORS**  
CTD-5 AND CTD-10

# Hydrology PRODUCTS

*we measure the world*





## Read First

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***This guide describes how to start using your sensor immediately.  
If you read nothing else, read this guide.***



For detailed information, download the user manual:

***[DECAGON.COM/EDUCATION/MANUAL-CTD-SENSOR](https://DECAGON.COM/EDUCATION/MANUAL-CTD-SENSOR)***

All decagon products have a 30-day satisfaction guarantee and a one-year warranty. Incorrect sensor installation can void your sensor warranty.

If you are using the sensors in lightning-prone areas, follow our directions for providing protection for the sensors at: ***[DECAGON.COM/LIGHTNING](https://DECAGON.COM/LIGHTNING)***

# Pre-Installation

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Before installing your CTD sensor in the field, set up and test your system (sensors and data loggers) in your lab or office. Make sure you are using the most up to date software and firmware by visiting your Decagon data logger page and checking for updates.

You can also test the temperature and EC output using known standards. Simply add table salt to the water column to increase the EC of the solution and compare the output using the following instructions.

1

Place the sensor in a column of water (i.e. a graduated cylinder filled with water)

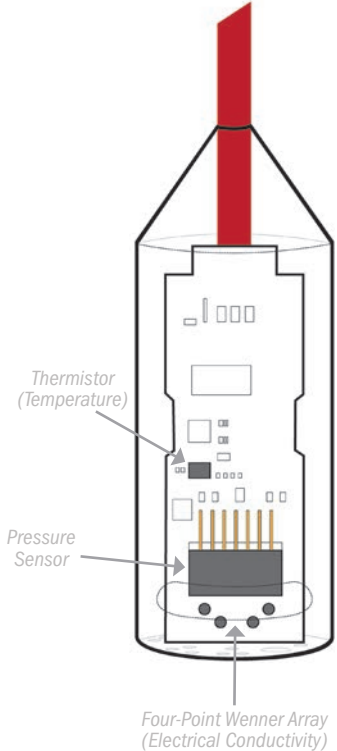
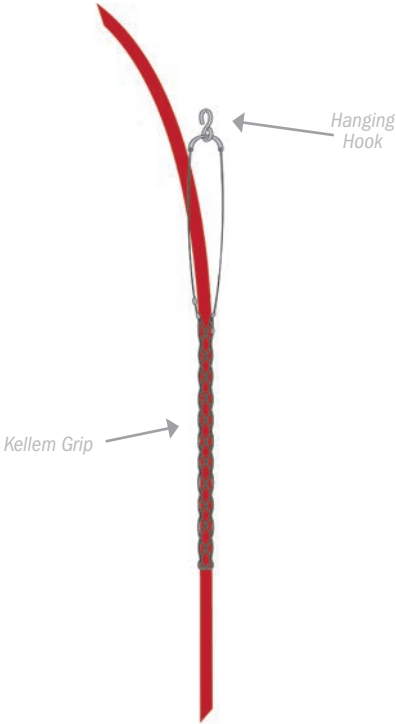
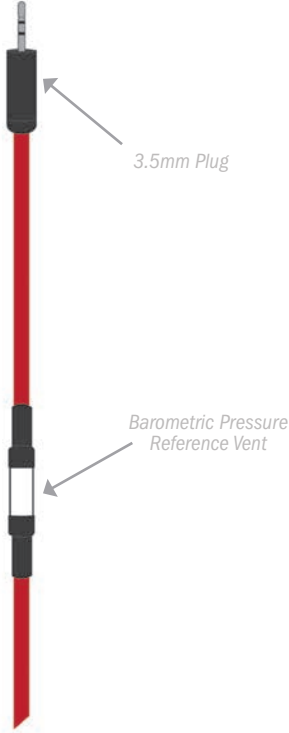
2

Connect sensor to data logger or ProCheck handheld device. Use the scan function in Echo Utility or DataTrac 3 with a Decagon EM50 series logger to take instantaneous readings of the sensor.

3

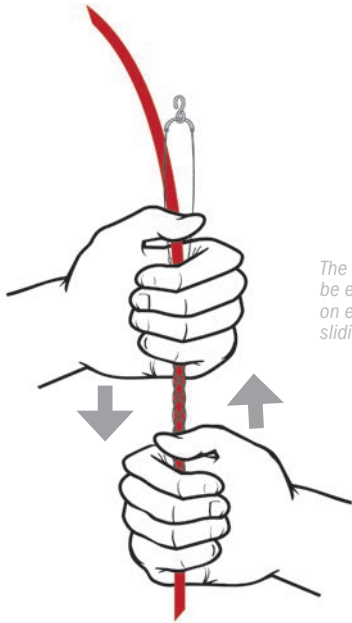
Check the depth readings, keeping in mind that the zero point is at the top of the side slots, about 1.5 cm above the bottom of the sensor.

# Sensor Overview



# Installing Sensor

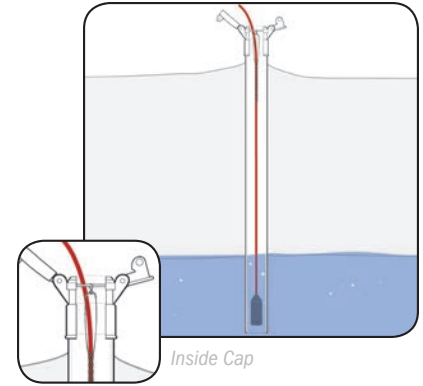
The CTD-5 and CTD-10 Sensors come with an adjustable Kellem Grip and Hook to suspend the sensor in a well.



*The Kellem Grip position can be easily adjusted by pushing on either end of the grip while sliding it in the desired direction.*

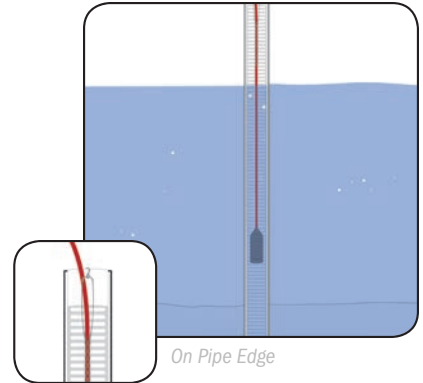
## 1 Determine Installation Type

*Groundwater Monitoring*



*Inside Cap*

*Surface Monitoring:  
Install Slotted Pipe*

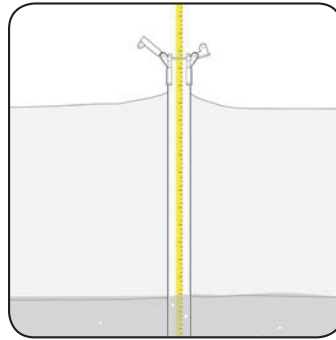


*On Pipe Edge*

## 2 Determine Installation Depth

*The CTD is designed for high resolution monitoring in surface and shallow groundwater.*

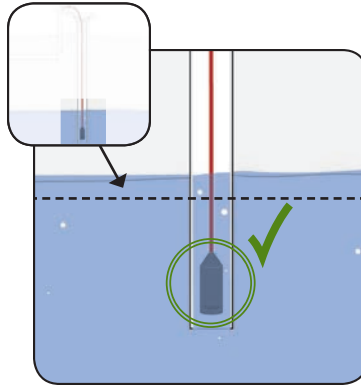
*Fluctuations should not exceed 5 m (CTD-5)/10 m (CTD-10). If water rises above these levels the sensor will stop producing accurate readings and risk the potential of damage to the sensor.*



## 3 Install Below Lowest Expected Water Depth

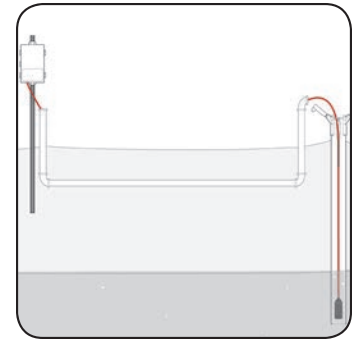
*The sensor zero-point is on the side of the sensor at the top of opening.*

*Set the desired installation depth from this point.*



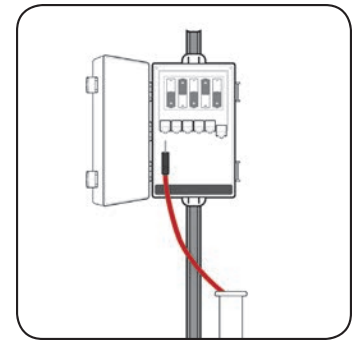
## 4 Secure and Protect Cables

*It is important to protect your cables with PVC casing above and below the ground surface.*



## 5 Plug Sensor in Logger and Configure Sensor

*See next page for more details about configuring your sensor.*



For more information on suppliers and installation methods contact Customer Support: 1-509-332-5600

# Logger Configuration

Configuring your logger in DataTrac3

1 Select the sensor plugged into each port

2 Pick measurement intervals by selecting "Sensors and Measurements"

3 Use virtual tools to calculate meaningful metrics

The screenshot displays the DataTrac3 software interface. A 'Configure Device' dialog box is open, showing the 'Sensors and Measurements' tab. The 'Sensor Type' is set to 'CTD-10 Depth/Temp/EC'. The 'Sensor Label' is 'CTD-10'. The 'Virtual Port' is selected. A red cable with a black connector is shown in the center. The background shows a data chart and a table of metrics.

	P1 - CTD-10	P2 - CTD-10	P3 - CTD-10
Avg:	315.00	0.017	20.0
Min:	315.00	0.017	20.0
Max:	316.00	0.017	21.0
Total:	n/a	n/a	n/a
Events:	n/a	n/a	n/a



Growing Tool configuration to show groundwater depth to surface

- 1 Click "Configure"
- 2 Click "Virtual Port"
- 3 Select Growing Tools and Ground water Depth
- 4 Click arrow to select the port and depth
- 5 Click "Create Virtual Measurement" and input installation depth in mm
- 6 Click "Apply"

**FREE**  
**30 DAY**  
**TRIAL**  
DECAGON.COM/DATATRAC3



# Logger Configuration

Configuring your logger in ECH2O Utility

The screenshot shows the ECH2O Utility configuration window. The menu bar includes File, Edit, Data, Actions, Window, and Help. The status bar indicates the device is connected to Em50: EM20248 on 5/9/2012 at 10:22:07 AM. The 'Connect Via' dropdown is set to 'Direct on COM5 Decag'. There are buttons for Disconnect, Download, and Scan.

**Em50 Identity**

- Name: EM20248
- Device ID: EM20248
- Firmware Version: Em50 2.08

**Device Location**

- Site Name: Decagon Corporate Offices
- Latitude: 46 ° 45 ' 04.00 " N
- Longitude: 117 ° 09 ' 59.00 " W
- Time Zone: UTC-07

**Communication Hardware Options**

- Buttons: Configure..., Test...
- Text: Communications configured with these settings

**Sensor Measurement**

- Measurement Interval: 60 minutes (recommended) ← 1
- Data Storage: 0% in use, 4.2 years until overwriting oldest stored data
- Port 1 Sensor: CTD Depth/Temp/EC ← 2
- Port 2 Sensor: None Selected
- Port 3 Sensor: None Selected
- Port 4 Sensor: None Selected
- Port 5 Sensor: None Selected
- Power Noise Filter: 60 Hz

Buttons at the bottom: Revert, Apply ← 3





















1 Pick your measurement interval

2 Select the sensor plugged into each port

3 Select "Apply" to save settings

*Our user manuals and integrator's guides have complete information for interfacing Decagon Sensors with non-Decagon loggers. In addition, we suggest that you use the specific logger manual during set-up.*

# Related Products

 <p>GS3</p>	 <p>5TE</p>	 <p>5TM</p>	 <p>EC-5</p>	 <p>10HS</p>	 <p>MPS-2</p>	 <p>MPS-6</p>	
<p>Temperature</p>		<p>Volumetric Water Content</p>		<p>Soil Matrix Potential</p>		<p>Temperature</p>	
<p>Electrical Conductivity</p>			<p>Most Accurate</p>				
 <p>RT-1</p>	 <p>ES-2/ES-2F</p>	 <p>Leaf Wetness Sensor</p>	 <p>ECRN-50</p>	 <p>ECRN-100</p>	 <p>VP-3</p>	 <p>DS-2</p>	
<p>Rugged Temperature Sensor</p>		<p>Duration of Leaf Wetness</p>	<p>Low-Resolution Rain Gauge</p>	<p>High-Resolution Rain Gauge</p>	<p>Temperature, Relative Humidity, Vapor Pressure</p>		<p>Sonic Anemometer, Wind Speed, Direction</p>
<p>Electrical Conductivity</p>							
 <p>Cup Anemometer</p>	 <p>PYR/QSO-S</p>	 <p>SRS</p>	 <p>Drain Gauge</p>	 <p>EM50 Logger Series</p>	 <p>ProCheck</p>		
<p>Wind Speed, Direction</p>	<p>Total Solar Radiation, PAR Photon Flux</p>	<p>Measures NDVI and PRI</p>	<p>Deep Drainage Monitor</p>	<p>Radio, Cellular, or Direct Connect Logger</p>	<p>Sensor Read-Out and Storage System</p>		

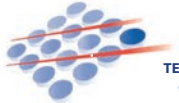
## CTD-5 and CTD-10 Quickstart Guide | Printed in USA

Seller warrants new equipment of its own manufacture against warranty. There are no understandings, representations, or defective workmanship and materials for a period of one year warranties of any kind, express, implied, statutory or otherwise from date of receipt of equipment (the results of ordinary wear and tear, including, but without limitation, the implied warranties of and tear, neglect, misuse, accident and excessive deterioration, merchantability and fitness for a particular purpose), not due to corrosion from any cause are not to be considered a defect); but Seller's liability for defective parts shall in no event exceed the furnishing of replacement parts F.O.B. the factory where originally manufactured. Material and equipment covered hereby which is not manufactured by Seller shall be covered only by the warranty of its manufacturer. Seller shall not be liable to Buyer for loss, damage or injuries to persons (including death), or to property or things of whatsoever kind (including, but not without limitation, loss of anticipated profits), occasioned by or arising out of the installation, operation, use, misuse, non use, repair, or replacement of said material and equipment, or out of the use of any method or process for which the same may be employed. The use of this equipment constitutes Buyer's acceptance of the terms set forth in this

Application of Council Directive: 89/336/EE6 Standards to which conformity EN61326: 1998 is declared: EN51022: 1998

Manufacturer's Name: Decagon Devices, Inc.  
 Model Number: CTD-5 and CTD-10  
 Year of First Manufacture: 2014  
 Type of Equipment: CTD Sensor

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