




# Product Tutorial

# Collecting Data from Vibrating Wire Sensors



# Before Continuing


 Prior to viewing this tutorial, please read the [Using Agent Software with LC-2 Dataloggers](#) tutorial and familiarize yourself with the basics of how to use the Agent program

If you have not already done so, create a Project in the Agent program and add an LC-2 that is reading vibrating wire sensor(s), then perform a data download

# Adding Sensors



# Adding a Reading Sensor

- To view the data collected from a vibrating wire sensor:
  1. Select a Project, then click the  icon that corresponds with the desired LC-2

projects

Sample Project

list




add network

add lc2





transfer

project settings

GeoNet Networks

name	settings	download	supervisor serial number	address	scan rate	download rate	delete
Sample Network			1537815	COM9	10 min.	45 min.	

LC2 Data Loggers

name	settings	download	serial number	address	scan rate	type	delete
Sample LC2	 		1742325	COM4	60 sec.	single	

# Adding a Reading Sensor (Continued)

2. Agent will navigate to the “general” LC-2 settings;  
click “sensors” on the left side of the screen

The screenshot displays the 'General Settings' configuration page for a specific LC-2 device. On the left, a dark blue sidebar contains a hierarchical menu: 'projects' (expanded), 'Sample Project', 'Sample LC-2', and 'LC2 settings'. Under 'LC2 settings', the 'general' option is selected and highlighted in white, with a green arrow pointing to it. Other options in this menu include 'sensors', 'intervals', 'download schedule', 'export schedule', and 'commands'. The main content area, titled 'General Settings', is enclosed in a blue border and contains the following fields and controls:

- LC2 Logger ID:** A text input field containing the value 'AG201014183257'.
- Name:** A text input field containing the value 'Sample LC-2'.
- Serial Number:** A text input field containing the value '1916652'.
- Description:** A large, empty text area for additional information.
- Connection:** A text input field containing the value 'COM3'.
- Baud rate:** A text input field containing the value '115200', accompanied by a blue 'Change' button.
- Type:** A dropdown menu currently set to 'single'.
- Save:** A light blue button at the bottom left of the settings area.

# Adding a Reading Sensor (Continued)

3. Select the model of sensor being read from the drop-down list

**projects**  
└ Sample Project  
└ Sample LC-2  
└ LC2 settings  
└ general  
└ **sensors**  
└ intervals  
└ download schedule  
└ export schedule  
└ commands

Name: Sample LC-2  
Serial number: 1916652  
Device type: single  
[Save](#)

**Logger Sensors**

AuxBat	<a href="#">edit</a>	<a href="#">alerts</a>
Battery	<a href="#">edit</a>	<a href="#">alerts</a>
Logger Temp	<a href="#">edit</a>	<a href="#">alerts</a>

**Readings Sensors**

	Sensor		Thermistor	
1	<none> <a href="#">edit</a> <a href="#">alerts</a>		Standard <a href="#">edit</a> <a href="#">alerts</a>	

**Sensor dropdown list:**  
<none>  
4000  
4100  
4200  
4400  
4420  
4450  
**4500**  
4600

# Adding a Reading Sensor (Continued)

## 4. Click "edit"

projects

Sample Project

Sample LC-2

LC2 settings

general

sensors

intervals

download schedule

export schedule

commands

Name: Sample LC-2

Serial number: 1916652

Device type: single

Save

Logger Sensors

AuxBat

edit

alerts

Battery

edit

alerts

Logger Temp

edit

alerts

Readings Sensors

Sensor

Thermistor

1

4500

edit

alerts

Standard

edit

alerts

TRUSTED MEASUREMENTS™



# Adding a Reading Sensor (Continued)

5. The edit sensor dialog box will open

**Edit Sensor**

**Sensor**

Name:  Serial Number:

[Get Calibration](#)

Type:  Category:  Calibration Units:  Output Units:

Multiplier:  Offset:

Description/Notes:

Start Date: 2016-08-22 End Date: None [Change](#)

Choose a color:

**Calculations (ftH2O)**

Calculation:  $[G \cdot (R_1 - R_0) + K \cdot (T_1 - T_0)] \cdot \text{Multiplier} + \text{Offset}$

Output =  $[1 \cdot (R_1 - 0)] \cdot 1 + 0$

☒ Linear Gage Factor(G):  Zero Reading(R0):  [Pick Zero...](#)

☐ Polynomial Factors A:  B:  C:  [Calculate C](#)

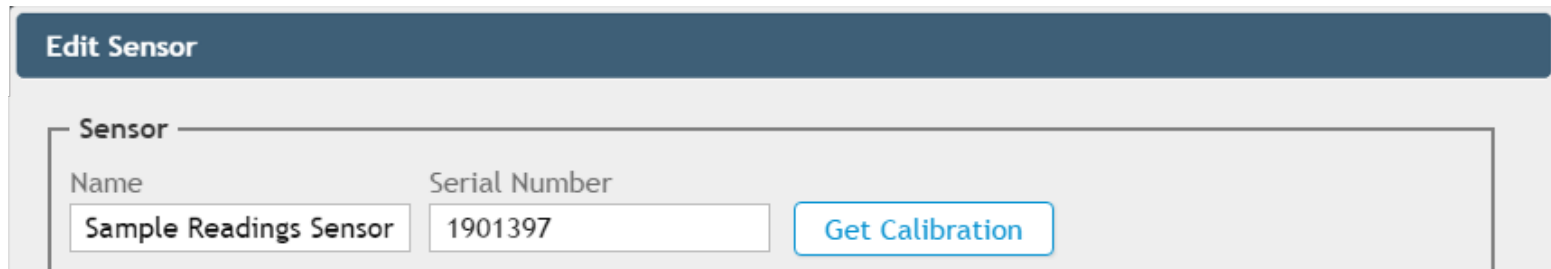
☐ Temperature Correction

Thermal Factor(K):  Zero Temperature(T0):

[Save](#) [Cancel](#)

# Adding a Reading Sensor (Continued)

6. Enter a descriptive name for the reading sensor, and the serial number of the VW sensor attached to the LC-2



The screenshot shows a software interface for editing a sensor. At the top is a dark blue header bar with the text "Edit Sensor". Below this is a light gray container. Inside the container, there is a section labeled "Sensor" with a downward arrow. Under the "Sensor" label, there are two input fields. The first field is labeled "Name" and contains the text "Sample Readings Sensor". The second field is labeled "Serial Number" and contains the text "1901397". To the right of these two fields is a blue button with the text "Get Calibration".

7. Clicking "Get Calibration" will retrieve the calibration factors for the specified serial number from the GEOKON calibration database and populate them into the Edit Sensor dialog (Only available for VW sensors manufactured after 2016)

# Adding a Reading Sensor (Continued)

8. Select the "Category" that matches the type of VW sensor being read (Choose "Load" for load cells, "Strain" for strain gauges, "Pressure" for pressure transducers, etc.)

The types of "Calibration Units" and "Output Units" available are determined by the category that is chosen

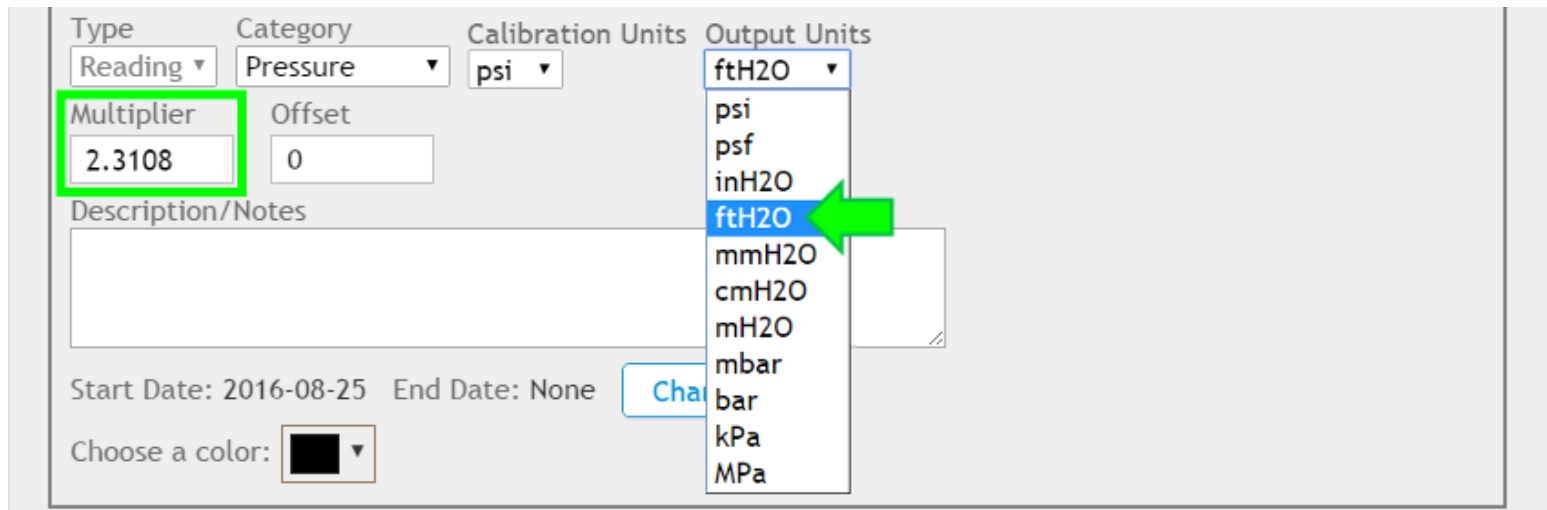
The screenshot shows a 'Sensor' configuration form. The 'Name' field contains 'S.E. well piezo' and the 'Serial Number' field contains '1901397'. A 'Get Calibration' button is to the right. The 'Type' dropdown is set to 'Reading'. The 'Multiplier' field contains '1'. The 'Description/' field is empty. The 'Category' dropdown is open, showing a list of options: 'Default', 'Pressure', 'Load', 'Distance', 'Strain', 'Temperature', and 'Tilt'. The 'Pressure' option is highlighted with a blue background and a green arrow points to it. To the right of the 'Category' dropdown, the 'Calibration Units' and 'Output Units' dropdowns are both set to 'psi'. These two dropdowns are enclosed in a green rectangular box.

Name	Serial Number	Type	Multiplier	Description/	Category	Calibration Units	Output Units
S.E. well piezo	1901397	Reading	1		Pressure	psi	psi

# Adding a Reading Sensor (Continued)

9. Click "Output Units" to select the type of engineering units the data from the VW sensor will be displayed in

The "Multiplier" field will automatically be populated with the factor needed to convert the Calibration units to the selected Output units



The screenshot shows a form for adding a reading sensor. The form includes the following fields and options:

- Type:** Reading (dropdown)
- Category:** Pressure (dropdown)
- Calibration Units:** psi (dropdown)
- Output Units:** ftH2O (dropdown menu is open, showing options: psi, psf, inH2O, ftH2O, mmH2O, cmH2O, mH2O, mbar, bar, kPa, MPa). A green arrow points to the 'ftH2O' option.
- Multiplier:** 2.3108 (text field, highlighted with a green box)
- Offset:** 0 (text field)
- Description/Notes:** (text area)
- Start Date:** 2016-08-25
- End Date:** None
- Choose a color:** (color picker showing black)

# Adding a Reading Sensor (Continued)

10. "Offset" is an optional constant that can be added to the sensor output to adjust the data. For example: If a piezometer installed at a site elevation of -40 feet is reading +2 feet of water, entering an offset of -40 would adjust the reading to -38 feet, the actual water elevation of the sensor

Sensor

Name

S.E. well piezo

Serial Number

1901397

Get Calibration

Type

Reading

Category

Pressure

Calibration Units

psi

Output Units

ftH2O

Multiplier

2.3108

Offset

-40

Description/Notes

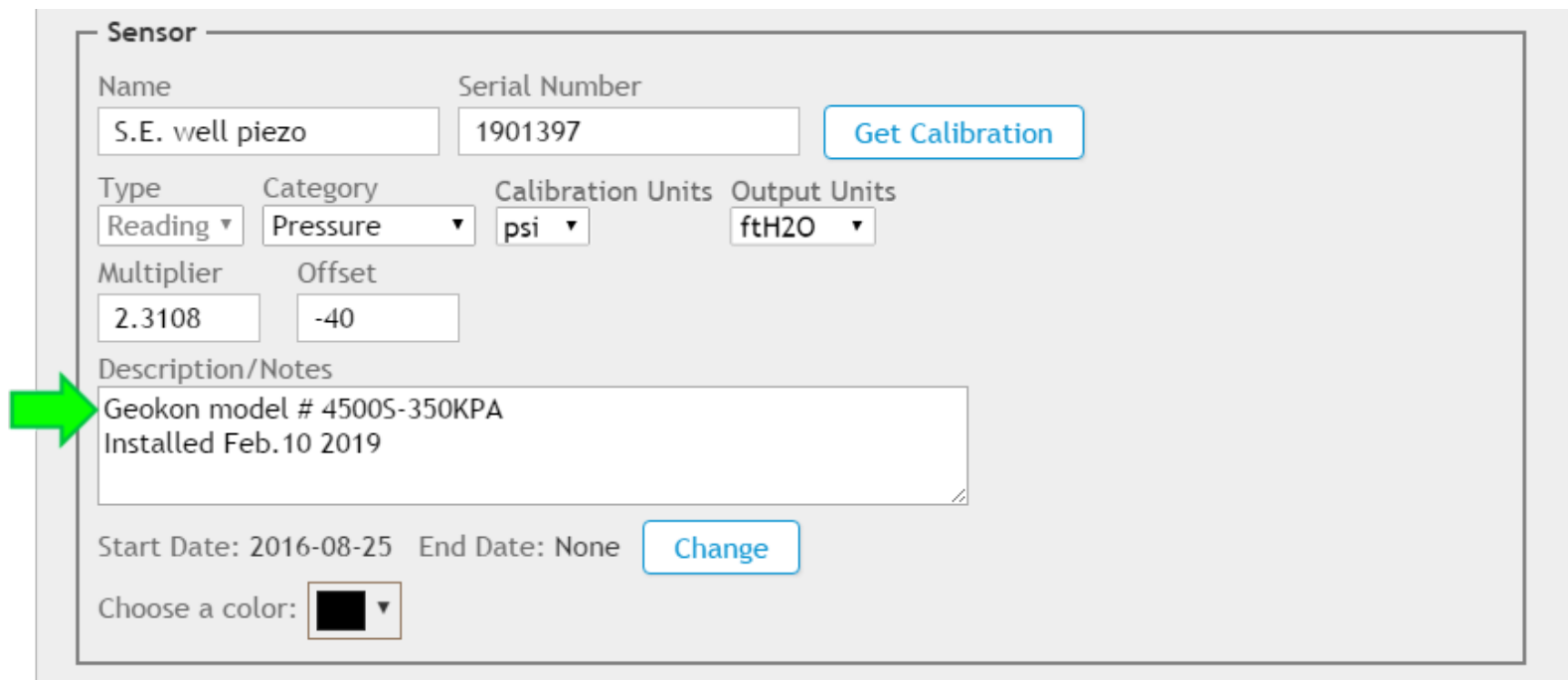
Start Date: 2016-08-25

End Date: None

Change

# Adding a Reading Sensor (Continued)

11. The Description/Notes field is provided for the user to record any additional information about the VW sensor



The screenshot shows a 'Sensor' configuration form. A green arrow points to the 'Description/Notes' text area, which contains the text 'Geokon model # 4500S-350KPA' and 'Installed Feb.10 2019'. Other fields include 'Name' (S.E. well piezo), 'Serial Number' (1901397), 'Type' (Reading), 'Category' (Pressure), 'Calibration Units' (psi), 'Output Units' (ftH2O), 'Multiplier' (2.3108), 'Offset' (-40), 'Start Date' (2016-08-25), 'End Date' (None), and 'Choose a color' (black).

Sensor			
Name	Serial Number		
<input type="text" value="S.E. well piezo"/>	<input type="text" value="1901397"/>		
<a href="#">Get Calibration</a>			
Type	Category	Calibration Units	Output Units
<input type="text" value="Reading"/>	<input type="text" value="Pressure"/>	<input type="text" value="psi"/>	<input type="text" value="ftH2O"/>
Multiplier	Offset		
<input type="text" value="2.3108"/>	<input type="text" value="-40"/>		
Description/Notes			
<input type="text" value="Geokon model # 4500S-350KPA"/> <input type="text" value="Installed Feb.10 2019"/>			
Start Date: 2016-08-25		End Date: None	
		<a href="#">Change</a>	
Choose a color:		<input type="text" value="black"/>	

# Adding a Reading Sensor (Continued)

12. The Start/End dates determine the range of data that will be displayed on charts. To change the dates, click, "Change" (The Start Date should be set to the day the VW sensor was installed. The End Date should only be entered if the VW sensor is removed from the LC-2)

The screenshot shows a sensor configuration window. On the left, the 'Multiplier' is 2.3108 and the 'Offset' is -40. The 'Description/Notes' field contains 'Geokon model # 4500S-350KPA' and 'Installed Feb.10 2019'. Below this, the 'Start Date' is 2016-08-25 and the 'End Date' is None. A blue 'Change' button is next to the 'End Date' field. A green arrow points from the 'Change' button to the 'Choose start and end dates' dialog box on the right. The dialog box has a title bar with a close button (X). It contains the text 'Start date will automatically be set during first data download.' Below this, there are input fields for 'Start date' (containing 02/10/2019) and 'End date'. A calendar for February 2019 is displayed below the input fields. The calendar shows days of the week (Su, Mo, Tu, We, Th, Fr, Sa) and dates (1-28). The date 10 is highlighted in orange. At the bottom of the dialog are 'Done' and 'Cancel' buttons.

Multiplier: 2.3108 Offset: -40

Description/Notes: Geokon model # 4500S-350KPA  
Installed Feb.10 2019

Start Date: 2016-08-25 End Date: None **Change**

Choose a color: ■

Calculations (ftH2O)

Calculation:  $[G^*(R_1 - R_0) + K^*(T_1 - T_0)] * \text{Multiplier} + \text{Offset}$

Output:  $[1 * (R_1 - 0)] * 2.3108 - 40$

**Choose start and end dates**

Start date will automatically be set during first data download.

Start date: 02/10/2019 End date:

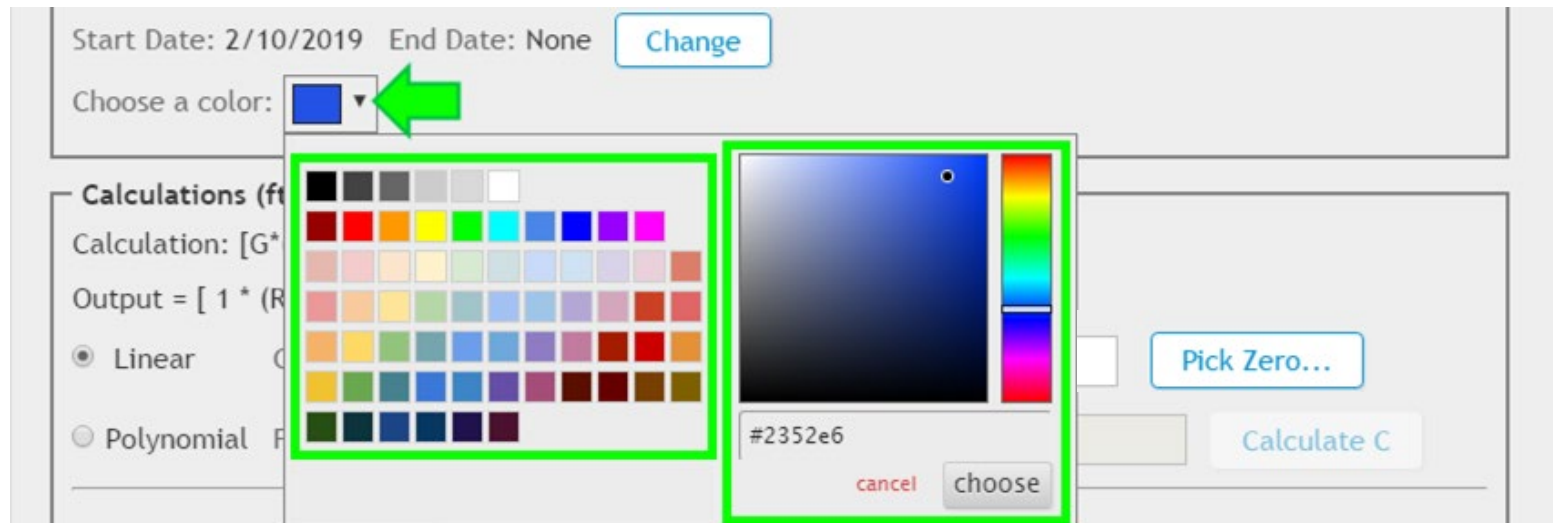
**February 2019**

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

Done Cancel

# Adding a Reading Sensor (Continued)

13. Click "Choose Color" to select the color that will represent the VW sensor data on charts. Select a standard color from the left side of the menu, or use the color palette on the right to create a custom color





# Adding a Reading Sensor (Continued)

14. The default gauge factor of 1 can be used to output the data from the vibrating wire sensor as digits. To output the data in other engineering units, the gauge factors found on the GEOKON Calibration Report provided with the vibrating wire sensor must be entered

**Calculations (ftH2O)**  
Calculation:  $[G \cdot (R_1 - R_0) + K \cdot (T_1 - T_0)] \cdot \text{Multiplier} + \text{Offset}$   
Output =  $[1 \cdot (R_1 - 0)] \cdot 2.3108 - 40$   
☒ Linear    Gage Factor(G):     Zero Reading(R<sub>0</sub>):     [Pick Zero...](#)  
☐ Polynomial    Factors A:     B:     C:     [Calculate C](#)  
☐ Temperature Correction  
Thermal Factor(K):     Zero Temperature(T<sub>0</sub>):

# Adding a Reading Sensor: A Note on Gauge Factors

 Most GEOKON calibration reports provide gauge factors in metric and imperial units. When entering gauge factors in Agent, make sure to use the factors that match the selected “Calibration Units”

## Imperial Example

Agent: 

Type	Category	Calibration Units	Output Units
Reading ▼	Pressure ▼	psi ▼	ftH2O ▼

Calibration Report: (psi) Linear Gauge Factor (G): -0.01596 (psi/ digit)

Polynomial Gauge Factors: A: -1.366E-08 B: -0.01577 C:           

## Metric Example

Agent: 

Type	Category	Calibration Units	Output Units
Reading ▼	Pressure ▼	kPa ▼	ftH2O ▼

Calibration Report: (kPa) Linear Gauge Factor (G): -0.1100 (kPa/ digit)

Polynomial Gauge factors: A: -9.418E-08 B: -0.1087 C:

# Adding a Reading Sensor: Linear Calculations

15. Enter the Linear Gauge Factor from the calibration report

## Imperial Example

Calibration Report: (psi) Linear Gauge Factor (G): -0.01596 (psi/ digit)

Agent: ☒ Linear Gage Factor(G): -0.01596  Zero Reading(R<sub>0</sub>): 0

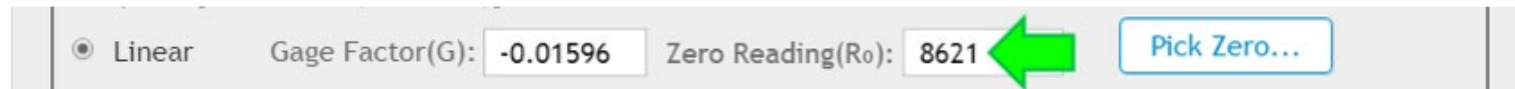
## Metric Example


Calibration Report: (kPa) Linear Gauge Factor (G): -0.1100 (kPa/ digit)

Agent: ☒ Linear Gage Factor(G): -0.1100  Zero Reading(R<sub>0</sub>): 0

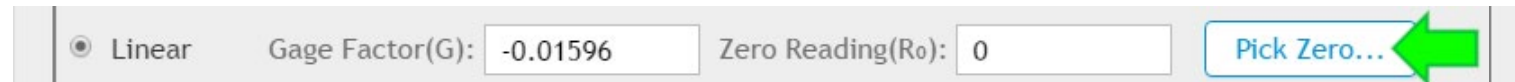
# Adding a Reading Sensor: Linear Calculations (Continued)

16. Enter the initial zero reading taken onsite with the VW sensor

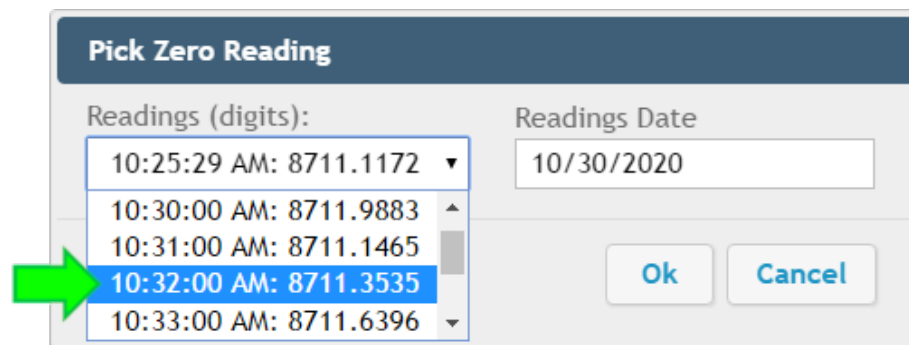


Linear Gage Factor(G): -0.01596 Zero Reading(R<sub>0</sub>): 8621  Pick Zero...


16a. If using the LC-2 to take the initial zero, click “Pick Zero...” then select the relevant reading



Linear Gage Factor(G): -0.01596 Zero Reading(R<sub>0</sub>): 0  Pick Zero...



**Pick Zero Reading**

Readings (digits):  
10:25:29 AM: 8711.1172  
10:30:00 AM: 8711.9883  
10:31:00 AM: 8711.1465  
 10:32:00 AM: 8711.3535  
10:33:00 AM: 8711.6396

Readings Date: 10/30/2020

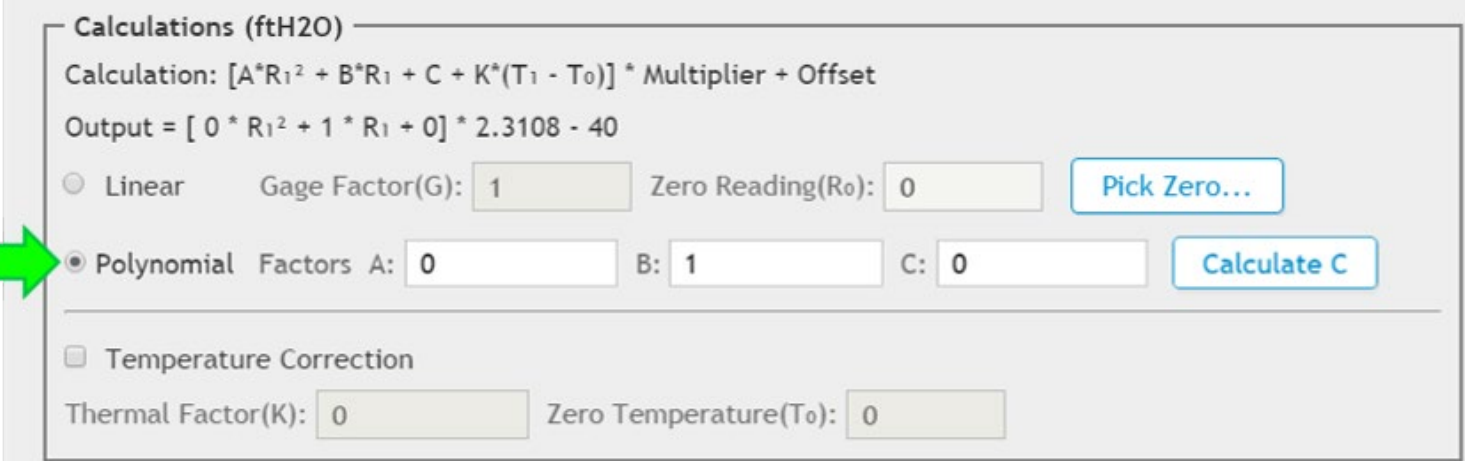
Ok Cancel

# Important Notes on Initial Zero Readings

- It is essential that an accurate onsite zero reading is entered; it will be used for all subsequent data reduction
- Prior to taking the reading, make sure the sensor is prepared as described in the sensor manual
- Consult the sensor manual for more information

# Adding a Reading Sensor: Polynomial Calculations

17. The polynomial equation can be used for greater accuracy. To utilize the polynomial equation, click the corresponding button




The screenshot shows a software interface for configuring calculations. The title bar reads "Calculations (ftH2O)". The main area displays the formula:  $\text{Calculation: } [A \cdot R_1^2 + B \cdot R_1 + C + K \cdot (T_1 - T_0)] \cdot \text{Multiplier} + \text{Offset}$ . Below this, the output is shown as:  $\text{Output} = [0 \cdot R_1^2 + 1 \cdot R_1 + 0] \cdot 2.3108 - 40$ . There are two radio buttons: "Linear" (unselected) and "Polynomial" (selected, indicated by a green arrow). The "Linear" section has input fields for "Gage Factor(G): 1" and "Zero Reading(R0): 0", with a "Pick Zero..." button. The "Polynomial" section has input fields for "Factors A: 0", "B: 1", and "C: 0", with a "Calculate C" button. Below these is a checkbox for "Temperature Correction" (unchecked). The "Temperature Correction" section has input fields for "Thermal Factor(K): 0" and "Zero Temperature(T0): 0". At the bottom right are "Save" and "Cancel" buttons.

Calculations (ftH2O)

Calculation:  $[A \cdot R_1^2 + B \cdot R_1 + C + K \cdot (T_1 - T_0)] \cdot \text{Multiplier} + \text{Offset}$

Output =  $[0 \cdot R_1^2 + 1 \cdot R_1 + 0] \cdot 2.3108 - 40$

☐ Linear    Gage Factor(G): 1    Zero Reading(R0): 0    [Pick Zero...](#)

 ☒ Polynomial    Factors A: 0    B: 1    C: 0    [Calculate C](#)

☐ Temperature Correction

Thermal Factor(K): 0    Zero Temperature(T0): 0

[Save](#)    [Cancel](#)

# Adding a Reading Sensor: Polynomial Calculations (Continued)

18. Enter the polynomial gauge factors from the calibration report

## Imperial Example

Calibration Report: (psi) Linear Gauge Factor (G): -0.01596 (psi/ digit)

Polynomial Gauge Factors: A: -1.366E-08 B: -0.01577 C: \_\_\_\_\_

Agent:

☒ Polynomial Factors A:  B:  C:  [Calculate C](#)

## Metric Example

Calibration Report: (kPa) Linear Gauge Factor (G): -0.1100 (kPa/ digit)

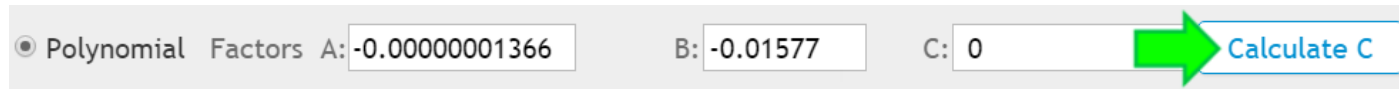
Polynomial Gauge factors: A: -9.418E-08 B: -0.1087 C: \_\_\_\_\_

Agent:

☒ Polynomial Factors A:  B:  C:  [Calculate C](#)

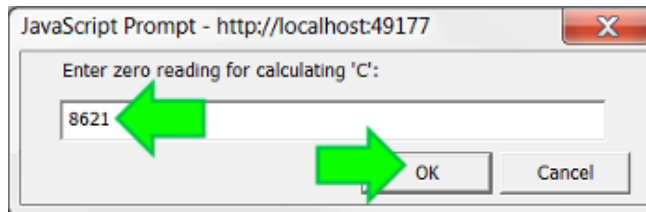
# Adding a Reading Sensor: Polynomial Calculations (Continued)

19. Click "Calculate C"



Polynomial Factors A: -0.0000001366 B: -0.01577 C: 0 Calculate C

20. Enter the initial zero reading taken onsite with the VW sensor then click "OK"

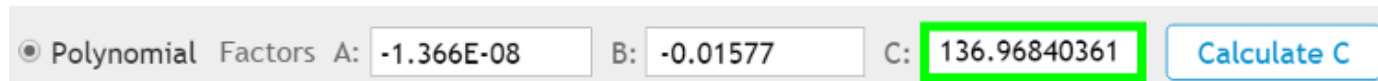


JavaScript Prompt - http://localhost:49177

Enter zero reading for calculating 'C':

8621 OK Cancel

21. Agent will calculate and display the value of Factor "C" based on the information entered

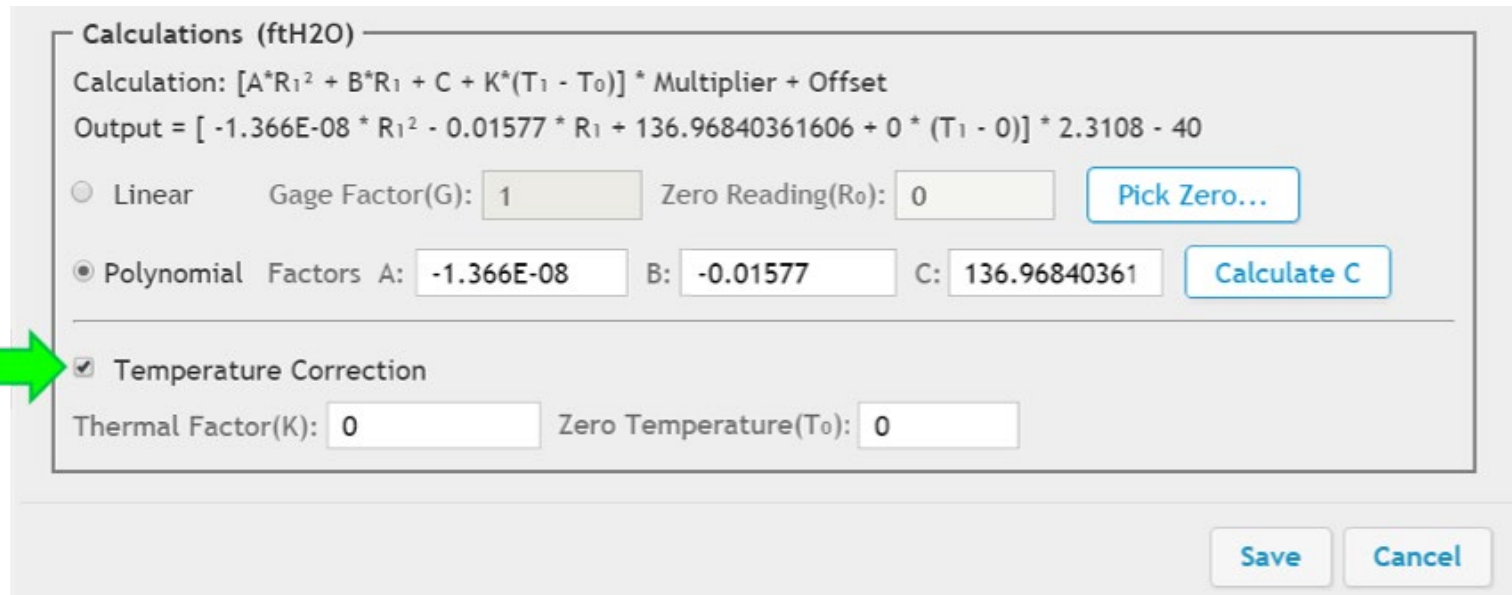


Polynomial Factors A: -1.366E-08 B: -0.01577 C: 136.96840361 Calculate C



# Adding a Reading Sensor: Temperature Correction

22. For optimum accuracy, or if ambient temperature changes are large, a temperature correction can be applied. To factor changes in temperature into the selected equation, check the “Temperature Correction” box




Calculations (ftH2O)

Calculation:  $[A \cdot R_1^2 + B \cdot R_1 + C + K \cdot (T_1 - T_0)] \cdot \text{Multiplier} + \text{Offset}$

Output =  $[-1.366\text{E-}08 \cdot R_1^2 - 0.01577 \cdot R_1 + 136.96840361606 + 0 \cdot (T_1 - 0)] \cdot 2.3108 - 40$

☐ Linear    Gage Factor(G):     Zero Reading(R<sub>0</sub>):     [Pick Zero...](#)

☒ Polynomial    Factors A:     B:     C:     [Calculate C](#)

 ☒ Temperature Correction

Thermal Factor(K):     Zero Temperature(T<sub>0</sub>):

[Save](#)    [Cancel](#)

# Adding a Reading Sensor: Temperature Correction (Continued)

23. Enter the Thermal Factor from the calibration report

## Imperial Example

Calibration Report: **Thermal Factor (K):** **-0.0004642 (psi/ °C)**

Agent: ☒ Temperature Correction  
Thermal Factor(K):  Zero Temperature(T<sub>0</sub>):

## Metric Example

Calibration Report: **Thermal Factor (K):** **-0.003200 (kPa/ °C)**

Agent: ☒ Temperature Correction  
Thermal Factor(K):  Zero Temperature(T<sub>0</sub>):

# Adding a Reading Sensor: Temperature Correction (Continued)

24. Enter the temperature recorded when the onsite zero reading was taken (must be entered as degrees Celsius)

Calculations (ftH2O)

Calculation:  $[A \cdot R_1^2 + B \cdot R_1 + C + K \cdot (T_1 - T_0)] \cdot \text{Multiplier} + \text{Offset}$

Output =  $[-1.366\text{E-}08 \cdot R_1^2 - 0.01577 \cdot R_1 + 136.96840361606 + 0 \cdot (T_1 - 0)] \cdot 2.3108 - 40$

☐ Linear

Gage Factor(G):

Zero Reading(R<sub>0</sub>):

Pick Zero...

☒ Polynomial

Factors A:

B:

C:

Calculate C

☒ Temperature Correction

Thermal Factor(K):

Zero Temperature(T<sub>0</sub>):

Save

Cancel

# Adding a Reading Sensor: (Continued)

25. Once all pertinent information had been entered, click “Save”

The screenshot displays the 'Edit Sensor' interface. On the left is a sidebar with a tree view containing 'projects', 'Sample Project', 'Sample LC-2', 'LC2 settings', 'general', 'sensors' (highlighted), 'intervals', 'download schedule', 'export schedule', and 'commands'. The main panel is titled 'Edit Sensor' and contains two sections: 'Sensor' and 'Calculations (ftH2O)'. The 'Sensor' section includes fields for Name ('Sample Reading Sensor'), Serial Number ('1901397'), Type ('Reading 1'), Category ('Pressure'), Calibration Units ('psi'), Output Units ('ftH2O'), Multiplier ('2.3108'), Offset ('-40'), Description/Notes ('Geokon model # 4500S-350KPA Installed Feb. 10 2019'), Start Date ('2016-08-22'), End Date ('None'), and a color selection dropdown (blue). A 'Get Calibration' button is also present. The 'Calculations (ftH2O)' section shows the calculation formula:  $[A \cdot R_1^2 + B \cdot R_1 + C + K \cdot (T_1 - T_0)] \cdot \text{Multiplier} + \text{Offset}$ . It provides the output formula:  $\text{Output} = [-1.366\text{E-}08 \cdot R_1^2 - 0.01577 \cdot R_1 + 136.96840361 - 0.0004642 \cdot (T_1 - 20.8)] \cdot 2.3108 - 40$ . There are radio buttons for 'Linear' and 'Polynomial' (selected). The 'Linear' section has fields for Gage Factor(G): '1' and Zero Reading(R0): '0', with a 'Pick Zero...' button. The 'Polynomial' section has fields for Factors A: '-1.366E-08', B: '-0.01577', and C: '136.96840361', with a 'Calculate C' button. A checked checkbox for 'Temperature Correction' is shown, with fields for Thermal Factor(K): '-0.0004642' and Zero Temperature(T0): '20.8'. At the bottom right, there is a green arrow pointing to a 'Save' button, with a 'Cancel' button next to it.

**Sensor**

Name: Sample Reading Sensor Serial Number: 1901397 [Get Calibration](#)

Type: Reading 1 Category: Pressure Calibration Units: psi Output Units: ftH2O

Multiplier: 2.3108 Offset: -40

Description/Notes: Geokon model # 4500S-350KPA Installed Feb. 10 2019

Start Date: 2016-08-22 End Date: None [Change](#)

Choose a color: ■

**Calculations (ftH2O)**

Calculation:  $[A \cdot R_1^2 + B \cdot R_1 + C + K \cdot (T_1 - T_0)] \cdot \text{Multiplier} + \text{Offset}$

Output =  $[-1.366\text{E-}08 \cdot R_1^2 - 0.01577 \cdot R_1 + 136.96840361 - 0.0004642 \cdot (T_1 - 20.8)] \cdot 2.3108 - 40$

☐ Linear Gage Factor(G): 1 Zero Reading(R0): 0 [Pick Zero...](#)

☒ Polynomial Factors A: -1.366E-08 B: -0.01577 C: 136.96840361 [Calculate C](#)

☒ Temperature Correction

Thermal Factor(K): -0.0004642 Zero Temperature(T0): 20.8

[Save](#) [Cancel](#)

# Adding a Reading Sensor: (Continued)

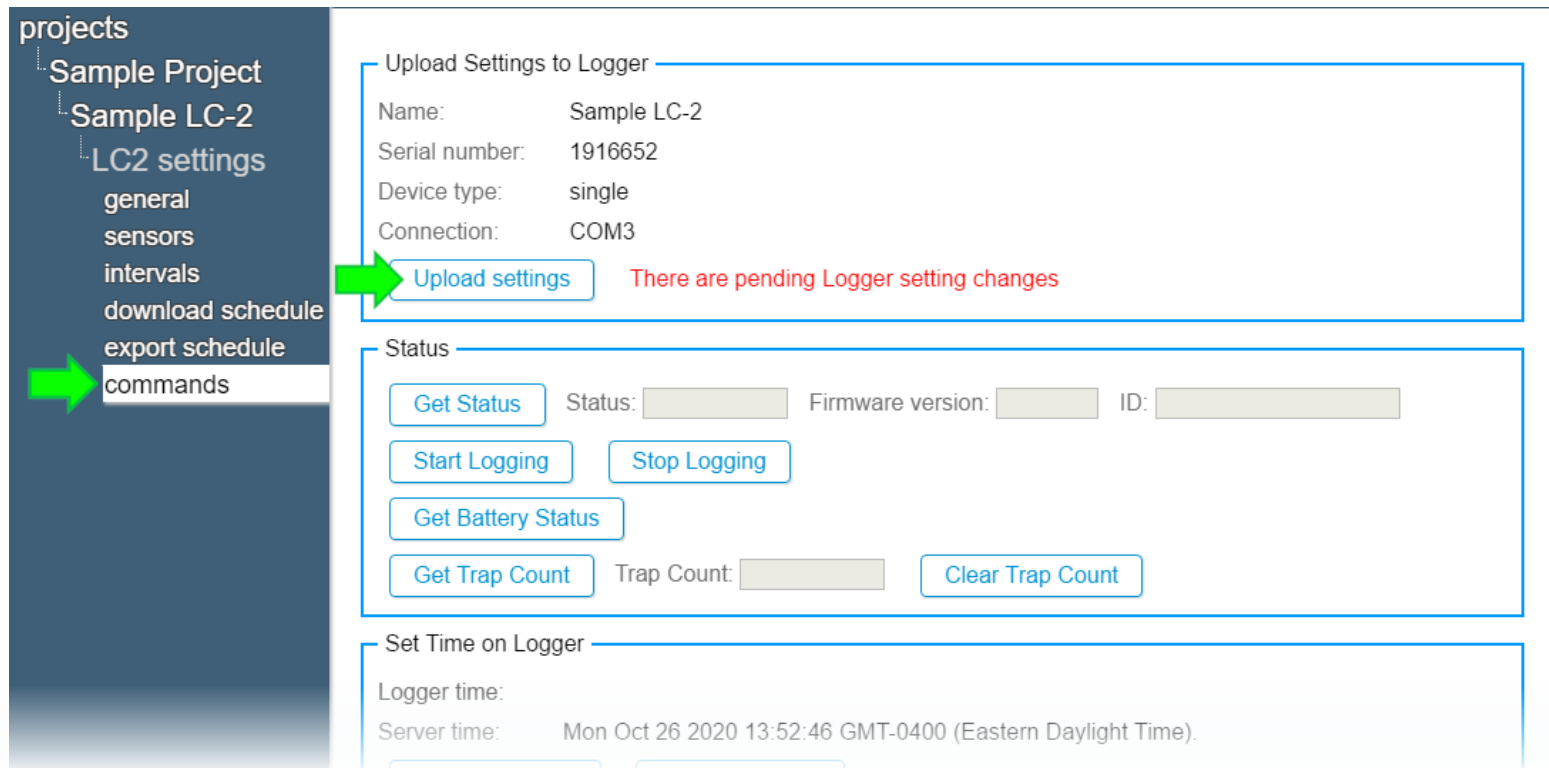
26. The edit sensor dialog box will close, and a message will appear at the top of the screen. Changes made in the sensor screen will not take effect until they are uploaded to the LC-2

The screenshot displays the 'LC2 settings' menu on the left, with 'sensors' selected. The main area shows a red message box at the top: 'There are pending setting changes to upload to the logger.' Below this, the 'Name' is 'Sample LC-2', 'Serial number' is '1916652', and 'Device type' is 'single'. A 'Save' button is present. The 'Logger Sensors' section lists 'AuxBat', 'Battery', and 'Logger Temp', each with 'edit' and 'alerts' links. The 'Readings Sensors' section shows a table with one entry: '1' with a dropdown set to '4500', 'edit', 'alerts', a dropdown set to 'Standard', and 'edit', 'alerts'.

Sensor		Thermistor				
1	4500 ▼	edit	alerts	Standard ▼	edit	alerts

# Uploading Sensor Settings

1. Click “commands” on the left side of the screen, then click “upload settings”



projects

- Sample Project
  - Sample LC-2
    - LC2 settings
      - general
      - sensors
      - intervals
      - download schedule
      - export schedule
      - commands

Upload Settings to Logger

Name: Sample LC-2

Serial number: 1916652

Device type: single

Connection: COM3

[Upload settings](#) There are pending Logger setting changes

Status

[Get Status](#) Status:  Firmware version:  ID:

[Start Logging](#) [Stop Logging](#)

[Get Battery Status](#)

[Get Trap Count](#) Trap Count:  [Clear Trap Count](#)

Set Time on Logger

Logger time:

Server time: Mon Oct 26 2020 13:52:46 GMT-0400 (Eastern Daylight Time).

# Adding a Thermistor Sensor

- Most GEOKON vibrating wire sensors include a built-in thermistor
  - The thermistor settings can be edited in a similar manner to those of the VW sensor
1. Select a thermistor type, then click “edit”

The screenshot displays the GEOKON software interface for configuring a sensor. On the left, a sidebar shows the project structure: **projects** > **Sample Project** > **Sample LC-2** > **LC2 settings** > **sensors**. The main area shows the **Logger Sensors** section with a table of sensors:

Sensor	edit	alerts
AuxBat	<a href="#">edit</a>	<a href="#">alerts</a>
Battery	<a href="#">edit</a>	<a href="#">alerts</a>
Logger Temp	<a href="#">edit</a>	<a href="#">alerts</a>

Below this is the **Readings Sensors** section, which contains a table with a dropdown menu for 'Thermistor' type. The table has columns for 'Sensor' and 'Thermistor'. The 'Sensor' column shows a dropdown menu with '4500' selected. The 'Thermistor' column shows a dropdown menu with 'Standard' selected. A green arrow points to the 'edit' button next to the 'Thermistor' dropdown.

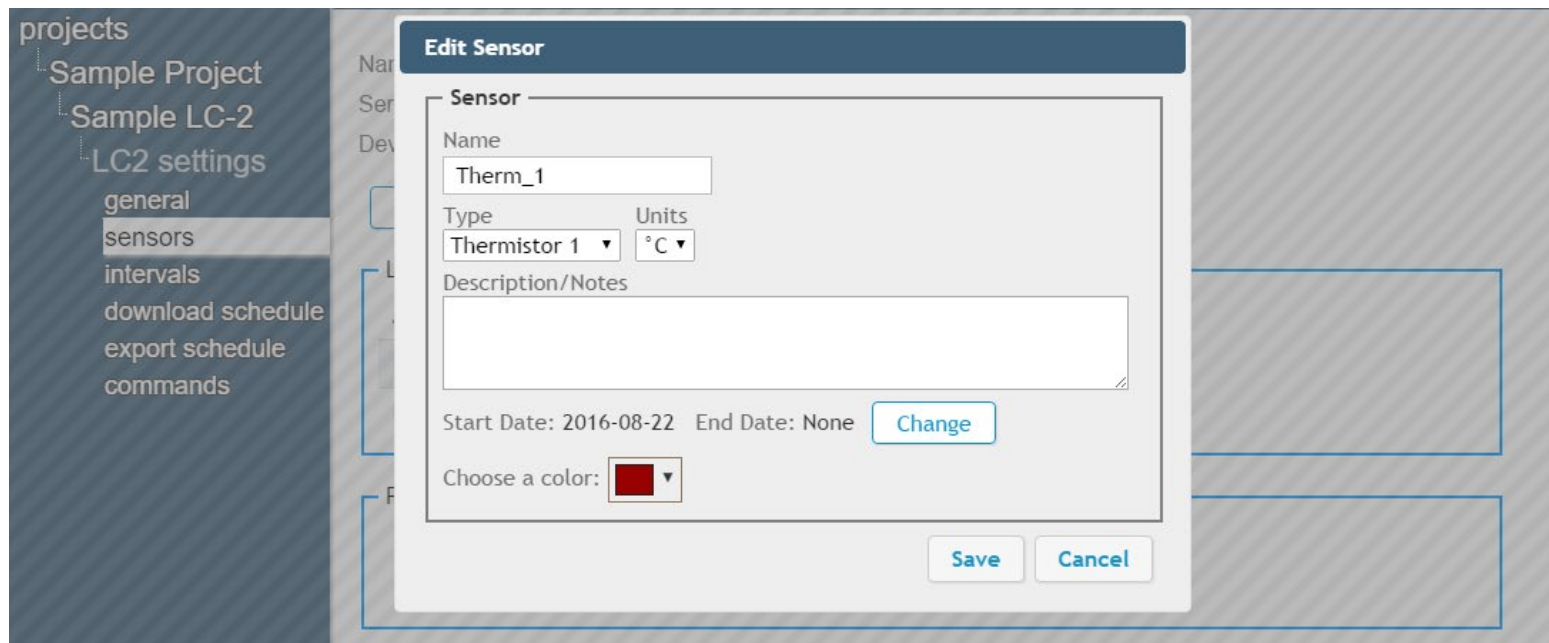
Sensor	Thermistor	edit	alerts
1 4500	Standard	<a href="#">edit</a>	<a href="#">alerts</a>

The 'Thermistor' dropdown menu is open, showing the following options:

- Standard
- High-Temp 8.2k
- High-Temp 10k

# Adding a Thermistor Sensor (Continued)

2. The edit sensor dialog box will open





# Adding a Thermistor Sensor (Continued)

3. Click "Units" to determine the type of engineering units the thermistor data will be displayed in

The screenshot shows a software interface with a sidebar on the left containing a tree view of projects and settings. The main window displays the 'Edit Sensor' dialog box. The dialog has a title bar 'Edit Sensor' and a 'Sensor' section. Inside the 'Sensor' section, there are fields for 'Name' (Therm\_1), 'Type' (Thermistor 1), 'Units' (°C), 'Description/Notes', 'Start Date' (2016-08-22), 'End Date' (None), and 'Choose a color' (red). A green arrow points to the 'Units' dropdown menu, which is currently set to °C. The 'Save' and 'Cancel' buttons are at the bottom right of the dialog.

Note: The Type field should not be changed; it is used to differentiate readings in thermistor strings

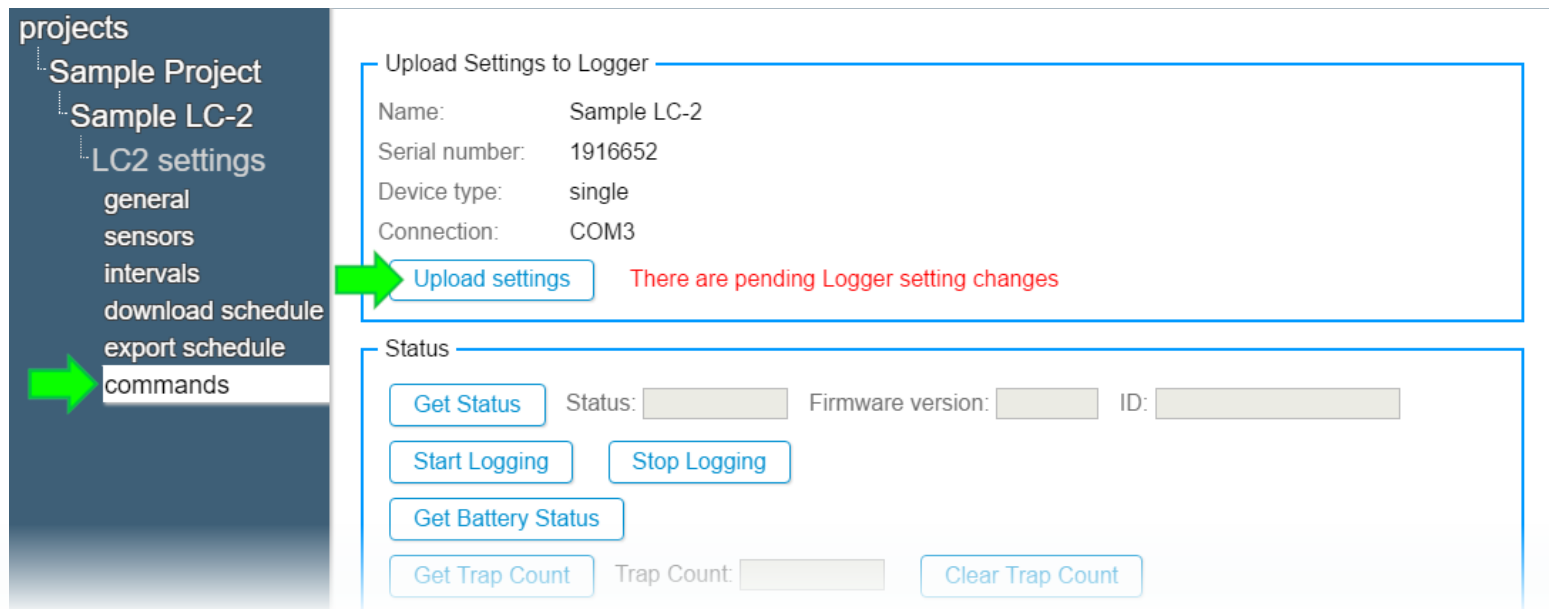
# Adding a Thermistor Sensor (Continued)

4. The remainder of the fields function as previously described; edit them as desired. Once all pertinent information has been entered, click "Save"

The screenshot shows a software interface with a sidebar on the left containing a tree view of projects and settings. The main area displays an 'Edit Sensor' dialog box. The dialog has a title bar 'Edit Sensor' and a 'Sensor' section. Inside the 'Sensor' section, there are several fields: 'Name' (text box with 'Sample Thermistor'), 'Type' (dropdown menu with 'Thermistor 1'), 'Units' (dropdown menu with '°C'), 'Description/Notes' (text area with 'Internal thermistor' and '4500S-350KPA S/N 1901397'), 'Start Date' (text box with '2016-08-22'), 'End Date' (text box with 'None'), and 'Choose a color' (color picker with a red square). There is a 'Change' button next to the 'End Date' field. At the bottom of the dialog, there are 'Save' and 'Cancel' buttons. A green arrow points to the 'Save' button.

# Adding a Reading Sensor (Continued)

5. The edit sensor dialog box will close and the “Pending setting changes” message will appear at the top of the screen
6. Upload the settings to the LC-2 in the same manner as for the VW sensor



projects

- Sample Project
  - Sample LC-2
    - LC2 settings
      - general
      - sensors
      - intervals
      - download schedule
      - export schedule
      - commands


Upload Settings to Logger

Name: Sample LC-2

Serial number: 1916652


Device type: single

Connection: COM3


 Upload settings


There are pending Logger setting changes


Status


 Get Status

Status:  Firmware version:  ID:


 Start Logging

 Stop Logging

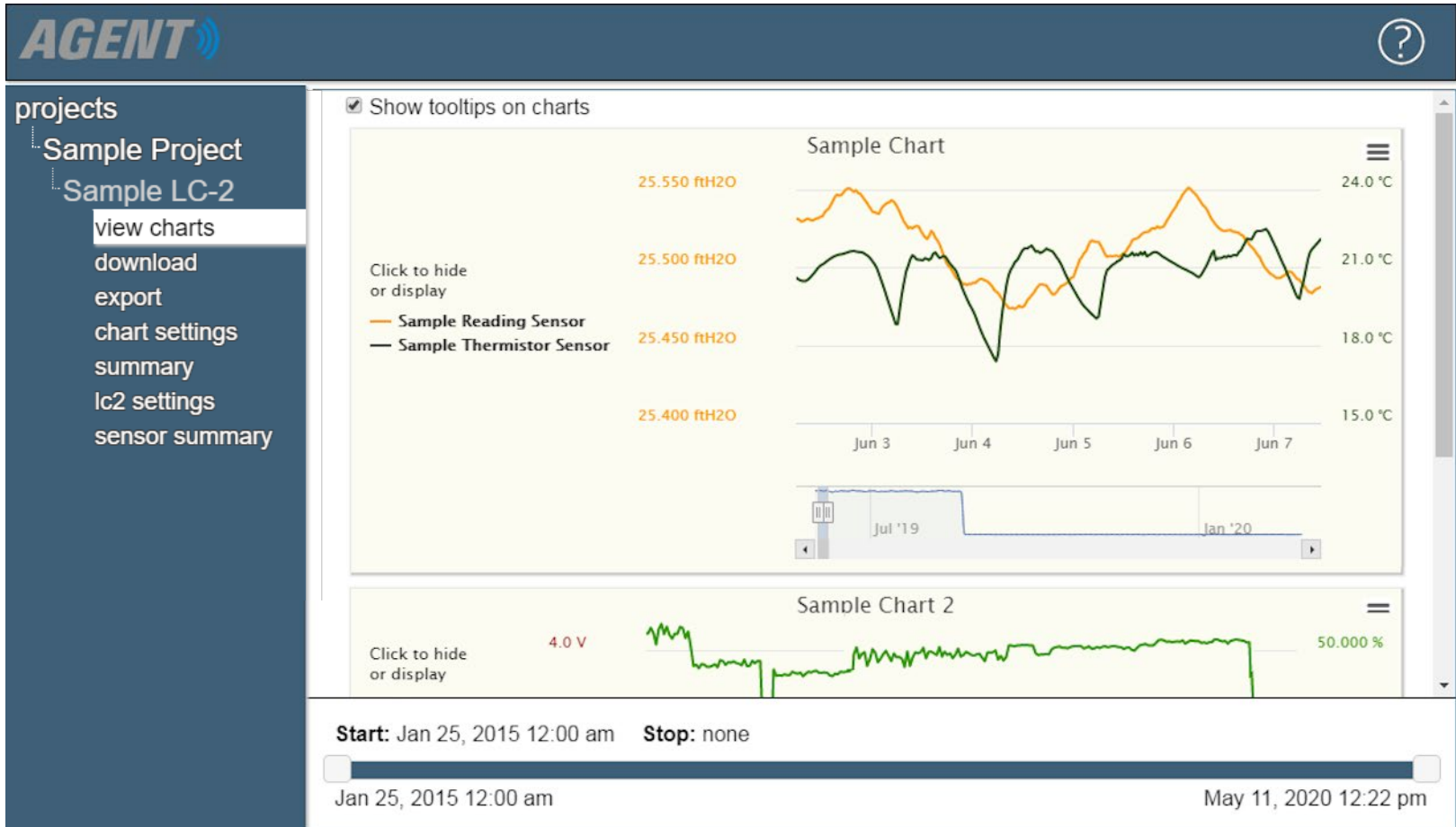
 Get Battery Status

 Get Trap Count

Trap Count:

 Clear Trap Count

# Charts

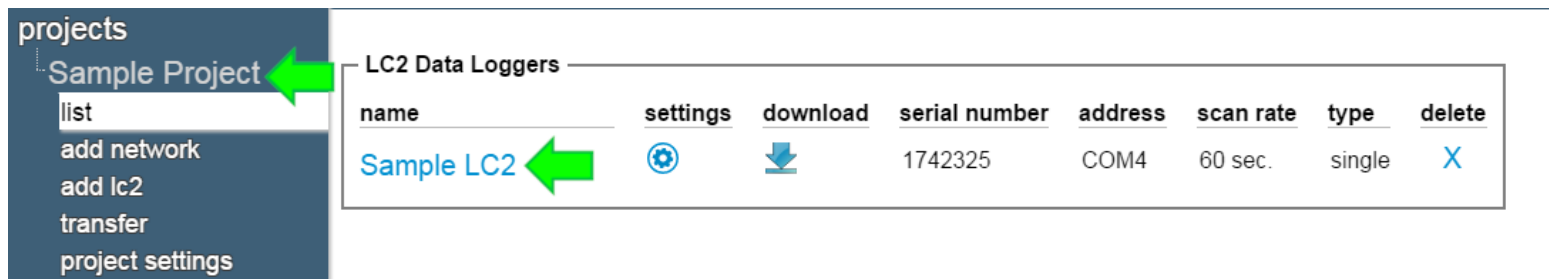


# Charts

- Charts display data imported by sensors as a graph; therefore, sensors must be added to a chart before it will display any data
- Only data that has been downloaded from the LC-2 will be displayed (For information on how to download data, view the [Using Agent Software with LC-2 Dataloggers](#) or refer to the product manual)
- If automatic download is enabled, new data will be added to charts automatically each time data is downloaded from the datalogger
- If automatic download is disabled, charts will not update until a manual download is performed

# Creating Charts

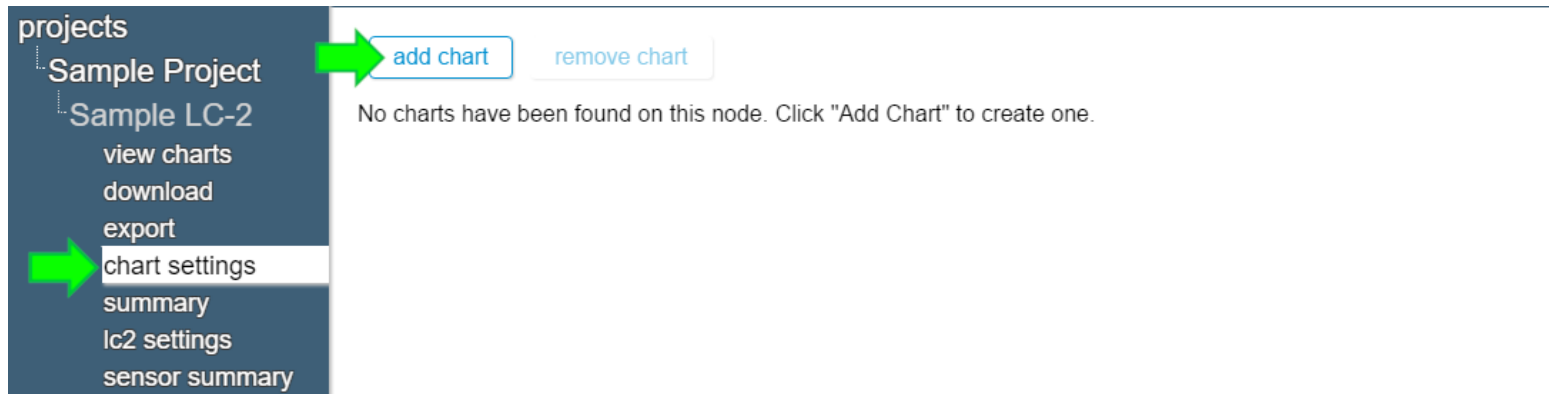
1. Select a project, and then the LC-2 the chart will be added to



The screenshot shows a sidebar on the left with the heading 'projects'. Under it, 'Sample Project' is selected and highlighted. Below 'Sample Project' are links: 'list', 'add network', 'add lc2', 'transfer', and 'project settings'. To the right, a table titled 'LC2 Data Loggers' is displayed. The table has columns: name, settings, download, serial number, address, scan rate, type, and delete. The first row contains 'Sample LC2' (highlighted with a green arrow), a settings icon, a download icon, '1742325', 'COM4', '60 sec.', 'single', and a delete 'X' icon.

name	settings	download	serial number	address	scan rate	type	delete
Sample LC2			1742325	COM4	60 sec.	single	X

2. Click "chart settings" then "add chart"



The screenshot shows the same sidebar as before, but now 'Sample LC-2' is selected. Under 'Sample LC-2' are links: 'view charts', 'download', 'export', 'chart settings' (highlighted with a green arrow), 'summary', 'lc2 settings', and 'sensor summary'. To the right, there are two buttons: 'add chart' (highlighted with a green arrow) and 'remove chart'. Below the buttons, a message states: 'No charts have been found on this node. Click "Add Chart" to create one.'

# Creating Charts (Continued)

3. Give the chart a name, and then click "Ok"

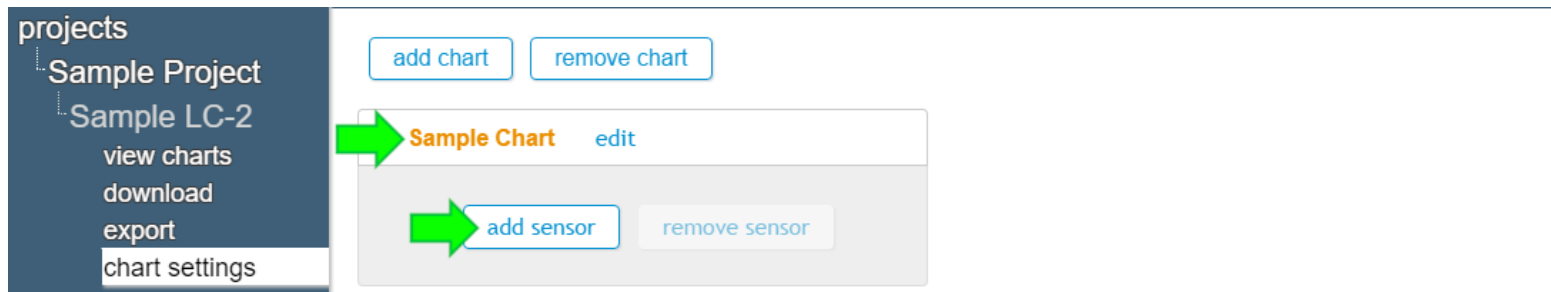


4. Charts that have been added to the LC-2 will be shown in the "chart settings" screen

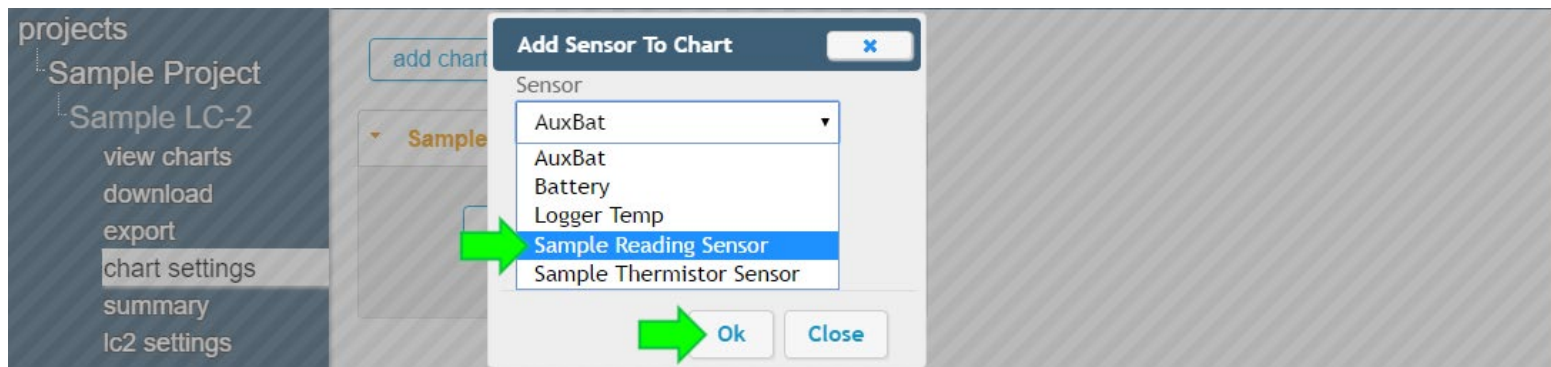


# Adding Sensors to Charts

1. Click on a chart name, and then click “add sensor”



2. Select a sensor to add, and then click “Ok”





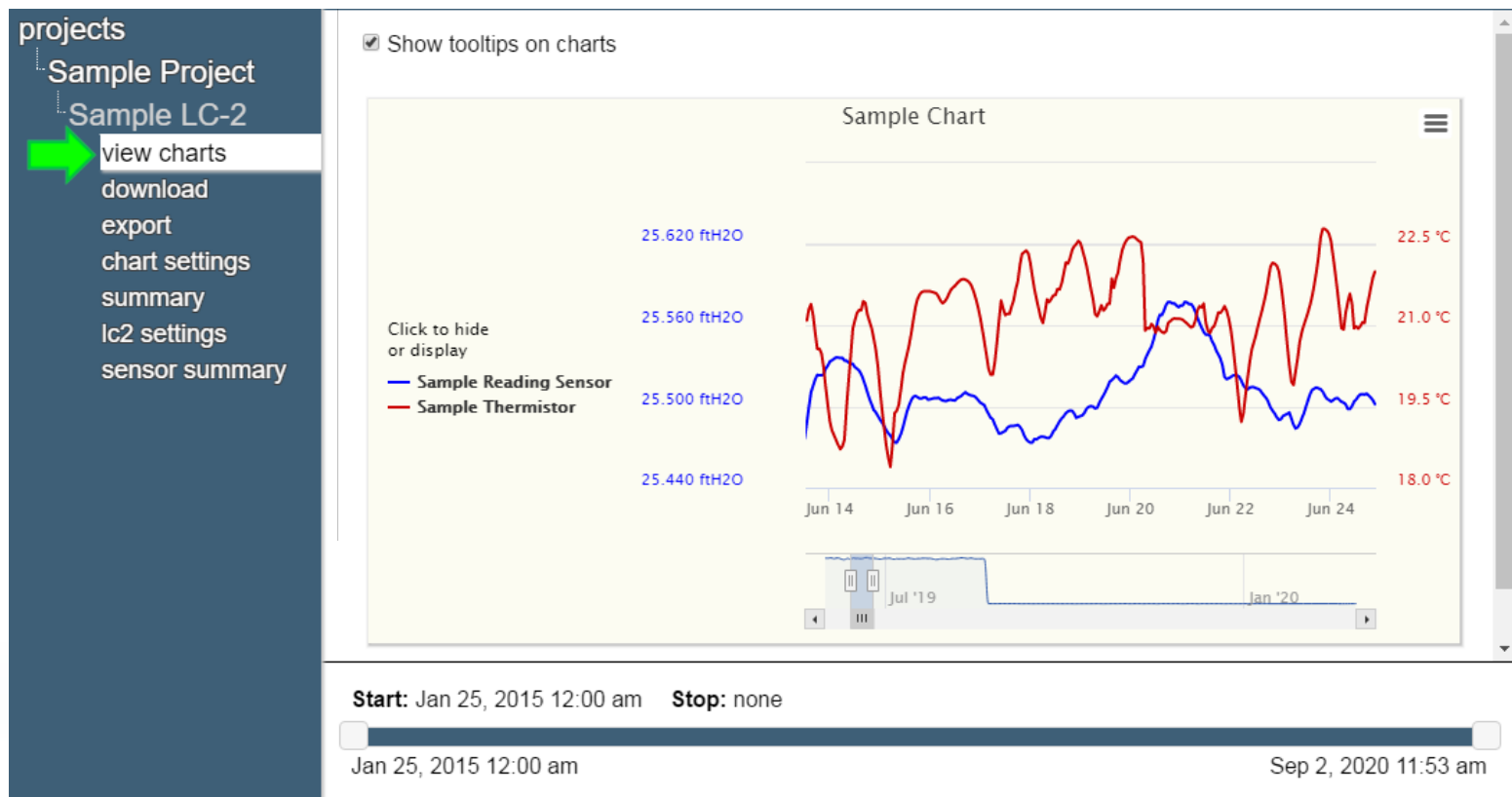
# Adding Sensors to Charts (Continued)

3. Repeat steps one and two until all desired sensors have been added to the chart
4. Sensors that have been added to a chart will be shown below the chart name

The screenshot displays the 'chart settings' interface. On the left is a dark blue sidebar with a 'projects' menu containing 'Sample Project' and 'Sample LC-2'. Under 'Sample LC-2', there are links for 'view charts', 'download', 'export', 'chart settings' (which is highlighted), 'summary', 'lc2 settings', and 'sensor summary'. The main content area has a light gray background. At the top, there are 'add chart' and 'remove chart' buttons. Below them is a section titled 'Sample Chart' with an 'edit' link. This section contains a list of two sensors, each enclosed in a green border. The first sensor is 'Sample Reading Sensor' with SN: None, Start Date: Aug 22, 2016, and End Date: None, accompanied by a blue square icon. The second sensor is 'Sample Thermistor' with SN: None, Start Date: Aug 22, 2016, and End Date: None, accompanied by a red square icon. At the bottom of this section are 'add sensor' and 'remove sensor' buttons.

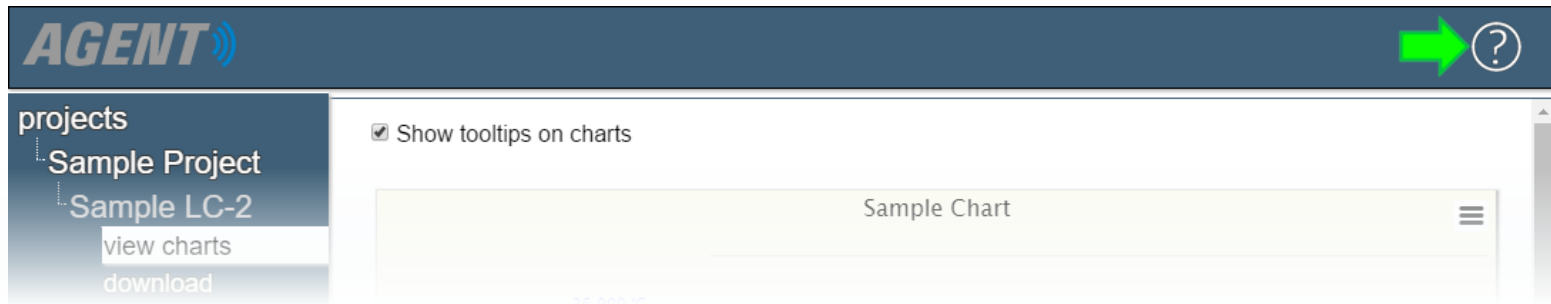
# Viewing Charts

1. Click “view charts” to display all charts on the device



# For more information...

- The LC-2 instruction manuals, which can be accessed at any time by clicking on the question mark at the top of the screen



- Instruction manuals are available for download at: [www.geokon.com/Manuals](http://www.geokon.com/Manuals)
- Please visit <https://www.geokon.com/Tutorials> for more tutorials