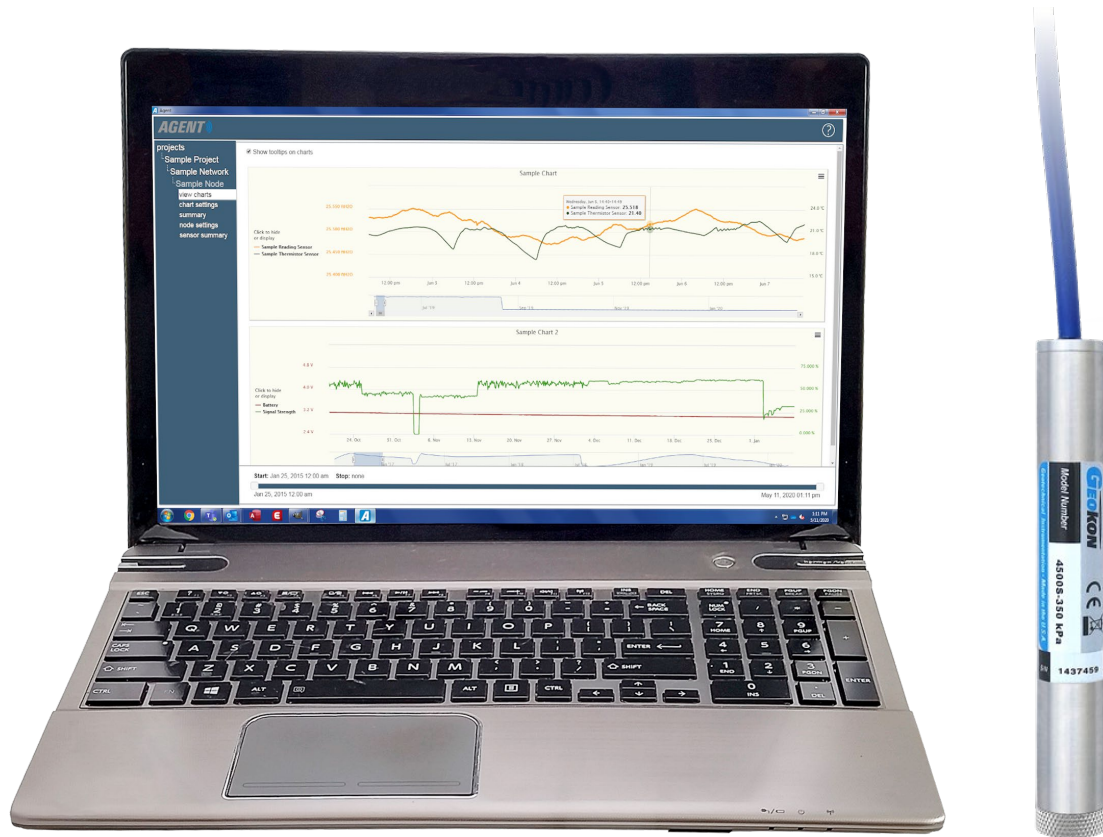





Product Tutorial

Using Agent to Collect Data from Vibrating Wire Sensors



Before Continuing

 Prior to viewing this tutorial, please read the [Using Agent Software with GeoNet Wireless Data Hosting Systems](#) tutorial and familiarize yourself with the basics of how to use the Agent program

If you have not already done so, create a Project and a Network inside the Agent program for the GeoNet Network that is reading vibrating wire sensor(s), then perform a data download

Adding Sensors



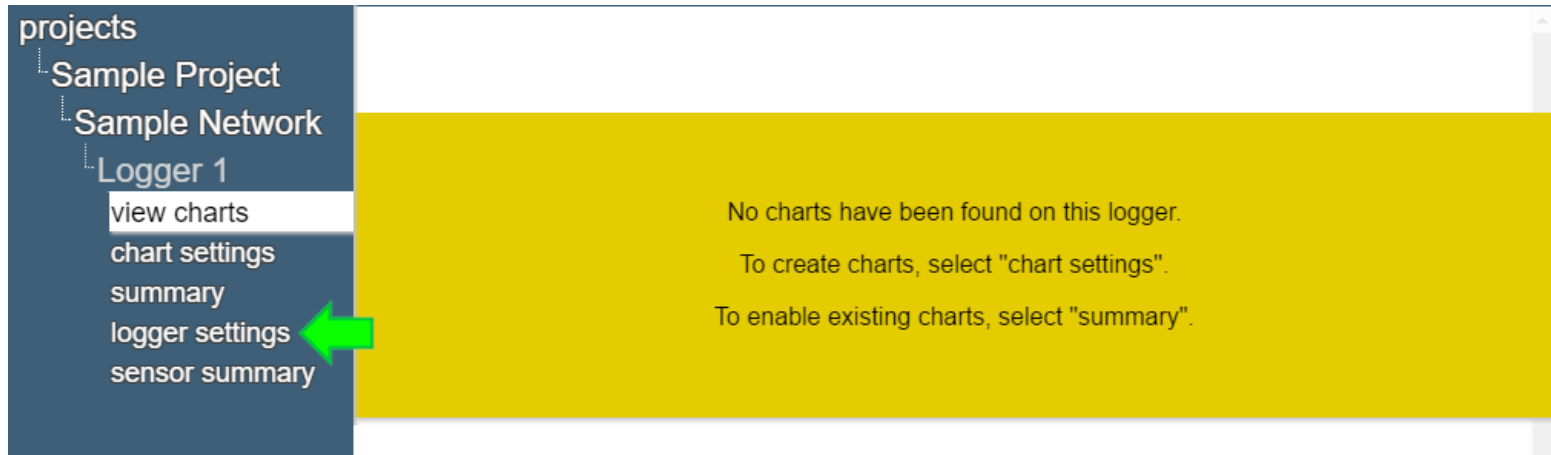
Adding a Reading Sensor

- To view the data collected from a vibrating wire sensor, a “reading sensor” must be added in Agent
1. Select the Project and Network which contains the desired logger, then click the name of a Logger that has a vibrating wire sensor attached

<div>projects</div> <div>Sample Project</div> <div>Sample Network</div> <div>loggers</div> <div>network settings</div> <div>export</div> <div>live</div>	logger type	name	serial number	last reading	battery level	signal strength	charts	remove
	VW Logger	Logger 1	1537823	2020-02-27 10:30 -0500	2.9 volts	100%	1	X
	VW Logger	Logger 2	1533349	2020-02-27 10:30 -0500	2.6 volts	100%	0	X
	Gateway	Gateway	1537815	2021-06-25 12:24 -0400	2.9 volts	100%	1	X

Adding a Reading Sensor (Continued)

2. Agent will navigate to the “view charts” screen, click “logger settings” on the left side of the screen



Adding a Reading Sensor (Continued)

3. Click "Add reading sensor"

The screenshot shows a web application interface for adding a sensor. On the left is a dark blue sidebar with a 'projects' menu. The menu items are: 'Sample Project', 'Sample Network', 'Logger 1' (which is expanded), 'view charts', 'chart settings', 'summary', 'logger settings' (highlighted with a white background), and 'sensor summary'. The main content area is white and contains two sections. The top section is titled 'Node' and contains a form with three fields: 'Name' (with the value 'Logger 1'), 'Serial Number' (with the value '1533349'), and 'Type' (a dropdown menu showing 'VW Logger'). Below these fields is a 'Save' button. The bottom section is titled 'Sensors' and contains a list of four links: 'Add reading sensor', 'Add multiple channels', 'Add thermistor sensor', and 'Add logger sensors'. A large green arrow points to the 'Add reading sensor' link.

projects

- Sample Project
- Sample Network
- Logger 1
 - view charts
 - chart settings
 - summary
 - logger settings
 - sensor summary

Node

Name: Logger 1 Serial Number: 1533349 Type: VW Logger ▼

Save

Sensors

- Add reading sensor
- Add multiple channels
- Add thermistor sensor
- Add logger sensors

Adding a Reading Sensor (Continued)

4. The edit sensor dialog box will open

projects

- Sample Project
- Sample Network
- Logger 1
 - view charts
 - chart settings
 - summary
 - logger settings**
 - sensor summary

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):

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

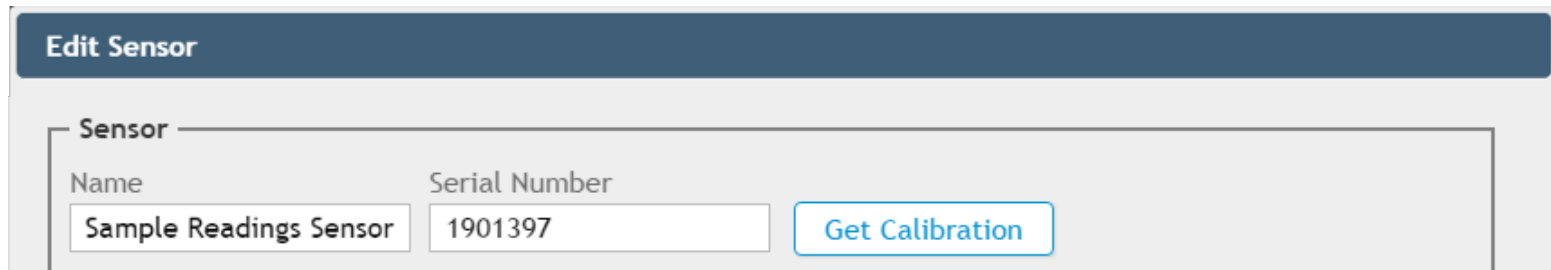
☐ Temperature Correction

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 Logger



The screenshot shows a software interface titled "Edit Sensor". Inside the window, there is a section labeled "Sensor" which contains two text input fields. The first field, labeled "Name", contains the text "Sample Readings Sensor". The second field, labeled "Serial Number", contains the text "1901397". To the right of these two fields is a button labeled "Get Calibration".

7. Clicking "Get Calibration" will retrieve the calibration factors for the specified serial number from GEOKON's calibration database and automatically populate them into the Edit Sensor dialog (Only available for certain vibrating wire 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

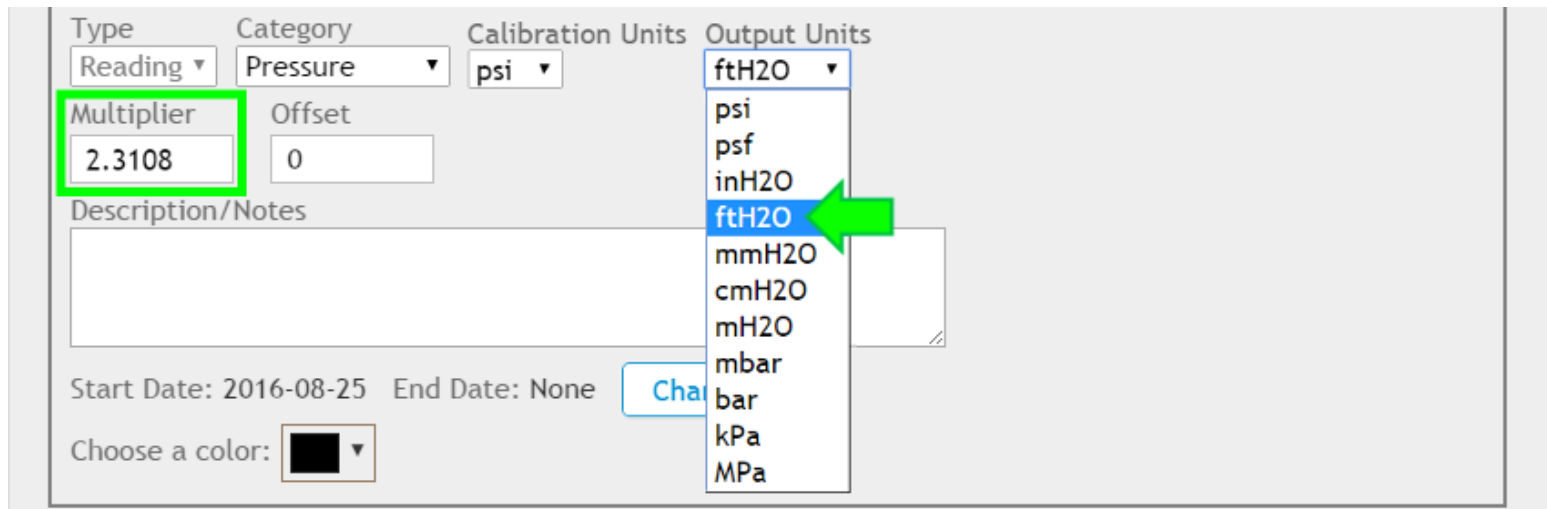
The screenshot shows a 'Sensor' configuration form. The 'Name' field contains 'S.E. well piezo' and the 'Serial Number' field contains '1901397'. A 'Get Calibration' button is to the right. The 'Type' dropdown is set to 'Reading'. The 'Multiplier' field contains '1'. The 'Description/' field is empty. The 'Category' dropdown is open, showing options: 'Default', 'Pressure' (highlighted with a green arrow), 'Load', 'Distance', 'Strain', 'Temperature', and 'Tilt'. The 'Calibration Units' and 'Output Units' dropdowns are both set to 'psi' and are highlighted with a green 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 populate with the factor needed to convert the Calibration units to the Output units

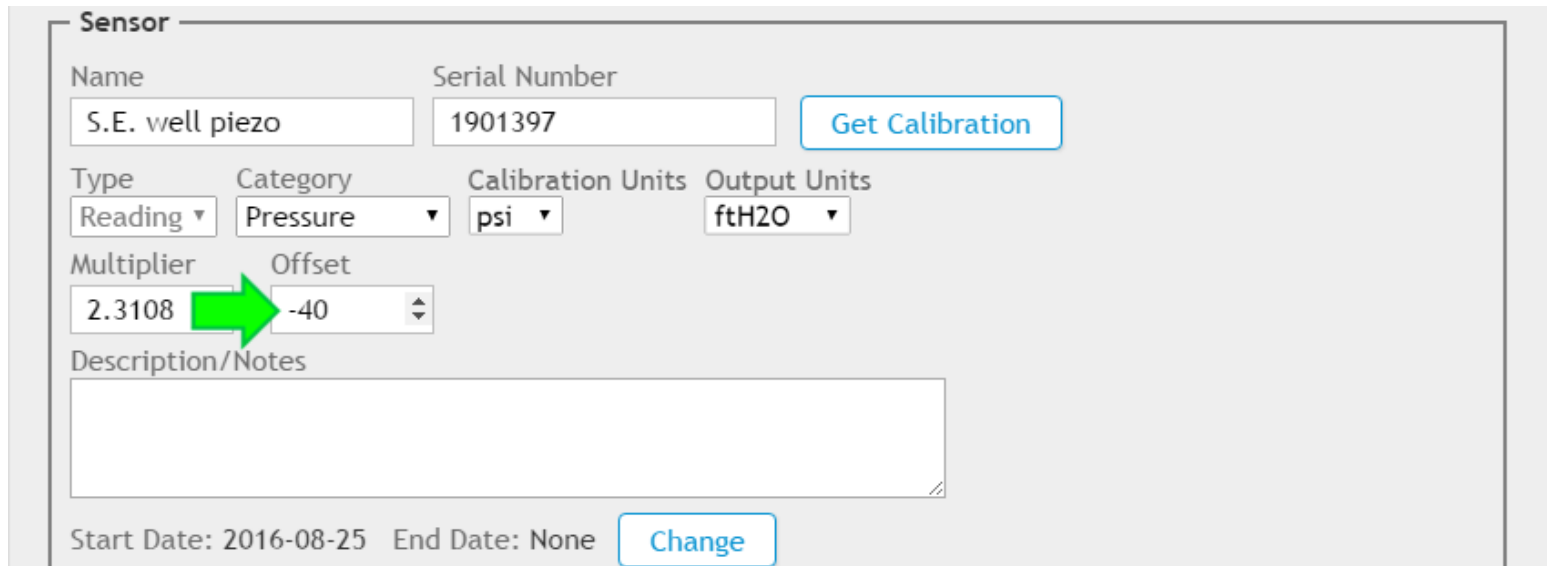


The screenshot shows a form for adding a reading sensor. The 'Type' dropdown is set to 'Reading'. The 'Category' dropdown is set to 'Pressure'. The 'Calibration Units' dropdown is set to 'psi'. The 'Output Units' dropdown is open, showing a list of units: 'ftH2O', 'psi', 'psf', 'inH2O', 'ftH2O' (highlighted with a green arrow), 'mmH2O', 'cmH2O', 'mH2O', 'mbar', 'bar', 'kPa', and 'MPa'. The 'Multiplier' field is highlighted with a green box and contains the value '2.3108'. The 'Offset' field contains the value '0'. The 'Description/Notes' field is empty. The 'Start Date' is '2016-08-25' and the 'End Date' is 'None'. The 'Choose a color' dropdown is set to black.

Type	Category	Calibration Units	Output Units
Reading	Pressure	psi	ftH2O
Multiplier	Offset		
2.3108	0		
Description/Notes			
Start Date: 2016-08-25 End Date: None			
Choose a color: ■			

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



The screenshot shows a web-based form for configuring a sensor. The form is titled "Sensor" and contains several input fields and buttons. A green arrow points to the "Offset" field, which is set to -40. The "Multiplier" field is set to 2.3108. The "Name" field is "S.E. well piezo" and the "Serial Number" field is "1901397". The "Type" dropdown is set to "Reading", the "Category" dropdown is set to "Pressure", the "Calibration Units" dropdown is set to "psi", and the "Output Units" dropdown is set to "ftH2O". There is a "Get Calibration" button next to the "Serial Number" field. At the bottom, there is a "Description/Notes" text area and a "Start Date: 2016-08-25 End Date: None" field with a "Change" button.

Name	Serial Number	Type	Category	Calibration Units	Output Units	Multiplier	Offset
S.E. well piezo	1901397	Reading	Pressure	psi	ftH2O	2.3108	-40

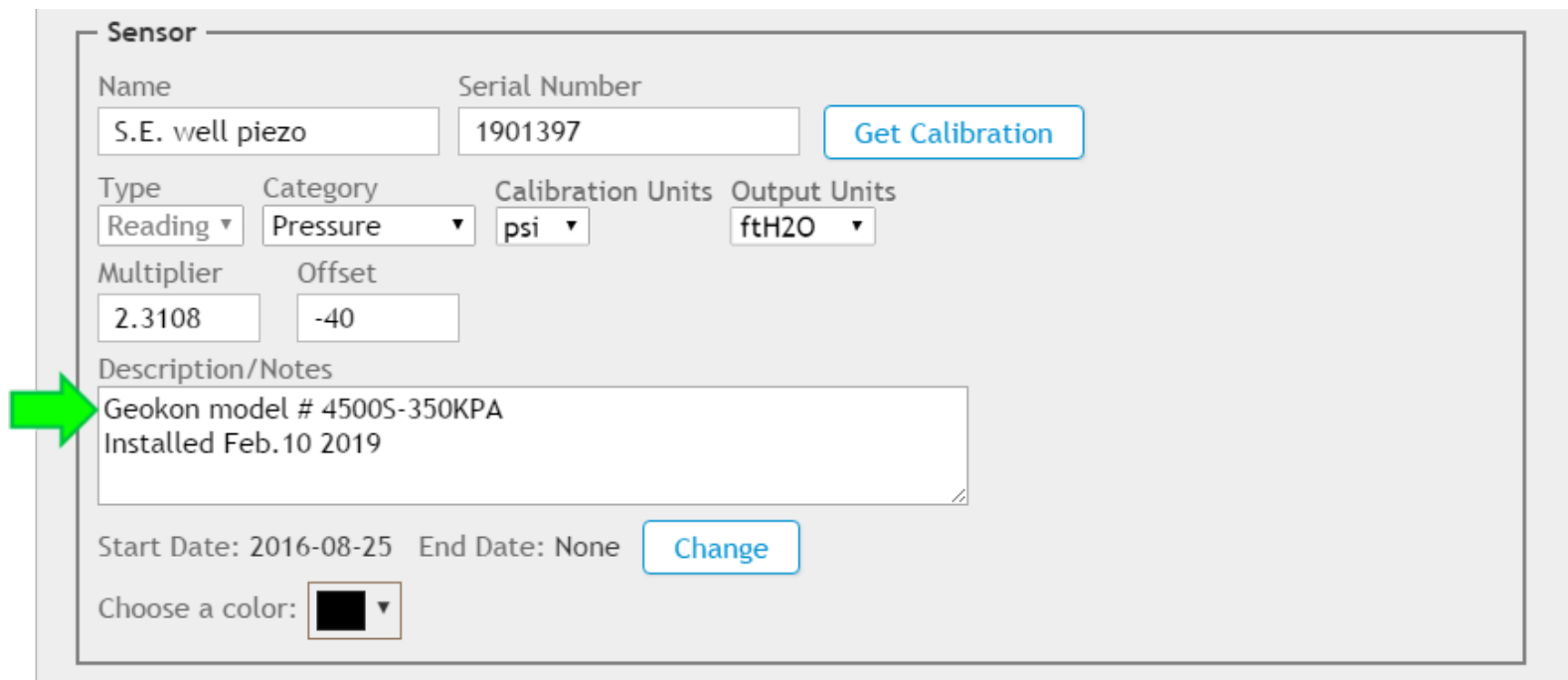
Get Calibration

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

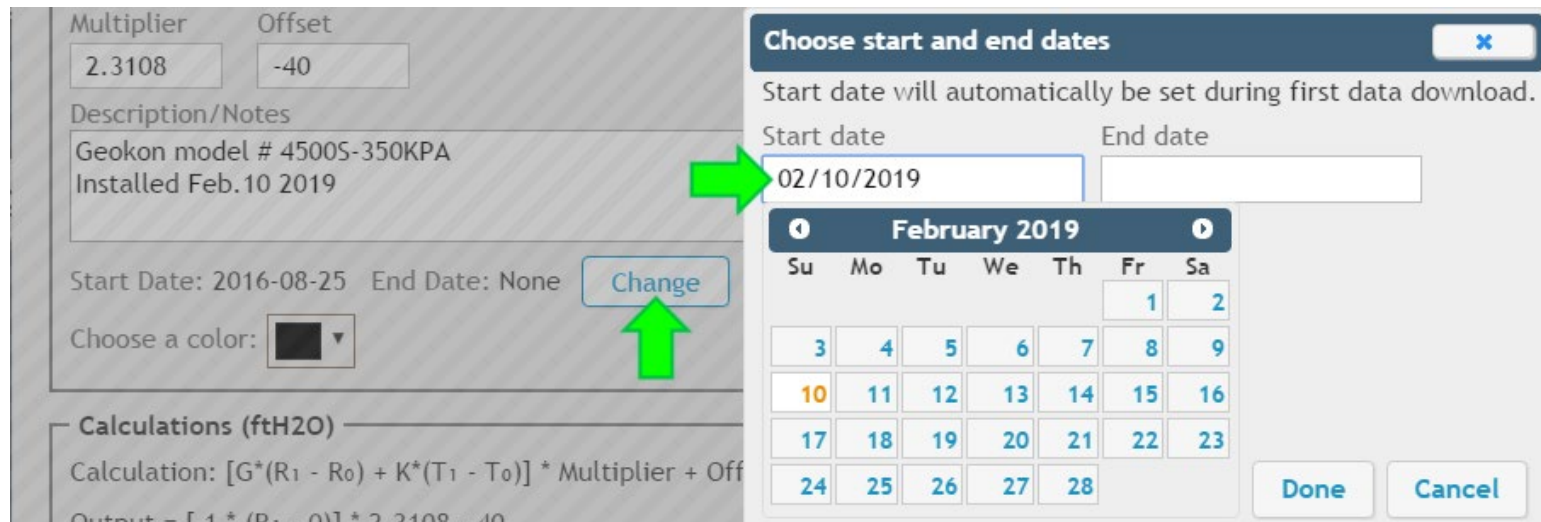


The screenshot shows a 'Sensor' configuration form. A green arrow points to the 'Description/Notes' text area, which contains the text 'Geokon model # 4500S-350KPA' and 'Installed Feb.10 2019'. Other fields include 'Name' (S.E. well piezo), 'Serial Number' (1901397), 'Type' (Reading), 'Category' (Pressure), '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"/>		
Get Calibration			
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	
		Change	
Choose a color:		<input type="text" value="black"/>	

Adding a Reading Sensor (Continued)

12. The Start and End dates determine the date 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 Logger)



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'. The 'Start Date' is 2016-08-25 and the 'End Date' is None. A 'Change' button is highlighted with a green arrow. Below the date fields is a 'Choose a color' dropdown. At the bottom, there is a 'Calculations (ftH2O)' section with a formula: $[G^*(R_1 - R_0) + K^*(T_1 - T_0)] * \text{Multiplier} + \text{Offset}$. On the right, a 'Choose start and end dates' dialog is open. It has a title bar with a close button. The text 'Start date will automatically be set during first data download.' is displayed. The 'Start date' field is set to 02/10/2019. The 'End date' field is empty. A calendar for February 2019 is shown, with the 10th highlighted. The calendar has a header with navigation arrows and the month/year. The days of the week are listed as Su, Mo, Tu, We, Th, Fr, Sa. The dates 1 through 28 are displayed in a grid. The 10th is highlighted in orange. The 'Done' and 'Cancel' buttons are at the bottom right of the dialog.

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 [X]

Start date will automatically be set during first data download.

Start date: 02/10/2019 End date:

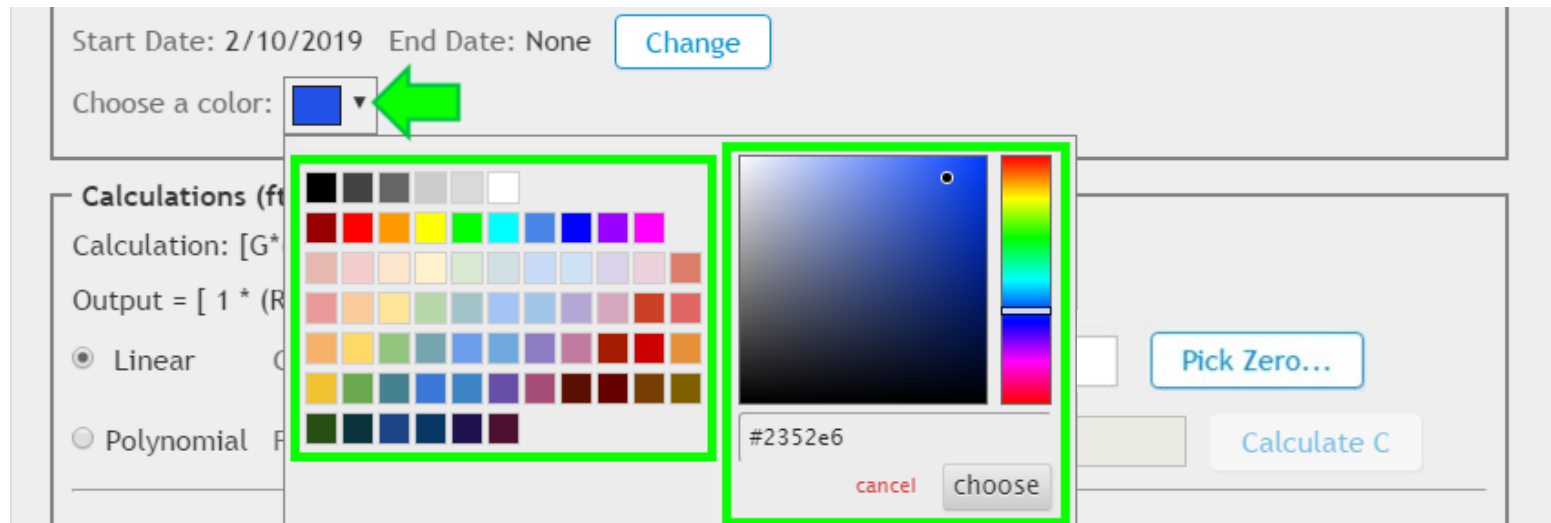
February 2019

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(R₀): [Pick Zero...](#)
☐ Polynomial Factors A: B: C: [Calculate C](#)
☐ Temperature Correction
Thermal Factor(K): Zero Temperature(T₀):

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(R0): 0

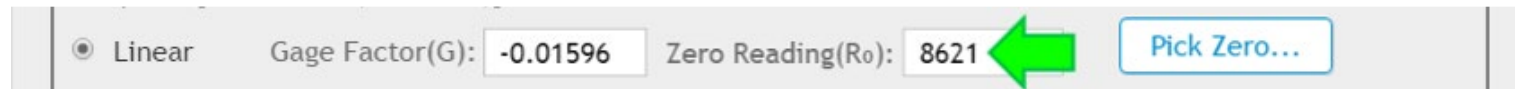
Metric Example

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

Agent: ☒ Linear Gage Factor(G): -0.1100  Zero Reading(R0): 0

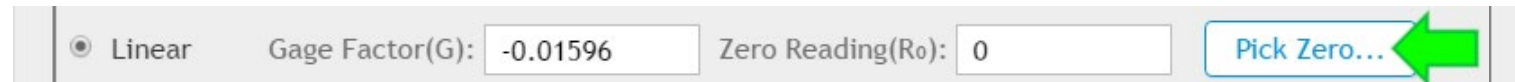
Adding a Reading Sensor: Linear Calculations (Continued)


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

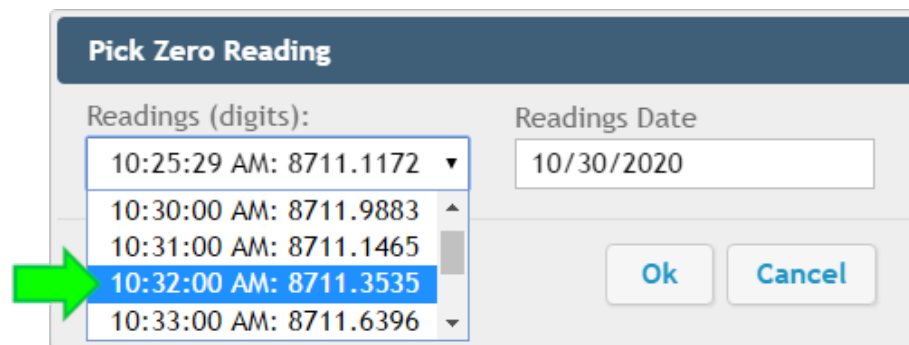


Linear Gage Factor(G): -0.01596 Zero Reading(R₀): 8621  Pick Zero...


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



Linear Gage Factor(G): -0.01596 Zero Reading(R₀): 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

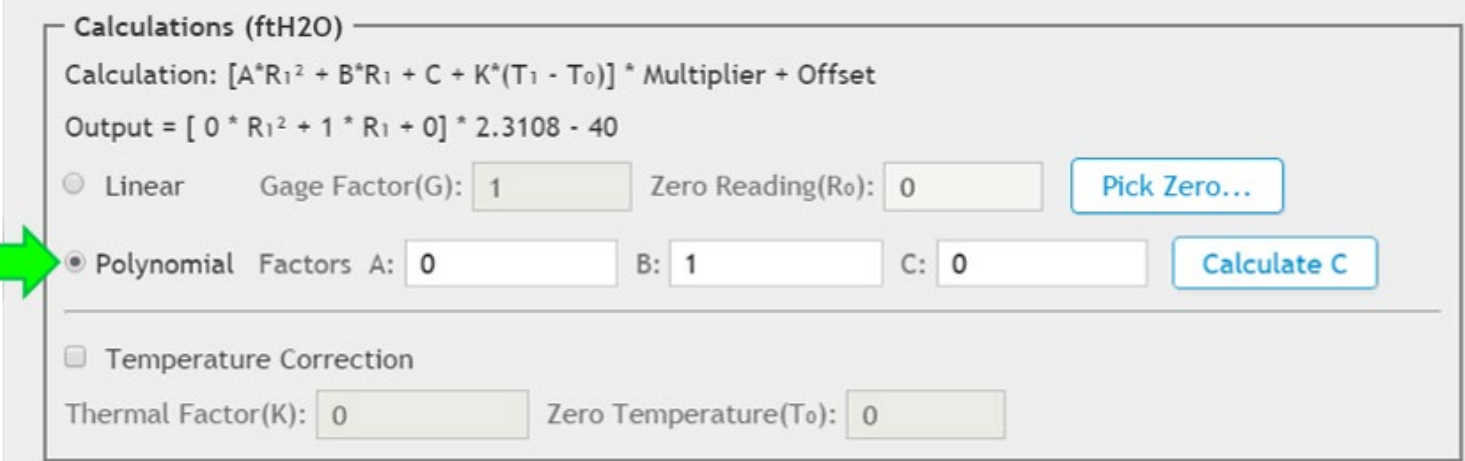
Ok Cancel

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 is "Calculations (ftH2O)". Below the title, the formula is displayed: $\text{Calculation: } [A \cdot R_1^2 + B \cdot R_1 + C + K \cdot (T_1 - T_0)] \cdot \text{Multiplier} + \text{Offset}$. Below the formula, the output is shown: $\text{Output} = [0 \cdot R_1^2 + 1 \cdot R_1 + 0] \cdot 2.3108 - 40$. There are two radio buttons: "Linear" and "Polynomial". The "Polynomial" radio button is selected, and a green arrow points to it. To the right of the "Linear" radio button are input fields for "Gage Factor(G): 1" and "Zero Reading(R0): 0", followed by a "Pick Zero..." button. To the right of the "Polynomial" radio button are input fields for "Factors A: 0", "B: 1", and "C: 0", followed by a "Calculate C" button. Below these options is a checkbox for "Temperature Correction", which is unchecked. Below the checkbox are input fields for "Thermal Factor(K): 0" and "Zero Temperature(T0): 0". At the bottom right of the dialog 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)

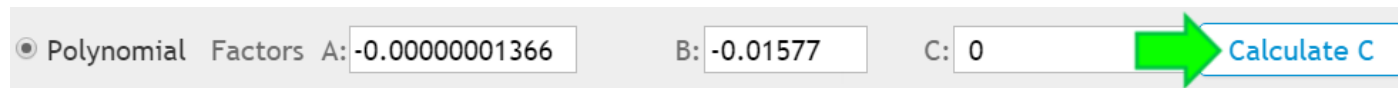
Polynomial Gauge factors: **A: -9.418E-08** B: **-0.1087** C: _____

Agent:

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

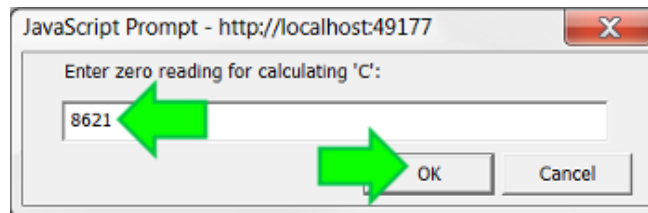
Adding a Reading Sensor: Polynomial Calculations (Continued)

19. Click "Calculate C"



Polynomial Factors A: -0.00000001366 B: -0.01577 C: 0 Calculate C

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

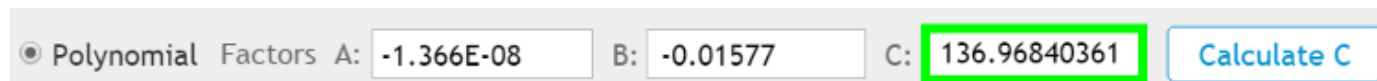


JavaScript Prompt - http://localhost:49177

Enter zero reading for calculating 'C':

8621 OK Cancel

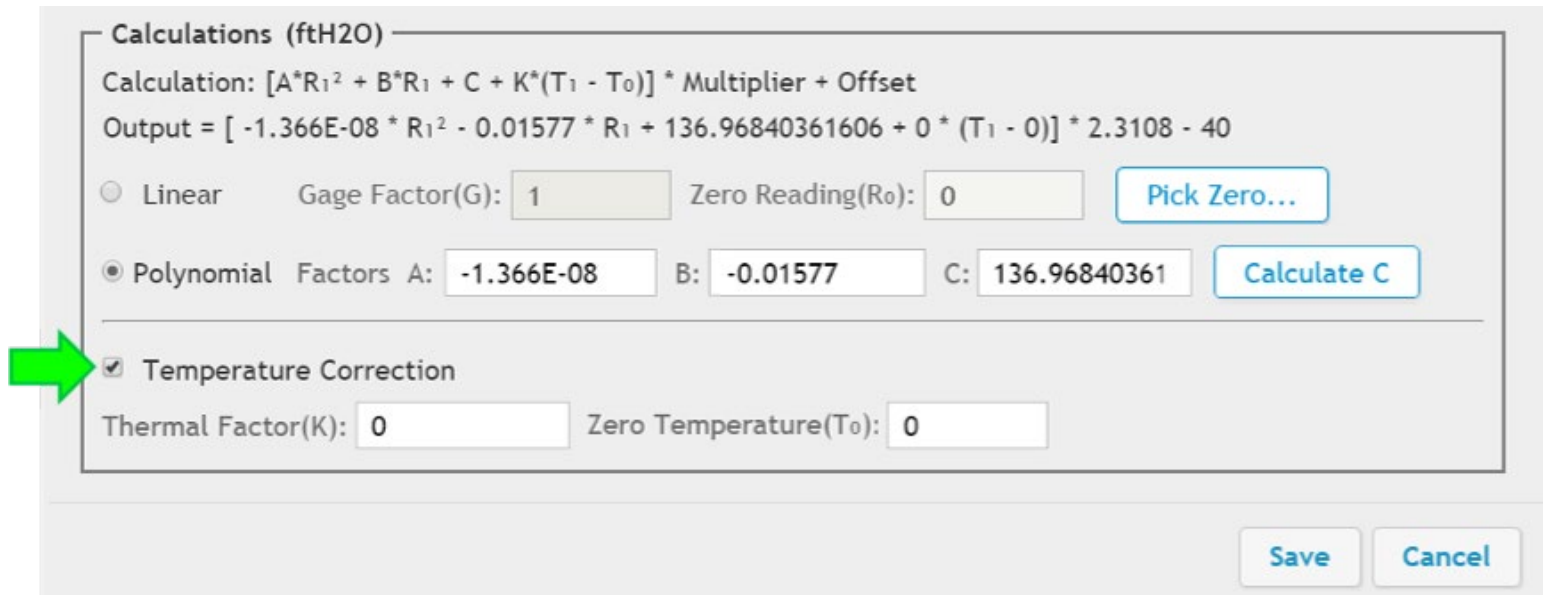
21. Agent will calculate and display the value of Factor "C" based on the information entered



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(R₀): [Pick Zero...](#)

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

 ☒ Temperature Correction

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

[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(T₀):

Metric Example

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

Agent: ☒ Temperature Correction
Thermal Factor(K): Zero Temperature(T₀):

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(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)

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 Network', 'Logger 1', 'view charts', 'chart settings', 'summary', 'logger settings' (highlighted), and 'sensor summary'. The main panel is titled 'Edit Sensor' and is divided into two sections: 'Sensor' and 'Calculations (ftH2O)'.
Sensor Section:
- Name: 'Sample Reading Sensor'
- Serial Number: '1901397'
- Type: 'Reading 1' (dropdown)
- Category: 'Pressure' (dropdown)
- Calibration Units: 'psi' (dropdown)
- Output Units: 'ftH2O' (dropdown)
- Multiplier: '2.3108'
- Offset: '-40'
- Description/Notes: 'Geokon model # 4500S-350KPA Installed Feb. 10 2019'
- Start Date: '2016-08-22', End Date: 'None', with a 'Change' button.
- Choose a color: A blue color swatch.
- A 'Get Calibration' button is located to the right of the Serial Number field.
Calculations (ftH2O) Section:
- Calculation formula: $[A * R_1^2 + B * R_1 + C + K * (T_1 - T_0)] * \text{Multiplier} + \text{Offset}$
- Output formula: $[-1.366E-08 * R_1^2 - 0.01577 * R_1 + 136.96840361 - 0.0004642 * (T_1 - 20.8)] * 2.3108 - 40$
- Radio buttons for 'Linear' and 'Polynomial' (selected).
- Gage Factor(G): '1', Zero Reading(R₀): '0'.
- Factors A: '-1.366E-08', B: '-0.01577', C: '136.96840361', with a 'Calculate C' button.
- 'Temperature Correction' checkbox is checked.
- Thermal Factor(K): '-0.0004642', Zero Temperature(T₀): '20.8'.
At the bottom right, there are 'Save' and 'Cancel' buttons. A large green arrow points to the 'Save' button.

Adding a Reading Sensor (Continued)

26. The edit sensor dialog box will close and the reading sensor will be added to the list of sensors on the logger settings screen (Sensor settings can be edited at any time by clicking on the name of the sensor)

The screenshot shows a web application interface for managing sensors. On the left is a dark blue sidebar with a 'projects' section containing a tree view: 'Sample Project' (expanded), 'Sample Network', and 'Logger 1'. Under 'Logger 1' are links for 'view charts', 'chart settings', 'summary', 'logger settings' (highlighted), and 'sensor summary'. The main content area is divided into two sections. The top section, titled 'Node', contains a form with three fields: 'Name' (containing 'Logger 1'), 'Serial Number' (containing '1533349'), and 'Type' (a dropdown menu showing 'VW Logger'). A 'Save' button is below these fields. The bottom section, titled 'Sensors', contains four links: 'Add reading sensor', 'Add multiple channels', 'Add thermistor sensor', and 'Add logger sensors'. Below these links is a table with four columns: 'Name', 'Type', 'Alerts', and 'Additional Information'. The table has one row: 'VW Reading', 'Reading_1', 'None', and 'Start date: 2016-08-25. End date: None'. A 'remove' link is at the end of the row. The entire table row is highlighted with a green border.

Name	Type	Alerts	Additional Information
VW Reading	Reading_1	None	Start date: 2016-08-25. End date: None

Adding a Thermistor Sensor

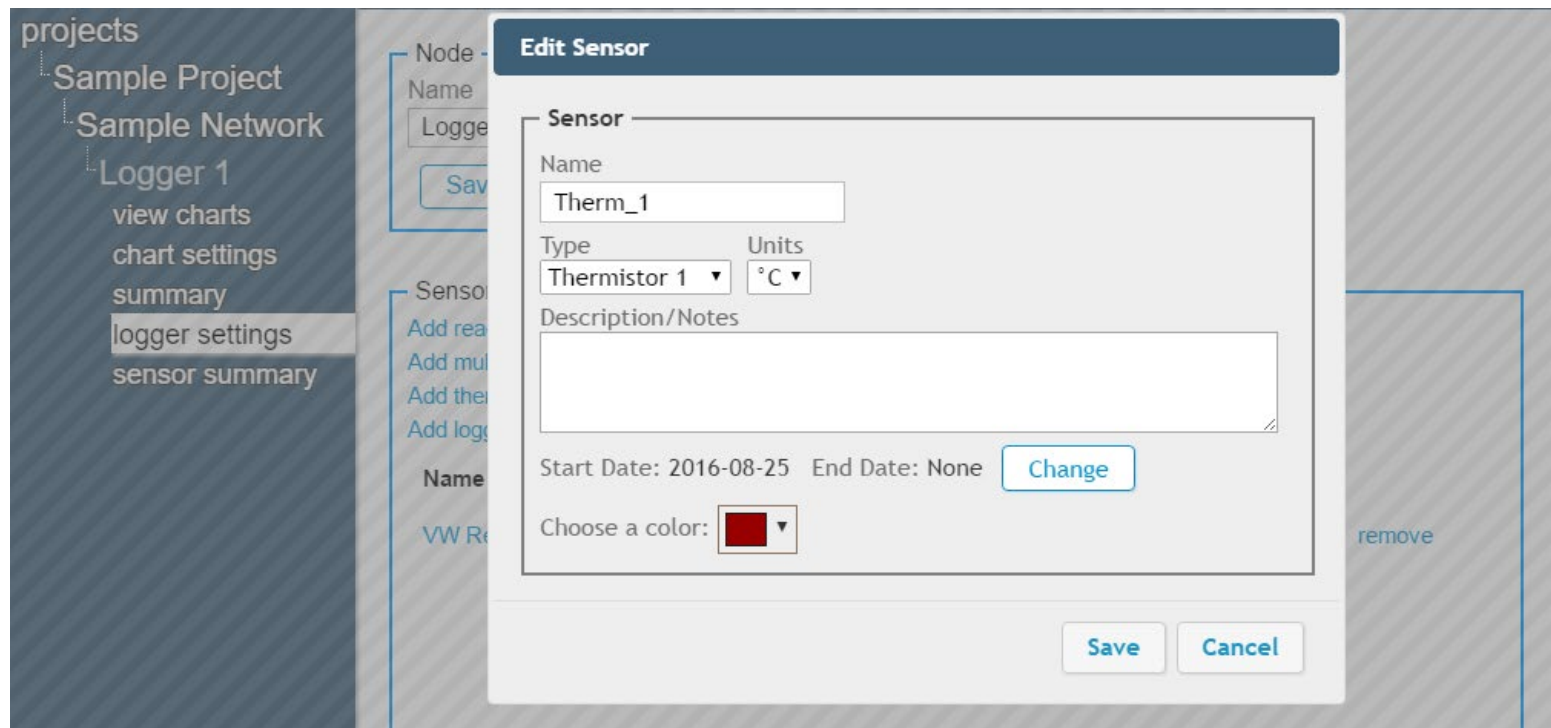
- Most GEOKON vibrating wire sensors include a built-in thermistor. To view the temperature data collected by the thermistor, a “thermistor sensor” must be added in Agent
- To add a thermistor sensor, click “Add thermistor sensor”

The screenshot displays the GEOKON Agent web interface. On the left is a dark blue sidebar with a 'projects' header and a list of navigation items: 'Sample Project', 'Sample Network', 'Logger 1', 'view charts', 'chart settings', 'summary', 'logger settings' (highlighted with a white background), and 'sensor summary'. The main content area is white and divided into two sections. The top section, titled 'Node', contains a form with three fields: 'Name' (containing 'Logger 1'), 'Serial Number' (containing '1533349'), and 'Type' (a dropdown menu showing 'VW Logger'). A 'Save' button is located below these fields. The bottom section, titled 'Sensors', contains four blue links: 'Add reading sensor', 'Add multiple channels', 'Add thermistor sensor', and 'Add logger sensors'. A green arrow points to the 'Add thermistor sensor' link. Below the links is a table with the following data:

Name	Type	Alerts	Additional Information
VW Reading	Reading_1	None	Start date: 2016-08-25. End date: None remove

Adding a Thermistor Sensor (Continued)

2. The edit sensor dialog box will open



Adding a Thermistor Sensor (Continued)

3. The “Units” field determines the type of temperature units the thermistor data will be displayed in

The screenshot displays the 'Edit Sensor' dialog box within a software application. The dialog is titled 'Edit Sensor' and contains the following fields and options:

- Name:** Therm_1
- Type:** Thermistor 1
- Units:** A dropdown menu is open, showing four options: °C (selected), °C, °F, and °K. A green arrow points to the °C option.
- Description/Notes:** A text area for additional information.
- Start Date:** 2016-08-25
- End Date:** None
- Choose a color:** A color selection dropdown showing a red color.

The background of the application shows a sidebar with the following navigation options:

- projects
 - Sample Project
 - Sample Network
 - Logger 1
 - view charts
 - chart settings
 - summary
 - logger settings
 - sensor summary

Adding a Thermistor Sensor (Continued)

4. The remaining fields function as previously described; edit them as desired and then click "save" (The "Type" should not be changed; it is used to differentiate addressable thermistors)

The screenshot shows a software interface with a sidebar on the left containing a tree view of projects: 'Sample Project', 'Sample Network', 'Logger 1', 'view charts', 'chart settings', 'summary', 'logger settings' (highlighted), and 'sensor summary'. The main area displays the 'Edit Sensor' dialog box. The dialog has a title bar 'Edit Sensor' and a 'Sensor' section. Inside, there is a 'Name' field with 'Therm reading', a 'Type' dropdown set to 'Thermistor 1', and a 'Units' dropdown set to '°C'. Below these is a 'Description/Notes' text area containing '4500S-350KPA internal therm'. At the bottom of the dialog, there are 'Start Date: 2016-08-25' and 'End Date: None' fields, a 'Change' button, and a 'Choose a color:' dropdown with a red color swatch. A green arrow points to the 'Save' button at the bottom right of the dialog. A 'remove' button is visible on the right side of the main interface.

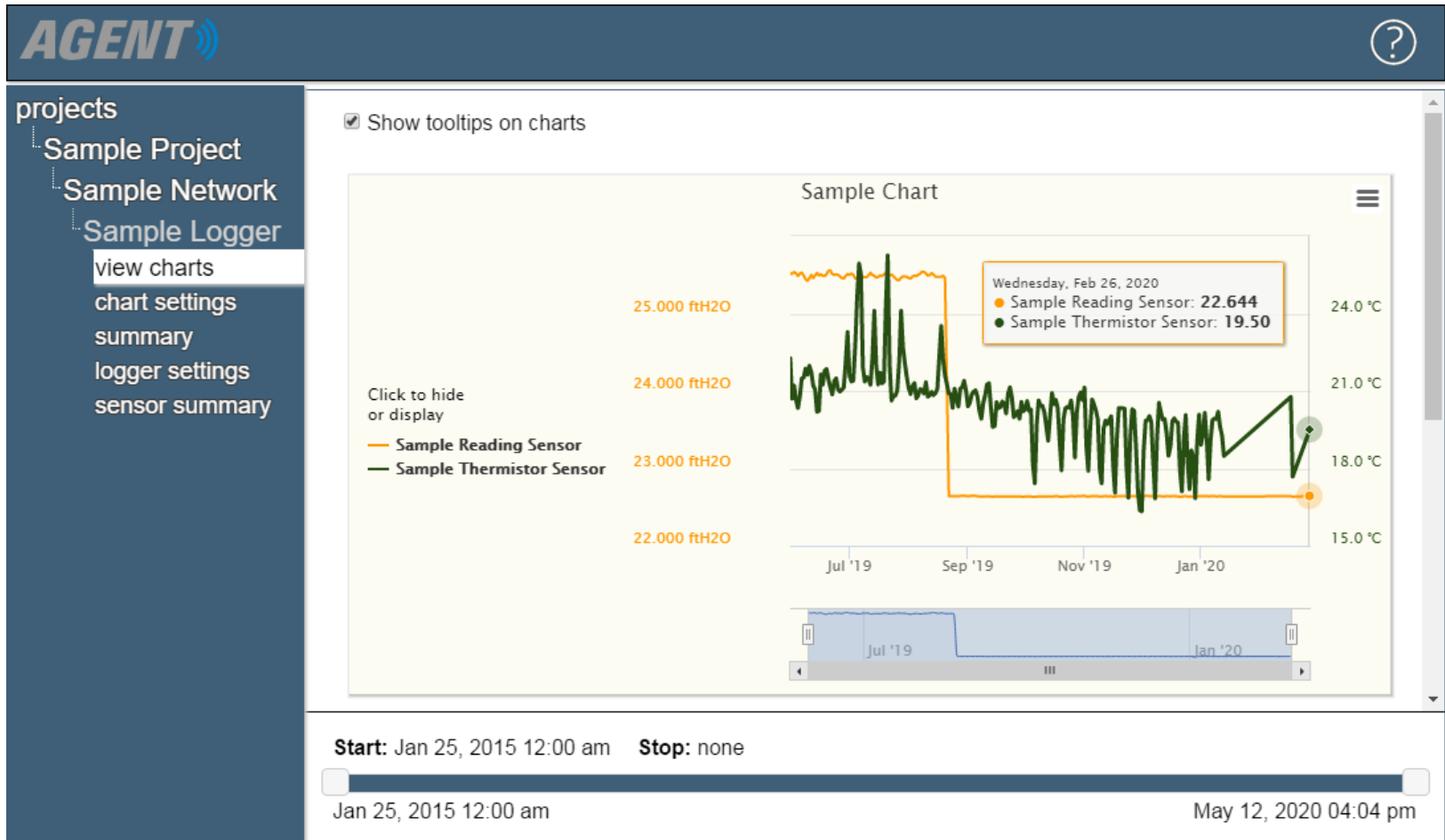
Adding a Thermistor Sensor (Continued)

5. The edit sensor dialog box will close, and the thermistor sensor will be added to the list of sensors on the logger settings screen (Sensor settings can be edited at any time by clicking on the name of the sensor)

The screenshot displays the 'logger settings' interface. On the left is a dark blue sidebar with a tree view containing the following items: 'projects', 'Sample Project', 'Sample Network', 'Logger 1', 'view charts', 'chart settings', 'summary', 'logger settings' (which is highlighted with a white background), and 'sensor summary'. The main content area is divided into two sections. The top section, titled 'Node', contains a form with three fields: 'Name' (containing 'Logger 1'), 'Serial Number' (containing '1533349'), and 'Type' (a dropdown menu showing 'VW Logger'). Below these fields is a 'Save' button. The bottom section, titled 'Sensors', contains a list of actions: 'Add reading sensor', 'Add multiple channels', 'Add thermistor sensor', and 'Add logger sensors'. Below the actions is a table of sensors. The table has four columns: 'Name', 'Type', 'Alerts', and 'Additional Information'. There are two rows of sensors. The first row is 'VW Reading' with Type 'Reading_1', Alerts 'None', and Additional Information 'Start date: 2016-08-25. End date: None'. The second row is 'Therm reading' with Type 'Therm_1', Alerts 'None', and Additional Information 'Start date: 2016-08-25. End date: None'. This second row is highlighted with a thick green border. Each row has a 'remove' link to its right.

Name	Type	Alerts	Additional Information
VW Reading	Reading_1	None	Start date: 2016-08-25. End date: None
Therm reading	Therm_1	None	Start date: 2016-08-25. End date: None

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 Network will be displayed (For information on how to download data, read the [Using Agent Software with GeoNet Wireless Data Hosting Systems](#) tutorial or refer to the [GeoNet manual](#))
- If automatic download is enabled, new data will be added to charts automatically each time data is downloaded from the Network
- If automatic download is disabled, charts will not update until a manual download is performed

Creating Charts

1. Select the Project and Network which contains the desired logger, then click on the name of the Logger

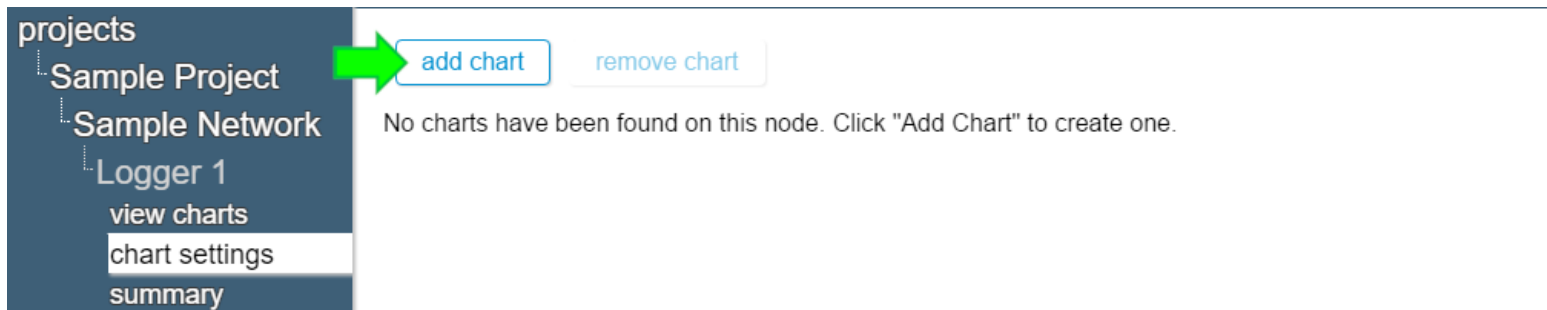
projects	<u>logger type</u>	<u>name</u>	<u>serial number</u>	<u>last reading</u>	<u>battery level</u>	<u>signal strength</u>	<u>charts</u>	<u>remove</u>
└ Sample Project	VW Logger	Logger 1	1537823	2020-02-27 10:30 -0500	2.9 volts	100%	1	X
└ Sample Network	VW Logger	Logger 2	1533349	2020-02-27 10:30 -0500	2.6 volts	100%	0	X
└ loggers	Gateway	Gateway	1537815	2021-06-25 12:24 -0400	2.9 volts	100%	1	X
└ network settings								
└ export								

2. Agent will navigate to the “view charts” screen, click “chart settings” on the left side of the screen

projects	No charts have been found on this logger. To create charts, select "chart settings". To enable existing charts, select "summary".
└ Sample Project	
└ Sample Network	
└ Logger 1	
└ view charts	
└ chart settings	
└ summary	
└ logger settings	

Creating Charts

1. Click "add chart"

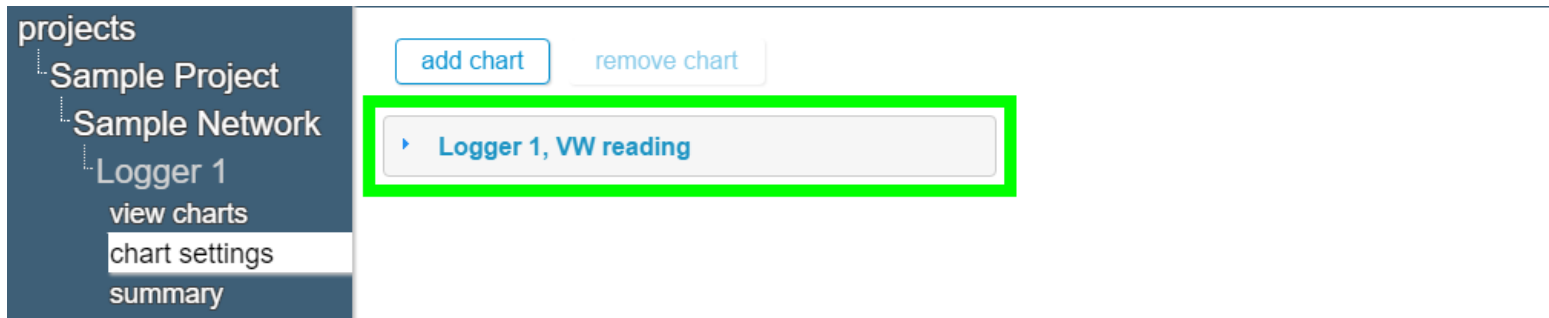


3. Give the chart a name, and then click "Ok"

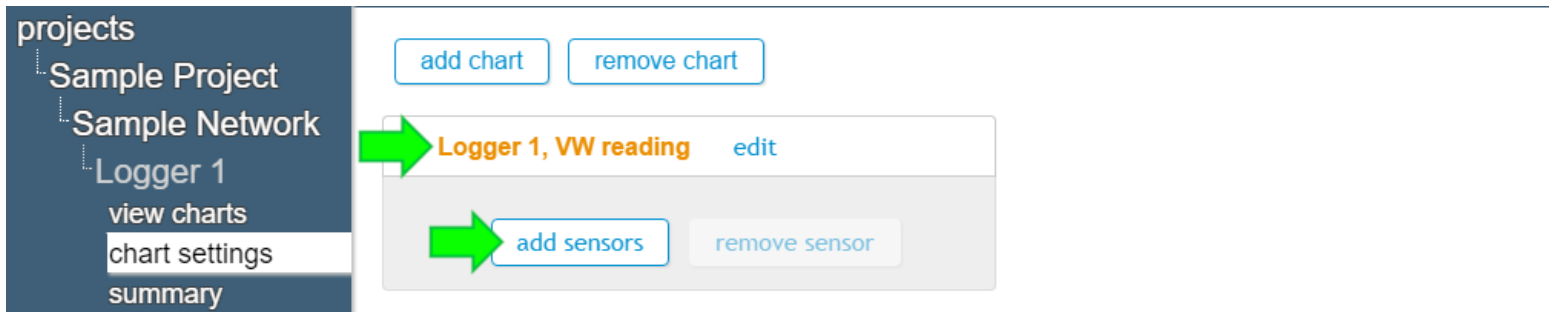


Creating Charts (Continued)

- Charts that have been added to a device will be shown in the “chart settings” screen

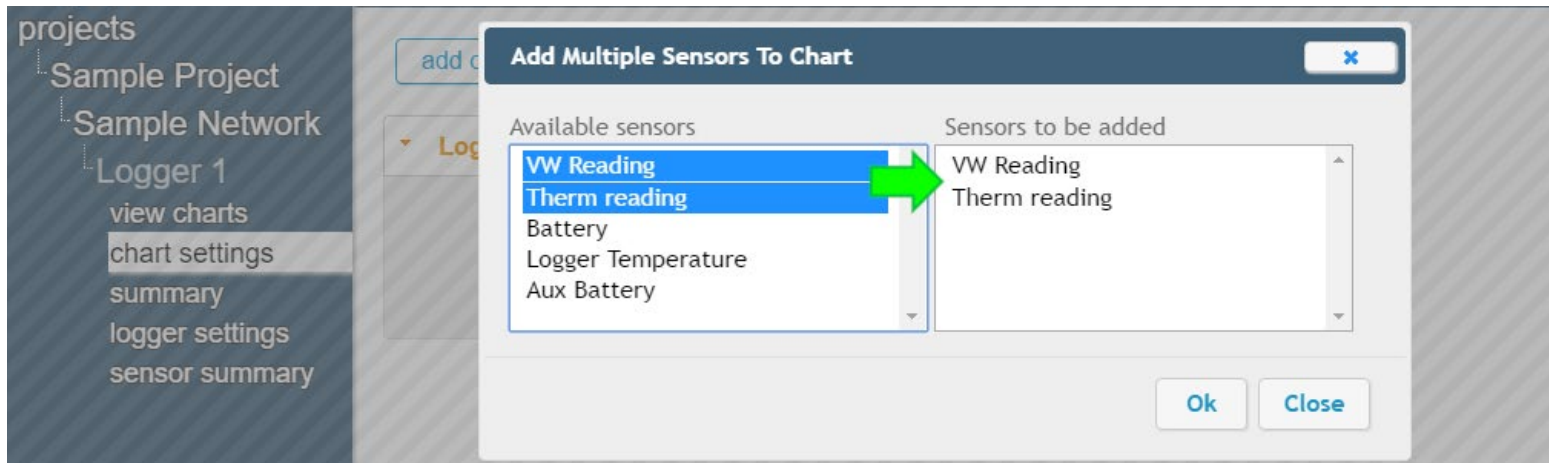


- Click on a chart name, and then click “add sensor”



Creating Charts (Continued)

6. Select sensors to move them from the “Available sensors” column to the “Sensors to be added” column
(Only sensors that were previously added to the device will be shown as “Available Sensors”)



7. When all desired sensors have been added, click “Ok”

Creating Charts (Continued)

8. Sensors added to the chart will be shown below the chart name

The screenshot displays the 'Logger 1, VW reading' chart settings page. The left sidebar contains a navigation menu with the following items: 'projects', 'Sample Project', 'Sample Network', 'Logger 1', 'view charts', 'chart settings' (highlighted), 'summary', 'logger settings', and 'sensor summary'. The main content area features a header with 'add chart' and 'remove chart' buttons. Below this is a section titled 'Logger 1, VW reading' with an 'edit' link. A green border highlights the sensor list, which includes two entries: 'Sensor: VW Reading' and 'Sensor: Therm reading'. Each entry shows 'SN: None', 'Start Date: Aug 25, 2016', and 'End Date : None'. At the bottom of the sensor list are 'add sensors' and 'remove sensor' buttons.

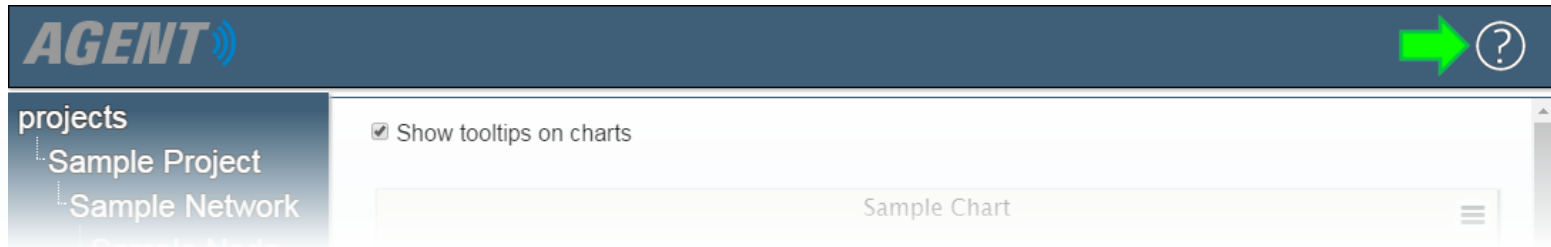
Viewing Charts

- Click “view charts” to display all charts on the device



For more information...

- Consult the Agent instruction manual, which can be accessed by clicking on the question mark at the top of the screen



- Instruction manuals are available for download at: www.geokon.com/Manuals
- Please visit www.geokon.com/Tutorials for more tutorials