




Product Tutorial

Using Agent Software with 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 which contains the Node(s) reading vibrating wire sensor(s), then perform a data download

Adding Sensors



Adding a Reading Sensor to a Node

- To view the data collected from a vibrating wire sensor, a “reading sensor” must be added in Agent
1. To add a reading sensor, select a Project, a Network, and then a Node which has a vibrating wire sensor attached

projects	<u>node 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	Supervisor	Sup.	1537815	2020-02-27 10:00 -0500	2.9 volts	100%	0	X
└ Sample Network	8800-XX-01C	Node	1537823	2020-02-27 10:30 -0500	2.9 volts	100%	0	X
└ nodes								
└ network settings								

2. Agent will navigate to the “view charts” screen.

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

Adding a Reading Sensor to a Node (Continued)

3. Click “node settings” on the left side of the screen, then click “Add reading sensor”

The screenshot displays the 'Node Settings' interface. On the left, a sidebar menu lists the following options: 'projects', 'Sample Project', 'Sample Network', 'Sample Node', 'view charts', 'chart settings', 'summary', 'node settings' (highlighted with a green arrow), and 'sensor summary'. The main content area is divided into two sections. The 'Node' section contains a form with three fields: 'Name' (containing 'Sample Node'), 'Serial Number' (containing '1537823'), and 'Type' (a dropdown menu showing '8800-XX-01C'). A 'Save' button is located below these fields. The 'Sensors' section contains three links: 'Add reading sensor' (highlighted with a green arrow), 'Add thermistor sensor', and 'Add node sensors'.

Adding a Reading Sensor to a Node (Continued)

4. The edit sensor dialog box will open

projects

- Sample Project
- Sample Network
- Sample Node
- view charts
- chart settings
- summary
- node 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):

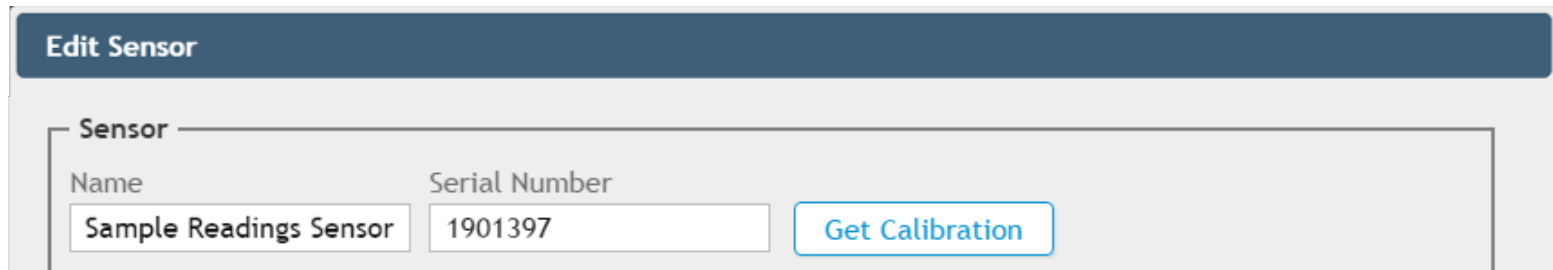
[Save](#) [Cancel](#)

Adding a Reading Sensor to a Node (Continued)

5. If using a GeoNet Node to establish the initial zero reading (rather than a readout box such as a GK-404) complete the following before moving on
 - ▶ Click “Save” without making any changes in the edit sensor dialog
 - ▶ Prepare the VW sensor as described in the provided manual
 - ▶ Allow enough time to pass to ensure that at least one sensor reading has been taken (Minimum time = Network “Scan Rate” + 3 minutes)
 - ▶ Perform a data download
 - ▶ [Create a chart](#) for the Reading Sensor or export the Network data
 - ▶ Note the current sensor output and ambient temperature, this information will be used as the initial zero reading
 - ▶ Return to the node settings screen and click on the reading sensor name to reopen the edit sensor dialog

Adding a Reading Sensor to a Node (Continued)

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



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 GEOKON's calibration database and automatically populate them into the Edit Sensor dialog (Only available for VW sensors manufactured after 2016)

Adding a Reading Sensor to a Node (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

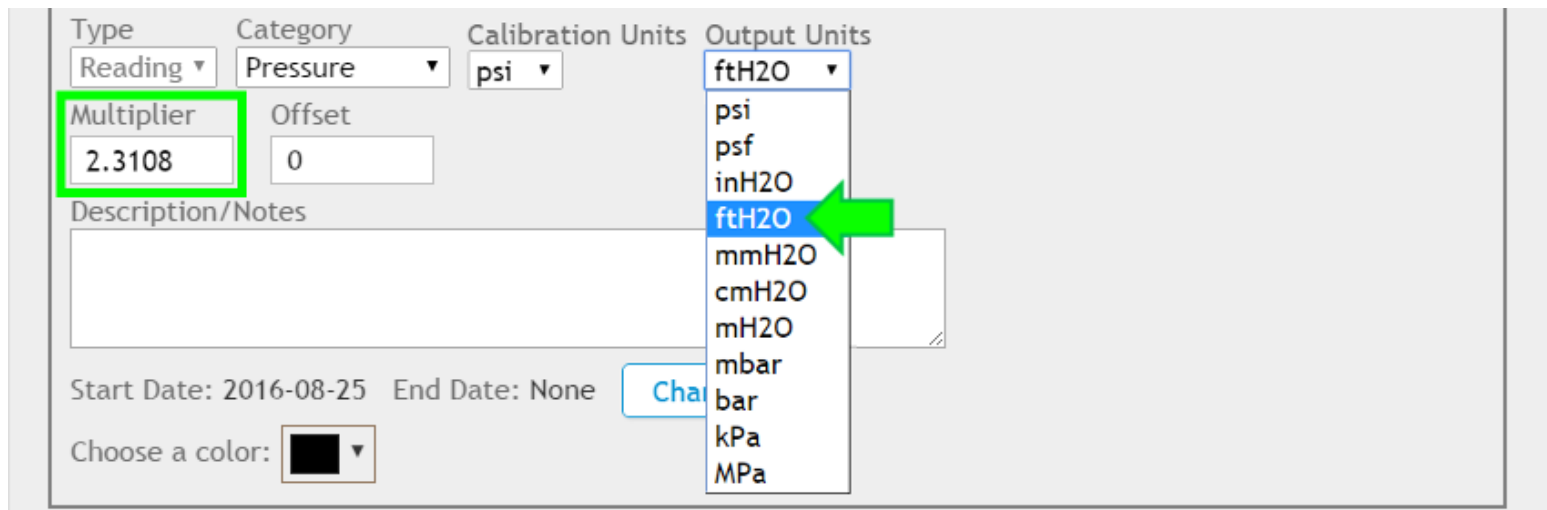
The screenshot shows a 'Sensor' configuration form. The 'Name' field contains 'S.E. well piezo' and the 'Serial Number' field contains '1901397'. A 'Get Calibration' button is to the right. The 'Type' dropdown is set to 'Reading'. The 'Multiplier' field contains '1'. The 'Category' dropdown is open, 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. The 'Description/' field is empty.

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

Adding a Reading Sensor to a Node (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 displays a configuration form for a sensor. The 'Type' is set to 'Reading', 'Category' to 'Pressure', and 'Calibration Units' to 'psi'. The 'Multiplier' field is highlighted with a green box and contains the value '2.3108'. The 'Offset' field contains '0'. The 'Output Units' dropdown menu 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 'Description/Notes' field is empty. At the bottom, there are fields for 'Start Date: 2016-08-25', 'End Date: None', a 'Cha' button, and a 'Choose a color' dropdown set to black.

Type	Category	Calibration Units	Output Units
Reading	Pressure	psi	ftH2O

Multiplier: 2.3108
Offset: 0

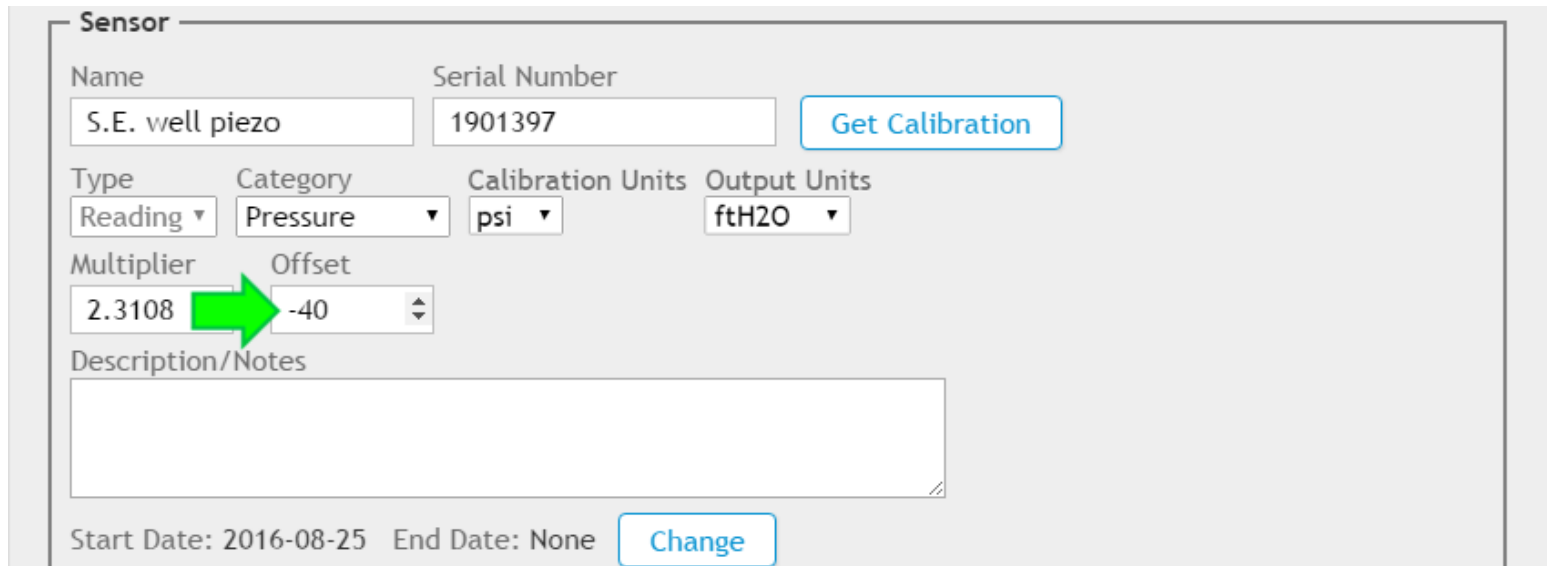
Description/Notes

Start Date: 2016-08-25 End Date: None Cha

Choose a color: [Black]

Adding a Reading Sensor to a Node (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

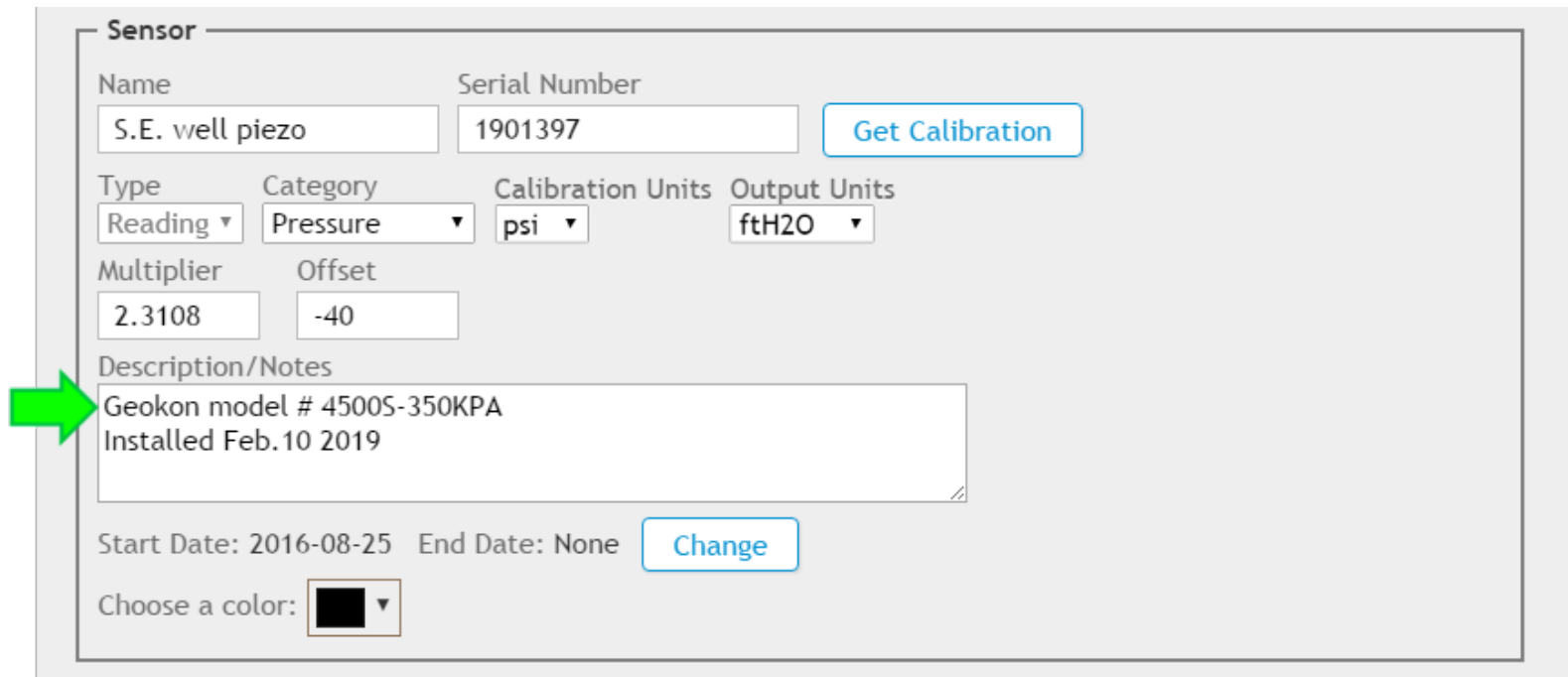


The screenshot shows a 'Sensor' configuration form. The 'Name' field contains 'S.E. well piezo' and the 'Serial Number' field contains '1901397'. A 'Get Calibration' button is to the right. Below these are four dropdown menus: 'Type' (Reading), 'Category' (Pressure), 'Calibration Units' (psi), and 'Output Units' (ftH2O). The 'Multiplier' field contains '2.3108' and the 'Offset' field contains '-40'. A green arrow points from the 'Multiplier' field to the 'Offset' field. Below these is a 'Description/Notes' text area. At the bottom, it shows 'Start Date: 2016-08-25' and 'End Date: None' with a 'Change' button.

Sensor			
Name	Serial Number		
S.E. well piezo	1901397		
Get Calibration			
Type	Category	Calibration Units	Output Units
Reading	Pressure	psi	ftH2O
Multiplier	Offset		
2.3108	-40		
Description/Notes			
<div></div>			
Start Date: 2016-08-25		End Date: None	
		Change	

Adding a Reading Sensor to a Node (Continued)

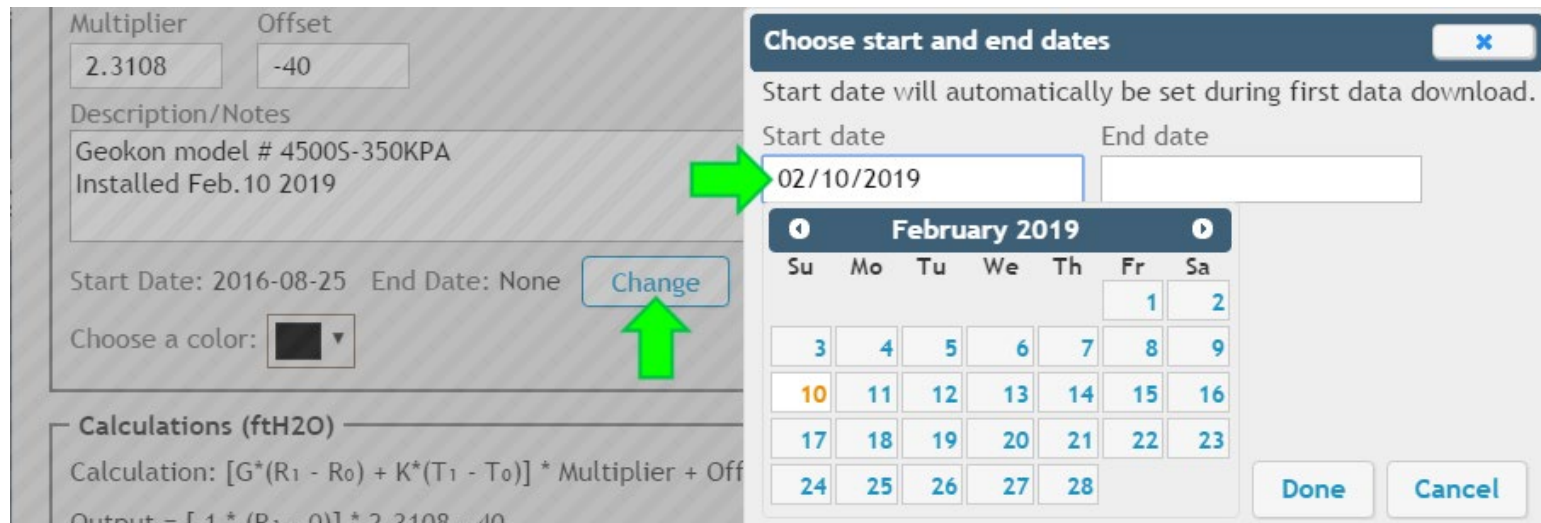
11. The Description/Notes field is provided for the user to record any additional information about the VW sensor



The screenshot shows a 'Sensor' configuration form. At the top, there are input fields for 'Name' (containing 'S.E. well piezo') and 'Serial Number' (containing '1901397'), followed by a 'Get Calibration' button. Below these are four dropdown menus: 'Type' (set to 'Reading'), 'Category' (set to 'Pressure'), 'Calibration Units' (set to 'psi'), and 'Output Units' (set to 'ftH2O'). Underneath are input fields for 'Multiplier' (2.3108) and 'Offset' (-40). A large text area for 'Description/Notes' contains the text 'Geokon model # 4500S-350KPA' and 'Installed Feb.10 2019', with a green arrow pointing to it from the left. At the bottom, there are fields for 'Start Date' (2016-08-25) and 'End Date' (None), a 'Change' button, and a 'Choose a color' dropdown menu showing a black color swatch.

Adding a Reading Sensor to a Node (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 Node)



The screenshot shows a sensor configuration window with the following fields:

- Multiplier:** 2.3108
- Offset:** -40
- Description/Notes:** Geokon model # 4500S-350KPA
Installed Feb.10 2019
- Start Date:** 2016-08-25
- End Date:** None
- Change** button (highlighted with a green arrow)
- Choose a color:** [Color selection dropdown]
- Calculations (ftH2O):**
Calculation: $[G^*(R_1 - R_0) + K^*(T_1 - T_0)] * \text{Multiplier} + \text{Off}$
Output: $[1 * (R_1 - 0)] * 2.3108 - 40$

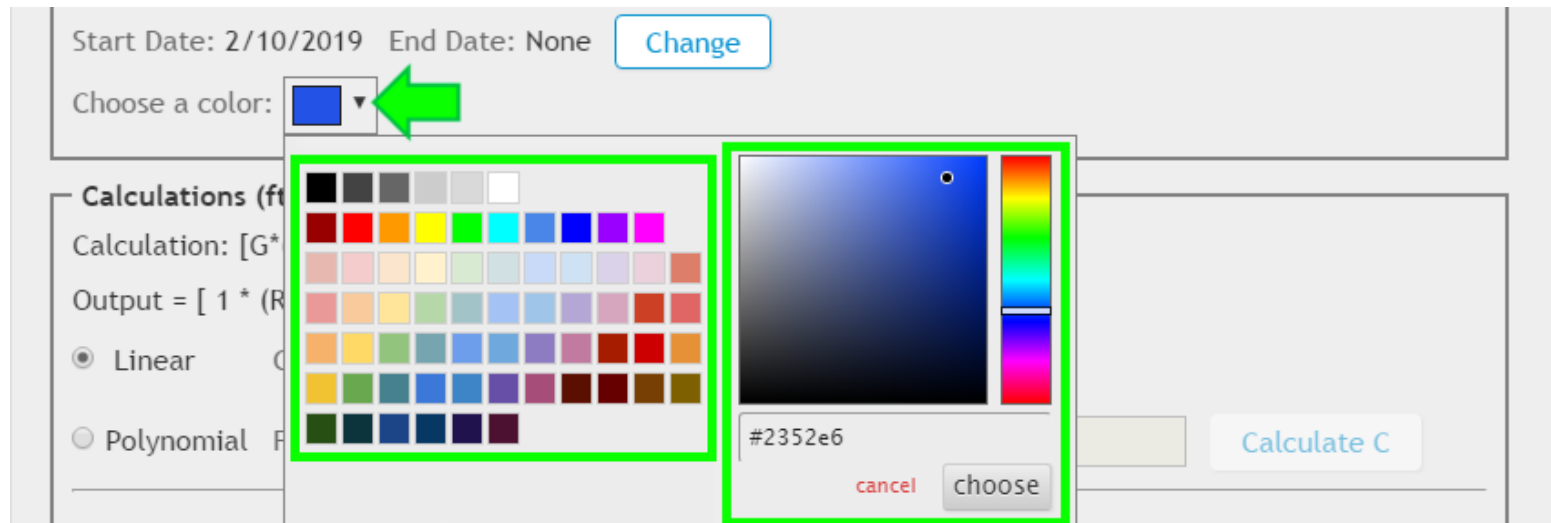
A modal window titled "Choose start and end dates" is open, showing a calendar for February 2019. The Start date is set to 02/10/2019. The End date field is empty. The calendar shows the following dates:

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		

Buttons: Done, Cancel

Adding a Reading Sensor to a Node (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 to a Node (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):
☐ Polynomial Factors A: B: C: [Calculate C](#)
☐ Temperature Correction
Thermal Factor(K): Zero Temperature(T₀):

Adding a Reading Sensor to a Node:

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 to a Node: 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 to a Node: Linear Calculations (Continued)

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

Calculations (ftH2O)

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

Output = $[-0.01596 \cdot (R_1 - 8621)] \cdot 2.3108 - 40$

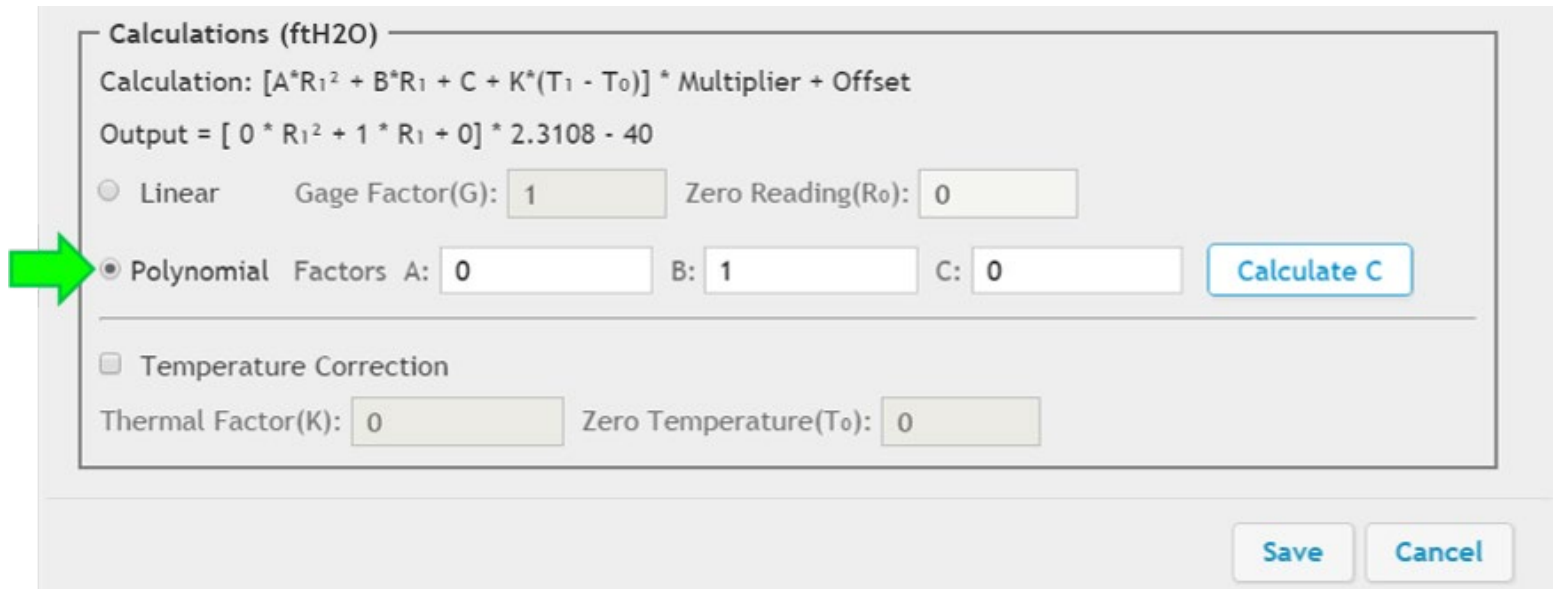
☒ Linear Gage Factor(G): Zero Reading(R₀):

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

- It is essential that an accurate onsite zero reading is entered. This reading will be used for all subsequent data reduction. Consult the sensor manual for more information.

Adding a Reading Sensor to a Node: Polynomial Calculations

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




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): Zero Reading(R₀):

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

☐ Temperature Correction

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

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

Adding a Reading Sensor to a Node: 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)

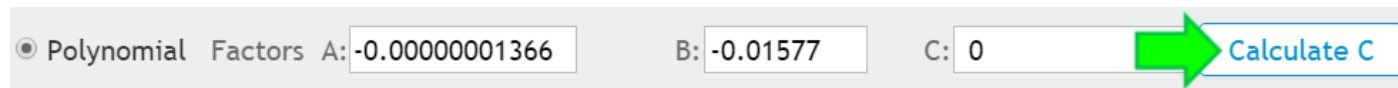
Polynomial Gauge factors: A: -9.418E-08 B: -0.1087 C: _____

Agent:

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

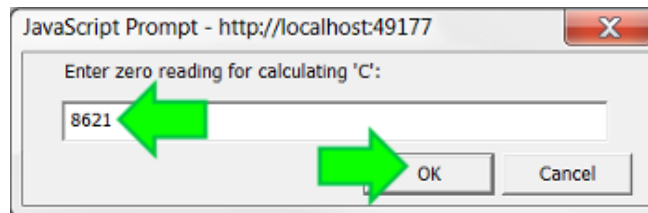
Adding a Reading Sensor to a Node: Polynomial Calculations (Continued)

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"

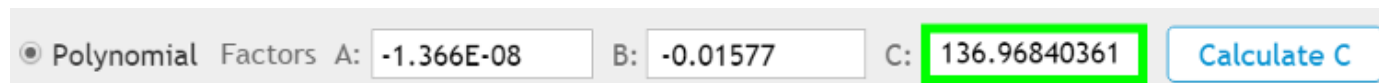


JavaScript Prompt - http://localhost:49177

Enter zero reading for calculating 'C':

8621 OK Cancel

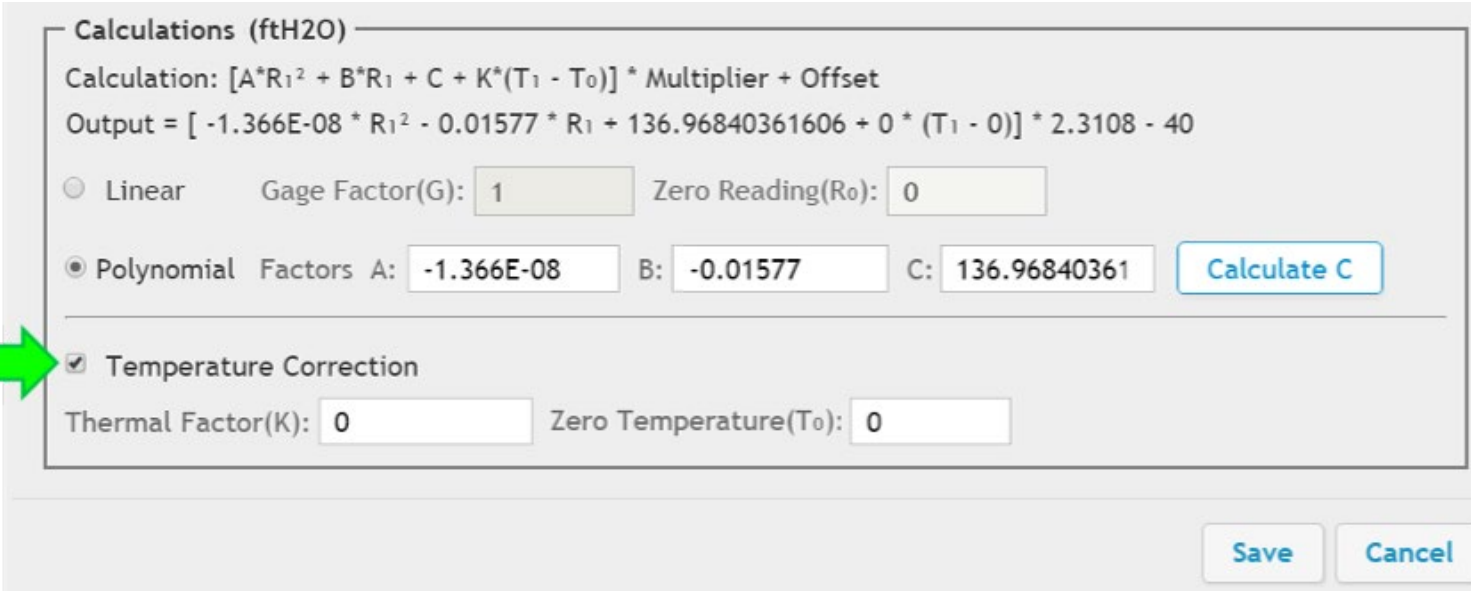
21. Agent will calculate and display the value of Factor "C" based on the information entered



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

Adding a Reading Sensor to a Node: 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):

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

 ☒ Temperature Correction

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

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

Adding a Reading Sensor to a Node: 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(To):

Metric Example

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

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

Adding a Reading Sensor to a Node: 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):

☒ Polynomial

Factors A:

B:

C:

Calculate C

☒ Temperature Correction

Thermal Factor(K):

Zero Temperature(T₀):

SaveCancel

Adding a Reading Sensor to a Node: (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, Sample Node, view charts, chart settings, summary, node 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
- Choose a color: Blue (dropdown)
A 'Get Calibration' button is located next to 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 (Polynomial is selected).
- Gage Factor(G): 1
- Zero Reading(R0): 0
- Factors A: -1.366E-08, B: -0.01577, C: 136.96840361
- Thermal Factor(K): -0.0004642
- Zero Temperature(T0): 20.8
A 'Calculate C' button is next to the C factor field.
At the bottom right, there are 'Save' and 'Cancel' buttons. A green arrow points to the 'Save' button.

Adding a Reading Sensor to a Node (Continued)

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

The screenshot shows the 'node settings' page. On the left is a sidebar with a tree view containing: projects, Sample Project, Sample Network, Sample Node, view charts, chart settings, summary, node settings (highlighted), and sensor summary. The main content area has two sections: 'Node' and 'Sensors'. The 'Node' section contains fields for Name (Sample Node), Serial Number (1537823), and Type (8800-XX-01C), with a 'Save' button. The 'Sensors' section contains links to 'Add reading sensor', 'Add thermistor sensor', and 'Add node sensors'. Below these links is a table of sensors. The first row of the table is highlighted with a green border and contains: 'Sample Reading Sensor', 'Reading_1', 'None', and 'Start date: 2016-08-22. End date: None'. A 'remove' link is at the end of this row.

Name	Type	Alerts	Additional Information
Sample Reading Sensor	Reading_1	None	Start date: 2016-08-22. End date: None remove

Adding a Thermistor Sensor to a Node

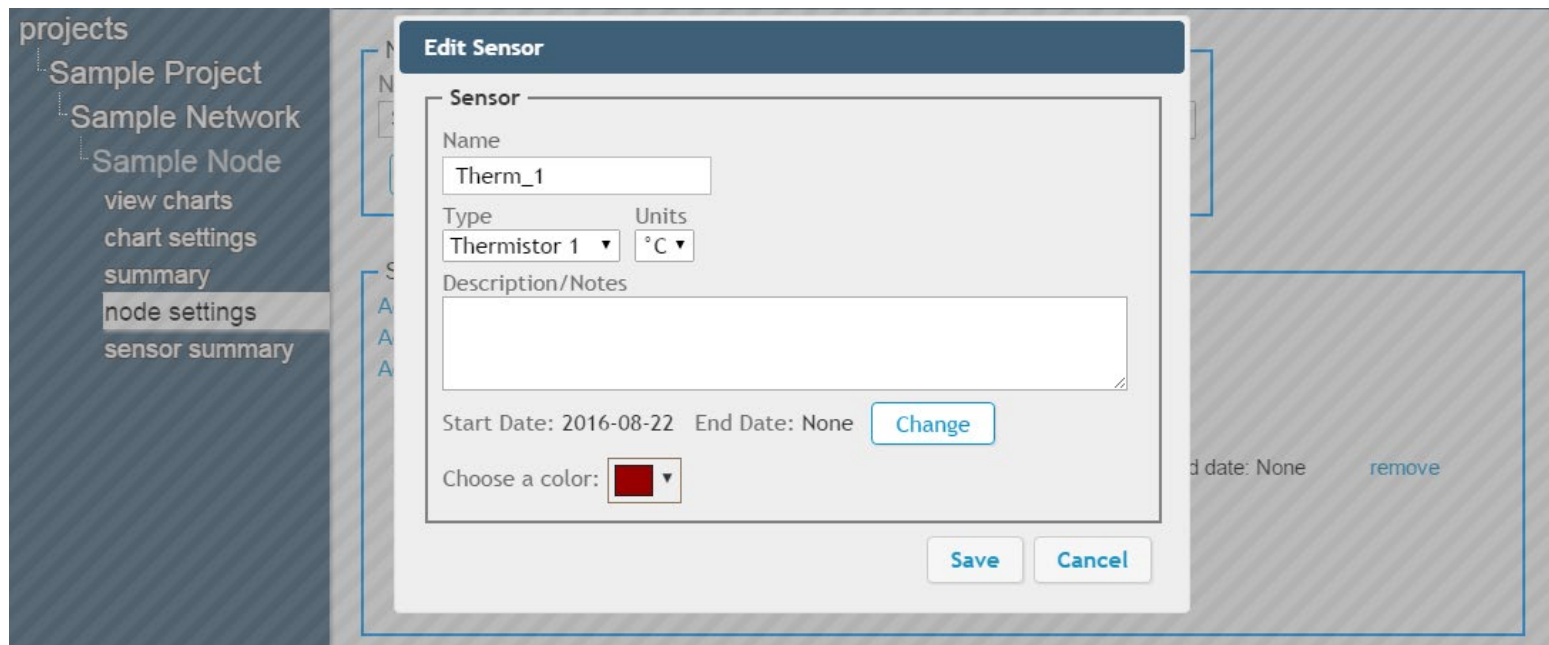
- Most GEOKON vibrating wire sensors include a built-in thermistor. To view the temperature data collected by the thermistor, a “thermistor sensor” must be added in Agent
- To add a thermistor sensor, click “Add thermistor sensor”

The screenshot displays the GEOKON Agent interface. On the left is a dark blue sidebar with a 'projects' menu containing 'Sample Project', 'Sample Network', 'Sample Node', 'view charts', 'chart settings', 'summary', 'node settings' (highlighted), and 'sensor summary'. The main content area is divided into two sections: 'Node' and 'Sensors'. The 'Node' section contains a form with fields for 'Name' (Sample Node), 'Serial Number' (1537823), and 'Type' (8800-XX-01C), with a 'Save' button below. The 'Sensors' section contains three links: 'Add reading sensor', 'Add thermistor sensor' (pointed to by a green arrow), and 'Add node sensors'. Below these links is a table listing existing sensors.

Name	Type	Alerts	Additional Information
Sample Reading Sensor	Reading_1	None	Start date: 2016-08-22. End date: None remove

Adding a Thermistor Sensor to a Node (Continued)

2. The edit sensor dialog box will open



Adding a Thermistor Sensor to a Node (Continued)

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

The screenshot shows the 'Edit Sensor' dialog box in a software application. On the left is a sidebar with a tree view containing 'projects', 'Sample Project', 'Sample Network', 'Sample Node', 'view charts', 'chart settings', 'summary', 'node settings' (highlighted), and 'sensor summary'. The dialog box has a title bar 'Edit Sensor' and a 'Sensor' section. Inside, there is a 'Name' field with 'Therm_1', a 'Type' dropdown with 'Thermistor 1', and a 'Units' dropdown with '°C' selected. A green arrow points to the 'Units' dropdown. Below these is a 'Description/Notes' text area. At the bottom of the dialog, there are fields for 'Start Date: 2016-08-22' and 'End Date: None', a 'Change' button, a 'Choose a color:' field with a red color swatch, and 'Save' and 'Cancel' buttons. The background shows a blurred view of the 'Sample Node' page with a 'view charts' button and a 'remove' button.

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

Adding a Thermistor Sensor to a Node (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 web application interface with a sidebar on the left containing a tree view of 'projects' with sub-items: 'Sample Project', 'Sample Network', 'Sample Node', 'view charts', 'chart settings', 'summary', 'node settings' (highlighted), and 'sensor summary'. The main area displays an 'Edit Sensor' dialog box. The dialog has a title bar 'Edit Sensor' and a 'Sensor' section. Inside the section, there are fields for 'Name' (containing 'Sample Thermistor'), 'Type' (a dropdown menu showing 'Thermistor 1'), and 'Units' (a dropdown menu showing '°C'). Below these is a 'Description/Notes' text area containing 'Internal thermistor' and '4500S-350KPA S/N 1901397'. At the bottom of the section, there are 'Start Date: 2016-08-22' and 'End Date: None' with a 'Change' button next to the end date. Below the section is a 'Choose a color:' label and a color picker showing a red square. At the bottom of the dialog, there are 'Save' and 'Cancel' buttons. A green arrow points to the 'Save' button. In the background, partially visible, is a 'remove' button.

Adding a Thermistor Sensor to a Node (Continued)

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

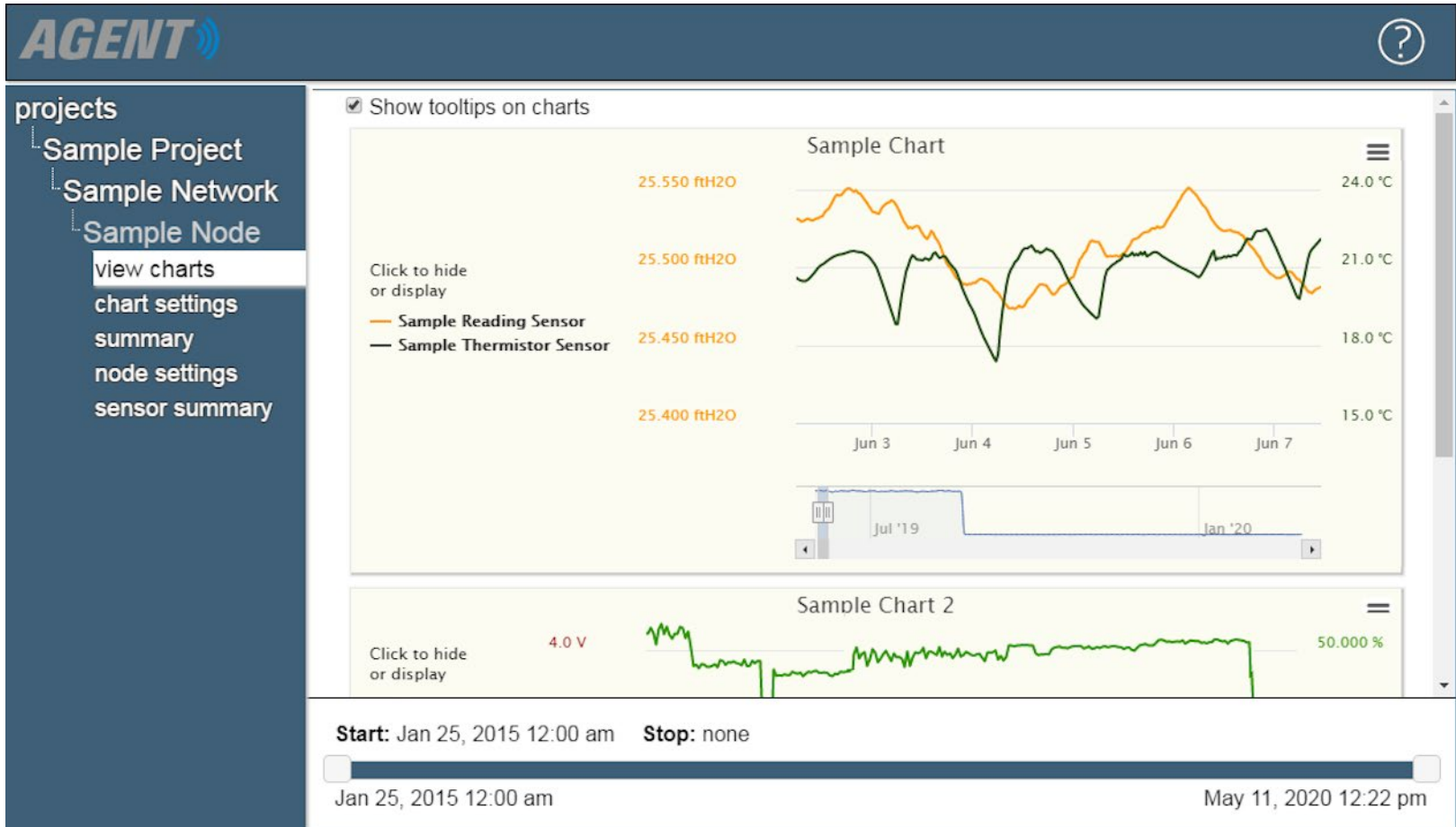
The screenshot displays the 'node settings' interface. On the left is a sidebar with a tree view containing 'Sample Project', 'Sample Network', 'Sample Node', 'view charts', 'chart settings', 'summary', 'node settings' (highlighted), and 'sensor summary'. The main content area is divided into two sections: 'Node' and 'Sensors'.

The 'Node' section contains a form with three fields: 'Name' (Sample Node), 'Serial Number' (1537823), and 'Type' (8800-XX-01C). A 'Save' button is located below these fields.

The 'Sensors' section contains three links: 'Add reading sensor', 'Add thermistor sensor', and 'Add node sensors'. Below these links is a table listing the sensors on the node.

Name	Type	Alerts	Additional Information
Sample Reading Sensor	Reading_1	None	Start date: 2016-08-22. End date: None remove
Sample Thermistor	Therm_1	None	Start date: 2016-08-22. End date: None remove

Charts

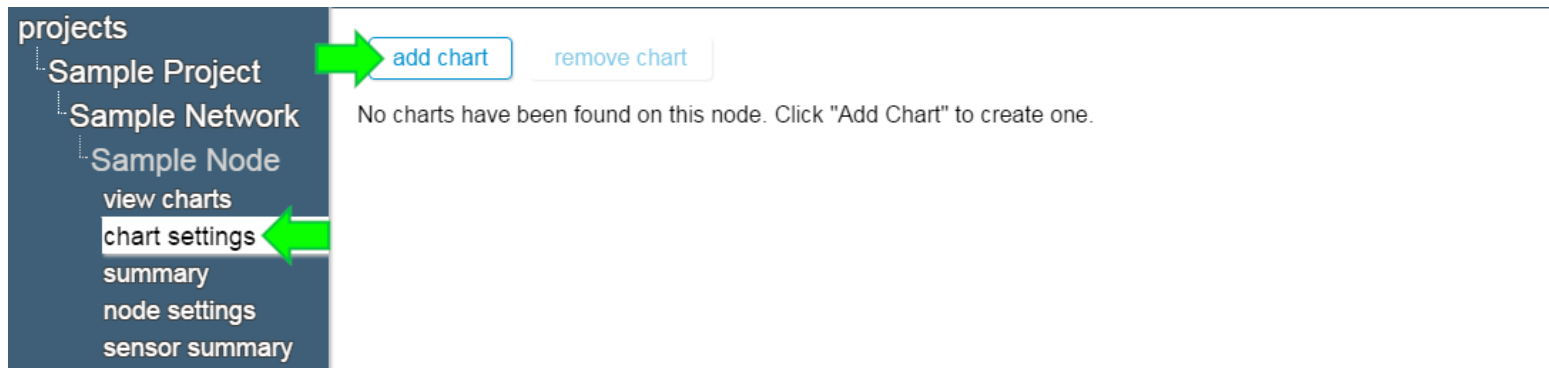


Charts

- 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, view the [Agent tutorial](#) 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 Network
- If automatic download is disabled, charts will not update until a manual download is performed

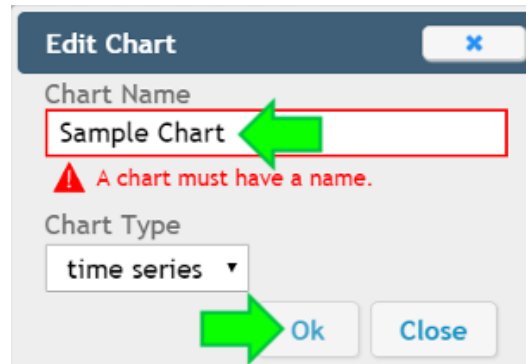
Creating Charts

1. Select a Project, a Network, and then the device the chart will be added to
2. Click “chart settings” then “add chart”



Creating Charts (Continued)

3. Enter a chart name and then click "Ok"



Edit Chart [X]

Chart Name
Sample Chart

⚠ A chart must have a name.

Chart Type
time series ▼

Ok Close

4. Charts that have been added to a device will be shown in the "chart settings" screen



projects

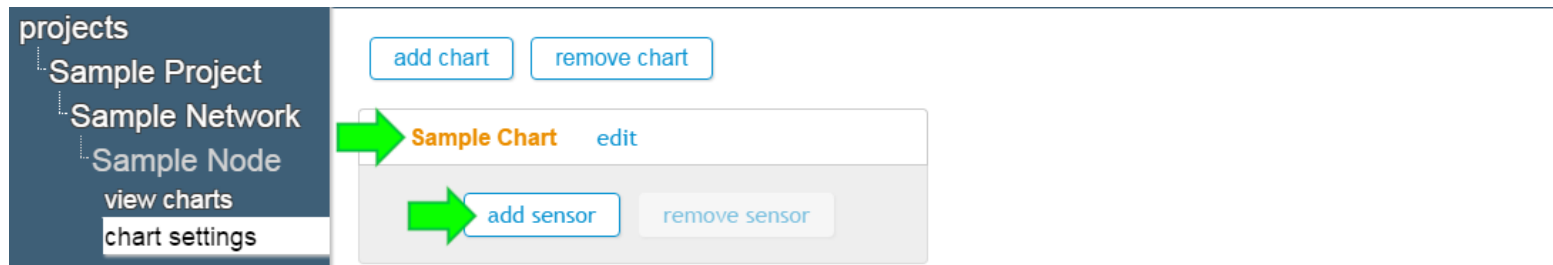
- Sample Project
 - Sample Network
 - Sample Node
 - view charts
 - chart settings

add chart remove chart

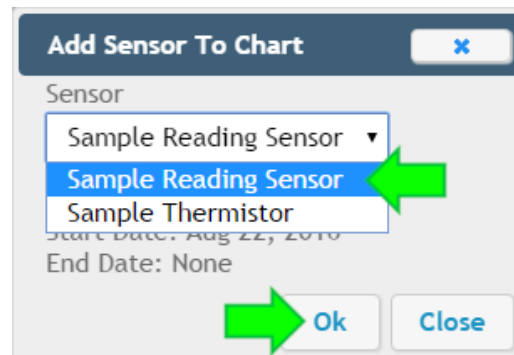
▶ Sample Chart

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”
(Only sensors previously added to the device will be shown)



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 tree view containing: 'projects', 'Sample Project', 'Sample Network', 'Sample Node', 'view charts', 'chart settings' (highlighted), 'summary', 'node settings', and 'sensor summary'. The main content area has a light gray background. At the top 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.

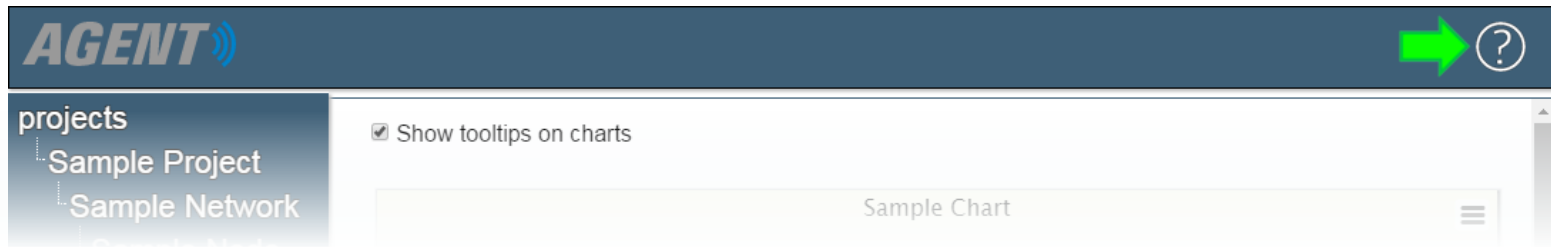
Viewing Charts

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



For more information...

- Consult the GeoNet and Agent 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
- Please visit www.geokon.com/Tutorials for more tutorials