




# Product Tutorial

# Using Agent Software with Vibrating Wire Sensors



# Before Continuing

 Prior to viewing this tutorial, please view the [Agent Software](#) 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

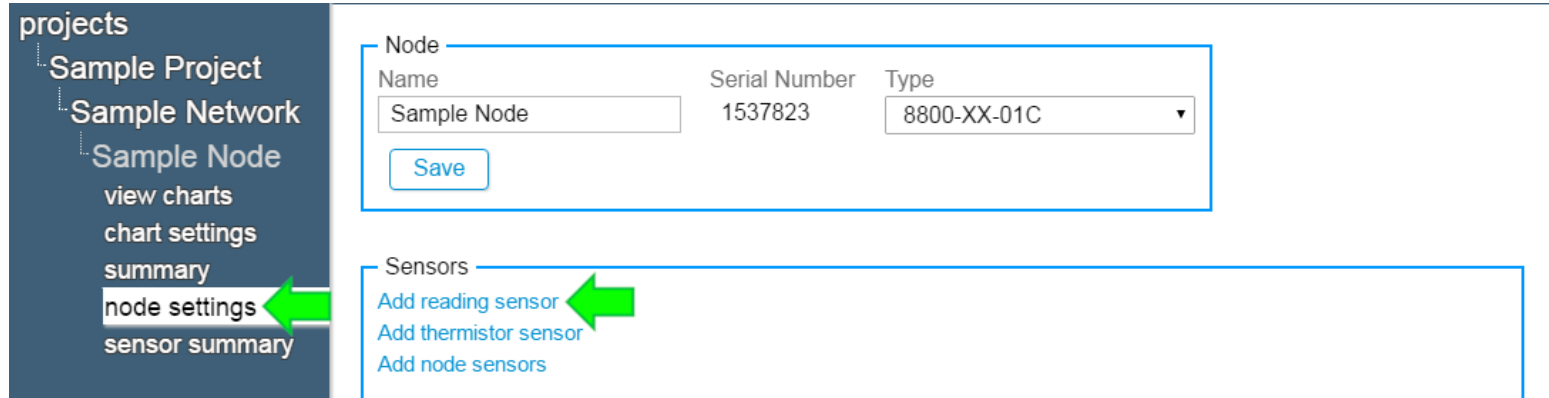
projects <ul style="list-style-type: none"><li>Sample Project<ul style="list-style-type: none"><li>Sample Network<ul style="list-style-type: none"><li>nodes</li><li>network settings</li></ul></li></ul></li></ul>	node type	name	serial number	last reading	battery level	signal strength	charts	remove
	Supervisor	Sup.	1537815	2020-02-27 10:00 -0500	2.9 volts	100%	0	X
	8800-XX-01C	Node	1537823	2020-02-27 10:30 -0500	2.9 volts	100%	0	X

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

projects <ul style="list-style-type: none"><li>Sample Project<ul style="list-style-type: none"><li>Sample Network<ul style="list-style-type: none"><li>Sample Node<ul style="list-style-type: none"><li>view charts</li><li>chart settings</li></ul></li></ul></li></ul></li></ul>	<p>No charts have been found on this node.</p> <p>To create charts, select "chart settings".</p> <p>To enable existing charts, select "summary".</p>
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# 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 shows a web interface for managing nodes. On the left is a dark blue sidebar with a 'projects' section containing a tree view: 'Sample Project', 'Sample Network', 'Sample Node', 'view charts', 'chart settings', 'summary', 'node settings', and 'sensor summary'. A green arrow points to 'node settings'. 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 three links: 'Add reading sensor', 'Add thermistor sensor', and 'Add node sensors'. A green arrow points to 'Add reading sensor'.

**projects**

- Sample Project
- Sample Network
- Sample Node
  - view charts
  - chart settings
  - summary
  - node settings**
  - sensor summary

**Node**

Name	Serial Number	Type
Sample Node	1537823	8800-XX-01C

Save

**Sensors**

- Add reading sensor
- Add thermistor sensor
- 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: Reading\_1 Serial Number:  [Get Calibration](#)

Type: Reading 1 Category: Default Calibration Units: - Output Units: Digits

Multiplier: 1 Offset: 0

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): 1 Zero Reading(R0): 0

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

☐ Temperature Correction

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

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

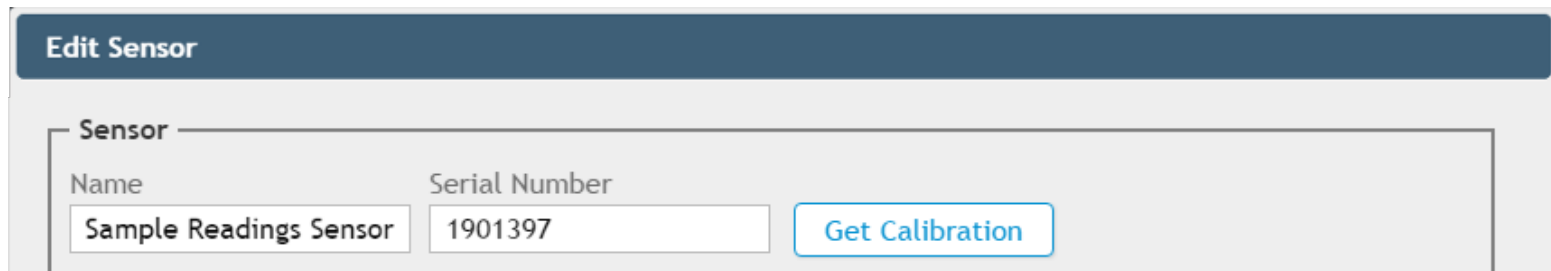
# Adding a Reading Sensor to a Node (Continued)

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 titled "Edit Sensor". Inside the dialog, under the "Sensor" section, there are two input fields. The "Name" field contains the text "Sample Readings Sensor" and the "Serial Number" field contains the text "1901397". To the right of these 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 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

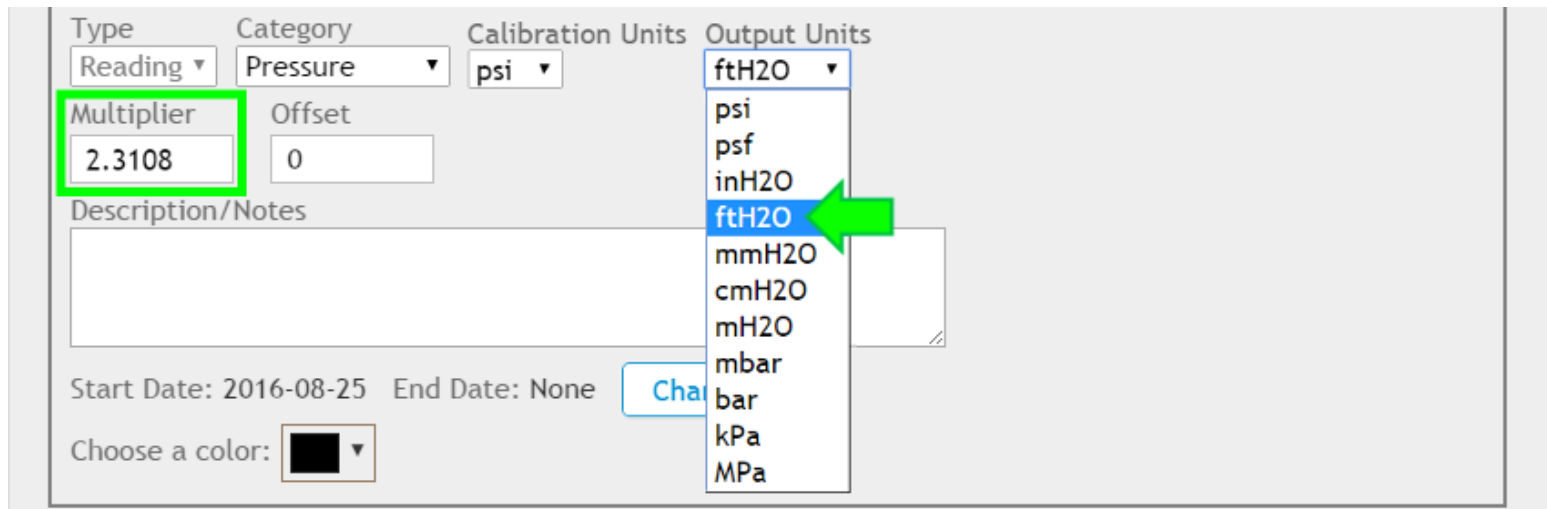
The screenshot shows a 'Sensor' configuration form. The 'Name' field contains 'S.E. well piezo' and the 'Serial Number' field contains '1901397'. A 'Get Calibration' button is to the right. The 'Type' dropdown is set to 'Reading'. The 'Multiplier' field contains '1'. The 'Category' dropdown is open,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

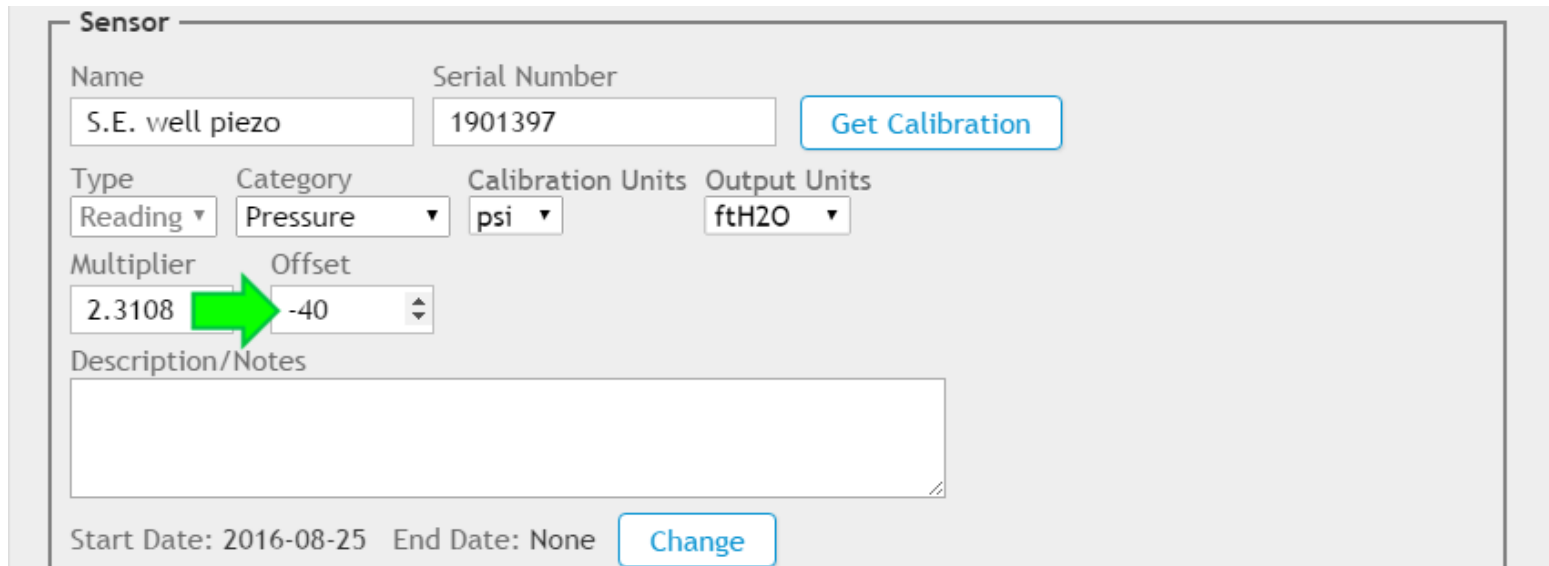
Description/Notes

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



**Sensor**

Name: S.E. well piezo      Serial Number: 1901397      [Get Calibration](#)

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

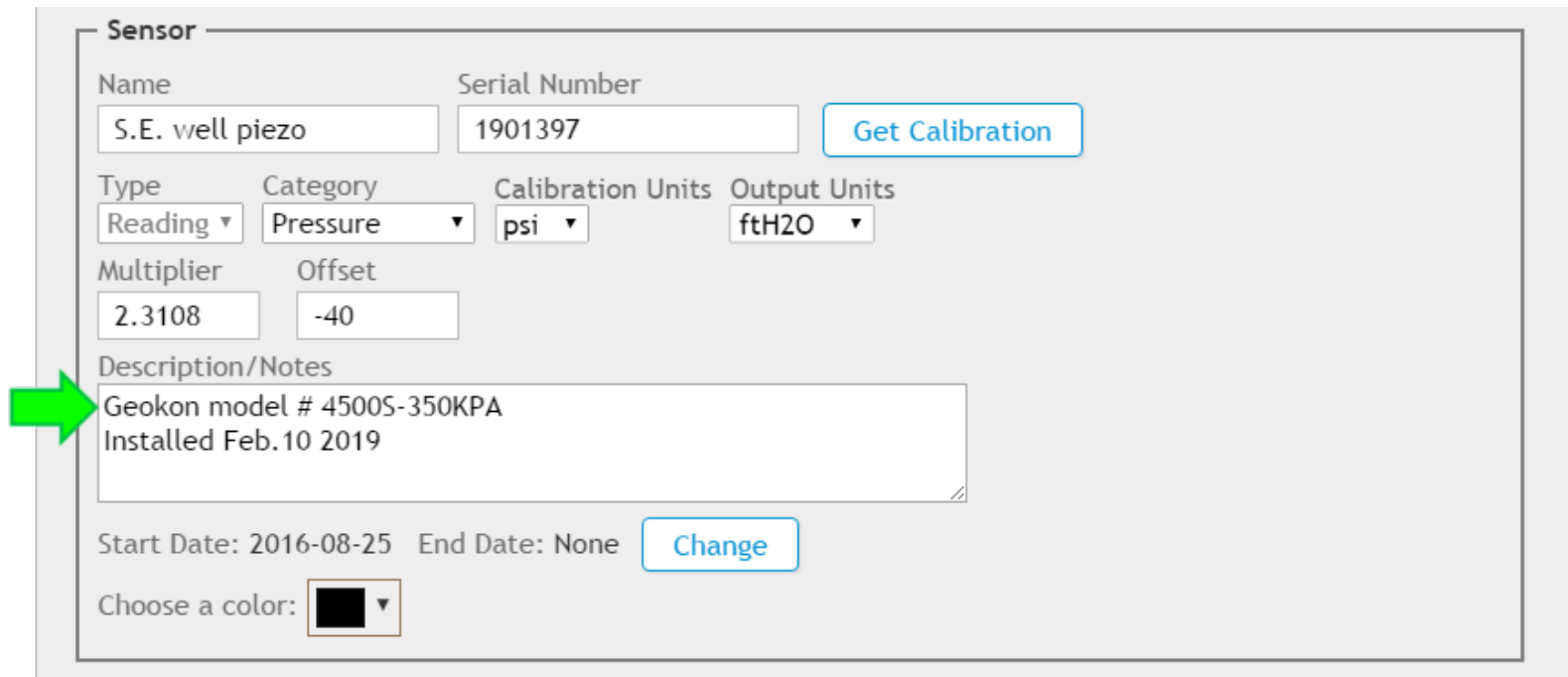
Multiplier: 2.3108      Offset: -40 ▾

Description/Notes

Start Date: 2016-08-25      End Date: None      [Change](#)

# Adding a Reading Sensor to a Node (Continued)

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

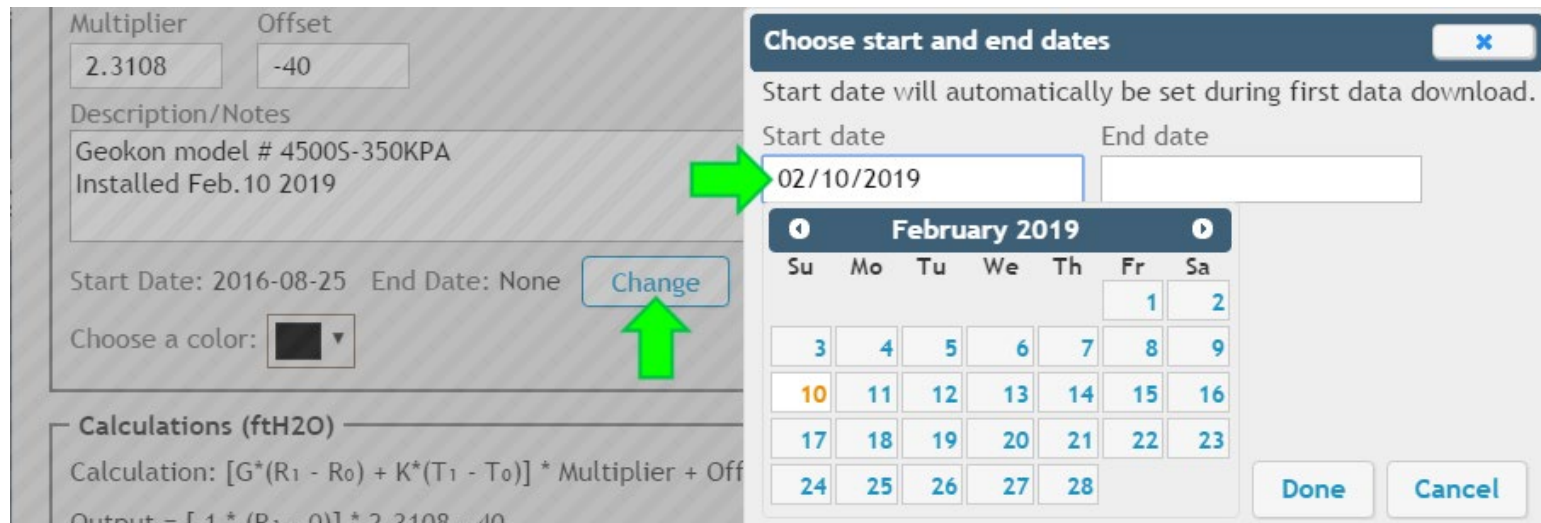


The screenshot shows a 'Sensor' configuration form. A green arrow points to the 'Description/Notes' text area, which contains the text 'Geokon model # 4500S-350KPA' and 'Installed Feb.10 2019'. Other fields include 'Name' (S.E. well piezo), 'Serial Number' (1901397), 'Type' (Reading), 'Category' (Pressure), '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 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 configuration window for a sensor. 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 green arrow points to the 'Change' button next to the 'End Date' field. Another green arrow points to the 'Start date' field in the 'Choose start and end dates' dialog box. The dialog box shows a calendar for February 2019, with the 'Start date' field set to 02/10/2019. The 'End date' field is empty. The calendar shows the days of the week (Su, Mo, Tu, We, Th, Fr, Sa) and the dates (1 through 28). The 'Done' and 'Cancel' buttons are at the bottom right of the dialog box.

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:

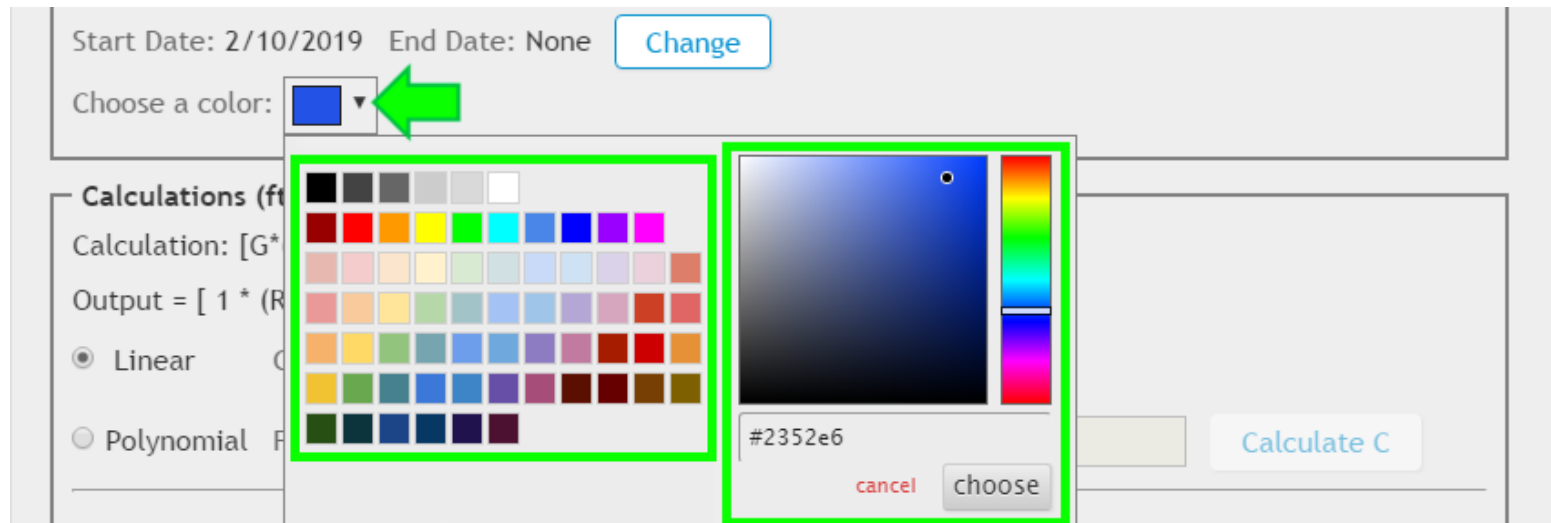
February 2019

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 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(R<sub>0</sub>):   
☐ Polynomial    Factors A:     B:     C:     [Calculate C](#)  
☐ Temperature Correction  
Thermal Factor(K):     Zero Temperature(T<sub>0</sub>):



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

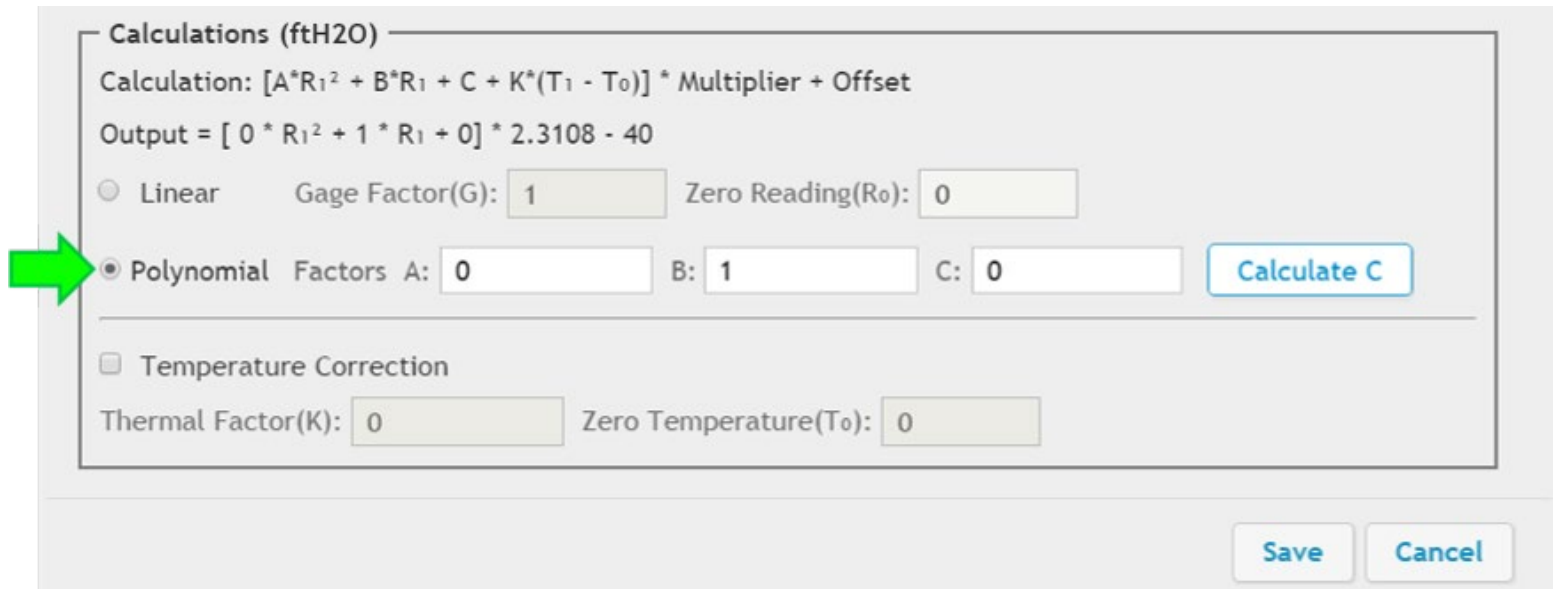
☒ Linear      Gage Factor(G):       Zero Reading(R<sub>0</sub>):

☐ 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(R<sub>0</sub>):

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

☐ Temperature Correction

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

[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)

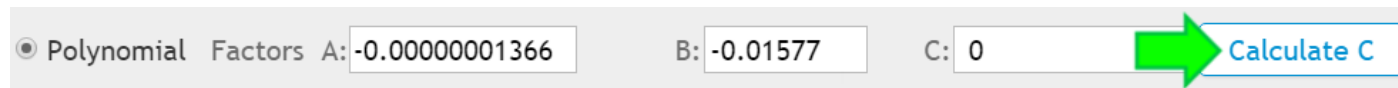
Polynomial Gauge factors: A: -9.418E-08 B: -0.1087 C: \_\_\_\_\_

Agent:

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

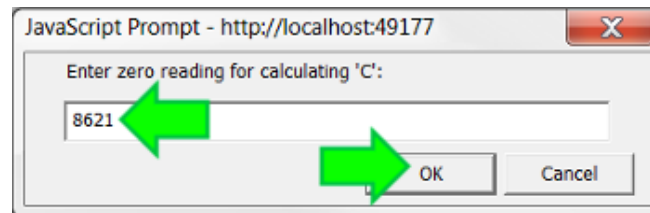
# Adding a Reading Sensor to a Node: Polynomial Calculations (Continued)

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"

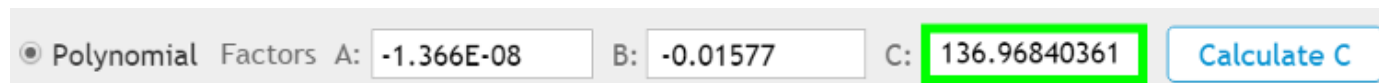


JavaScript Prompt - http://localhost:49177

Enter zero reading for calculating 'C':

8621 **OK** Cancel

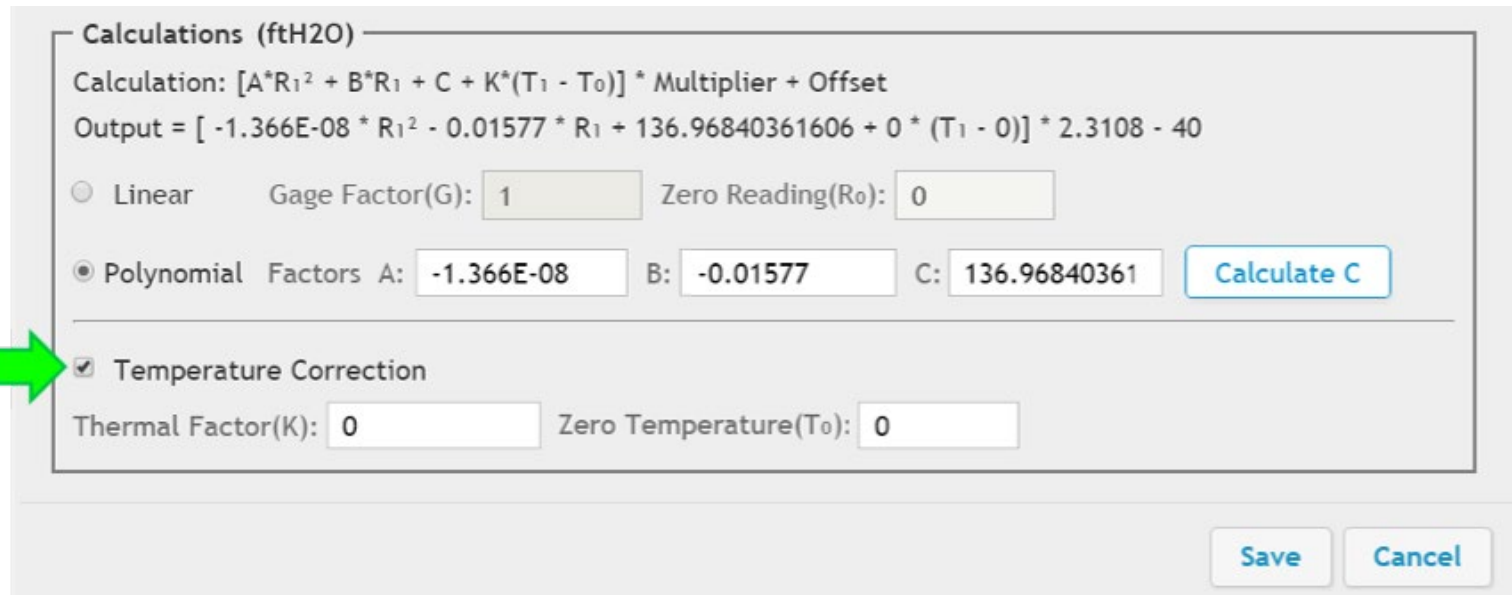
21. Agent will calculate and display the value of Factor "C" based on the information entered



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



The screenshot shows a software interface for configuring sensor calculations. The title bar reads "Calculations (ftH2O)". The main area displays a calculation formula:  $[A \cdot R_1^2 + B \cdot R_1 + C + K \cdot (T_1 - T_0)] \cdot \text{Multiplier} + \text{Offset}$ . Below this, the output is shown as:  $\text{Output} = [-1.366\text{E-}08 \cdot R_1^2 - 0.01577 \cdot R_1 + 136.96840361606 + 0 \cdot (T_1 - 0)] \cdot 2.3108 - 40$ . There are two radio button options: "Linear" and "Polynomial". The "Polynomial" option is selected. Under "Polynomial", there are input fields for "Factors A:", "B:", and "C:". The values are: A: -1.366E-08, B: -0.01577, and C: 136.96840361. A "Calculate C" button is next to the C input field. Below the polynomial factors, there is a checkbox labeled "Temperature Correction" which is checked. A green arrow points to this checkbox. Below the checkbox, there are input fields for "Thermal Factor(K):" and "Zero Temperature(T0):". Both are set to 0. At the bottom right, there 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 =  $[-1.366\text{E-}08 \cdot R_1^2 - 0.01577 \cdot R_1 + 136.96840361606 + 0 \cdot (T_1 - 0)] \cdot 2.3108 - 40$

☐ Linear    Gage Factor(G): 1    Zero Reading(R0): 0

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

☒ Temperature Correction

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

[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(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 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(R<sub>0</sub>):

☒ Polynomial

Factors A:

B:

C:

Calculate C

☒ Temperature Correction

Thermal Factor(K):

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

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  
- 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  
- Choose a color: Blue  
- 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' (selected).  
- Linear fields: Gage Factor(G): 1, Zero Reading(R0): 0  
- Polynomial fields: Factors A: -1.366E-08, B: -0.01577, C: 136.96840361  
- A 'Calculate C' button is next to the C field.  
- '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 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)

projects

- Sample Project
  - Sample Network
    - Sample Node
      - view charts
      - chart settings
      - summary
      - node settings**
      - sensor summary

Node

Name Serial Number Type

Sample Node 1537823 8800-XX-01C

Save

Sensors

[Add reading sensor](#)  
[Add thermistor sensor](#)  
[Add node sensors](#)

Name	Type	Alerts	Additional Information
Sample Reading Sensor	Reading_1	None	Start date: 2016-08-22. End date: None <a href="#">remove</a>

# Adding a Thermistor Sensor to a Node

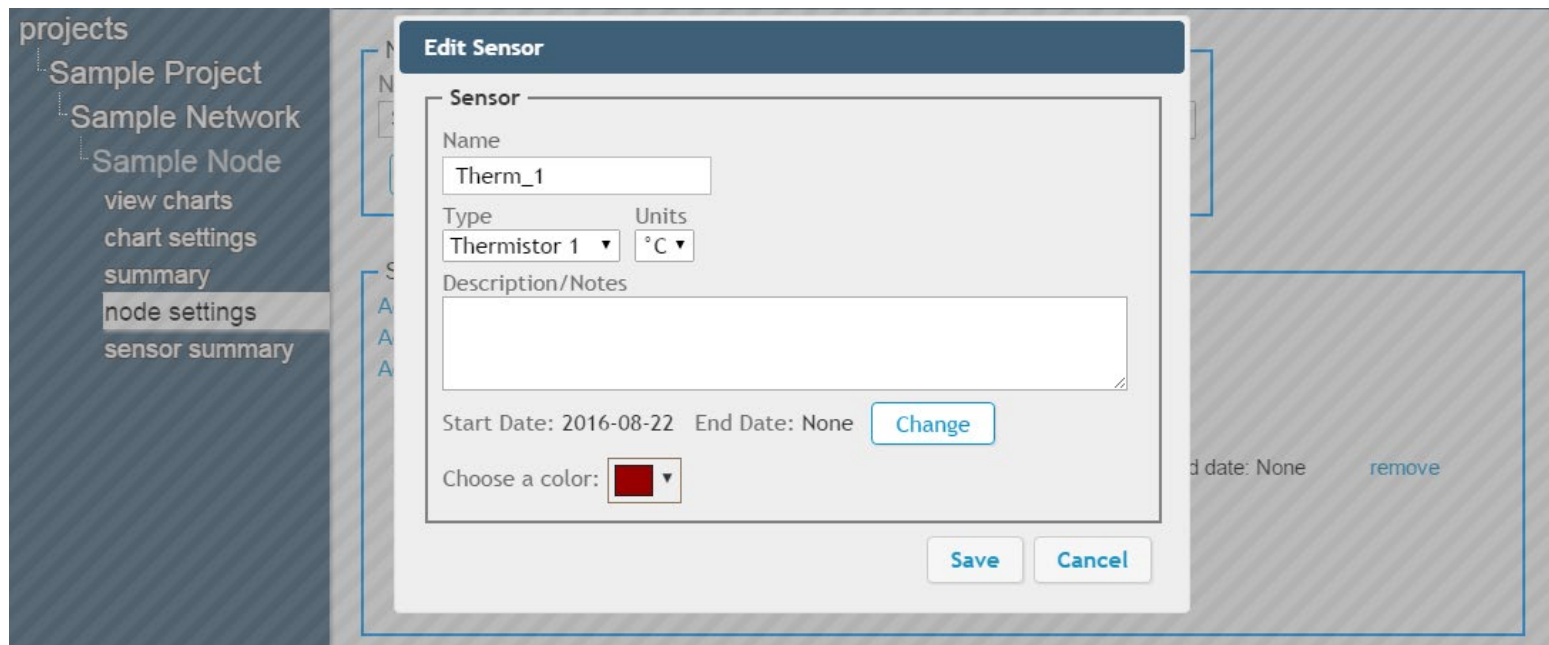
- Most GEOKON vibrating wire sensors include a built-in thermistor. To view the temperature data collected by the thermistor, a “thermistor sensor” must be added in Agent
- To add a thermistor sensor, click “Add thermistor sensor”

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 <a href="#">remove</a>

# Adding a Thermistor Sensor to a Node (Continued)

2. The edit sensor dialog box will open



# Adding a Thermistor Sensor to a Node (Continued)

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

The screenshot shows the 'Edit Sensor' dialog box. 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. It contains the following fields: 'Name' with the value 'Therm\_1'; 'Type' with a dropdown menu showing 'Thermistor 1'; 'Units' with a dropdown menu showing '°C', which is highlighted by a green arrow; 'Description/Notes' with a text area; 'Start Date' with the value '2016-08-22'; 'End Date' with the value 'None' and a 'Change' button; and 'Choose a color' with a color picker showing a red square. At the bottom of the dialog are 'Save' and 'Cancel' buttons.

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)

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

The screenshot displays the 'Edit Sensor' dialog box within a web application. On the left, a sidebar menu shows the navigation structure: 'projects' (expanded), 'Sample Project', 'Sample Network', 'Sample Node', 'view charts', 'chart settings', 'summary', 'node settings' (highlighted), and 'sensor summary'. The 'Edit Sensor' dialog has a title bar and contains the following fields:

- Name:** A text input field containing 'Sample Thermistor'.
- Type:** A dropdown menu set to 'Thermistor 1'.
- Units:** A dropdown menu set to '°C'.
- Description/Notes:** A text area containing 'Internal thermistor' and '4500S-350KPA S/N 1901397'.
- Start Date:** A date field showing '2016-08-22'.
- End Date:** A date field showing 'None'.
- Change:** A button next to the end date field.
- Choose a color:** A color picker showing a red color.
- Save:** A button with a green arrow pointing to it.
- Cancel:** A button next to the 'Save' button.

# Adding a Thermistor Sensor to a Node (Continued)

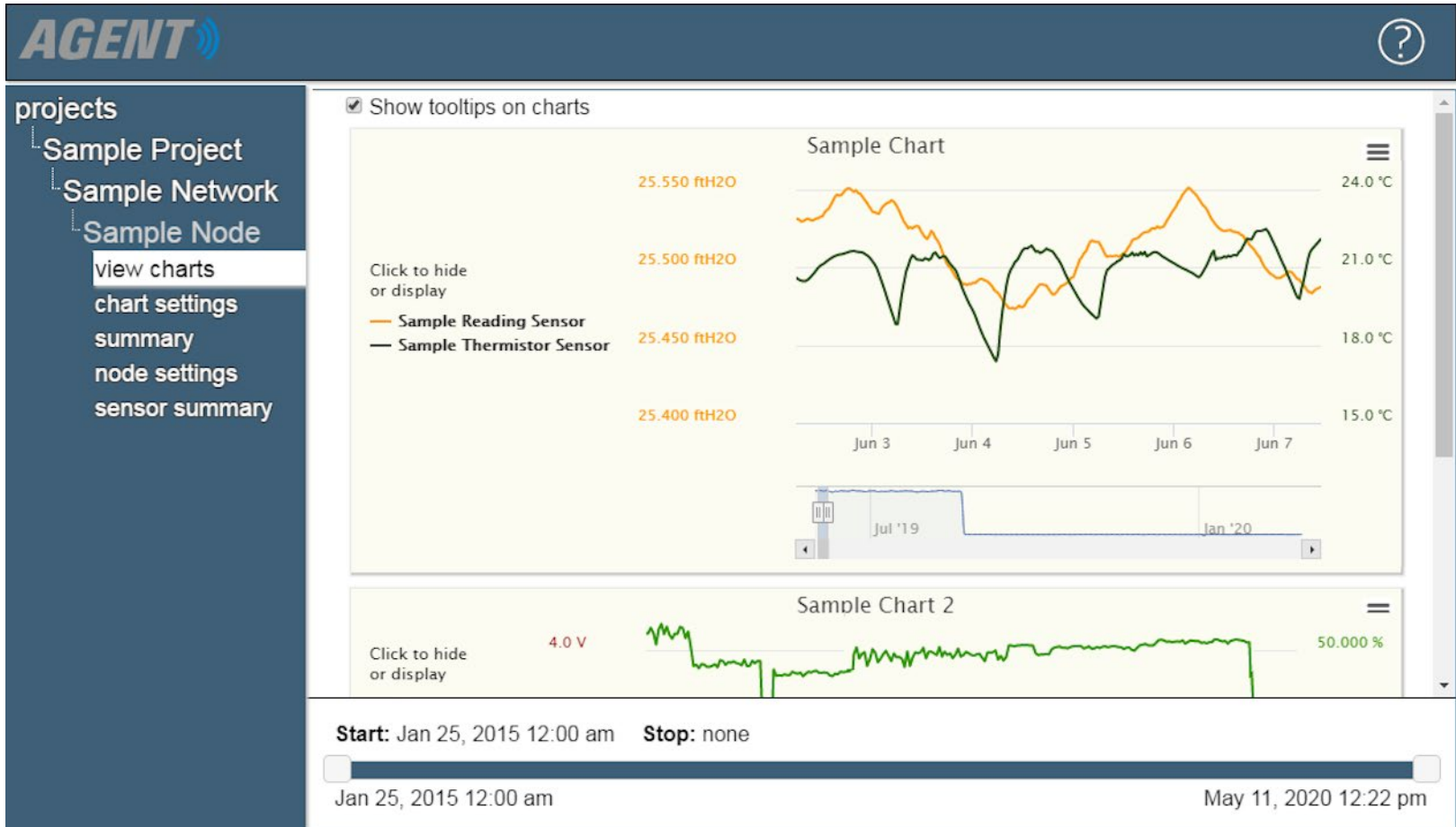
5. The edit sensor dialog box will close, and the thermistor sensor will be added to the list of sensors on the node settings screen (Sensor settings can be edited at any time by clicking on the name of the sensor)

The screenshot shows 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' (which is highlighted), and 'sensor summary'. The main content area is titled 'Node' and contains a form with fields for 'Name' (Sample Node), 'Serial Number' (1537823), and 'Type' (8800-XX-01C), along with a 'Save' button. Below this is a 'Sensors' section with links to 'Add reading sensor', 'Add thermistor sensor', and 'Add node sensors'. It contains a table with the following data:

Name	Type	Alerts	Additional Information
Sample Reading Sensor	Reading_1	None	Start date: 2016-08-22. End date: None <a href="#">remove</a>
Sample Thermistor	Therm_1	None	Start date: 2016-08-22. End date: None <a href="#">remove</a>



# Charts

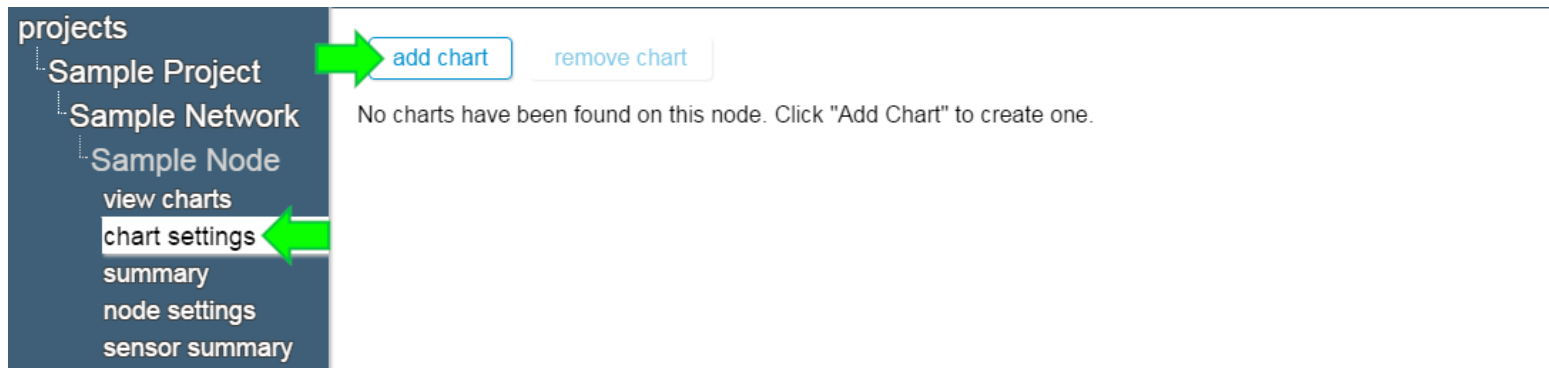


# Charts

- 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

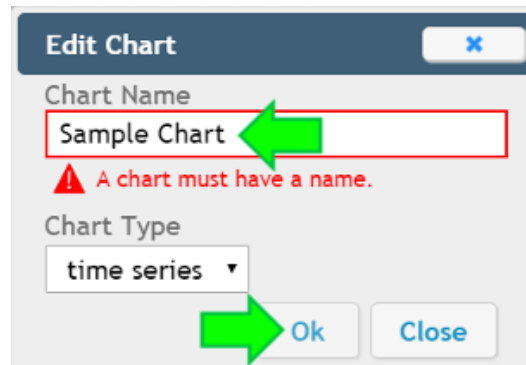
# Creating Charts

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**

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

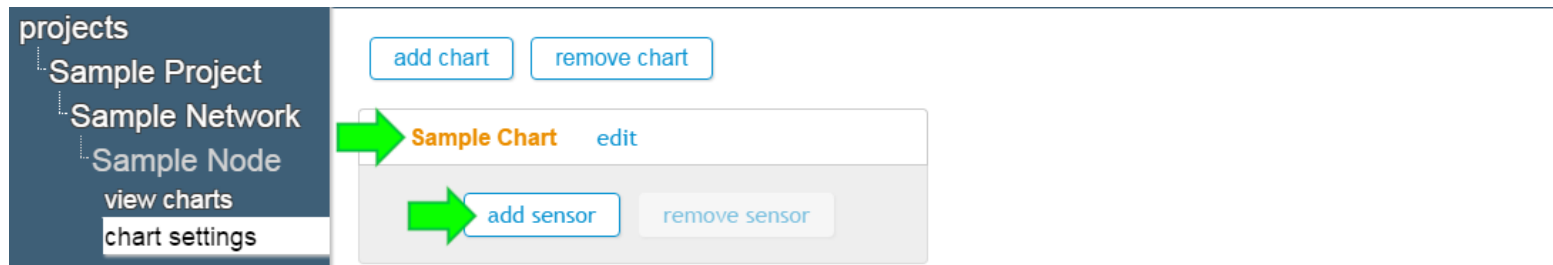
- Sample Project
  - Sample Network
    - Sample Node
      - view charts
      - chart settings

add chart remove chart

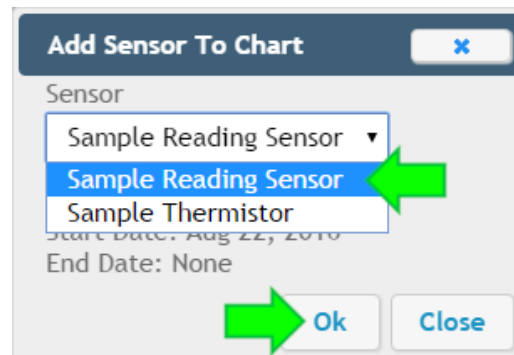
Sample Chart

# 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 navigation menu containing the following items: '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, there are two buttons: 'add chart' and 'remove chart'. Below these 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 two buttons: 'add sensor' and 'remove sensor'.

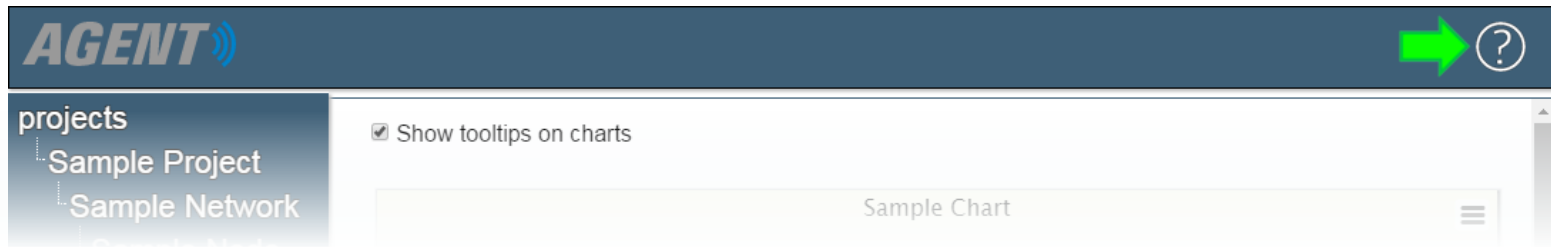
# Viewing Charts

- 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](http://www.geokon.com/Manuals)
- Please visit [www.geokon.com/Tutorials](http://www.geokon.com/Tutorials) for more tutorials