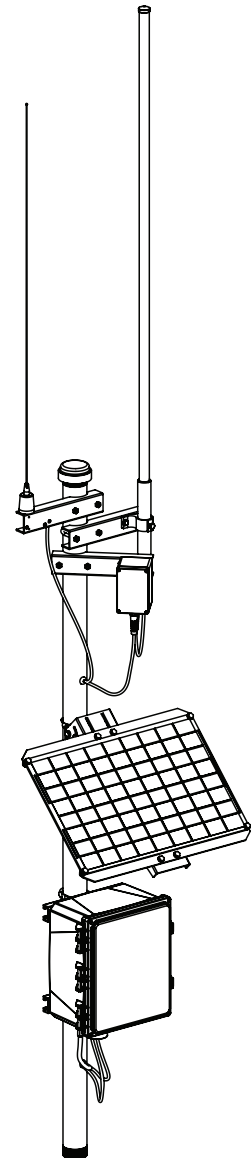




Website Manual

30120-04 Rev. 1.0
April, 2010



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1.0 Introduction

The McCrometer RemoteCONNECT Telemetry System is a wireless data collection and transmission system which is designed to work with sensors associated with water supply systems to determine volumetric flow rates. These measurements are used to determine the amount of water supplied to a customer, the rate of usage, billing, allotment calculations and the balance of an allotment remaining. This system allows suppliers to quickly collect the data from sensors located at well locations and transmit it to a website base station where it is further processed. This manual describes how to use the web site to review and download the desired data.

1.1 Log In

Once the RemoteCOM Units and the RemoteCOM Satellite Base Station have been successfully installed, the data collected and transmitted by the RemoteCOM Satellite Base Station for each well location can be accessed via a website. The website can be accessed through most standard web browsers.

Navigate to the website using the specific URL provided by McCrometer. The site will provide a location to provide your user name and password. Once the user name and password are entered press the "Log In" button.

Username

Password

Figure 1: Login Screen

2.0 Home Page

The Home page can be accessed by left clicking on the "Home" button on the top navigation bar (Number 1 below). From this page the data from any one station can be read. A station's data can be accessed by selecting a site (Number 2 below) then using the drop-down menu selection to select the station (Number 3 below), or by left-clicking on a station flag on the map (Number 4 below). When a station is selected, the data from the last reporting from that station is displayed in the right window (Number 5 below). Data represented in black text is current data, red text is data older than 35 minutes and blue text is data older than 24 hours. Select the proper time zone for accurate time reporting representation (Number 6 below).



IMPORTANT! DO NOT PRESS THE "INTERROGATE STATION" BUTTON. Doing so may lock-out the station from reporting data. (See Figure 2, #6) The station will report data on a preset time interval only.

1 Navigation Bar

2 Site Select

3 Station Select

4 Station Select

5 Station Data

6 Time Zone Select

6 DO NOT PRESS!

Sensor	Value	Units	Timestamp
Battery Voltage	12.50	Volts	9/30/2009 12:35:51 PM
Time Accum	1.00	Minutes	9/30/2009 12:35:51 PM
Volume Accum	4.00	Gallons	9/30/2009 12:35:51 PM
Daily Time		Minutes	
Daily Volume		Gallons	
Total Time		Hours	
Total Volume		Acro Feet	

Label: (GMT-08:00) Pacific Time (US & Canada)

Black Text : Current Data
Red Text : Data Older Than 35 Minutes
Blue Text : Data Older Than 24 Hours

Interrogate Station

Figure 2: Home Screen

3.0 Station Graphing

Data can be acquired from one or more individual well sites, and one or more of the sensors at each site. To access the graph page, left-click the "Station Graph" link on the navigation bar. To add a particular sensor for a site to the graph, follow the steps below: See Figure 3.

1. Select a station from the list of available site locations.
2. Select the sensor to graph from the list of available sensors.
3. Select a date and time range from the "From - To" calendars. The default range is 7 days.
4. Select the time zone for the date and time range.
5. Left click on the "Add Sensor" button.

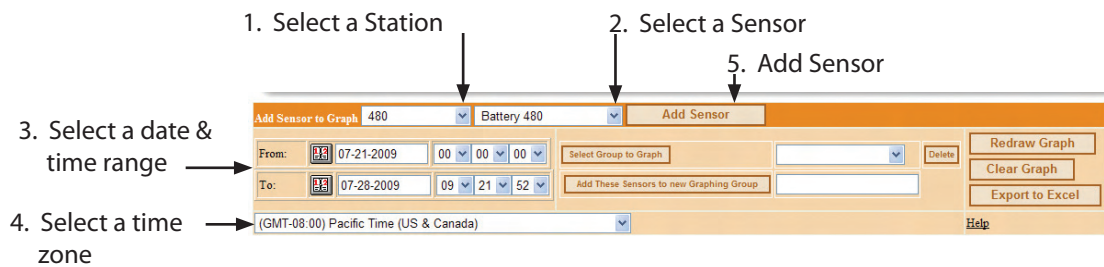


Figure 3: Steps To Graph Station Sensor Data

3.1 Graph Appearance

The default graph is a line graph as shown in Figure 4. The graph style can be changed by selecting the graph style menu and selecting a style.

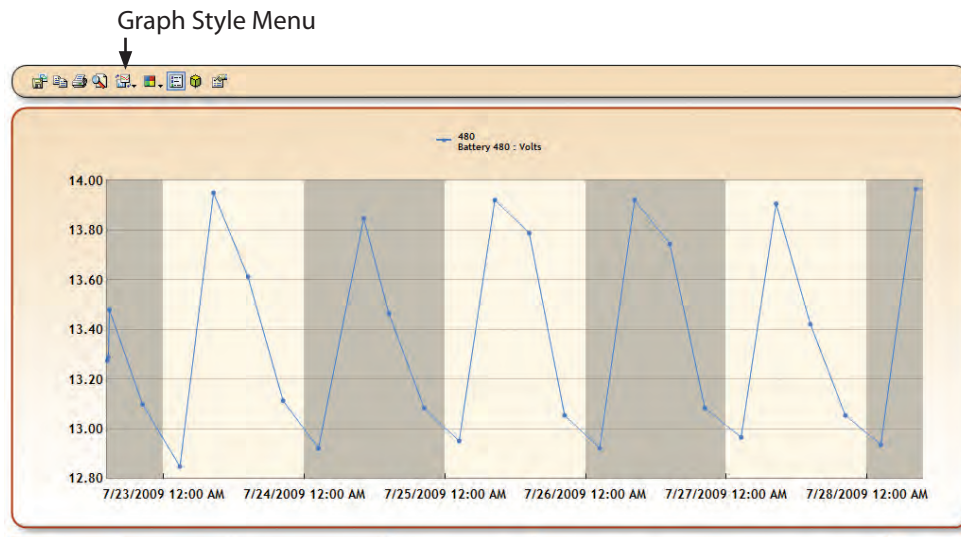


Figure 4: Graph Screen

3.2 Zooming In On Graph

A section of a graph can be expanded by left clicking and dragging the selected area to expand the time area of the graph. A slider bar will appear below the expanded graph to allow scrolling in the expanded graph. The graph can be returned to its original size by clicking the arrow button to the left of the slider bar. Clicking on the Redraw Graph button returns the graph to its original size with updated data.

3.3 Clearing Graph Information

Clicking on the Clear Graph button clears the graph of all information. Clicking on the sensor name above the graph removes that sensor and its data from the graph.

3.4 Exporting Graph Information

Clicking the “Export To Excel” button on the right of the screen will cause the information currently displayed on the graph to be exported to a spreadsheet and available for viewing or downloading.

4.0 Alarms

The Alarm function is a system that alerts specific individuals of certain data reporting conditions. The alerts can be in the form of telephone or e-mail alerts.

To set an Alarm follow the steps below:

Add Station:

1. Select a Site: Click the drop down menu and select a site.
2. Select a Station: Click the drop down menu and select the station to alarm.
3. Manually Add Station: Click this button to add the selected station to the list of alarmed stations.

Add Alarm:

1. Please Select a Sensor: Click the drop down menu to select a sensor to alarm.
2. Manually Add Alarm: Click this button to add the sensor alarm to the station selected above.

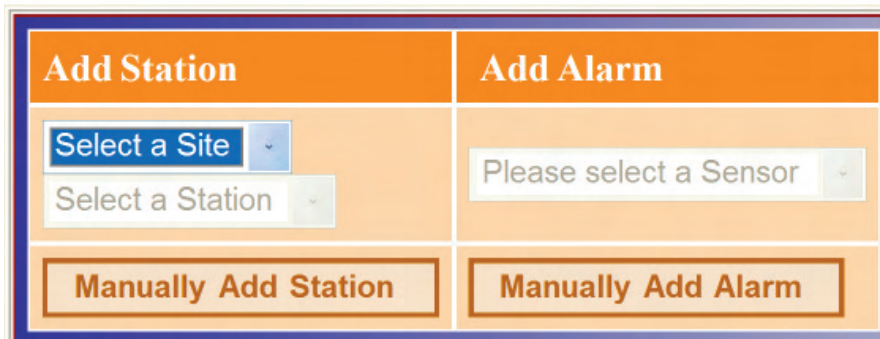


Figure 5: Selecting Stations To Alarm Menu

Once the steps above are completed, the window above will show the Sensors categories selected with the associated stations. To the left of each station listing are the “Arm” and “Edit” buttons. To set the parameters of an alarm, click on the Edit button. This will allow the entry or changing of the parameters that will trigger an alarm, and also set the communication style for that particular alarm (e-mail or telephone). Click on the “Update” button to activate the selected parameters. Once updated, select the “Arm” button to activate the alarm system for that station and sensor. Repeat these steps for each station in each sensor category listed.

BatteryVolts														
	Station	Sensor Value	Alarm Level	Average Time	Black out	Start Time	End Time	Triggered	Phone	Email	Out of Range	Timeout in minutes	Runaway's per hour	Delete
Update Cancel	MCC760	12.80	<	0.00	<input type="checkbox"/> 35	10:00 AM	05:00 PM		<input type="text" value="0"/> Add	<input type="text" value=""/> Add	<input type="checkbox"/>	None	None	<input type="checkbox"/>
Arm Edit	SATCOM 1	12.70	<	12	<input type="checkbox"/> 35 Minutes	--	--	--		alain@macrometer.com	<input type="checkbox"/>	0	0	<input type="checkbox"/>

Figure 6: Alarm Activation Screens

4.1 Alarm Color Code

To assist in the quick determination of an alarm status, the background color of each alarm entry is color coded. See the table below for a description of the color key codes.

Alarm Color	Status
Green	Armed
Red	Alarm
Tad	Disarm
Black	Blackout

Figure 7: Alarm Code Colors

5.0 Sensor Map 3D/2D

The Sensor Map 3D page will show an aerial map of the sensor locations. The Sensor Map 2D will show a similar map, but in a classic map style.

1. Select a map from the "Change Map" drop down menu.
2. Select a sensor from the left drop down menu and click the "Select Sensor" button.
3. Click on any station on the map and the sensor information for that station will be displayed.

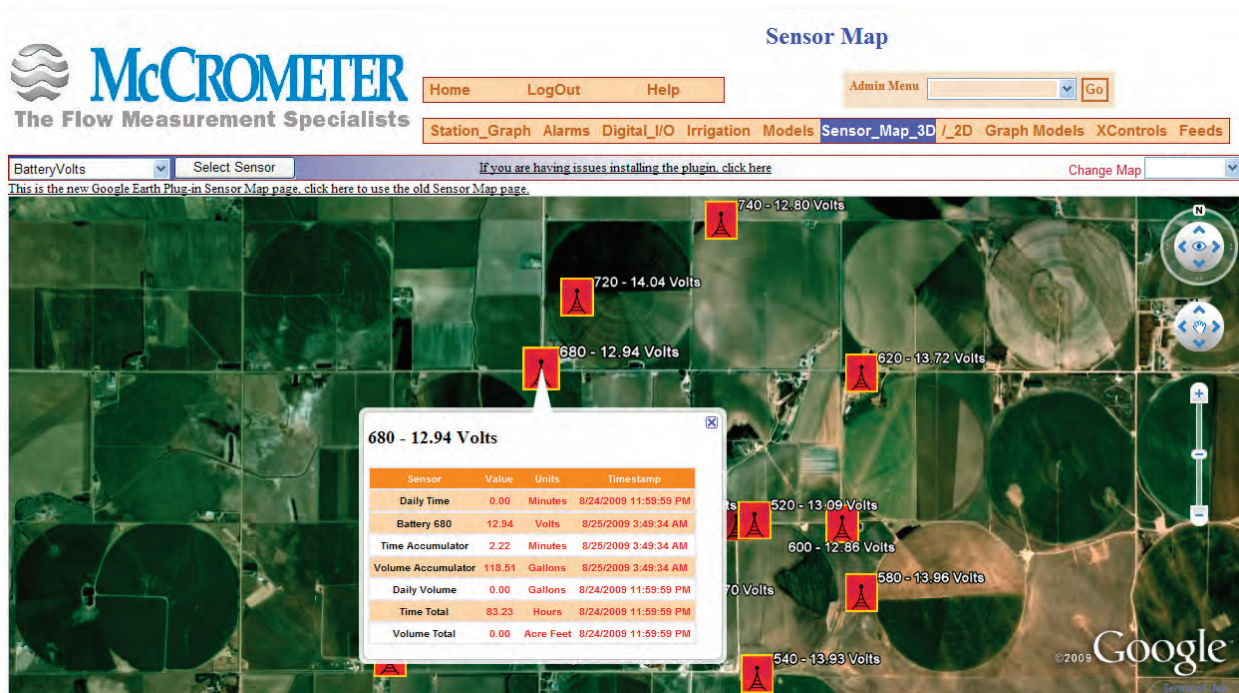


Figure 8: Sensor Map 3D Page

6.0 Station Set-up

6.1 Station Set-up Overview

The station set-up is usually provided by McCrometer. The instructions that follow are provided in the rare instance that an end user needs to set-up a station. It is very important that all of the required information is collected from McCrometer before attempting to set-up a station. Station information must be entered into the system to allow the website to identify and collect the data for each individual RemoteCOM Unit. For an initial set-up of a RemoteCOM system, it is recommended that the RemoteCOM Satellite Base Station information be input before the RemoteCOM Unit information.

6.2 Station Set-up Procedure

6.2.1 Select "Station" from the "Admin Menu" drop-down menu bar, Figure 9.

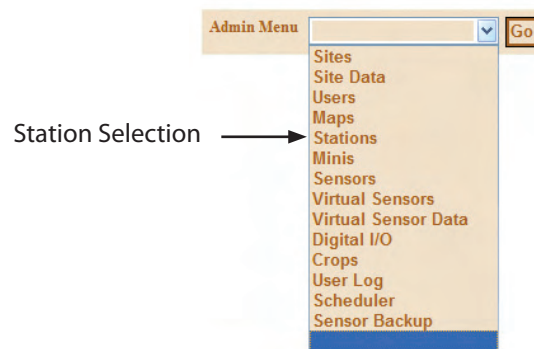


Figure 9: Station Selection From Admin Menu

The Station screen will then appear. Figure #. The information specific to each station is input in the Station page and is explained below.

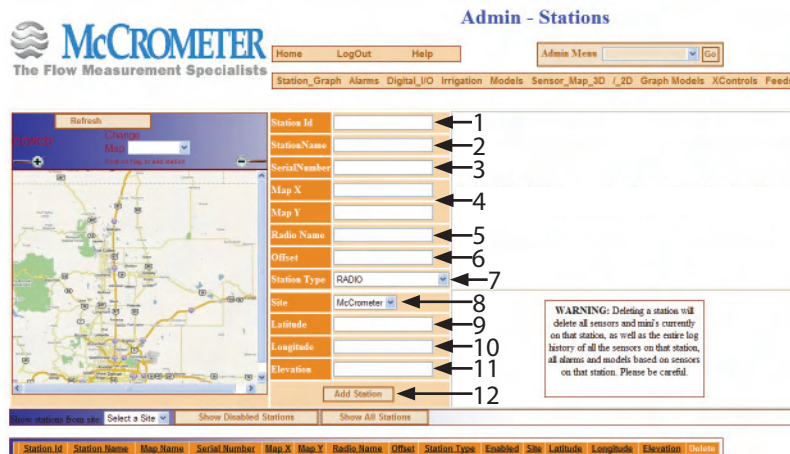
A screenshot of the 'Admin - Stations' web page. The page has a header with the McCrometer logo and navigation links. The main content area contains a form for adding a station. The form fields are numbered 1 through 12: 1. Station Id, 2. Station Name, 3. Serial Number, 4. Map X, 5. Map Y, 6. Radio Name, 7. Offset, 8. Station Type (set to RADIO), 9. Site (set to McCrometer), 10. Latitude, 11. Longitude, and 12. Elevation. There is an 'Add Station' button at the bottom of the form. A warning message is displayed on the right side of the form: 'WARNING: Deleting a station will delete all sensors and minis currently on that station, as well as the entire log history of all the sensors on that station, all alarms and models based on sensors on that station. Please be careful.' Below the form is a table with columns: Station Id, Station Name, Map Name, Serial Number, Map X, Map Y, Radio Name, Offset, Station Type, Enabled, Site, Latitude, Longitude, Elevation, and Delete.

Figure 10: Station Information Input Screen

1. Station Id: Station identification supplied by McCrometer
2. Name: Station name associated with the site
3. Serial Number: Serial Id for the site - optional

4. Map X and Y: Currently these are not used
5. Radio Name: Radio Id provided by McCrometer
6. Offset: Radio frequency offset provided by McCrometer
7. Station Type: Select the type of device used for this station.
 - Radio - RemoteCOM
 - Minisat - RemoteCOM Satellite Base Station
 - Condensed Radio - not currently used
 - Condensed Satellite - not currently used
8. Site: Select the site from the selections in the menu
9. Latitude: Location coordinates supplied by McCrometer
10. Longitude: Location coordinates supplied by McCrometer
- 11: Elevation: Location coordinates supplied by McCrometer
- 12: Add Station: Press this button when all of the above information is entered. This will add the station to the system.

6.3 RemoteCOM Unit To RemoteCOM Satellite Base Station Association

Each RemoteCOM Unit must be associated to a RemoteCOM Satellite Base Station to allow the RemoteCOM to transmit sensor data to the RemoteCOM Satellite Base Station. From the Admin menu, select "Mini". The "Minis" page will appear as shown in Figure 11. Input the following information for each RemoteCOM Units:

1. Mini ID: Provided by McCrometer
2. Mini Name: Provided by McCrometer
3. Select the station to associate the RemoteCOM to from the "Station" drop-down menu
4. Press "Add Mini"



Figure 11: Minis Page

7.0 Sensor Set-up

7.1 Sensor Overview

Each RemoteCOM Unit reports data from various user defined sensor inputs. The sensor inputs must be identified and associated for each station. Sensors are identified by a range of numbers between 1 and 20 appended to the station ID. Each type of sensor has a number range as shown in Figure 12.

Sensor ID Range	Associated Sensor Type
1 - 8	Analog inputs (4-20mA)
9	Battery voltage
11-14	Accumulators
16-19	Virtual sensors

Figure 12: Sensor ID Numbers

As an example, the station ID for station 480 would be the radio offset assigned by McCrometer (in this example = 300000) plus the station number, or 300480. The sensor ID would then be added to that number. For a sensor to show the battery voltage, the sensor ID would be 300489, and a virtual sensor would be 300496 (if the virtual sensor uses 16). See section # for assigning virtual sensors.

7.2 Sensor Set-up Procedure

The following steps describe the required data for sensor input. See figure 13.

Admin - Sensors

Home LogOut Help Admin Menu 1

Station_Graph Alarms Digital_I/O Irrigation Models Sensor_Map_3D /_2D Graph Models XControls Feeds

Sensor Id 2 Station 101 6 Adder 9
 Label 3 Mini 04-8-3751 RC 140 7 Multiplier 1 10
 Description 4 Type AirTemp 8 Multiplier 2
 Enabled True 5 Multiplier 3
 Add Sensor 11

Show Sensors for Station: 101 Show All Sensors Show All Sensors of Type AirTemp Show All Sensors of Type

	Sensor Id	Station Name	Mini	Label	Description	Sensor Type	Units	Enabled	Adder	Multiplier 1	Multiplier 2	Multiplier 3
Edit	325149	101	325140	Battery Voltage	BatteryVolts	Volts	True	0	0.01466	0	0	
Edit	325151	101	325140	Time Accum	SpareAccum	Minutes	True	0	2.22	0	0	
Edit	325156	101	325140	Total Time	Totalizer (VIRTUAL)		True	0	0.0364	0	0	
Edit	325157	101	325140	Total Volume	Totalizer (VIRTUAL)		True	392.3	0.030689	0	0	
Edit	325152	101	325140	Volume Accum	TotalFlow (Gal)	Gallons	True	0	10000	0	0	

Figure 13: Sensor page

1. Select "Sensors" from the Admin Menu
2. Sensor Id: Usually provided by McCrometer, or created using the format described in Section 7.1
3. Label: A descriptor of the sensor function. Example: "Battery Volts"

4. Description: Optional information used to identify the station or sensor data by the end user
5. Enabled: True = the sensor is enabled and data will be transmitted
False = the sensor is disabled and no data will be transmitted
6. Station: From the drop-down menu select the station this sensor is associated with.
7. Mini: This area will auto-populate.
8. Type: From the drop-down menu select the type of sensor. Example: "BatteryVolts" (See Section 2.4.4 for a description of the Sensor Types
9. Adder: A numerical value to be added to the sensor data to provide up-to-date data
10. Multipliers: (1, 2, and 3) Provided by McCrometer. These figures are correction factors for the sensor data. Example: the multiplier can convert a unit of measurement of gallons to acre feet.
11. Add Sensor: After entry of the required information (steps 1 through 10) this button will add the sensor to the system.

7.3 Editing Sensor Data

Once the sensor is added to the system the values assigned to a sensor can be edited by left-clicking on the "Edit" button to the left of the Sensor Id. See figure 14. Often the "Units" (units of measure) will need to be edited to conform to the sensor type selected.

	Sensor Id	Station Name	Mini	Label	Description	Sensor Type	Units	Enabled	Adder	Multiplier 1	Multiplier 2	Multiplier 3	
<input type="button" value="Edit"/>	800489	480	300480	Battery 480		BatteryVolts	Volts	True	0	0.01466	0	0	<input type="text" value="X"/>

Figure 14: Sensor Values Edit Button

7.4 Sensor Types

The types of sensors available are as follows:

1. BatteryVolts: provides data on the voltage provided to the station by the battery.
2. Controls: Allows the control of a device such as a pump.
3. Spare Accumulator: provides data for the activity of a selected unit of measure.
4. Totalizer: provides data for activity from the start date to December 31.
5. Total Flow(Gal): provides data for flow in gallons for Volume Accumulator only.

7.5 Virtual Sensors

A Virtual Sensor is essentially data collection where the system utilizes data from an actual site sensor to create data over a longer period of time. An example is to have a Virtual Sensor for accumulated time. A Virtual Sensor associated with the accumulator Time sensor will accumulate the time the site is running for the period of time the Virtual Sensor is active.

IMPORTANT NOTE: As virtual sensor calculations are performed once a day, allow 48-72 hours for the data to level-out after starting the virtual sensor. It is possible for the data to read in negative numbers before stabilizing.

7.5.1 Virtual Sensor Set-up Procedure

1. Select Virtual Sensors from the Admin drop-down menu.
2. Select a site.
3. Select a station.
4. When the station is selected the page populates with the sensors associated with the station.
5. For the desired sensor, select the site and station.
6. Select the Sensor appropriate to the station sensor. Example: For a totalizer/total volume accumulator, choose the Volume Accumulator. This causes the system to log the accumulated time for the period of time the Time Accumulator Virtual Sensor is active.
7. Left click the "Add" button to add the Virtual Sensor. The Accumulated Time Virtual Sensor can now be graphed on the Station Graph page.

Virtual Sensor	Virtual Sensor Id	Sensors	Delete
MCC760 - DailyAccumulator - Daily Time Accumulates daily totals for flow, rain etc.	310776	McCrometer MCC760 Please select a Sensor Please select a Sensor	<input type="checkbox"/>
MCC760 - DailyAccumulator - Daily Volume Accumulates daily totals for flow, rain etc.	310777	Battery Daily Time Daily Volume Station 760 Time Accumulator Volume Accumulator	<input type="checkbox"/>

Figure 15: Virtual Sensors Start Page

7.5.2 Virtual Sensor Data

The Virtual Sensor Data page allows the input of the type of data displayed by a virtual sensor. The steps for adding virtual sensor data are as follows:

To add Virtual Sensor Data:

1. Choose "Virtual Sensor Data" from the "Admin Menu".
2. Select a virtual sensor from the "Sensor" drop down menu.
3. Select the type of data from the "Data Type" drop down menu. Example: Start Date
4. Enter the date required for the data type. Example: "1/29/2010 11:44:24 AM".
5. Press "Add Data" button to add the Virtual Sensor Data to the list of data entries.

Figure 16: Virtual Sensor Data Entry

7.5.3 Editing/Deleting Virtual Sensor Data

The data entered in the Virtual Sensor Data can be edited and deleted. The steps for editing the data are as follows:

To delete virtual sensor data:

1. Locate the virtual sensor data you wish to remove and press the "Delete" button at the right of the row.

To edit virtual sensor data:

2. Locate the virtual sensor data you wish to edit and press the "Edit" button at the left of the row.
3. Re-enter the new information in the text boxes : "Data" and "Data Type".
4. Press the "Update" button to enter the edited data into the system.

	Sensor	Data	Data Type	Delete
Update	100 (325136) Total Time	1/29/2010 11:44:24 AM	START_DATE	<input type="checkbox"/>
Edit	100 (325136) Total Time	1/29/2010 11:44:24 AM	ORIGINAL_START_DATE	<input type="checkbox"/>

Arrows indicate: 1 points to the 'Delete' button in the second row, 2 points to the 'Edit' button in the first row, 3 points to the 'Data' and 'Data Type' columns in the second row, and 4 points to the 'Update' button in the first row.

Figure 17: Virtual Sensor Data Editing Page

8.0 RSS Feeds

RSS feeds of sensor information can be set up by left-clicking on the “Feeds” button (see #1 below). To establish a RSS feed, first select a site, station and sensor using the drop-down menus then left-click the “Add Sensor” button (see #2 below). The RSS feed can have multiple sensors associated with it. Simply repeat the above process of adding sensors. After the sensor list is created, name the RSS feed group by entering a name of the group in the empty box and left-click the “Add These Sensors To New RSS Feed” button (see #3 below). Once the RSS feed is established and named, left-click the RSS feed links (see #4 below) and follow the instructions on the RSS feed subscription page for the RSS feed subscription chosen.

RSS Feeds

Home LogOut Help Admin Menu Go

Station_Graph Alarms Digital_I/O Irrigation Models Sensor_Map_3D /_2D Graph Models XControls **Feeds**

Instructions: What is RSS?
Pick as many sensors as you wish, then name the group and click the Add These Sensors to new RSS Feed button.
You can add these feeds to your IE Feed Subscriptions by clicking on the links below and following the instructions once on the IE feed page.

Add Sensor to Graph: Select a Site Select a Station Please select a Sensor Add Sensor

Add These Sensors to new RSS Feed

Feeds:

Delete MY Auto! neustator MY AOL EUB BLOGLINES netvibes Google Pageflakes

<http://99.31.17.106/AutomataWeb/SensorRSS.aspx?hl=23B23BE9DA2519C88F11C084310BCC0BF14417F8&feed=90&h2=C6F536CD3E1D09E7F1A23880D9945CDB07215EB9>

Figure 18: RSS Feed Page

WARRANTY

This Warranty shall apply to and be limited to the original purchaser consumer of any McCrometer product. Meters or instruments defective because of faulty material or workmanship will be repaired or replaced, at the option of McCrometer, Inc., free of charge, FOB the factory in Hemet, California, within a period of one (1) year from the date of delivery.

Repairs or modifications by others than McCrometer, Inc. or their authorized representatives shall render this Warranty null and void in the event that factory examination reveals that such repair or modification was detrimental to the meter or instrument. Any deviations from the factory calibration require notification in writing to McCrometer, Inc. of such recalibrations or this warranty shall be voided.

In case of a claim under this Warranty, the claimant is instructed to contact McCrometer, Inc. 3255 West Stetson Ave., Hemet, California 92545, and to provide an identification or description of the meter or instrument, the date of delivery, and the nature of the problem.

The Warranty provided above is the only warranty made by McCrometer, Inc. with respect to its products or any parts thereof and is made expressly in lieu of any other warranties, by course of dealing, usages of trade or otherwise, expressed or implied, including but not limited to any implied warranties of fitness for any particular purpose or of merchantability under the uniform commercial code. It is agreed this warranty is in lieu of and buyer hereby waives all other warranties, guarantees or liabilities arising by law or otherwise. Seller shall not incur any other obligations or liabilities or be liable to buyer, or any customer of buyer for any anticipated or lost profits, incidental or consequential damages, or any other losses or expenses incurred by reason of the purchase, installation, repair, use or misuse by buyer or third parties of its products (including any parts repaired or replaced); and seller does not authorize any person to assume for seller any other liability in connection with the products or parts thereof. This Warranty cannot be extended, altered or varied except by a written instrument signed by seller and buyer.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

McCrometer, Inc. reserves the right to make improvements and repairs on product components which are beyond the warranty period at the manufacturer's option and expense, without obligation to renew the expired warranty on the components or on the entire unit. Due to the rapid advancement of meter design technology, McCrometer, Inc. reserves the right to make improvements in design and material without prior notice to the trade.

All sales and all agreements in relation to sales shall be deemed made at the manufacturer's place of business in Hemet, California and any dispute arising from any sale or agreement shall be interpreted under the laws of the State of California.

OTHER McCROMETER PRODUCTS INCLUDE:



Magnetic Flowmeters



Magnetic Flowmeters



Magnetic Flowmeters



Propeller Flowmeters



For Propeller Flowmeters



Propeller Flowmeters



Differential Pressure Flowmeters

The Space Saver Solution



Differential Pressure Flowmeters



Differential Pressure Flowmeters

Electronic Instrumentation for Remote Display and Control

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