# PARTICLE VIEW RT OPERATION MANUAL



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Technical Service representatives are available during normal business hours of 7:00 a.m. to 4:00 p.m. Pacific Time, Monday through Friday. In addition, technical information and service bulletins are available from our website. Please contact us at the phone number or email address below to obtain a Return Authorization (RA) number before sending any equipment back to the factory.

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#### **Overview**

Particle View RT software includes all of the functions required for recording real time data, viewing data (both real time and history), and producing tabular and graphic reports needed by most users of an air quality or other environmental monitoring system. It is designed for use with the Met One Instruments, Inc. line of hand held and bench mounted particulate counting products and is compatible with the following models: BT-610, BT-620, or any device using the 7500 protocol.

This software provides an easy to use interface for viewing data from each of the various products. It then archives the data and allows the user to generate and print reports, charts, and set independent alarm conditions.

Archived data can be reviewed in a dynamic tabular format, or as typical line charts displaying either a single or multiple parameters. Users can even export data in standard comma separated (\*.csv) format.

Just follow the simple onscreen installation instructions and you will be ready to download your collected data in just a few minutes!

#### **System Requirements**

- Disk Space: 10MB for Particle View 1GB for SQL Server Express 2008 50MB for .NET 4
- Operating Systems: Windows XP Service Pack 3 or newer Windows Vista (32-bit and 64-bit systems) Windows 7 (32-bit and 64-bit systems) Windows 8 (32-bit and 64-bit systems) Windows 10 (32-bit and 64-bit systems)

Minimum System Re	equirements:
Processor Speed:	2GHz or faster
Memory:	2GB minimum

**Recommended System Requirements:** 

Processor Speed:2GHz or faster for 32-bit and 64-bit systemsMemory:4GB or more

#### 1 Installation

The necessary installation files are supplied on a USB flash drive.

#### **ATTENTION:**

USB drivers are necessary to communicate with all Met One Instruments, Inc. devices via the USB port of your computer.

Visit this link to download the USB drivers: https://metone.com/software/.

These drivers must be installed *before* connecting the device to the USB port on your computer. If the USB drivers are not installed first, Windows may install generic drivers that are not compatible with the instrument. If you already have them installed on your computer, you do not need to install them again.

#### These drivers may be installed either before or after the installation of Particle View RT.

#### 1.1 Getting Started

Insert the USB flash drive into your computer. Open the "Software" folder, launch the file labeled "setup.exe", and follow the onscreen prompts.

#### 1.2 .NET 4 Framework Installation

Particle View RT uses the .NET 4 framework. The installation process will detect if you meet the requirements. If your computer does not meet these requirements, you will be prompted to install the necessary files for Particle View RT to run properly.



It will take a few minutes for .NET Framework 4 to install. Once completed, the setup may ask you to reboot your computer. Once rebooted, the installation of Particle View RT will continue.

#### 1.3 SQL Server 2008 Express Installation

Particle View RT uses SQL Server 2008 Express to store all data from the particle counters. The installation process will search your computer to verify you have it loaded. If not, the Particle View installer will install it before installing Particle View RT.

Derticle View RT Setup	×			
For the following components:				
SQL Server 2008 Express				
Please read the following license agreement. Press the page down key to see the rest of the agreement.				
MICROSOFT SOFTWARE LICENSE				
MICROSOFT SQL SERVER 2008 EXPRESS EDITION				
These license terms are an agreement between Microsoft	~			
View EULA for printing				
Do you accept the terms of the pending License Agreement?				
If you choose Don't Accept, install will close. To install you must accept this agreement.	3			
Accept Don't Accept				

It will take a few minutes for SQL Server 2008 Express to install. Once completed, the setup may ask you to reboot your computer. Once rebooted, the installation of Particle View RT will continue.

#### 1.4 Windows Installer 4.5

Particle View RT uses the newest version of windows installer, 4.5, for setting up Particle View RT properly. The installation process will detect if you meet the requirements. If your computer does not meet these requirements, you will be prompted to install Windows Installer 4.5.

🐞 Particle View RT Setup		
For the following components:		
Windows Installer 4.5		
Please read the following license agreement. Press the page down key to see the rest of the agreement.		
MICROSOFT SOFTWARE LICENSE TERMS		
MICROSOFT WINDOWS INSTALLER, VERSION 4.5		
These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to		
View EULA for printing		
Do you accept the terms of the pending License Agreement?		
If you choose Don't Accept, install will close. To install you must accept this agreement.		
Accept Don't Accept		

It will take a few minutes for .NET Framework 4 to install. Once completed, the setup may ask you to reboot your computer. Once rebooted, the installation of Particle View RT will continue.

#### 1.5 Windows Imaging Component (Windows XP Only)

On Windows XP machines, in order to properly install the .NET 4 Framework, Windows Imaging Component may be needed. The installation process will detect if you meet the requirements. If your computer does not meet these requirements, you will be prompted to install Windows Imaging Component.

🐞 Particle View RT Setup	×
The following components will be installed on your machine:	
Windows Imaging Component	
Do you wish to install these components?	
If you choose Cancel, setup will exit.	

It will take a few minutes for Windows Imaging Component to install. Once completed, the setup may ask you to reboot your computer. Once rebooted, the installation of Particle View RT will continue.

#### 1.6 Particle View RT Installation



Determine where the program files will be loaded and decide whether all users will have access to Particle View RT or just the current computer user.

岁 Particle View RT	- 🗆 🗙
Select Installation Folder	<u>h h</u>
The installer will install Particle View RT to the following folder.	
To install in this folder, click "Next". To install to a different folder, enter it beli	ow or click "Browse".
<u>F</u> older:	
C:\Program Files (x86)\Met One\Particle View RT\	Browse
[	Disk Cost
Install Particle View RT for yourself, or for anyone who uses this computer:	
Everyone	
⊖ Just me	
Cancel < Back	Next >

You will then need to confirm that you wish to install Particle View RT.



Once confirmed, Particle View RT will be installed on your computer with the options you have chosen. After the installation has finished, the installation wizard will confirm the process was successful.

<b>B</b>	Particle View RT	- 🗆 ×
Installation Complete	)	<u>h</u> h
Particle View RT has been succes	sfully installed.	
Click "Close" to exit.		
Please use Windows Update to ch	eck for any critical updates to the .NET Frame	ework.
	Cancel < Back	Close

Particle View is now installed. If needed, be sure to install the USB drivers at this time.

**IMPORTANT:** Once installation is complete, it is important to run Windows Update and download all critical updates.

Particle View RT Rev. B

### 2 Logging In

#### 2.1 Connecting to the database



Some users may see this show up the first time Particle View RT is run. This means that the installer found an instance of SQL Express already installed on the computer and the Met One SQL instance was not created. This window attempts to create Met One's SQL Instance that Particle View RT uses. Once completed, the window will go away and users will be able to log in. Note that this can take a long period of time to complete.

## **IMPORTANT:** Do not close the program or shut off the computer! Particle View RT is installing a SQL Instance.

#### 2.2 The Login Interface

When starting the Particle View RT software, the login menu will automatically pop up. The default administrator profile password is *admin*.

<i>.</i>	Particle View - Log In ?	×
	User Name : Admin 🗸	
	Log In Cancel 💥	

Select the appropriate profile from the dropdown list, enter the associated password, and press Log In. Entering incorrect passwords will give you only 5 failed login attempts before an account becomes locked. Only administrators and super users can unlock accounts.

Settings Devices Real	l Time Data Data History	Chart Alarms	Audit Console
Minimize to System Tr	ay About Met One Instru Help	uments og Out 💟 Exit	
Company Name :           Met One Instruments, Inc.	File Path :	Jim Matt	
Company Logo : Choose Image Logo FilePath : C:\Users\Administrator\Desktop\instal4.b	Backup Database Restore Database File Chosen :		
	Restore Database	9	
		Chang Passw	ie source and the sou
		Add U	se Remove User

To log out and switch users, you can press the button in the top left corner and log out of the program by pressing the "Log Out" button.

#### 3 Settings Tab

Particle View RT provides the ability to have multiple login profiles. This allows users to have a single master administration profile and as many user logins as necessary. This eliminates the need for password sharing as each login can be provided with a unique password. All users will have access to the same database, regardless of whether they use the same Windows Login or not.

#### 3.1 Profiles

#### 3.1.1 The Administrator Profile



Upon installation, there will be only one profile to select, the administrator. This profile is unique in that it has access to all of the features of the software package. In addition to the standard features accessible by all users, the administrator can also add/remove additional login profiles, edit all user profiles (including changing passwords, unlocking accounts), backup and restore the database, configure devices, configure alarms, access the console window, and see audit trails.

The default administrator profile password is *admin*. It is recommended that this password be changed to prevent unauthorized access. Careful consideration should be given to those users granted access to the administrator profile.

#### 3.1.2 Super User Profiles

Settings Devices Real Time Data Data History Chart Alarms Audit Console

When adding a new user, the administrator profile has the option to make that specific user a Super User. Granting a user Super User access allows them to have the same permissions as the administrator account. They can add/remove users, change passwords, unlock accounts, setup and configure devices, configure alarms, see the console window, and see audit trails.

Careful consideration should be given to those users granted super user access.

#### 3.1.3 Other User Profiles



All additional profiles created for users by the administrator will only have the ability view the real time data, view the data history, and chart the data history. These tabs also include many features, such as exporting data and printing data. More information about these tabs can be found in later sections of this manual.

#### 3.2 Settings Management

By selecting the "Settings" tab, you will be able to edit the company name and logo, manage the user profiles, and backup or restore the database. Note that only the administrator/super user profiles can add users, remove users, edit all profiles, backup the database, or restore the database. Individual users may edit their own Particle View RT profile only.

#### 3.3 Editing the Company Profile

The company group box will allow you to edit the company name and company logo. The name entered here will appear at the top of all reports and graphs that are generated. Company logos are only shown on reports (not charts).

Company
Company Name :
Met One Instruments, Inc.
Company Logo : Choose Image
Logo FilePath :
C:\Users\Administrator\Desktop\Random
Met One Instruments
Save Company Settings

In the text field for Company Name you may type the name of your company and have it appear on reports and graphs that are generated. Setting this to a blank value will remove it from all reports and graphs.

Company
Company Name :
Met One Instruments, Inc.
Company Logo : Choose Image
Logo FilePath :
C:\Users\Administrator\Desktop\Random
Met One Instruments
Save Company Settings

Press the "Choose Image" button to select an image for the company logo.

<b>**</b>			Open			
🛞 🌛 👻 🕈 퉬 🕨 Randon	n Desktop Pictures	5			~ C	Search Random Desktop Pict 🔎
Organize 🝷 New folder						E • 🔟 🤅
Favorites  Favorites  Constraints  Favorites  Constraints  Favorites  Favorites Favorites  Favorites  Favorites  Favorites  Favorites  Favorites  Favorites  Favorites  Favorites Favorites  Favorites Favorites	⊠ Close.bmp	M2.bmp	met.bmp	met2.bmp	MOI Logo 4.bmp	MOI Logo 42014.bmp
A 1102 168 0 261 Y						
File <u>n</u> ame:	MOI Logo 4.bmp				*	Bitmap Image (.bmp) (*.bmp)

If the picture being selected for the company logo doesn't appear, make sure you have the correct file filter selected. The image above shows how to change the filter to the correct format.

Company
Company Name :
Met One Instruments, Inc.
Company Logo : Choose Image
Logo FilePath :
C:\Users\Administrator\Desktop\Randor
Met One Instruments
Save Company Settings

Once a logo is selected it should appear in the picture box shown above. Also the path to the logo will appear in the textbox. Setting this path text to blank will remove the logo and it will no longer appear on reports and graphs. Selecting a very large image will cause it to be scaled down on reports. It is recommended you use an image with a size no bigger than 400x400.

Company
Company Name :
Met One Instruments, Inc.
Company Logo : Choose Image
Logo FilePath :
$\verb C:\Users\Administrator\Desktop\Random   \\ \label{eq:C:Users}$
Met One Instruments
Save Company Settings

You must press the "Save Company Settings" button to save any changes made!

#### 3.4 Managing User Profiles



To add additional users, press the "Add User" button near the bottom of the users' window and the following Add New User interface will appear.

	Add New User
	User Name : Test User
	Password :
	Retype Password :
	* Passwords Match! *
P	Password Expiration : 30 🚔 (Days)
	Super User (Admin)
	Add User

User name field is the desired profile's username. The password field and the retype password field must match to be able to add a user. Setting the password expiration will put a password expiration on that account. Accounts with expired passwords will become locked until an administrator or super user changes it for them. Checking the Super User checkbox will make this user a super user.

Users	
Admin Jim Matt	
leff	
Channa 🙈	<u>_</u>
Password	Unlock Account
<u>,</u>	$\widehat{\Omega}$
Add Use	Remove

To remove users, select the user you want to remove and press the "Remove User" button near the bottom of the users' window. A prompt will appear confirming that you want to remove the selected user. Selecting yes will completely delete that user from the database.



To change your password or the password of another user, select the user you want to change and press the "Change Password" button located at the bottom of the Users window and the following Change Password window will appear. Note: Only super users and administrators can change other user's passwords. Normal users can only change their own password.

	Change P	Password	×
ſ		M	
	Usemame :	Matt	
	Current Password :	••••	
	New Password :		
	Retype Password :		
	* Passwords Mat	tch! *	
	Password Expiration :	30 🚖 (Days)	
	Save 💙	Cancel X	

You must type your current password, a new password, and a retyped new password to change your password. Administrators and super users don't need to type the current password to change a user's password.



To unlock a locked account, press the "Unlock Account" button found at the bottom of the users' window. Only administrators and super users can unlock accounts.

#### 3.5 SQL Database Backup



Click the button to select the location and name of the backup you are about to make. Press the "Backup Database" button once you have chosen a file path. This will create a .bak file which contains a complete back up of the ParticleView RT database.

<u>n</u>		Save As				
🕒 🛞 - 🕇 🌉 ·	This PC + Local Disk (C) + SOL Backups			+ 6 Section	Beckups	p
Organiza - New f	ulle .				81. •	
SkyDrive	* Merrit *	Data model and	Tape	See		
🔩 Hernegroup	2014-03-05 kek 2014/03-05 kek	3/5/2014 10:20 454 1/20/2014 3:49 PM	BAT File	2,433,438 12,824,438		
P This PC	asdas dadtas d.b.ik	1/2/2014 3.02 PM 5/2/2014 2.05 PM	BAK THE BAK THE BAK THE	12,629.400 12,529.400 17,629.400		
Documents Downloads Music Patures	REALEACEUPO1012014MCL Particip/fem Istoretec.bak TextBackup 2014-01-10.bak	1/2/2014 1.47 PM 1/2/2014 1.05 PM 1/10/2014 4.41 PM	EAL File EAL File BAL File	12,628 KB 22,226 KB 22,226 KB 1,685 KB		
Local Disk (C:)	ал. пл					
Filegame 20	* 14-03-05 bak					4
Save as type: 50	(. Beckup (. bok) (*. bok)					3
🔿 Hiele Folders				Seve	Cance	

#### 3.6 Restore SQL Database



Press the button to select a .bak file from your computer. After a file is selected the file path will show up in the textbox. Press the "Restore Database" button to restore the current database to the .bak file you chose.

<b>2</b>		Open					
🕞 🛞 - 🕇 📕 + Th	No PC + Local Disk (C) + SQL Backage			+ 6	lawsh 1QL Berlin	ji i	p
Organize + New fold	*					• 🗇	
Peceré pièces Povvloads StyDhue StyDhue Thai PC Douvloads Douvloads Minais Minais Pictures Véres Lacad Disk (CL)	Hanne 3994-01-05.8a 3994-01-05.8a andiadotato bat hackap/0012014.bat melacitap.bat BataBACK090100201400 (Participalities dispersional TestBackap 2014-08-10.bas	Determinative ansatzle ben two constants ben two constants and two traditions and two traditions and two traditions and two constants and two or find the set of two or find the set of two	Type BLIC Flae &AK File BAK File BAK File BAK File BAK File BAK File	1000 1120710 1120710 1120710 1120710 120710 120710 120710			
File g	erre: 2014-00-25.bak				SQL Backup Liber	0 (* bak)	~
					Qpen .	Cancel	

Note: Generally you do not want to restore the database from a .bak file because you will lose your current data. It's always a good idea to make a backup before you choose to restore it. The .bak file chosen has to be a ParticleView RT backup file or it will not work.

#### 4 Device Setup

#### 4.1 Ethernet Network Setup



There are currently two ways to connect Met One Instrument devices together into a network. The first method is using Ethernet to make a TCP/IP connection to the device. To put multiple devices on the same network using TCP/IP, plug in the Ethernet cord from the same network into the Ethernet port on the Met One device. See the image in the section "Connecting the Devices" for a better illustration. Below is are the instructions on how to configure the Ethernet port for each device.

#### 4.1.1 Ethernet Port Setup and Configuration

The BT-610 and BT-620 Ethernet ports must be configured with drivers before the user can connect via TCP/IP.

#### 4.1.1.1 Setting the Static IP Address of the device:

- 1. Turn on the Met One Device. Set the baud rate to 9600 in the SETUP menu.
- 2. Connect CAT5 Ethernet cable between the local network and the Ethernet connector on the back of the device.
- 3. Visit this link to download the Ethernet Utilities: <u>https://metone.com/software/</u>.
- 4. Unzip the downloaded file and launch IPSetup.exe. The following screen will appear:

IP	0	8 <sup>0</sup>	0	. 0	20	0		SBL2E [00-03-F4-04-C1-06] DHCP'd at 192.168.1.8
Network Mask	0	a 8	0	. 0		0	1 <u>9</u> 9	SBL2E [00-03-F4-04-C4-69] at 192.168.5.28 running SBL2E [00-03-F4-04-C1-88] at 192.168.5.27 running
GateWay	0	÷	0	. 0		0	Set>	
DNS [	0	•	0	. 0	::	0		
Baudrate 🛛	11520	0	_		_	•		
								Search Again

5. Click on the "Select a Unit" line that shows a DHCP'd in the title.

- 6. Type in your static IP address in the IP window. Be sure to write this number down as you will need it later.
- 7. Type in a Network Mask in the Network Mast window.
- 8. Set the baud rate to 9600.
- 9. Press the Set $\rightarrow$  button to change the IP address of the device
- 10. Click the "Launch Webpage" button.

NetBurner SBL2E Dual Seri ×		_ □
→ C 192.168.5.24/INDEX.HTM		🔂 💽 ฎ
	Network 10	
	Network   Se	erial   <u>GPIO</u>   <u>Password</u>
Network		
Device name for DHCP: SBL2E-C341		
Addressing mode: Static		
IP Settings	Static Settings	Current Values
Device IP address:	192.168.5.24	192.168.5.24
Device subnet mask:	255.255.248.0	255.255.248.0
Device gateway:	192.168.0.3	192.168.0.3
DNS server:	192.168.0.1	192.168.0.1
Ethernet link:	Normal	Physical power cycle required after change
Incoming TCP Settings	PORT 0	PORT 1
Listen for incoming network connections:	<ul> <li></li></ul>	✓
Listening network port:	23	24
Timeout and disconnect after this many seconds of inactivity:	120	60
Allow new connection if the existing connection has been idle for this many seconds:	30	30
Outgoing TCP Settings		
Make outgoing connections:	Never •	Never •
Connect on network port:	1000	1001
Connect/send to this address:	(Enter IP address)	(Enter IP address)
Timeout and disconnect after this many seconds of inactivity:	60	60
Retry failed outgoing connections after this many seconds:	10	10
GPIO TCP Effects		

11. The page should reflect your static ip and port.

→ C 192.168.5.24/serial_conf.htm		ක් 🖸 🔓 🗐
Vet Burner Networking in 1 day!	Netwo	<u>rk   Serial   GPIO   Passwor</u>
Serial	PORT 0	PORT 1
Data port settings (DEBUG defaults to port 0 if both are set to DEBUG):	RS-232 •	RS-232 V
Data baud rate:	9600 🔻	9600 🔻
Custom baud rate:	0	0
Data bits:	8 🔻	8 🔻
Stop bits:	1.	1 •
Data parity:	None <b>•</b>	None <b>•</b>
Flow control:	None 🔻	None
Allow AT commands:		
AT attention command char:	43 (+)	43 (+)

12. Press the "Serial" link at the top of the webpage.

- 13. Use the following options: Data Port Settings = RS-232, Baud Rate = 9600, Custom Baud Rate = 0, Data Bits = 8, Stop Bits = 1, Parity = None, Allow AT Commands = true, Command Char = 43
- 14. Press "Submit New Settings"
- 15. Close the webpage. Remember this instrument will always be accessed by the Com Port you chose.

#### 4.1.2 Connecting the devices



#### 4.2 RS-485 Multi-Drop Network Setup



The second method for connecting the Met One devices in a network is by connecting the devices with wires, creating a Multi-Drop RS-485 network. In the image above, circled in red, is the RS-485 connection where users will wire the devices together. Below are detailed instructions for wiring the devices together.

#### 4.2.1 RS-485 Physical Setup



To connect the devices via RS-485, you must run cable wiring between all units so that they are on the same network. We recommend 22 AWG shielded 1.5 pair with  $120\Omega$  nominal impedance and 16 pF/ft. (or less) shunt capacitance. The 1.5 pair cable provides two twisted wires for data and one wire for a common mode ground connection. The ground connection requires a  $100\Omega$  ½ watt series resistor to reduce ground currents as shown below.



#### 4.2.2 Connecting the Devices

Legend					
I	Legend Subtitle				
Symbol	Count	Description			
Ð	3	Device			
	1	Converter			
Ð	1	PC.6			



#### 5 Device Tab

Settings Devices	Real Time Data	Data History	Chart	Alarms /	Audit Console	
Get Info Device Info						
Add Remove Device	Device Settings Glo	bal Settings				
□ Device 1 □ Device 1 □ Device 2 □ Device 2	Connection Info R5232 COM Port : Baud Rate : 9600	TCP/     IP Addre:     192.*     Pot # :     40	'IP ss : 168.5.250 D01 🚔			
	Device Info					
	Device Name :	Location ID :	Flov	<i>w</i> Rate		
	Device Model :	Serial # :	Fim	iware Version :	:	
			V	Device Enable	ed	
			Sa	ave All		

The device tab is the page where the administrator or a super user can configure devices that will run and collect real time data. In this tab you can add a new device, remove a device, update devices, change global settings, and start running the devices.

#### 5.1 Adding a Device

Setting	s Devices
Get Info	Start Stop
Device Info	Controls
Add	Remove
Device	Device
Devices     Device 1     Device 1     Device 2     Device 2	s : Ready

Press the "Add Device" button to begin adding a new device.



A new device will appear on the tree and be selected. Here you will need to fill out the required information for that specific device. Required fields are: Device Name, Location ID, and the connection information. Click "Save Device" when you are done adding that device.

Note: Location ID's must be unique! Data grids are ordered by device name, so if you want to change the order of how devices are displayed, you must change the Device Name.



#### 5.2 Updating a Device

Clicking an already configured device will load the saved configuration for that device. As shown above, we have clicked on Device 2 and we can see all of the information associated with that device. To update a device, click on it from the tree on the left, update the values that need to be updated, and press "Save Device". Now clicking on that device should reflect your changes.

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#### 5.3 Removing a Device

Settings	Devices	Real Time Data	Oata H	listory Cha	nt d	llarms A
Get Info Device Info	tart Stop Controls					
Add +	lenove Device					
E Devices	-	Device Settings	Global Set	ings		
Device 1		Connection Hi RS232 COM Port Baud Rate : 9600 Device Info Device Info	• • C	ТСР/IР     IP Address     192 168 5     Port # :         4004     cation ID :	250	Rate
		Device 2	- 6	1	8	1
		Device Model	5	etal #	Ferry	ware Version
		87-620	k	N7972		R1.1.0s
					N.	Device Enable
					50	er Al 📕

To remove a device, select the device you would like to remove, and press the "Remove Device" button. This will prompt the user if they are sure they want to remove the selected device. Pressing 'Yes' will permanently delete that device and all of its data from the program and the database.

#### 5.4 Updating Global Settings

Device Settings Global S	Settings	
Global Settings	Channel Sizes Size 1 :	Size 4 :
Particle Units :	0.3	2.5
CF 👻	Size 2 :	Size 5 :
Temperature Units :	0.5	5
C •	Size 3 :	Size 6 :
Sample Time :	1	10
60		
Hold Time :		
0		
Repeat Count :		
0		
Daily Sync :		Save 🔗
1:00:00 AM 🚖		Global

Global settings are the device settings that must be shared across all devices in order to run properly. Changing these settings will update the settings for all configured devices. Below is a list of each global settings and a description of what that setting is for.

Setting	Description	Min Value	Max Value
Particle Units	Allows the user to set the units for all devices. Current options are : Cubic Feet, Cubic Meters, per	N/A	N/A
	Liter, and Total Counts		
Temperature Units	Allows the user to set the units for temperature. Options are Celsius or Fahrenheit	N/A	N/A
Sample Time	How long the devices will sample for. If you set this value to 60, it will take a sample every minute.	30	3600
Hold Time	The amount of time the device holds until the next sample	30	3600
Repeat Count	The number of times the device will run before shutting off. This is forced to 0 for real time.	0	0
Daily Sync	This is the time set when all the device clocks are re-synced	0	24
Size 1	The first channel size	0.3	10
Size 2	The second channel size	0.3	10
Size 3	The third channel size	0.3	10
Size 4	The fourth channel size	0.3	10
Size 5	The fifth channel size	0.3	10
Size 6	The sixth channel size	0.3	10

#### 5.5 Refreshing COM Ports

Settings	Devices	Real Time Data	Data History	Chart	Alarms Audit
Get Info Device Info	Start Stop Controls				
Add Device	Remove Device	Device Settings G Connection Info © RS232 COM Port : COM4 Baud Rate : 9600	Iobal Settings IP Addre 192. Pot # : 4	/IP ss : 168.5.250 004	
		Device Info Device Name : Device 2 Device Model : BT-620	Location ID : 1 Serial # : N7972	2	Flow Rate 1 Firmware Version : R1.1.0a
					Save All

Pressing the COM button will refresh the list of COM ports available.

#### 5.6 Get Info

Settings	Devices	Real Time Data	Data H	istory	Chart	Alarms	Audit
Get Info Device Info	itart Stop Controls						
Add F Device	Remove Device						
Devices     Device 1     Device 2     Device 2     Status : 0	Inline Inline	Device Settings Connection Info © RS232 COM Port : COM4 Baud Rate : 9600 Device Info Device Name Device 2 Device Model BT-620	Global Sett	IP Address IP Address 192.1 Port # : 40 cation ID : 1 wrial # : N7972	IP is : 68.5.250 104 Transformed File File File File File File File File	w Rate 1 mware Vers R1.1.0a	ion :
					s	ave All	

After you have added all the devices you plan on running, you will notice that there are some non-editable boxes that are blank. That is because we have only configured the devices and have not tried to communicate to them yet. Pressing the "Get Info" button will take the current list of devices and attempt to communicate with them. Once communication is successful, these blank fields will be populated with information from the device.

Loading	
	Canad
	Cancel

A busy bar will appear when you click the "Get Info" button. Particle View RT is discovering the configured devices and getting important information from them. Administrators and super users can go to the console tab and see what commands are being sent/received (more information about the Console tab can be found later in this document). Once Particle View RT has discovered all the devices, it will put them in an "Online" status and now clicking on a device will show the Device Model, Flow Rate, Serial #, and Firmware Version. Once all the configured devices are in an "Online" or "Offline" status, the "Start" button will become enabled.

Note: After discovering all configured devices, making changes, or adding new devices will disable the start button and you will have to "Get Info" again to discover new devices and/or any changes that were made.

#### 5.7 Starting Devices

Settings Devices	Real Time Data	Data History	v Chart	Alarms Aud
Get Info Device Info				
Add Remove Device				
Devices	Device Settings	Global Settings		
Device 1	Connection Info		700 40	
Status : Online	OM Det		ICP/IP	
i Status : Online	COM Port :	- 🔊 💾	192 168 5 250	
	Baud Bate :	Por	152.100.5.250 H#+	
	9600		4004	A V
	Device Info			
	Device Name	Location	n ID :	Flow Rate
	Device 2		1 🌲	1
	Device Model	: Serial #	: 1	Firmware Version :
	BT-620	1	17972	R1.1.0a
				Save All

To enable the "Start" button, all devices must be in an "Online" or "Offline" status. If there are any devices in an error or ready state you will not be able to start. Once all devices are in an "Online" or "Offline" status, press the "Start" button to start collecting data. All devices should go into a standby mode until the next sample time, in which they will start sampling.

#### 5.8 Stopping Devices

Get Info	Devices Start Stop	Real Time Data	Data History	Chart 7	Marms	Audit
Devices     Device 1     Device 2     Device 2	Benove Devce	Device Settings G Connection Info RS232 COM Pot COM4 • Baud Rate 9600	Iobal Settings P Addres T32.1 Port #: 40	P 1: E8.3.250 G4 (1)		
		Device Info Device Name	Location ID	Flow	Rate	
		Device 2	1	4	1	
		Device Model :	Senal #	Firm	ware Versi	an :
		BT-620	N7972		R1.1.0a	
				<u>1</u> 20	Device En	abled
				50	ve Al	-

To stop collecting data and stop all devices from sampling, press the "Stop" button at the top of the Devices tab. The stop will only be enabled if devices are currently sampling.

#### 5.9 Setting Devices Online/Offline

Settings Devices	Real Time Data	Data History	Chart	Alarms Audit
Get Info Device Info				
Add Remove Device	Device Settings	Global Settings		
Device     Set Status     Set Status     Device     Sta     Toggle Nodes	Offlin     Onlin     COM4     Baud Rate :     9600	ne IP Addi IP Addi I9; Port #	P/IP ress : 2.168.5.250 : 4003	
	Device Info Device Name : Device 1	Location ID	: Flor	w Rate
	Device Model : BT-610	Serial # : A12:	34	R1.1.0 Device Enabled
			s	ave Ali

To set a device Online or Offline, just right click the device you want to set and choose "Set Status" then select "Offline" or "Online".

Settings	Devices	Real Time Data	Data Hist	tory Char	t Alarms /	Audit
Get Info Device Info	tart Stop Controls					
Add Pevice	lemove Device	Device Settings	Global Setting	gs		
E Device 1 Status : 0 E Device 2 Status 0	filine	Connection Infi RS232 COM Port : COM4 Baud Rate : 9600 Device Info	• C	<ul> <li>TCP/IP</li> <li>IP Address : 192.168.5.2</li> <li>Port # : 4003</li> </ul>	50	
		Device Name Device Model	: Loca	ation ID : 1 🚔 al # :	Flow Rate	:
					Device Enabl	led
					Save All	

Setting a device "Offline" will stop that device from collecting data and it will no longer be sent commands. If a device goes into an "Error" status, you can set it "Offline" and attempt to fix the problem while "Online" devices continue to collect data. Once the issue is fixed you can attempt to set the device back to "Online".

Settings	Devices	Real Time Data	Data History	Chart	Alarms	Audit
Get Info Device Info	tart Stop Controls					
Add 🕂 R Device	Remove Device					
Devices     Device 1     Status : R     Device 2     L     Device 2     L     Status : O	leady nine	Device Settings	Global Settings	P/IP ress : 2.168.5.250 : 4003 : :	Flow Rate Firmware Vers Device Er Save All	on : nabled

Setting a device "Online" will take the device out of a stopped state and Particle View RT will attempt to re-discover the device to make sure all of that devices settings are correct (Ready status). If all settings are correct, the device status will become "Online" and the device will go into standby and begin sampling at the start of the next sample.

Note: While sampling, once you set a device "Offline" or "Online", you cannot toggle the status again until that operation has completed.

Settings	Devices	Real Time D	da Data His	tory Chart	Alarms	A.,.	R (	innsole						
Print Preview Printing Setti	Setup	CSV Export												
Columns 2 0.3 1 1 2 15 2 5 3 5 10		I Humid I Tempe I Satus I Notes	Vinatures	a Per Cubic Feet Per Luter Per Cubic Meter Total Count	Temperatu Celsus Fahreni	ne Nel								
DeviceName	2	atua T	ine	Device Name	+ 0.3u	1u	1.5µ	2.5u	5.	10u	Celsius	Humidity (X)	Status	Notes
inner 1		- 2	14-03-20 10:30:00	Device 1	182200	3200	1860	860	300	180	23	27	0	
evice 2		20	14-03-20 10:30:00	Device 2	116960	2890	1720	590	190	120	-18		0	
in 1		1 m 1	14 03 29 10 30 90	Sin 1	113863	14194	989	207	103	38	23	35	0	
and the second se				1 Aug 71	+10104	14440	640	100	00	20	1978	O.F.	10.	

#### 6 Real Time Data Tab

The Real Time Data tab is the tab where device data is displayed in real time as the devices collect and sample data.

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#### 6.1 Filters

Settings	Devices	Real Time	Data Data Hist	ery Ehart	Alarms	Aud	it c	ontale						
Print Preview	v Setup	CSV Export												
Coloma		Ulan	Units		Tenperatu	e								
V 1 1 2 5 5 5 10 10		Tem State	aty sensture a bensture a bensture a bensture b b b b b b b b b b b b b b b b b b b	er Liter er Liter er Cubic Meter atal Court	<ul> <li>Celsius</li> <li>Fahrent</li> </ul>	-								
V 15 V 25 V 15 V 25 V 10 ReviceName	9	Tem State	Time	er Cubic Feet er Liter wer Cubic Meter atal Court	Celeixa Celeixa Fahrent	net)	154	2.54	50	10u	Celsius	Humidity (%)	Status	Notes
10.3     15     25     5     10     10     10	9	Tem State Note	ally perature	er Cubic Feiet ler Liter falal Count Device Name Device 1	Celeiue     Fahrent     0.3u     182230	1u 1200	1.54	2.5u 360	5u 300	10u 180	Celsius 23	Humidity (%)	Status	Notes
V 0 - 2 V 1 V 15 V 25 V 10 V 10 V 10 V 10 V 0 0 V 0 V	3	State	aty a a Time 2014-03-20 10-30-00 2014-03-20 10-30-00	er Cubic Feiet er Liter er Cubic Meter atal Court Device Name Device 1 Device 2	Celeiue     Fahrent     0.3u     182200     116960	1u 3200 2890	1.54 1960 1720	2.5u 960 590	5u 300 190	10u 180 120	Celsius 23	Humidity (%) 27	Status C	Notes
V 1 V 1 V 15 V 25 V 5 V 5 V 5 V 6 V 6 V 6 V 6 V 6 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7	9	Tom State	any a a a Time 2014/05/20 10:30:00 2014/05/20 10:30:00 0014/05/20 10:30:00	er Cubic Feiet er Liter ter Cubic Meter atal Count Device Name Device 1 Device 2 Sen 1	Celeiue     Fahrent     0.3u     182200     116960     113853	1u 3200 2890 14154	1.5u 1860 1720 585	2.5u 860 590 207	5u 330 190 103	10u 180 120 30	Celsius 23 18 23	Humidity (%) 27 35	Status 0 0	Notes

Particle View RT allows the user to filter their data in real time to make the viewing of data easier for the user. Currently you can filter the real time display by particle size, humidity, temperature, status, notes, particle units, and temperature units. Selecting a filter will affect the real time display immediately.

#### 6.2 Alarm Pop Up

🔹 Set	ttings	Devices	Real Time Da	ta D	ata History	Chart	Alarms	Audit	Console
Print Print	Preview	Setup ngs	CSV Export						
Columns V 0.3 V 1 V 1.5 V 2.5 V 5 V 10			<ul> <li>✓ Humidit</li> <li>✓ Temper</li> <li>✓ Status</li> <li>✓ Notes</li> </ul>	y ature	Units Per Cubic Per Liter Per Cubic Total Cour	Feet Meter nt	Temperature Celsius Fahrenheit		am Pop Up ] Enable / Disable

Particle View RT allows the user to show a pop up notification for alarm. This pop up will occur even if you are not on the real time tab. This allows users who want to know if an alarm occurred while they are looking at the data history or another tab. Checking the box in the "Alarm Pop Up" panel will enable the pop up. To disable the pop up notification, uncheck the box. The example below shows the alarm pop up notification.



#### 6.3 Device List

DeviceName	Status
Device 1	Online
Device 2	Online
Sim 1	Online
Sim 2	Online

The Device List will display the list of all currently configured devices and show the current status of this device. Current status's are: Online (Green), Offline (Yellow), Error (Red), Ready (None).

#### 6.4 Real Time Display

Time	Device Name 🔺	0.3u	1u	1.5u	2.5u	5u	10u	Celsius	Humidity (%)	Status	Notes
2014-03-20 10:30:00	Device 1	182200	3200	1860	860	300	180	23	27	0	
2014-03-20 10:30:00	Device 2	116960	2890	1720	590	190	120	-18		0	
2014-03-20 10:30:00	Sim 1	113863	14184	989	207	103	30	23	35	0	
2014-03-20 10:30:00	Sim 2	106254	13236	923	193	96	28	23	35	0	

The Real Time Display is a grid that displays the last set of data collected from all devices. When a new sample begins collecting, the old data will be cleared and the newest data samples will be displayed on the screen.

Settine Print Previe Printing Se	W Setup	CSV Export	e Data	Data History Osart	Alarms	Aud	an c	anuolie						
Columna 0 0.3 1 1 2 5 2 5 2 5 3 10		115 A N	inidīty nperaturs stur tes	Units Per Cube: Feel Per Uter Per Cube: Meter Total Count	Tenperatu	n het								
DeviceName	Rat		Time	Device Name	- 0.3u	1u	1.5u	250	54	TEL	Celokuo	Humidity (%)	Ratur	Notes
Device 1	0.0		2014-03-20	10:52:00 Device 1	190350	3700	1990	840	240	80	23	27	0	(This is a test note
Device 2	0.0		2014-03-20	10:52:00 Device 2	124890	2820	1650	510	160	90	-18		0	
Site 1	1.00		2014-03-20	10:52:00 Sim 1	107162	13349	991	195	97	28	23	35	0	
Sini 2	<b>O</b> rac	•	2014-03-20	10:52:00 Sin 2	109473	13637	951	199	99	29	23	35	0	

To set a note for a specific sample, click on the notes field and begin typing your note. Any changes made to the notes field are automatically saved to the database and will appear in the data history.

Time	Device Name 🔺	0.3u	1u	1.5u	2.5u	5u	10u	Celsius	Humidity (%)	Status	Notes
2014-03-20 10:52:00	Device 1	190350	3700	1990	840	240	80	23	27	0	This is a test note
2014-03-20 10:52:00	Device 2	124890	2820	1650	510	160	90 🤇	-18		$\triangleright$	
2014-03-20 10:52:00	Sim 1	107162	13349	931	195	97	28	23	35	0	
2014-03-20 10:52:00	Sim 2	109473	13637	951	199	99	29	23	35	0	

The real time display also will display configured alarms in real time. In the example above, there is an alarm set for humidity and temperature when their values are less than zero. Alarms can be configured in the Alarms tab. More information about setting alarms can be found in the Alarms Tab section later in this document.

#### 6.5 Export

Settings	Devices	Real Tir	me Data	Data Hi	story (	Chart	Alarms	Aud	lit
Print Preview Printing Se	w Setup ttings	CSV Expo							
Columns				Un	its		Temperatu	re	
✓ 0.3			Humidity Tomperature		Per Cubic Fe	eet 🤇	Celsius		
✓ 1.5			Status	,    o	Per Liter	(	) Fahrenł	neit	
2.5			Notes		Per Cubic M	eter			
<ul> <li>✓ 5</li> <li>✓ 10</li> </ul>				0	Total Count				
DeviceName	St	atus	Time		Device N	Name 🔺	0.3u	1u	1.
Device 1	On	line	2014-03	3-20 10:52:0	0 Device 1		190350	3700	199
Device 2	On	line	2014-03	3-20 10:52:0	0 Device 2		124890	2820	16
Sim 1	On	line	2014-03	3-20 10:52:0	0 Sim 1		107162	13349	93
Sim 2	On	line	2014-03	3-20 10:52:0	0 Sim 2		109473	13637	95

To export the real time display data as a CSV file, press the "CSV" button in the Export panel.

<b>24</b>	Save As				×
			~ C	Search Real Time CSV Files	P
Organize 🔻 New folder				· •	0
Carlos SkyDrive A Name	Date modified	Туре	Size		
🜏 Homegroup	No items mat	ch your search.			
<ul> <li>This PC</li> <li>Desktop</li> <li>Documents</li> <li>Downloads</li> <li>Music</li> <li>Pictures</li> <li>Videos</li> <li>Local Disk (C:)</li> </ul>					
File name: 2014-03-20 - Real Time Display					~
Save as type: CSV files (*.csv)					~
Hide Folders				Save	<u>ا</u>

Choose a name and press the "Save" button to export the data as a CSV formatted file to the location chosen.

#### 6.6 **Printing Settings**

To setup and print the data displayed in the real time display, use the buttons found in the Printing Settings panel.

#### 6.6.1 Setup

Settings De	vices Real Ti	me Data	Data Histo	ory Chart		Alarms	Aud
Print Preview Printing Setting	Setup Is Expo	/ prt					
Columns			Units			emperature	
0.3		Humidity	● Pe	er Cubic Feet	C	Celsius	
<b>▼</b> 1.5		Status		er Liter	0	Fahrenhe	eit
2.5		Notes		er Cubic Meter			
✓ 5 ✓ 10			ОТ	otal Count			
	<u></u>			D : N		0.0	
DeviceName	Status	Time		Device Name	-	0.30	lu
Device 1	Online	2014-03-20	11:19:00	Device 1		194920	3610
Device 2	Online	2014-03-20	11:19:00	Device 2		128210	3050
Sim 1	Online	2014-03-20	11:19:00	Sim 1		109607	13654
Sim 2	Online	2014-03-20	11:19:00	Sim 2		114010	14203

To setup the print preview and print, press the setup button.

	Page Setup ×								
An and a second									
Paper									
Si <u>z</u> e: Le	tter v								
Source:	~								
Orientation	Margins (inches)								
Portrait	Left: 1 Right: 1								
◯ L <u>a</u> ndscape	<u>T</u> op: <u>1</u> <u>B</u> ottom: <u>1</u>								
	OK Cancel								

Page Setup allows the user to set the paper size, the paper source, the page orientation, and the page margins. Press "Ok" to save your changes.

6.6.2 Preview

Settings Devices	Real Tir	me Data	Data Hist	ory Chart	Alarms	Aud
Print Preview Setup Printing Settings	CSV Expo	/ ort				
Columns			Units		Temperatu	re
✓ 0.3		Humidity Tomportum	• P	er Cubic Feet	○ Celsius	
<ul> <li>✓</li> <li>✓</li> <li>1.5</li> </ul>		Status		er Liter	Fahren	heit
2.5		Notes		er Cubic Meter		
▼ 5 ▼ 10			01	otal Count		
DeviceName	Status	Time		Device Name	▲ 0.3u	1u
Device 1	Online	2014-03	-20 11:19:00	Device 1	194920	3610
Device 2	Online	2014-03	-20 11:19:00	Device 2	128210	3050
Sim 1	Online	2014-03	-20 11:19:00	Sim 1	109607	13654
Sim 2	Online	2014-03	-20 11:19:00	Sim 2	114010	14203

To preview what your print will look like, press the "Preview' button. An example of the print preview dialog can be seen below.

Print preview		×
P + 10 00 - 00 10 Store	Page	10
Met One Instruments Het One Instruments, inc. Het One Instrument, inc. Het One Instrument (Note in the Instrument Instrument) Het Instrument (Note in the Instrument) Het Instrument (	Paga (	1

#### 6.6.3 Print

Settings Devices	Real Tir	me Data	Data Hist	ory Chart	Alarms	Aud
Print Preview Setup Printing Settings	CSV Expo	/ vrt				
Columns			Units		Temperatu	re
<ul> <li>✓ 0.3</li> <li>✓ 1</li> </ul>		Humidity Temperatur	P	er Cubic Feet	○ Celsius	
<ul> <li>✓</li> <li>✓</li> <li>1.5</li> </ul>		Status	(   O P	er Liter	Fahrenh	neit
2.5		Notes		er Cubic Meter		
▼ 5 ▼ 10			0 1	otal Count		
DeviceName	Status	Time		Device Name	. <b>▲</b> 0.3u	1u
Device 1	Online	2014-03	3-20 11:19:00	Device 1	194920	3610
Device 2	Online	2014-03	3-20 11:19:00	Device 2	128210	3050
Sim 1	Online	2014-03	3-20 11:19:00	Sim 1	109607	13654
Sim 2	Online	2014-03	3-20 11:19:00	Sim 2	114010	14203

To print the data in the real time display, press the "Print" button found in the Printing Settings panel.

	Print	ł.	
ineral			
Select Printer			
Engree	ing8-PRN	Send To C	neNote 2013
Microso	ft XPS Document Writer		
κ			
Status:	Ready	Dent to Ne	Preferences.
Location:			Find Distan
Convent:			and them
Page Range			
®.4		Number of goples	1 4
Selectors	Cignet Page		
() Pages:		Ill'Ophie (1	2 1 1 2 3
		Best Cancel	34

After the "Print" button is pressed, the print dialog will be displayed. The print dialog allows the user to configure the print settings and actually print the data from the real time display.



To see past data collected, navigate to the Data History tab. The data history tab will let you select data from a date range and filter the data for custom reports and charting. Also, users can make notes or mark outliers for specific data.

#### 7.1 Filters

Settings	Devices	Real Tim	e Data	Data History	Chart Ala	rms /	Audit	Console			
Print Preview Printing Sett	Setup ings	CSV Expor	t Filte	oly Ers Chart				_			
Date         Columns         Humidity         Per Cubic Feet         © Celsius           2014-03-20 00:00:00         •						et (	Outliers Show All Exclude Outliers Show Only Outliers				
DeviceName		Enabled	Tin	ne	Device Name	0.3u	1u	Duration	Status	Outlier	Notes
Device 1		/ 🖸 \	201	4-03-20 10:05:00	Device 1	216630	3450	60	0		
Device 2		•	201	4-03-20 10:05:00	Device 2	138370	2640	60	0		
Sim 1			201	4-03-20 10:05:00	Sim 1	114305	14239	60	0		
Sim 2		\ ☑ /	201	4-03-20 10:05:00	Sim 2	102204	12732	60	0		
		$\bigcirc$	201	4-03-20 10:06:00	Device 1	214410	3520	60	0		

Initially the data history display will be blank. To display the data history, you must first select a date range and any filters that you would like. Pressing the "Apply" button in the Filters panel will apply selected filters and data will display. Changing any filters requires the user to press the "Apply" button to see the updated data results. Current filters include filtering by date, particle size, humidity, temperature, duration, status, outlier, notes, particle units, temperature units, and outliers.

#### 7.2 Device List

DeviceName	Enabled
Device 1	✓
Device 2	•
Sim 1	•
Sim 2	•

The device list will display the current list of devices configured in the database. Users may filter devices from the data history display by enabling or disabling a device (Hide/Show). To apply the filters the user must press the "Apply" button in the filters panel located at the top of the screen.

#### 7.3 Data History Display

	Time	Device Name	0.3u	1u	Celsius	Duration	Status	Outlier	Notes
•	2014-03-20 10:05:00	Device 1	216630	3450	22	60	0		
	2014-03-20 10:05:00	Device 2	138370	2640	-18	60	0		
	2014-03-20 10:05:00	Sim 1	114305	14239	23	60	0		
	2014-03-20 10:05:00	Sim 2	102204	12732	23	60	0		
	2014-03-20 10:06:00	Device 1	214410	3520	22	60	0		
	2014-03-20 10:06:00	Device 2	136540	2840	-18	60	0		
	2014-03-20 10:06:00	Sim 1	107418	13381	23	60	0		
	2014-03-20 10:06:00	Sim 2	112685	14038	23	60	0		
	2014-03-20 10:07:00	Device 1	207730	3630	22	60	0		
	2014-03-20 10:07:00	Device 2	135130	2760	-18	60	0		
	2014-03-20 10:07:00	Sim 1	111372	13874	23	60	0		
	2014-03-20 10:07:00	Sim 2	113181	14099	23	60	0		
	2014-03-20 10:08:00	Device 1	206690	3480	22	60	0		
	2014-03-20 10:08:00	Device 2	136000	2690	-18	60	0		
	2014-03-20 10:08:00	Sim 1	113604	14152	23	60	0		
	2014-03-20 10:08:00	Sim 2	102728	12797	23	60	0		
	2014-03-20 10:09:00	Device 1	207030	3750	22	60	0		
	2014-03-20 10:09:00	Device 2	133850	2940	-18	60	0		
	2014-03-20 10:09:00	Sim 1	100605	12533	23	60	0		
	2014-03-20 10:09:00	Sim 2	105806	13181	23	60	0		
	-								

The data history display will show the filtered data from the user selected date range. As you can see in the image above, the time stamps show data from each minute from each device for the date range of 2014-03-20.

	Time	Device Name	0.3u	1u	Celsius	Duration	Status	Outlier	Notos
•	2014-03-20 10:05:00	Device 1	216630	3450	22	60	0		This is a test note!
	2014-03-20 10:05:00	Device 2	138370	2640	-18	60	0		$\sim$
	2014-03-20 10:05:00	Sim 1	114305	14239	23	60	0		
	2014-03-20 10:05:00	Sim 2	102204	12732	23	60	0		
	2014-03-20 10:06:00	Device 1	214410	3520	22	60	0		
	2014-03-20 10:06:00	Device 2	136540	2840	-18	60	0		
	2014-03-20 10:06:00	Sim 1	107418	13381	23	60	0		

Users may set notes for specific data samples. To set a note, simply click the notes field and begin typing your note. Any characters typed are automatically saved to the database.

	Time	Device Name	0.3u	1u	Celsius	Duration	Status	Outlier	Notes
	2014-03-20 10:05:00	Device 1	216630	3450	22	60	0		This is a test note!
	2014-03-20 10:05:00	Device 2	138370	2640	-18	60	0		
•	2014-03-20 10:05:00	Sim 1	114305	14239	23	60	0		
	2014-03-20 10:05:00	Sim 2	102204	12732	23	60	0	~	
	2014-03-20 10:06:00	Device 1	214410	3520	22	60	0	~	
	2014-03-20 10:06:00	Device 2	136540	2840	-18	60	0	~	
	2014-03-20 10:06:00	Sim 1	107418	13381	23	60	0		

Particle View RT allows users to set specific data samples as outliers. Some records that are stored may be invalid for a variety of reasons. Users may wish to mark these data points as outliers to be ignored when evaluating data. When graphing the data history, outliers will be ignored and will not be graphed. Simply check the outlier box, as shown above, to mark/unmark that data sample as an outlier.

Time	Device Name	0.30	lu	Celsius	Duration	Status	Outlier	Notes
2014-03-20 10:05:00	Device 1	216630	3450	22	60	0		This is a test note!
2014-03-20 10:05:00	Device 2	138370	2640	-18	0	0		1
2014-03-20 10:05:00	Sm T	114305	14239	2	60	0		
2014-03-20 10.05:00	5m 2	102204	12732	22	60	0		
2014-03-20 10:06:00	Device 1	214410	3520	22	- 60	0		
2014-03-20 10:06:00	Device 2	136540	2840	-18	De l	0		
2014-03-20 10:06:00	Sm 1	107418	13381	23	60	0		
2014-03-20 10:06:00	9m 2	112685	14038	23	60	0		
2014-03-20 10:07:00	Device 1	207730	3630	22	60	0		
2014-03-20 10:07:00	Device 2	135130	2760	-18	<b>)</b> >	0		
2014-02-20 10-07-00	Sm 1	111372	13874	23	60	0		
2014-03-20 10 07 00	Sm 2	113181	14099	23	60	0	0	
2014-03-20 10:08:00	Device 1	206690	3480	22	60	8		
2014-03-20 10:08:00	Device 2	136000	2690	18	60	0		
2014-03-20 10:08:00	Sm 1	113604	14152	23	60	0		
2014-03-20 10:08:00	Sm 2	102728	12797	23	60	0		
2014-03-20 10:09:00	Device 1	207030	3750	22	60	0		
2014-03-20 10:09:00	Device 2	133850	2940	-18	60	0		
2014-03-20 10:09:00	Sm 1	100605	12533	20	60	0		
2014-03-20 10:09:00	Sm 2	105806	13181	23	60	0		
2014-03-20 10:10:00	Device 2	131570	2880	-18	0	0		
2014-03-20 10:10:00	Sm 1	117545	14643	23	60	0		
2014-03-20 10 10:00	Sm Z	118668	14783	23	60	0		
2014-03-20 10:11:00	Device 2	132810	2720	-18	00	0		
2014-03-20 10 11:00	Sm 1	116271	14484	23	60	0		
2014-03-20 10:11:00	Sim 2	118427	14753	23	60	0		

The data history display also will display configured alarms. In the example above, there is an alarm set when the temperature is below 0. Alarms can be configured in the Alarms tab. More information about setting alarms can be found in the Alarms Tab section later in this document.

7.4 Chart							
Settings Devices	Real Time D	ata Data History	Chart Ala	rms	Audit	Console	
Print Preview Setup Printing Settings	CSV Export	Apply Filters Chart					
Date Start Date : 2014-03-20 00:00:00 □ ▼ End Date : 2014-03-21 00:00:00 □ ▼	Columns 0.3 0.5 1 1.5 <	2.5 4 5 6	<ul> <li>Humidity</li> <li>Temperatu</li> <li>Duration</li> <li>Status</li> <li>Outlier</li> <li>Notes</li> </ul>	ıre	Units Per ( Per 1 Per ( Tota	Cubic Feet Liter Cubic Meter I Count	
DeviceName	Enabled	Time	Device Name	0.3u	1u	Celsius	
Device 1	✓	2014-03-20 10:05:00	Device 1	216630	3450	22	6
Device 2	✓	2014-03-20 10:05:00	Device 2	138370	2640	-18	6

To chart the current data history displayed, press the "Apply" button in the chart panel located at the top of the screen. This will take you to the Chart tab. More information about charting/graphing data can be found in the Chart Tab section later in this document.

Settings Device	s Real Tim	e Data 🛛 Data	a History	Chart /	Alarms	Audit	Console	
Print Preview Setu Printing Settings	up Expor	Apply Filters	Apply Chart					
Date	Column	S				Units		Temp
Start Date :	✓ 0.3	:	2.5	Humidit	y	Per	Cubic Feet	• C
2014-03-20 00:00:00			4	Tempe	rature	○ Per	Liter	OF
			6	Status		O Per	Cubic Meter	
End Date :			-	✓ Outlier		O Tet	al Count	
2014-03-21 00:00:00	<		1	> Votes			ai Courii	
DeviceName	Enabled	Time	[	Device Name	0.3u	1u	Celsius	Durati
Device 1	•	2014-03-2	0 10:05:00 D	Device 1	216630	3450	22	60
Device 2	•	2014-03-2	0 10:05:00 D	Device 2	138370	2640	-18	60
C 1		0014.00.0	0 10 05 00 0	~ 4	114005	14000	22	<b>C</b> D

To export the data history display data as a CSV file, press the "CSV" button in the Export panel.

24	Save As			×
	es	~ Ç	Search Real Time CSV Files	Q
Organize 🔻 New folder			8== ▼	0
SkyDrive ^ Name	Date modified	Type Size		
🜏 Homegroup	No items match	i your search.		
Image: This PC         Image: Desktop         Image: Documents         Image: Downloads         Image: Downloads <th></th> <th></th> <th></th> <th></th>				
File name: 2014-03-20 - Real Time Display				~
Save as type: CSV files (*.csv)				~
Hide Folders			Save	el:

Choose a name and press the "Save" button to export the data as a CSV formatted file to the location chosen.

7.5 Export

#### 7.6 Printing Settings

To setup and print the data displayed in the data history display, use the buttons found in the Printing Settings panel.

#### 7.6.1 Setup

٩	Settings	Devices	Real Time D	eal Time Data Data History		(	Chart	Alar	
Prin	t Preview Printing Sett	Setup	CSV Export	App Filte	oly	Apply Chart			
Date			Columns	` <u> </u>	_	·	_		
Start D 2014-(	ate : 03-20 00:00:00		<ul> <li>✓ 0.3</li> <li>○ 0.5</li> <li>✓ 1</li> <li>✓ 15</li> </ul>			2.5 4 5		Hum ✓ Tem ✓ Dura	nidity Iperatu ation
End Da 2014-(	ate : 03-21 00:00:00		< 1.5			)	>	<ul> <li>Stati</li> <li>Outli</li> <li>Note</li> </ul>	us ier es

To setup the print preview and print, press the setup button.

	Page Setup ×						
And a standard and a second and							
Paper							
Size: Le	tter 🗸 🗸						
Source:	¥						
Orientation	Margins (inches)						
Portrait	Left: 1 Right: 1						
◯ L <u>a</u> ndscape	<u>T</u> op: <u>1</u> <u>B</u> ottom: <u>1</u>						
	OK Cancel						

Page Setup allows the user to set the paper size, the paper source, the page orientation, and the page margins. Press "Ok" to save your changes.

#### 7.6.2 Preview

Settings Devices	Real Time Data	a Data	History	Chart A
Print Preview Setup	CSV	<b>P</b> Apply	Apply	
Printing Settings	Export	Filters	Chart	J
Date	Columns			
Start Date : 2014-03-20 00:00:00	<ul> <li>✓ 0.3</li> <li>○ 0.5</li> <li>✓ 1</li> </ul>	2 4 5	2.5 i	Humidity Temper Duration
End Date : 2014-03-21 00:00:00	<ul> <li>1.5</li> <li>&lt;</li> </ul>	6	;	Status  Cutlier  Notes

To preview what your report will look like, press the "Preview' button. An example of the print preview dialog can be seen below.



#### 7.6.3 Print

Settings	Devices	Real Time D	ata	Data	History		Chart
Print Preview Printing Sett	Setup	CSV Export	App	oly ers	Apply Chart		
Date Start Date : 2014-03-20 00:00:00 End Date : 2014-03-21 00:00:00		Columns 0.3 0.5 1 1.5 <			2.5 4 5 5	>	Humidi Tempe Duratic Status Outlier Notes

To print the data in the real time display, press the "Print" button found in the Printing Settings panel.

	Print	
eneral		
Select Printer		
EngreeningB-PRN	ing Send To I	OneNote 2013
Hicrosoft XPS Docum	ent Writer	
κ.		2
Status: Ready	🔲 Pertito Se	Preferences
Convent		Find Printer
Page Bange		
	Number of copie	1 4
O Selecton O D	unt Page	1
E) Pages:	E Cultate	1 <sup> 2 3 </sup> 1 <sup> 2 3 </sup>
	Pet Canor	A Pauly

After the "Print" button is pressed, the print dialog will be displayed. The print dialog allows the user to configure the print settings and actually print the data from the data history display.

#### 8 Chart Tab



To graph your data history samples, navigate to the Chart tab. Particle View RT provides charting capabilities to represent your data sets visually. Selecting the Chart tab will display the data set that has been established and displayed on the Data History tab in a multi-line (if multiple parameters are chosen) chart.

#### 8.1 Filters

Particle View RT allows the user to customize their graphs by filtering the data to the user's desire. The data graphed is taken from the current data displayed on the data history display. This means the data graphed is displayed by the filters set on the data history display. If you reorganize the columns by date descending then it will graph the data by time descending and vice versa for organizing the time by ascending order.

#### 8.1.1 Controls 8.1.1.1 Zoom In



To zoom in on the chart, hold the left mouse button down and drag it over the area you would like to zoom. Below is the zoomed in area from the chart above.







Users may click the round circle boxes on the x and y axis to zoom out or right click anywhere on the chart to zoom out.

#### 8.1.1.3 Panning

User the scroll bars on the x and y axis to pan the current chart view.

#### 8.1.2 X-Axis

Currently, users can set their own X-Axis intervals by setting an interval value in the numeric up down box in the X-Axis panel. Also, for convenience, there is a "Reset Interval" button to reset the X interval to auto. Users may also organize the X-Axis data by time or by the number of samples for this data set.

#### 8.1.3 Y-Axis

Users may set their own Y-Axis intervals by setting an interval value in the numeric up down box in the Y-Axis panel. Also, for convenience, there is a "Reset Interval" button to reset the Y interval to auto. Users may also organize the Y-Axis by a logarithmic scale or default values.

#### 8.1.4 Miscellaneous

Currently there are 3 miscellaneous options that users can use for enhancing the read-ability of their charts.



Markers – Allows the user to turn marks on. Mouse over a point to display its x and y values.



Values – Allows the user to display the y value by each point on the chart.



3D – Allows the user to turn the 2D chart into a 3D chart.



#### 8.1.5 Chart Type

Line Chart – Displays the current data set on a line chart.



Step Line Chart – Displays the current data set on a step line chart.



Spline Chart – Displays the current data set on a spline chart.



Point Chart – displays the current data set on a point chart.

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#### 8.2 Export



Users may export the current chart as an image. To save the chart as a .png file, press the "Image" button in the export panel located at the top of the screen.

🖸 Save As		
🛞 🛞 🕐 🕈 🎩 + This PC + Local Disk (C) + Real Time CSV Files	v 😋 Seanth Real Time CSV Files	p
Organiza + New folder	z) -	
SigDine A		
No Homegroup		
Destop 1 mm 2 pmg     Documents     Downloads     Music     Pictures     Videce     Local Disk (C)     w     d(\102.168.036)     w		
File june		
Save as gype: Prog Image (up ng) (* up ng)		3
🕐 Hide Talden	Save Ca	ncal

Chose a name and a folder and click the "Save" button to export your chart as a image.

#### 8.3 Printing Settings

To setup and print the chart displayed, use the buttons found in the Printing Settings panel.

#### 8.3.1 Setup



To setup the print preview and print, press the setup button.

	Page Setup ×
	Yeb. Schröder Gerf           Yeb. Schröder Gerf
Paper	
Size: Le	etter 🗸 🗸
Source:	~
Orientation	Margins (inches)
Portrait	Left: 1 <u>Right</u> : 1
◯ L <u>a</u> ndscape	<u>T</u> op: <u>1</u> <u>B</u> ottom: <u>1</u>
	OK Cancel

Page Setup allows the user to set the paper size, the paper source, the page orientation, and the page margins. Press "Ok" to save your changes.

#### 8.3.2 Preview



To preview what your print will look like, press the "Preview' button. An example of the print preview dialog can be seen below.



#### 8.3.3 Print



To print the chart, press the "Print" button found in the Printing Settings panel.

Select Printer			
Hij EngneeringB-PRN Bij Fax Hij Microsoft XPS Docur	ment Writer	Mit Send To C	IneNote 2013
κ.			
Status: Ready		🔲 Petito Se	Preferences
Convert:			Fing Printer.
Page Range			
€4 ©5ekqon ©5	part Page	Number of gapies	1 4
() Pages		III Caloie	2 1 1 2

After the "Print" button is pressed, the print dialog will be displayed. The print dialog allows the user to configure the print settings and actually print the data from the data history display.

#### 9 Alarms Tab

Particle View RT provides a versatile alarm indication interface. It has four alarm types that can be configured to each parameter. These are High High, High, Low, and Low Low alarms. You can configure as many alarms as you need for each parameter, change their indication colors, and even decide whether or not to have the alarms enabled. This allows you to set multiple alarm conditions for a single parameter based on differing criteria and only enable them as needed. Note that only the administrator and super user profiles may edit the alarm colors and indicator character.

	Partic	cleView RT		- 🗆 🗙
Settings Devices Real T	ïme Data 🛛 Data History	Chart Alarms Audit	Console	
Color Value	Color Alarm High	Color Value	Color Alarm Lo	Value Default w Low Reset
Alam Type High High Alam	High Alam Low Alam	n Low Low Alarm	Add Alarm	
Enabled Type	HighHigh	High	Low	LowLow
				1
🕅 Status: Logged in as : Admin		Version 0.0.5192.27587		🕜 2014-03-20 16:20:15

#### 9.1 Adding Alarms

٨	Settings	Devices	Real Time Data	Data History	Chart Alarms	Audit	Console	
Co	Jor Alarm High	<mark>/alue</mark> High	Color Alarr	Value n High	Color Alar	Value m Low	Color Alarm Low Low	Default Reset
Alam   0.3u	1 Туре	High High A	Jam High Alam	2 Low Alarm	Low Low	Alam Add	d Alarm	
0.5u	_ 1				HighHigh			High
	$\leq =$							
4u 5u								
6u 10u Humi Celsii Fahre	idity (%) us enheit							

To add an alarm, first you must select an alarm type from the drop down list (1). Then you must enter at least one alarm value (High High, High, Low, or Low Low) (2). Finally, click the "Add

Alarm" button to add your configured alarm (3). If the alarm was configured correctly, it will show up in the alarm grid at the bottom of the screen.

#### 9.2 Removing Alarms

٨	Se	ettings	Devices	Real Tir	me Data	Data His	tory	Chart	Alarms
	Color Ala	ırm Higi	Value h High		olor Alar	Valu m High	e	Colic	or Alarm
Ala	ım Typ	e	High Hig	h Alarm	High Alam	1	Low Alarm		Low Low A
E	nabled	Туре						Hig	ghHigh
	✓	Celsius							
	✓	Humidity (	(%)		_	_			
					Remove	e Alarm			

To remove an alarm, right click on the configured alarm in the grid and press the "Remove Alarm" button. If successful, the alarm will no longer be listed in the alarm grid.

#### 9.3 Enable/Disable Alarms

٩	Settings	Devices	Real Time Data	Data History	Chart	Alarms	Audit	Console
Ca	olor Alarm Hic	Value gh High	Color Alar	Value m High	Colo	or Alarm	Value n Low	
Alan	т Туре	High High	n Alarm High Alarm	n Low Alam	1	Low Low A	lam	Add Alam 💟
En	abled Type				Hig	ghHigh		
	<ul> <li>Celsius</li> </ul>							
	Humidity	(%)						

To enable or disable an alarm, simply check/uncheck the Enabled button next to the alarm in the alarm grid. Once it is checked or unchecked, it will automatically be saved and configured.

Note: If you are already sampling/running, the alarms will not show until the newest sample is displayed.

#### 9.4 Reset

Settings Device	es Real Time Data Data History	Chart Alarms Audit Cor	nsole								
Color Alarm High High	Color Value Alarm High	Color Alarm Low	Color Alarm Low Low	Default Reset							
Alarm Type High High Alarm High Alarm Low Alarm Low Low Alarm Add Alarm											
Enabled Type		HighHigh		High							
Celsius											
Humidity (%)											

To restore the alarm colors to Particle View RT's default colors, press the "Default" button in the reset panel located at the top of the screen.

🕸 Se	ettings [	Devices	Real Time Data	Data History	Chart	Alarms	Audit	Consol	le			
Color	V	alue ligh	Color	Value arm High		olor Alarn	Value n Low		Color	Va larm Low L	alue	Default Reset
Bac	kground	High High A	lam High Ala	am Low Alam	1	Low Low A	Nam A	dd Alarm	$\overline{\mathbb{O}}$			
Enabled	Туре					HighHigh						High
✓	Celsius											
	Humidity (%)											

To customize the alarm colors for High High, High, Low, Low Low alarms, press the "Color" button for the appropriate panel and select either "Text" or "Background".

Color ×
Basic colors:
Define Custom Colors >> OK Cancel

Selecting "Text" will prompt you to choose a color. Choosing a color will change that alarm's text color. Selecting "Background" will prompt you to choose a color. Choosing a color will change that alarm's background color. See the example below for custom colored alarms.

#### 9.5 Alarm Colors

Settings	Devices R	Real Time Data	Data History	Chart	Alarms	Audit	Conse	ole				
			Volue			Mahua				(alua		]
Color	value	Color	value	Colo	r 🗖	value		Color		/aiye /	Default	
Alarm High	n High	Alarn	n High		Alarm	Low	+	AI	arm Low	Low	Reset	
Alarm Type	High High Ala	am High Alam	Low Alarm	t	ow Low Ala	am A	Add Alarm	$\bigotimes$				
Enabled Type				Hig	hHigh						High	
Celsius										į.		
Humidity (	%)									i i		

Jelling Devices	Real Three D	ata Deta History	E Chief 44	łm.	Aust Com	ele											
Print Preview Setup Printing Settings	CSV Export	Apply Filters					-										
Date Sect Date State Co-35 00 00 00 ())+ End Date 2014 (0:32 00:00:00 ())+	Column W 13 W 15 W 15 W 15	¥ 25 87 8 8 8 8 8	Humidily     Tempara     Duration     Status     Notes	n/w	Units Per Cable: TV Per Liter C Per Cable: M O Total Court	ud Mar	Tergesture Colesa C Folverhot	0.0 % 0	dien Show All Exclude O Show Only	ulen r Outen							
DeviceName	Drabled	Tetar	Device Name	2.34	65i 3i	13	5 25	4	5	5	104	Handlig (1)	Celina	Duration	2 stue	Outlet	filteres .
Devoe 1		2014/03/28 10:05/08	Device 1	216630	3480	13	43 788		190		60	28	22	60			Two is a tool note!
Device Z	12	2014-03-20 10:05:00	Device 2	138370	264)	14	90 400		120		40		111	60	18		
Sim 1	12	2014-03-20 10:05:00	Sec 1	114305	1423	6 96	206		104		30	35	25	50			
8m 2	10	2014-03-20 10:05:00	Sey 2	102254	t273	0 88	196		83		27	35	23	60			
		2014-09-20 10:06:00	Denica 1	214410	3620	21	970		290		120	28	22	50			
		2014-03-20 10-06:00	Device 2	136543	2840	110	0 630		230		100		111	60		0	
		2014-03-20 10:06:00	Ser 1	107418	1339	1 93	1 195		\$7		28	25	23	50	8		
		2014-03-20 10-06:00	Sec 2	112685	1403	8. 97	3 205		102		30	35	23	80	4	0	
		lines a low state on any set.		-	10.00		1000		144.6		Tie .	and the second s	100	10		100	1

#### 10 Audit Tab

٨	Settings	Device	s I	Real Time Data	Data History	Chart	Alarms	Audit	Console
	2								
Ap	oly								
Filt	er								
Date	)		Use	er	Statistics				
Start	Date :				Retries :				
201	4-06-11 00:00:00		Adn	nin 👻	6				
End	Date :				Checksum Failure	s:			
201	4-06-12 00:00:00				0	C			
	Timestamp	U	ser	Action					
•	2014-06-11 13:	08:38 Ad	min	Updated Global Se	ettings.				

Particle View RT keeps a security-relevant chronological record of any user action made in the program. This is a great was to provide documentary evidence of the sequence of activities that users have taken that affect the program and the devices. Currently, records contain the timestamp from when the action occurred, the user who performed the action, and the action performed. Only administrators and super users can view the audit tab. To see the audit trail, navigate to the "Audit" tab.

#### 10.1 Filters 10.1.1 Date

٢	Settings	Devices	Real Time Data	Data History	Chart	Alarms	Audit	Console
5								
App	oly							
Date		~	User	Statistics				
201	4-03-21 00:00:0			Retnes : 0				
End	Date :		Admin 🗸	Checksum Failure	HS (			
201	4-03-22 00:00:0	0		0				
_	Timestamp	User	Action					
F	2014-03-21 08	17:42 Admin	Logged In					

Audit trails are kept in chronological order by when the action occurred. Filtering by date is the best option when trying to figure out what happened during a certain time frame. To filter by date, set the "Start Date" and "End Date" in the date picker boxes. Once you have selected your date range, click the "Apply" button found in the filter panel at the top of the screen.

#### 10.1.2 User

٨	Settings	Devices	Real Time Data	Data History	Chart	Alarms	Audit	Console
	2							
Ann	N.C.							
App	ny ar							
FILE	21							
Date	Date -	1	User	Statistics Retries				
2014	-03-21 00:00:00			0				
End	Date :			Checksum Failure	s :			
2014	-03-22 00:00:00		Jim	0				
-		-	Matt					
(	Timestamp	User	Action					

Filtering by users is another option supported by Particle View RT for audit trails. To filter by user, enable the "User" group box by checking the check box shown above. Once enabled, you may select a user from the drop down list. To apply your filters, press the "Apply" button located in the filter panel at the top of the screen.

#### **10.2 Statistics**

٠	Settings	Devices	Real Time Data	Data History	Chart	Alarms	Audit	Console
App Filt	bly						-	
Date Start	Date :	-	User	Statistics Retries :				
End	4-03-21 00:00:00 Date :		Admin 🗸	0 Checksum Failure	s: )			
2014	1-03-22 00:00:00	Use	r Action	<u> </u>				
•	2014-03-21 08:1	7:42 Admi	n Logged In					

The statistics panel contains the information related to important statistical evidence recorded while the program is collecting data. Currently, the only statistics displayed are the amount of retry attempts that have occurred and the amount of check sum failures that have occurred while the program is collecting data from the devices. Generally, these numbers should be zero, but busy networks can induce more errors to occur.

#### 10.3 Refresh

	Settings	Devices	;	Real Time Data	Data History Char				
	•								
Арр	ly								
Filte	er								
Date	Date Start Date :			ſ	Statistics				
Start					Retries :				
2014-06-11 00:00:00 🔲 🖛			Adn	nin 👻	6				
End Date :					Checksum Failure				
2014	-06-12 00:00:00				• (C)				
	<b>.</b> .			A					
	limestamp	Us	er	Action					
2014-06-11 13:08:38 Admin				Updated Global Settings.					

The Audit tab is refreshed every time you visit the tab. However, for ease of use, to refresh the statistic data without changing tabs, press the refresh button located in the statistics panel at the top of the screen. If there have been any retries or check sum failures since visiting this tab, pressing this button will refresh the statistic data and display the most recent values.

#### **10.4 Apply Filters**

٨	Settings	Devices	Real Time Data	Data History	Chart	Alarms	Audit
Appl Filte	y						
Date Start I 2014- End D 2014-	Date : 06-11 00:00:00 ate : 06-12 00:00:00		Jser Admin -	Statistics Retries : 6 Checksum Failure 0	s : <b>C</b>		
	Timestamp	User	Action				
	2014-06-11 13:0	8:38 Admin	Updated Global Se	ttings.			

To apply any new filters that the user set, press the "Apply" button located in the filter panel at the top of the screen.

#### 11 Console Tab

ParticleView RT								-		×	
٩	Settings	Devices	Real Time Data	Data History	Chart	Alarms	Audit	Console			
								,			
[2014	-03-21 09:03:	01.4307] IA 1	DS 13*00461								
[2014	-03-21 09:03:	01.5176] DS	13,Count6,PC,/cf,0,	S,100000000,0*0	2173						
2014	-03-21 09:03: -03-21 09:03:	A 1 1.549 [UA 1 1 1 6237] המ	19 DS 15*00520	10 0*01262							
2014	-03-21 09:03:	01.7467 LA 3	DS 15*00465	50,0 01202							
[2014	-03-21 09:03:	01.8226j DS	15,RH,RH,%,0,S,10	00,0*01262							
[2014	-03-21 09:03:	01.9407] IA 4	DS 15*00466	0.0*01000							
2014	-03-21 09:03:	02.0107JDS 02.0107ITA 1	15,RH,RH,%,0,5,10 DS 14*00462	JU,U"U 1262							
2014	-03-21 09:03:	02.0947] DS	14,AT,AT,C,0,S,50,	-30*01333							
[2014	-03-21 09:03:	02.1508] IA 1	9 DS 16*00521								
[2014	-03-21 09:03:	02.2307] DS	16,Location,INFO,	0,NO,0,0*02020							
12014	-03-21 09:03:	02.34271043 02.42671DS	16 Location INFO	0 NO 0 0*02020							
2014	-03-21 09:03:	02.4357] IA 4	DS 16*00467								
[2014	[2014-03-21 09:03:02.5107] DS 16,Location,INFO,,0,NO,0,0*02020										
[2014	-03-21 09:03:	02.5557] IA 1	DS 15*00463	00.0*01000							
2014	-03-21 09:03:	02.0207J D 3 02 7517I I A 1	19 DS 17*00522	JU,U U1202							
2014	-03-21 09:03:	02.8397 DS	17,Sample Time,T	IME,S,0,NO,3600	),1*02477						
[2014	-03-21 09:03:	02.8397] IA 3	3 DS 17*00467								
[2014	-03-21 09:03:	02.9227] DS	17,Sample Time,T	IME,S,0,NO,3600	),1*02477						
🦹 Stat	us: Logged in	as : Admin		Version	0.0.5192.277	'18		(	3 2014-03-2	1 09:03	:34:

The console tab is an administrator/super user only tab. The console tab displays all commands sent and received from all configured devices. This is a great troubleshooting tool. Typically, there should be no need to access it, but it may be necessary should you seek factory support for any reason.