



# IButton Logger Quick Start Guide

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## Table of Contents

Introduction .....	1
Getting started .....	2
Step 1. Java installation.....	2
Step 2. Install bundled OneWireViewer and 1-Wire drivers.....	4
Step 3. Complete USB installation .....	5
Step 4. Start the OneWireViewer program.....	6
Step 5. Connect the iButton and the reader .....	7
Step 7. Run the OneWireViewer .....	7
Step 8. Using the iButton Logger .....	9

**NOTE: Copies of the software and manuals can be found on the enclosed CD under the “iButton” directory, when using Windows File Explorer/My Computer etc., or click on the “click here” section within the “Miniature Data Logger” section of the autorun webpage to access the directory.**

## Introduction

The iButton products are designed so that a personal computer (PC) can easily read from or write to an iButton device. The OneWireViewer is a convenient software program that allows users to easily read from and write to iButtons with a Windows-based PC that has a USB port.

The PC must also support Sun® Microsystems' Java® program. The OneWireViewer requires additional software drivers to allow the PC to communicate with the adapter. Both OneWireViewer and the required 1-Wire® drivers are bundled together and available for free download.

The OneWireViewer and 1-Wire drivers work with Windows XP® (SP2 or higher) and upwards and the Microsoft server operating system, Windows 2008. This application note gives detailed installation instructions for PCs using Windows operating systems.

## Getting started

To communicate with your iButton, you need all of the items shown in **Figure 1**.



Figure 1. Required setup components.

The DS9490R# adapter plugs into your PC's USB port. Serial port Adapters are also available if required, please contact Measurement Systems. The reader/probe has an RJ-11 modular connector that plugs into the adapter. All iButton® devices communicate using the 1-Wire protocol.

### Step 1. Java installation

OneWireViewer requires Java JRE (version 5, update 8 or higher) installed in the target computer.

**Due to Oracle Java Runtime no longer being free, we suggest obtaining the JRE8 from AdoptOpenJDK ([Latest Releases](#) | [Adoptium](#)), or another preferred vendor.** To check whether you have Java installed in your computer or which version is installed, open a command prompt and type "java -version" and press Enter, as shown in Figure 1. Figure 1. Check the installed Java version.

```
C:\Users>java -version
openjdk version "12" 2019-03-19
OpenJDK Runtime Environment AdoptOpenJDK (build 12+33)
OpenJDK 64-Bit Server VM AdoptOpenJDK (build 12+33, mixed mode, sharing)

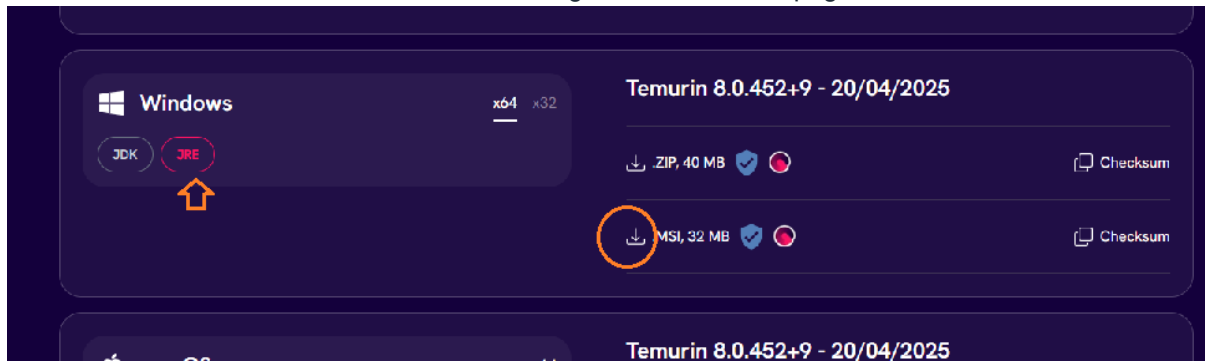
C:\Users>
```

Figure 1. Check the installed Java version.

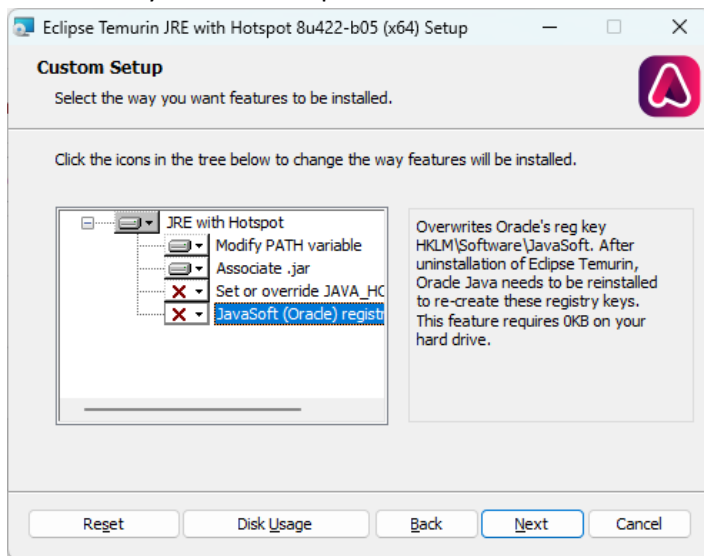
If Java is not installed in the target computer, download and install Java and proceed to the next step.

For AdoptOpenJDK8, you use the link above and scroll down to the Windows section, select JRE and

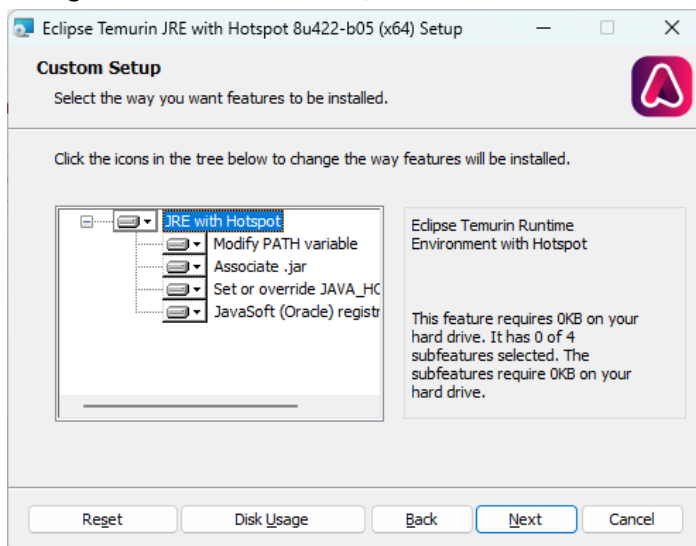
download the MSI file, then run the install and agree to the licence page etc.



Then when you reach this part of the installation:



Change the bottom two items, to install as well. i.e.



Then complete the installation.

## Step 2. Install bundled OneWireViewer and 1-Wire drivers

**NOTE:** DO NOT INSERT THE DS9490R# USB ADAPTER INTO THE PC YET. THIS SHOULD NOT BE DONE UNTIL STEP 3, AND WILL USUALLY CAUSE INSTALLATION PROBLEMS IF DONE BEFORE STEP 3.

From the CD, navigate to the “iButton” directory, then “Software” and choose either the 32-bit or 64-bit directories and run the file in that Directory.

NOTE: Not sure which Operating System you are using, go to “Control Panel”, “System and Security” and then click on “System”. Your system configuration should be displayed, including “System Type” which will say either 32 or 64-bit Operating System.

After clicking on the program executable, click Run on the window that asks, "Do you want to run this file?" See **Figure 3**.

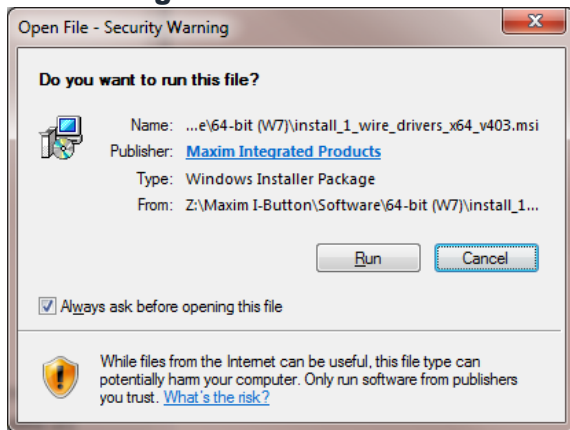


Figure 3. Security warning window

After clicking Run, the window in **Figure 4** will appear. If you want to run this software, click Run.

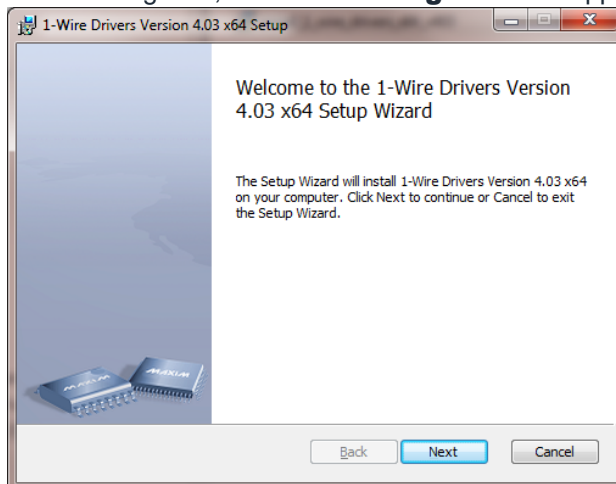
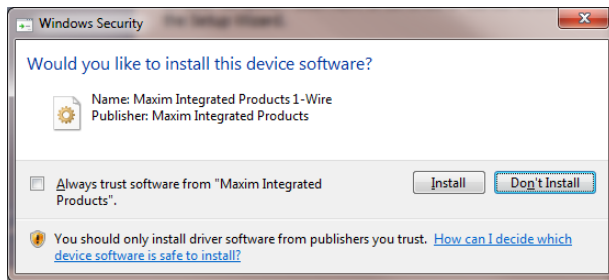
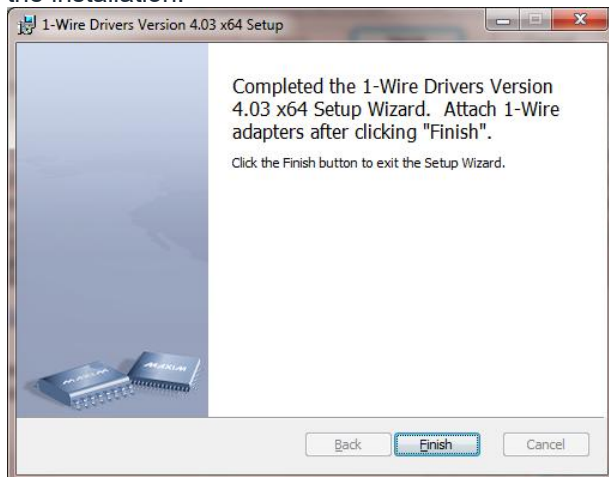


Figure 4. Window for running the installation software.

After this, you will be prompted to affirm the license agreement if you choose to use the 1-Wire drivers and the OneWireViewer software. After you affirm the license agreement, you will see another window that shows the installation path and then press install on the following screen. You may be asked a couple more security questions which you need to continue or confirm install: e.g.

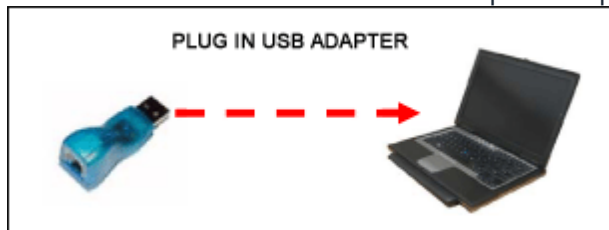


After the installation completes, the final window shows a Finish button that, when clicked, completes the installation.



### Step 3. Complete USB installation

Now plug the DS9490R# USB adapter into your PC, as shown in **Figure 5**. Follow the Microsoft new-hardware wizard instructions to complete the plug-and-play portion of the installation.

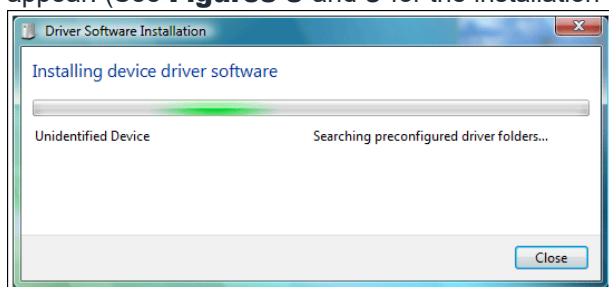


*Figure 5. Plugging the USB adapter into the PC.*

This phase of the installation uses a Microsoft driver called WinUSB that allows the 1-Wire drivers to communicate through the USB port. Plugging in the USB adapter triggers a Microsoft plug-and-play event that links WinUSB properly to the 1-Wire drivers.

**Remember:** If you try to plug in the USB adapter before Step 3 is complete, the plug-and-play action will not be able to link WinUSB to the 1-Wire drivers correctly.

In Windows 7 and Windows Vista, the plug-and-play installation window (**Figures 6 and 7**) will appear. (See **Figures 8 and 9** for the installation with Windows XP.):



*Figure 6. Windows 7 and Windows Vista plug-and-play installation window*

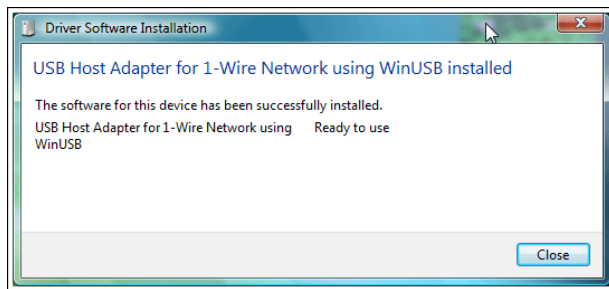


Figure 7. Windows 7 and Windows Vista completion of plug-and-play installation

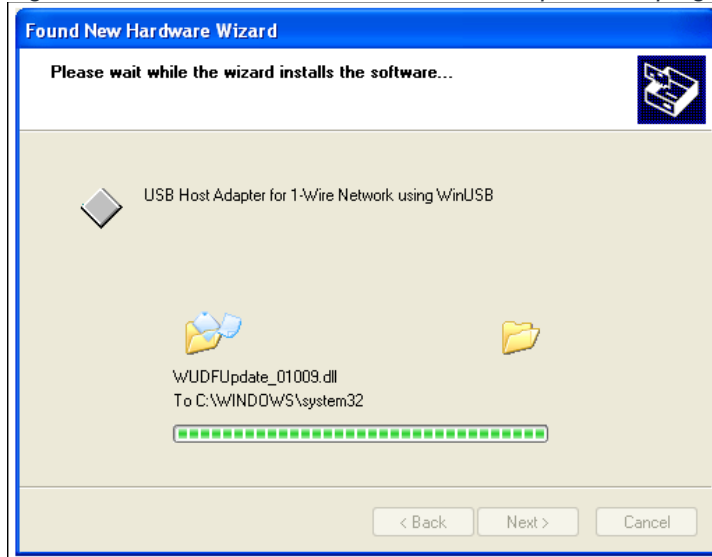


Figure 8. Windows XP plug-and-play installation window

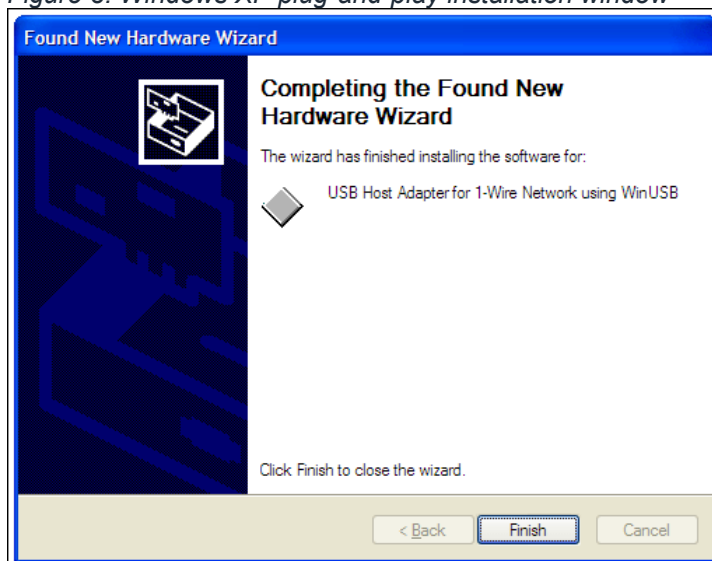


Figure 9. Windows XP completion of plug-and-play installation.

#### Step 4. Start the OneWireViewer program

Follow these steps to launch the OneWireViewer from Windows 7, Windows Vista, or Windows XP:  
 Click on the Windows Start button (usually lower left corner of the screen).  
 Select All Programs.  
 Click on the "1-Wire Drivers x86" folder ("1-Wire Drivers x64" for 64-bit OS).  
 Click on OneWireViewer.exe.

### Step 5. Connect the iButton and the reader

Next, snap the iButton into one of the blue dots on the reader (**Figure 10**) and plug the reader into the adapter (**Figure 11**). The 1-Wire communication protocol can read multiple devices on the network at the same time. So if you have two iButtons, you can plug them into both blue dots on the reader. The unique 64-bit ID will appear in the OneWireViewer window for each iButton as it is snapped into the blue dot.

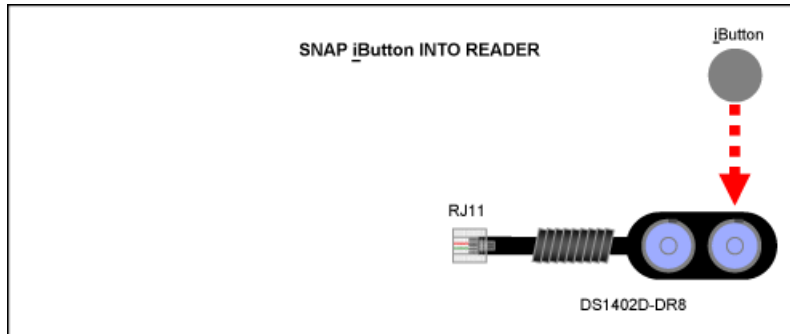


Figure 10. Connect an iButton to the reader by snapping it into place.

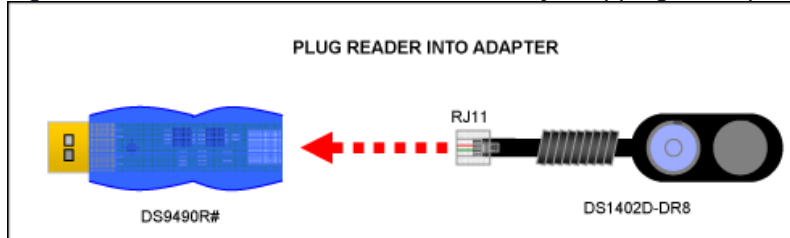


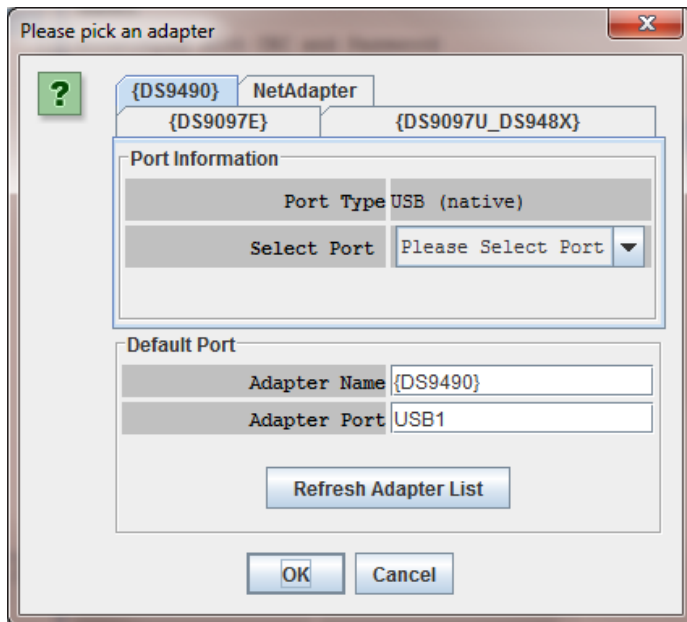
Figure 11. Connect the reader to the adapter.

### Step 7. Run the OneWireViewer

The OneWireViewer can communicate with all versions of iButtons, including Hygrochron™ and ThermoChron® temperature loggers, memory iButtons, and simple identification iButtons. Each iButton type serves a different purpose, so for detailed information on how to use OneWireViewer for each application, "[OneWireViewer User's Guide](#)."

When running the OneWireViewer for the first time, the program may prompt the user for some setup information. The screenshot below shows the initial screen of the Setup Wizard. It lists the 1-Wire adapters that the OneWireViewer detects and can support on the current platform.

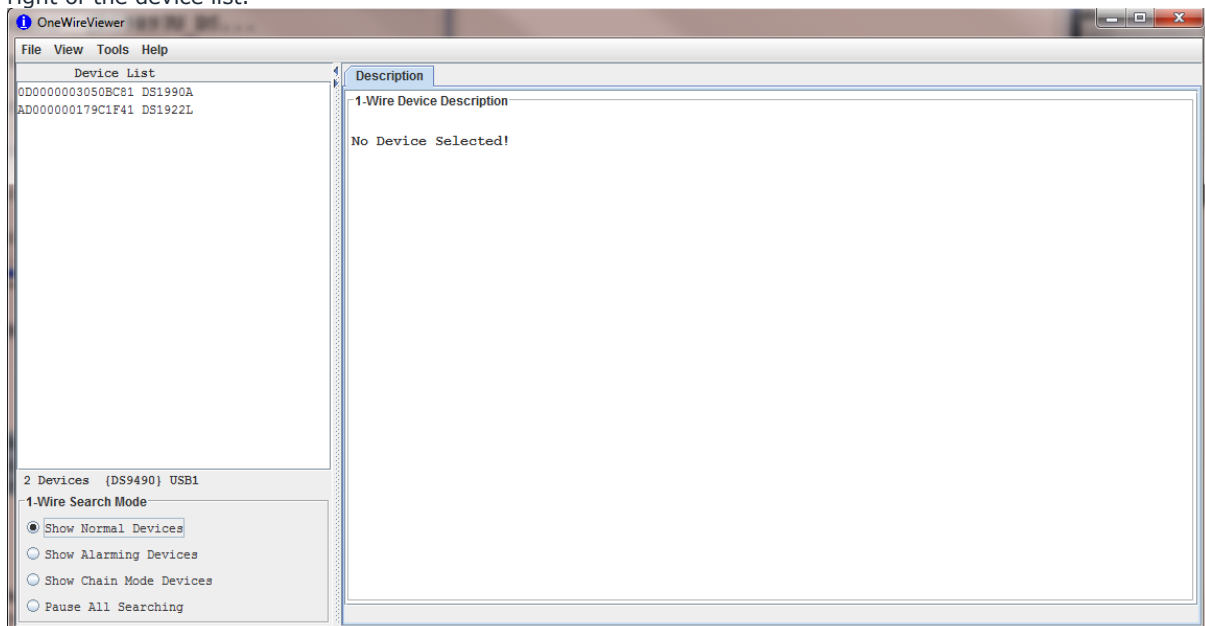
For the **Select Port** field, choose USB1 if only a single DS9490 USB adapter is connected to the PC. Then click the **Next** button. Similarly, if using other adapters, please click on the tab with the adapter's part number, and make the appropriate selection in the Select Port field (which is typically COM1 for serial-port adapters and LPT1 for parallel-port adapters). Then click OK.



**Note:** Not shown here are the next two screens of the setup wizard. Since the two screens, **Device Polling Rate** and **1-Wire Search Mode** already have preferred settings prefilled, it is recommended that you simply click the Next button on each screen.

### Program Main Window

The main window of the OneWireViewer consists of four areas: **Device List** (top left), **1-Wire Search Mode** (bottom left), Tab area (to the right) and menus (top row). The width of the device list/search mode area can be adjusted by horizontally moving the vertical scroll bar that separates these areas from the tab area. The Device List/1-Wire Search Mode areas can be removed/restored by clicking on one of the tiny triangles to the right of the device list.



### Viewer Menus

#### File

**Close** (to exit program)

Has a subtitle Alt-1 (instead of Alt+F4).

The Program will end with Alt+F4 as well as Alt+1. The '1' must be pressed on the normal keypad, not the numeric keypad, to be accepted

#### View

**Show Message Log** (to read error messages)

Opens a new window that displays a device access log and error messages.

**Show Tab in New Window** (to view multiple functions or devices simultaneously)



## Tools

To use this function, first select a device, then select one of the available tabs. Then use Show Tab in New Window, which moves the selected tab into a window of its own. The main window will then revert back to the **Description** tab.

**Show Device Alternate Names** (to see alternate names in the device list)

Example: Thermochron instead of DS1921G-F5 to the right of the ROM ID

**Pick Adapter** (to change the communication port and 1-Wire port adapter)

Opens a new window for selecting one of several 1-Wire port adapters, port type, and port number. For more information see **Appendix B**.

**XML Tagging** (to load device tags that can be displayed in the device list)

Opens a new window to select the file that holds the XML tags of the devices in use.

**1-Wire Speed** (to select the preferred 1-Wire speed)

Allows selection of standard or overdrive speed. Most 1-Wire devices support both speed modes. To use overdrive speed, the port adapter must also support overdrive. If overdrive is selected and the port adapter does not support overdrive, an error message will appear when trying to access an overdrive-supporting 1-Wire device.

**Device Poll Rate** (to set the frequency at which the 1-Wire net is searched for devices)

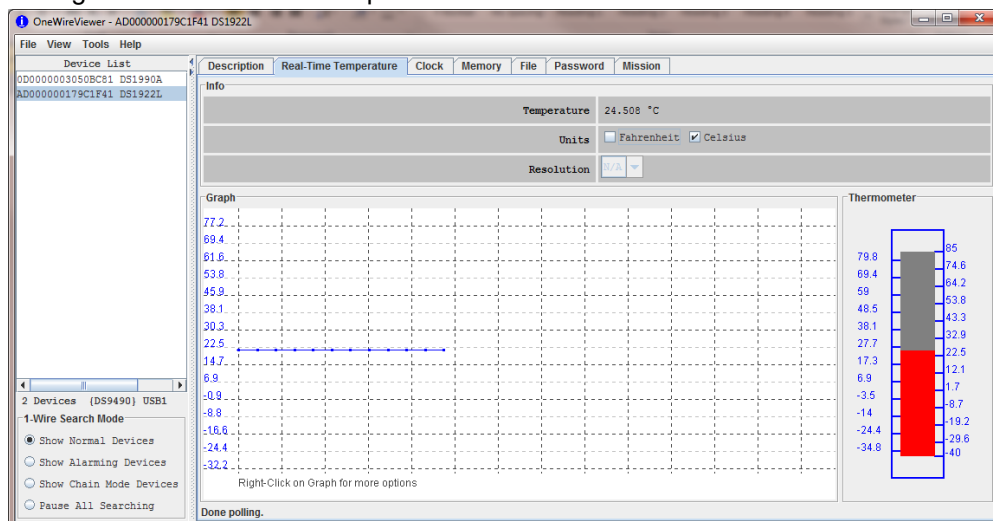
The rates are 1s, 5s, 10s, 30s, 1min, 5min, and immediate poll. The typical value is 1s, which yields the fastest response.

**About** (displays the version numbers and properties of the software components that comprise the OneWireViewer)

## Help

### Step 8. Using the iButton Logger

1. Select the relevant iButton in the Device List (Thermochron/Hygrochron will start DS1922 or DS1923)
2. Change to the “Real-time Temperature” tab to view the current values.



You can right click to save displayed data to CSV or Rescale the graph.

**NOTE:** The clock needs to be running before the temperature can be displayed, otherwise an error will appear in the bottom of the screen (where “Done polling” is displayed in the above screenshot. To start the clock, please see below.

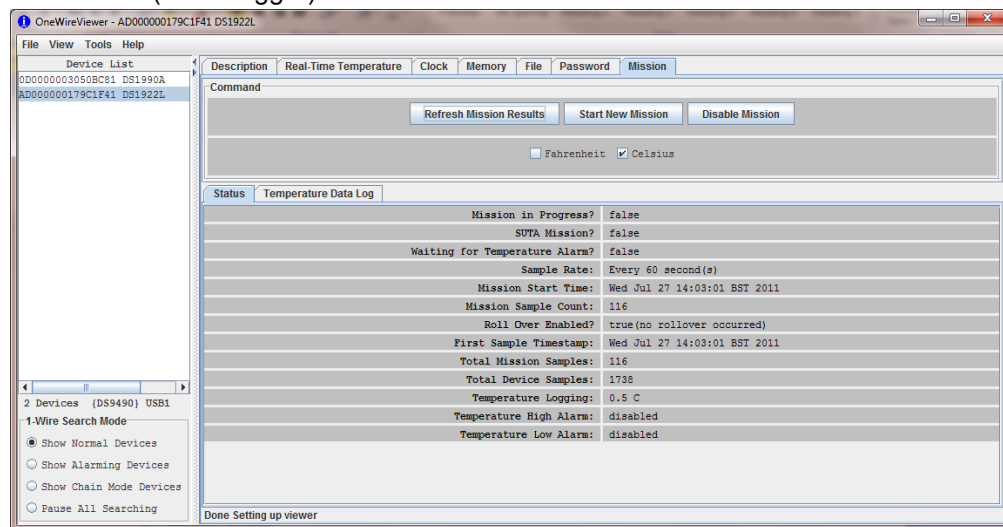
**If the clock is not running or there is a mission in progress, errors will be reported at the bottom of the Real-time readings pages.**

3. The clock tab can be used to check the difference in time between the logger and the PC being used. You can also re-synchronise the clock, however this is best done only if a “mission” isn’t running. There is a checkbox in the mission launch window to synchronise the time.
4. The Password Tab should be used to configure passwords if data security is a concern.  
**NOTE: We don’t recommend using the password features unless absolutely necessary. If passwords are forgotten, then access to the data can be lost and the device**

unusable.

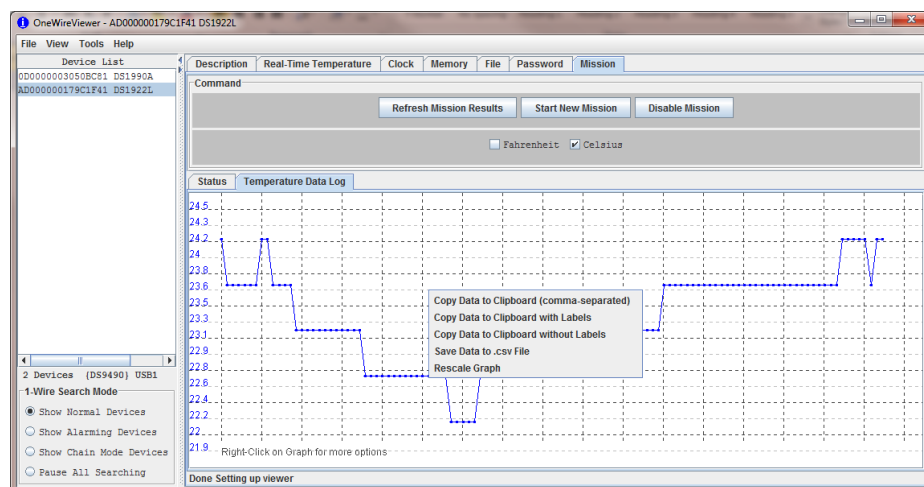
NOTE: The memory and file tabs are for programming use.

##### 5. Mission tab (Data Logger):

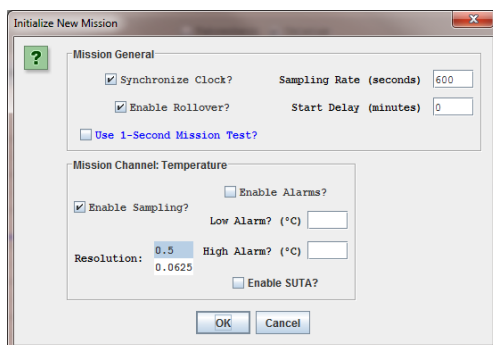


This will display the current mission status. To view the last run mission data, go to the “Temperature Data Log” tab to view the data and right click to bring up the menu to save the data.

**NOTE:** If a new mission is launched, any existing data on the Logger will be lost.



To Start a New Mission, press that button in the Status Tab.



Standard settings are to synchronise the clock and allow rollover. Rollover means if the memory becomes full, it will start over-writing the initial readings, rather than stopping when memory full, which would be the case with the box un-checked.

NOTE: SUTA means Start mission Upon Temperature Alarm. The logging mission starts after an alarm has occurred rather than being just time-based.

The sampling rate (in seconds), start delay (if logging doesn't need to start straight away) plus any alarms and the recording resolution. Default resolution is 0.5°C and while the higher resolution can be set, this does have an impact on the number of readings that can be stored and the battery life.

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For assistance, please contact Measurement Systems on +44 1635 576800 or [support@measys.com](mailto:support@measys.com)

#### **Trademarks**

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Sun is a registered trademark of Oracle America, Inc.  
Thermochron is a registered trademark of Maxim Integrated Products, Inc.  
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