



**AutoFire RMS**  
(Remote Monitoring Software)

**SOFTWARE INSTRUCTIONS**

**Version: 1.4.x**

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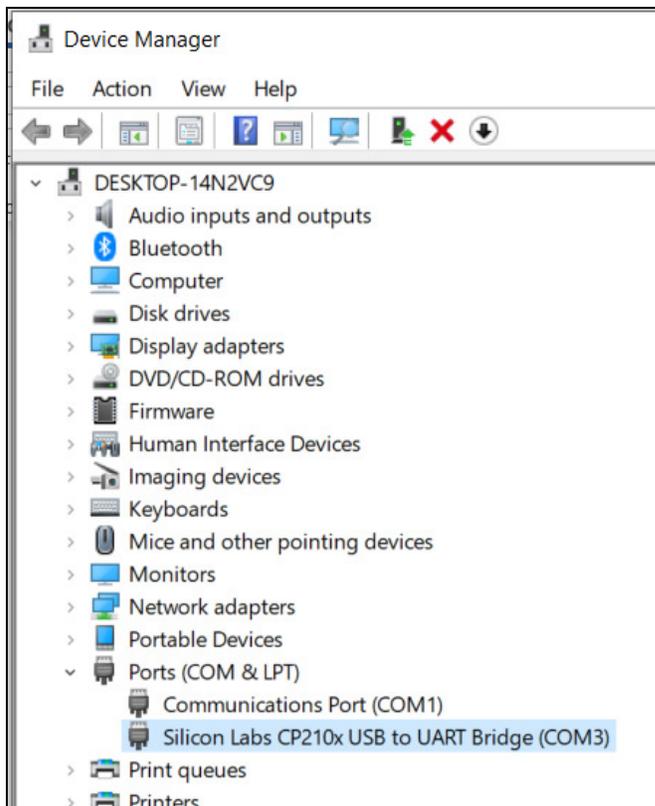
## Computer System Requirements

<b>Processor</b>	1 GHz
<b>RAM</b>	512 MB
<b>Disk space</b>	256 MB
<b>Operating System (minimum)</b>	Windows 7 SP1
<b>Operating System (recommended)</b>	Windows 10

## Hardware Installation

Before installing the software, connect the USB cable between the kiln controller and the computer.

Windows device manager should find and install the USB converter driver files. You can verify the added hardware in the Windows Device Manager. Make note of the assigned COM Port number for the CP210x or USB serial port.

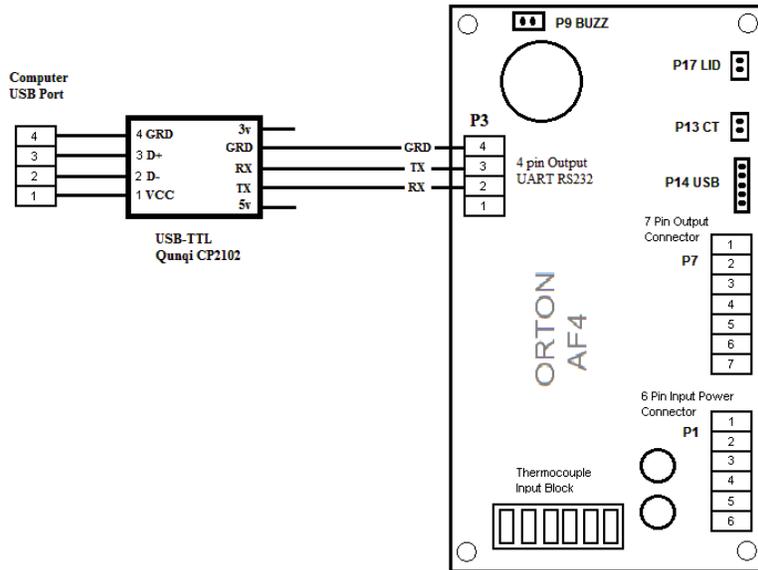


If the device is not recognized, or reported to not be working properly, you may need to download the latest driver for the Silicon Labs CP2102 USB converter or FTDI DB9-USB-D3-F. Or search the installation CD for the appropriate driver.

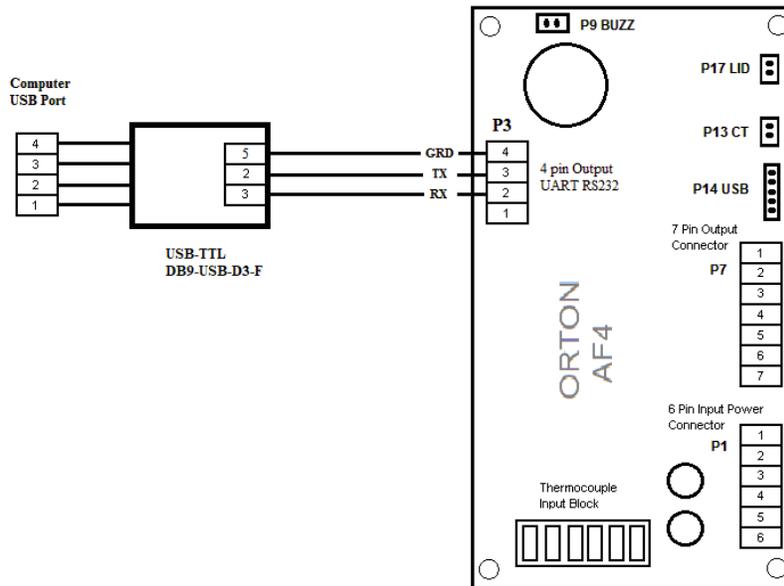
## Hardware Interface

The Communications between the computer and controller require a USB converter device. Below are typical wiring connections for Orton supplied converters.

For CP2102 converter (upgrade kits)



For DBP-USB-D3-F converter (Orton wall-mount units)



## Software Installation

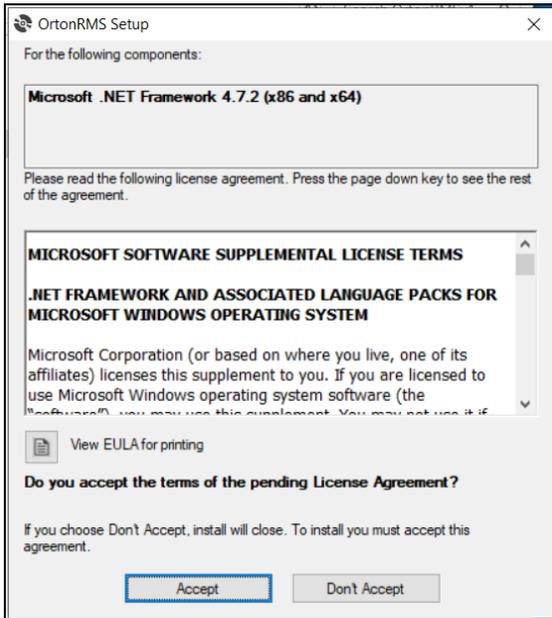
The software should auto run from the CD/USB drive or you can launch the orton\_rms\_setup application file found by browsing the installation disc or USB drive.

Name	Date modified	Type	Size
 orton_rms_setup	11/25/2019 11:02 ...	Application	2,580 KB
 Autorun	11/25/2019 10:44 ...	Setup Information	1 KB
 ortonlcon	9/12/2019 7:53 PM	Icon	150 KB
 redist	11/25/2019 10:02 ...	File folder	

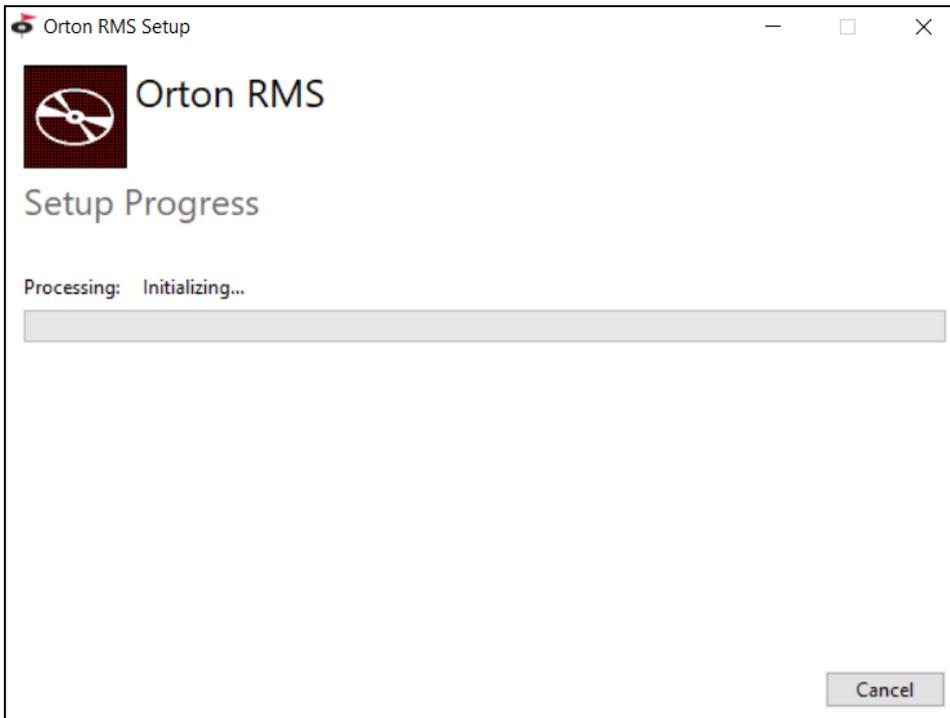
Click [Install] to to continue the installation



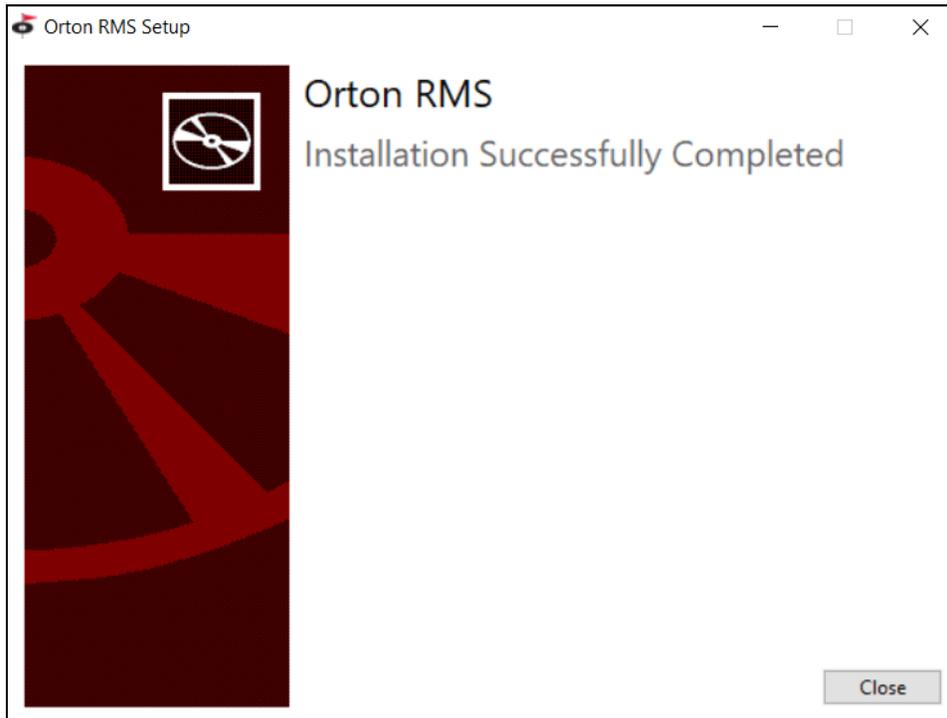
If prompted, accept the license agreement for .NET framework. If your operating system does not have the required version of .NET framework, it will be installed.



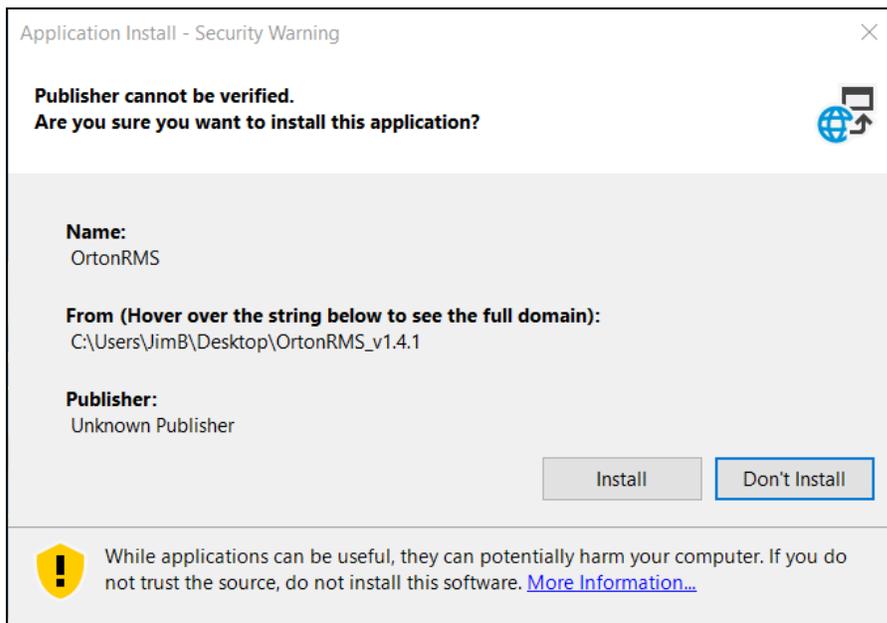
Wait for files to transfer



When complete, select [Close]



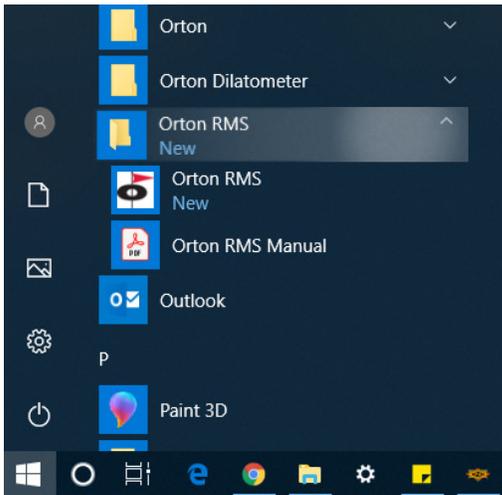
If you get a security warning, Select Install



An Orton RMS shortcut icon should appear on your desktop



The Orton RMS Folder should appear in your Windows Start menu



## Configuration

When installation is complete, the RMS program should auto run and the Kiln Configuration screen appear.

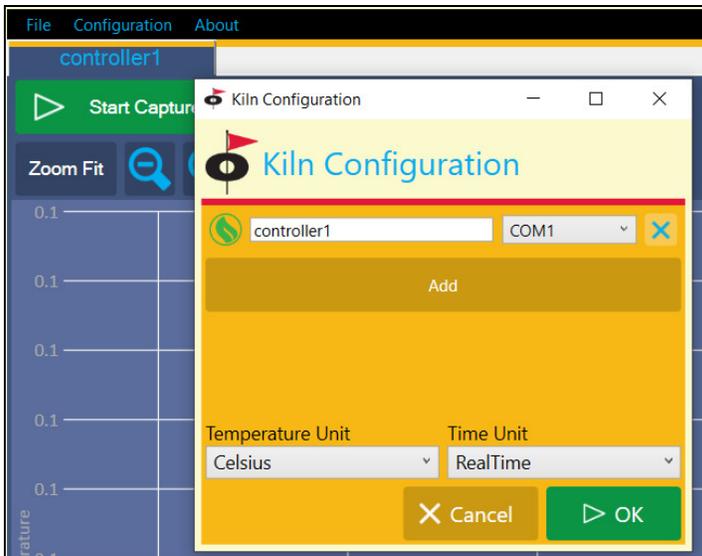
If the Kiln configuration screen does not appear automatically, you can find it on the pull down menu at the top of the screen under Configuration > Kiln Setup



Select and set the preferences for the controller monitoring.

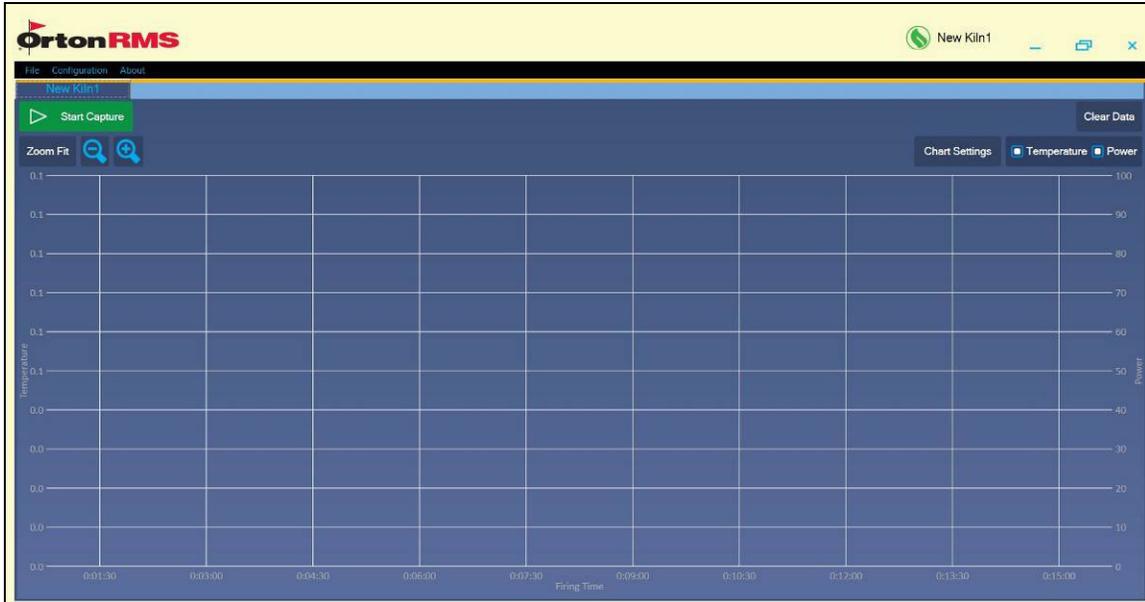
[Add] – allows you to add up to 4 kiln controllers for monitoring. Each connection can be assigned an identification and a COM port.

- Temperature units can be set to °F or °C.
- Time units can be set to Realtime (clock time) or Firing time (elapsed time)



## Capture Screen

The main capture screen allows you to chart and monitor the controller firing in real-time.



To begin a new datalogging session, the controller must be connected and actively running a firing schedule.

Click the Start Capture button



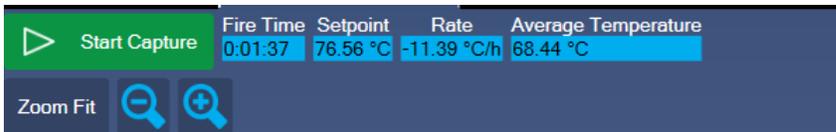
The Setup screen allows you to assign a filename and insert notes for the firing log.

The screenshot shows the 'Setup' dialog box. It has a yellow header with the Orton logo and the word 'Setup'. The dialog contains several fields: 'Datalog Name' (11-21\_09-10\_Firing), 'Datalog Path' (C:\Users\jimB\AppData\Roaming\Orton\DataLogs), 'Batch ID' (Classroom), 'Operator' (Jim B), 'Batch Notes' (Student Projects), and 'Firing Notes' (Cone 06 Glaze). There are 'Cancel' and 'OK' buttons at the bottom.

If the controller has not been started, a pop-up message will appear as 'Waiting for controller'



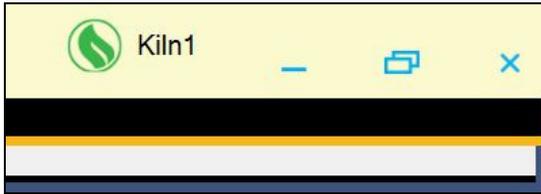
After communication is established, the screen will show active data collection values above the graph next to the Start Capture button



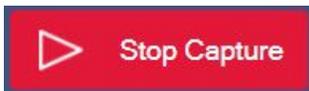
and chart the values in the graph area with a legend.



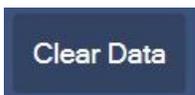
If a datalog session is active, the flame icon at the top of the screen will be green. Otherwise, it appears red.



To end the Data collection, Click the Stop Capture button



You can clear the entire graph area by clicking on the Clear Data button



Data is graphed with the X-axis as TIME, the scale will be real-time or firing time depending on the preference set in the Configuration options

The left Y-axis is TEMPERATURE, the scale is automatic.  
The right Y-axis is POWER, the scale is 0 to 100%

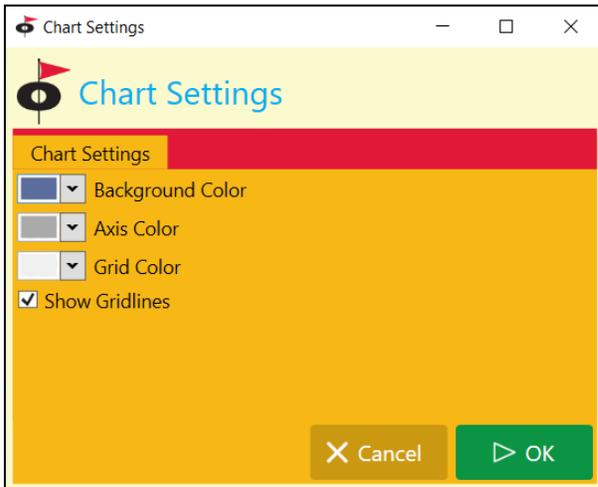
You can choose to show or not show the TIME vs. Temperature or TIME vs. Power graphs with the radio buttons at the top of the screen



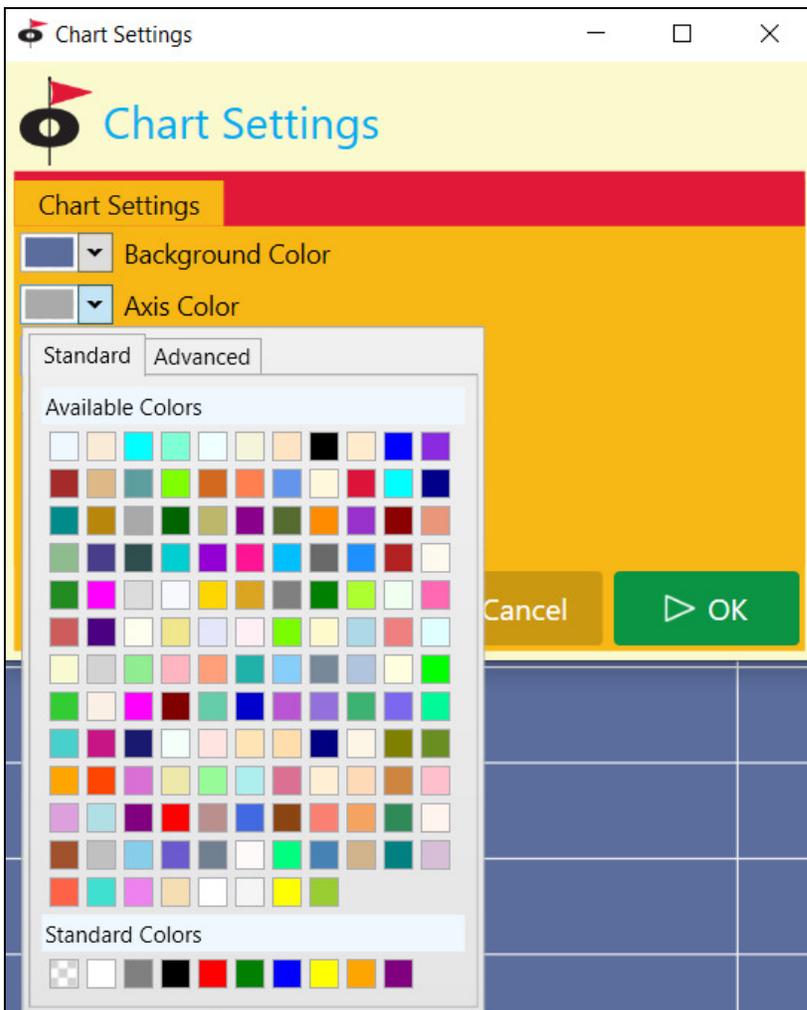
Chart Settings allows you to change the color of the graph lines, background and grid.



To change colors, click on the pull-down button next to the current color field.



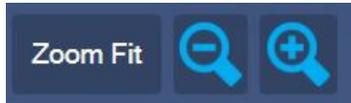
Select a new color from the palette.



While capturing data, zoom features can be used to adjust the graph area.

Zoom Fit rescales the graph to fit all of the collected data on the screen.

The + and – buttons are for zooming in and out.

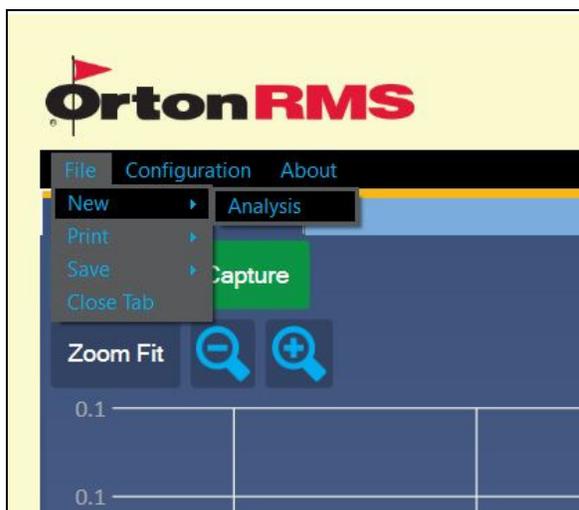


## Analysis

Up to 4 Analysis tabs can be opened to review the saved data files.



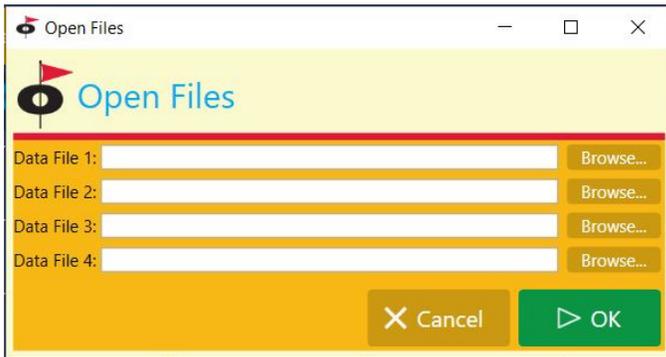
To open an analysis tab, Select the pull-down menu under File > New > Analysis



To select data files for Analysis, click on the Manage Files button.

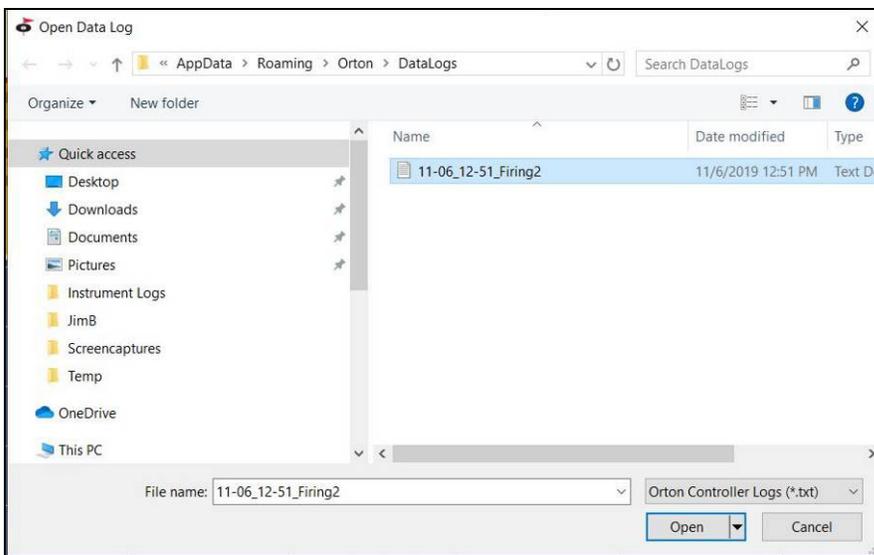


You can select and compare up to 4 data files for each Analysis screen.

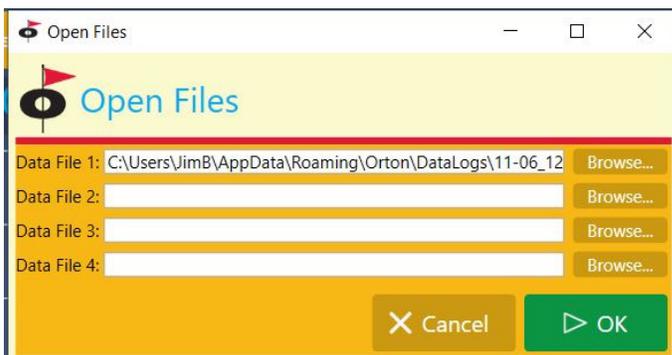


To select a file, click the Browse button next to the Data file field. This will open Windows explorer at the default file save location.

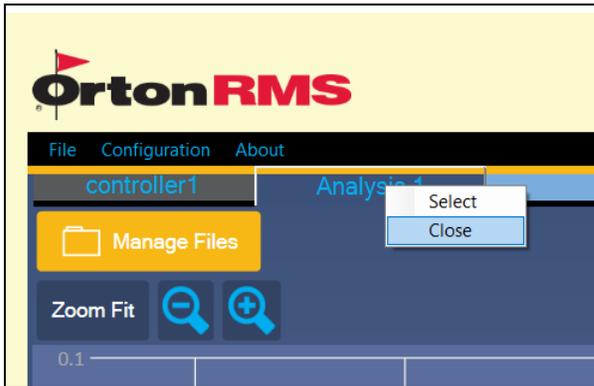
You can also open the files from this browse screen to see the raw data in Notepad or copy/send the file to another location. Right click on the filename for file options.



Selecting a file will make the filename appear in the data file field.



To close and analysis tab, Right click on the Tab and select Close.



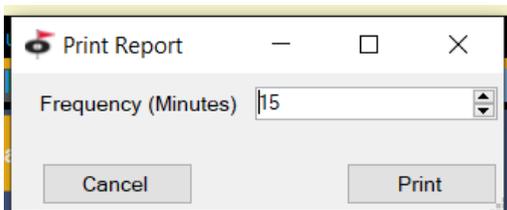
## Printed Reports

You can print a report of the data files by selecting the pull-down menu File > Print > Report



You can limit the number of data points printed in the report. This will limit the amount of paper needed for each report. Set a desired time interval of Minutes.

Note: data is saved in 5 second intervals. Printing all data will take a considerable amount of paper.



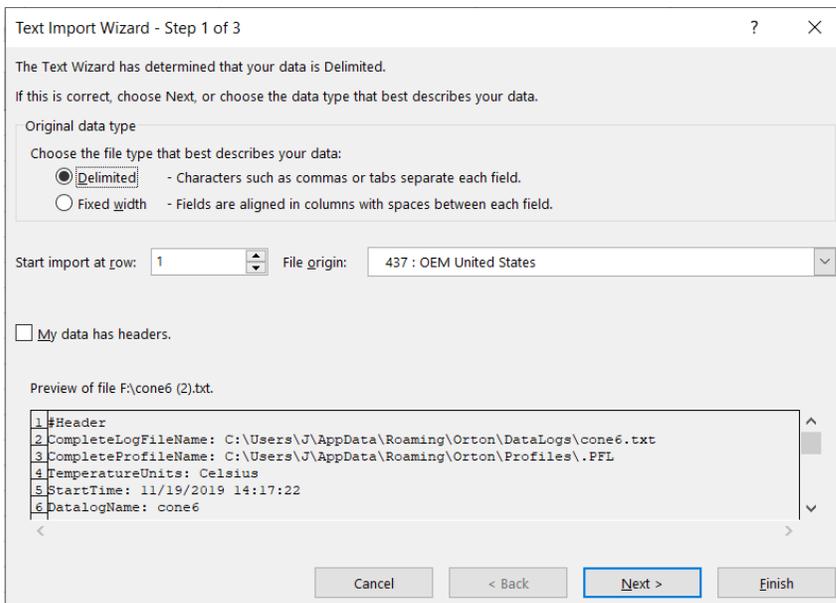
The printed report includes firing information from the setup screen and tabular data for time and temperature.

File Name: C:\Users\J\AppData\Roaming\Orton\DataLogs\cone6.txt  
 Profile Name: C:\Users\J\AppData\Roaming\Orton\Profiles\.PFL  
 Batch ID: classroom  
 Kiln ID:  
 Operator: Jim B  
 Batch Notes: student projects  
 Firing Notes: cone 6 glaze  
 Temperature Units: Celsius  
 Start Time: 11/19/2019 2:17:22 PM

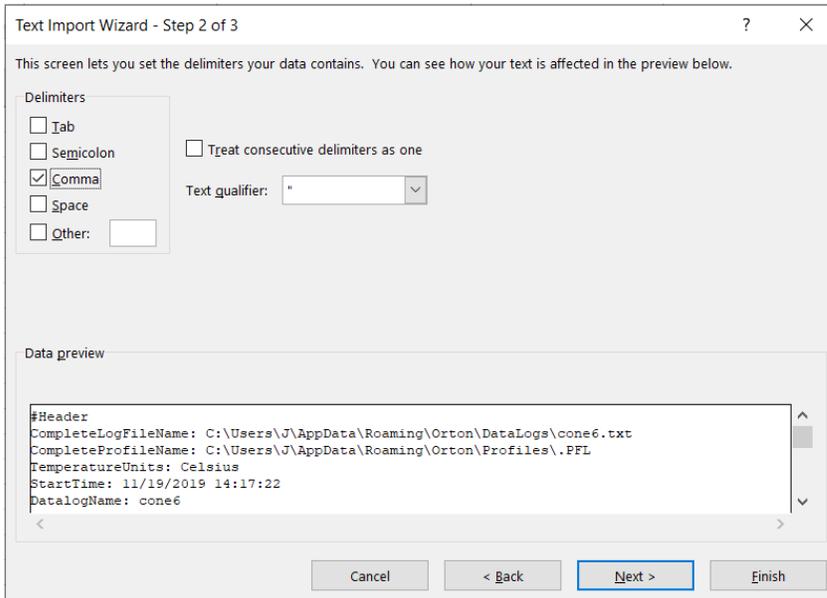
Elapsed Time (H:MM:SS)	Average	Top	Middle	Bottom
00:00:03	488.0		488.0	
01:00:03	605.8		605.8	
02:00:03	696.0		696.0	
03:00:03	785.3		785.3	
04:00:03	876.2		876.2	
05:00:03	964.8		964.8	
06:00:03	1055.5		1055.5	
07:00:03	1124.4		1124.4	
08:00:03	1169.3		1169.3	
09:00:03	1198.0		1198.0	

## Excel Worksheets

You can open the data files as a delimited file type



Choose Comma as the delimiter.



Data will appear in columns with labels

#Header																				
CompleteLogFileName: C:\Users\J\AppData\Roaming\Orton\DataLogs\cone6.txt																				
CompleteProfileName: C:\Users\J\AppData\Roaming\Orton\Profiles\.PFL																				
TemperatureUnits: Celsius																				
StartTime: 11/19/2019 14:17:22																				
DataLogName: cone6																				
DataLogPath: C:\Users\J\AppData\Roaming\Orton\DataLogs																				
BatchID: classroom																				
KilnID:																				
Operator: Jim B																				
BatchNotes: student projects																				
FiringNotes: cone 6 glaze																				
#Data_Capture																				
controller	kilnMode	controllerConfig	activeProgram	segmentIndex	programState	WallTime	FiringTime	heatWorkAdjusted	Setpoint	AvgT	Rate	TopT	MidT	BtmT	TopP	MidP	BtmP	activeAlarms	AmbT	currentXfmr
AF4000	0	OPTION_S	33	0	Ramp	#####	0:00:03	0	488.4	488	0	488	4.2	4.2	4.2	255	26.8	0		0
AF4000	0	OPTION_S	33	0	Ramp	#####	0:00:08	0	488.7	487.9	0	487.9	10.1	10.1	10.1	255	26.8	0		0
AF4000	0	OPTION_S	33	0	Ramp	#####	0:00:13	0	488.9	487.7	0	487.7	13.1	13.1	13.1	255	26.8	0		0
AF4000	0	OPTION_S	33	0	Ramp	#####	0:00:18	0	489.2	487.4	0	487.4	15.7	15.7	15.7	255	26.8	0		0
AF4000	0	OPTION_S	33	0	Ramp	#####	0:00:23	0	489.4	487.3	0	487.3	16.1	16.1	16.1	255	26.8	0		0
AF4000	0	OPTION_S	33	0	Ramp	#####	0:00:28	0	489.7	487.5	0	487.5	15.7	15.7	15.7	255	26.8	0		0
AF4000	0	OPTION_S	33	0	Ramp	#####	0:00:33	0	489.9	487.6	0	487.6	17.2	17.2	17.2	255	26.8	0		0
AF4000	0	OPTION_S	33	0	Ramp	#####	0:00:38	0	490.2	487.6	0	487.6	16.6	16.6	16.6	255	26.9	0		0
AF4000	0	OPTION_S	33	0	Ramp	#####	0:00:43	0	490.4	487.9	0	487.9	16.6	16.6	16.6	255	26.9	0		0
AF4000	0	OPTION_S	33	0	Ramp	#####	0:00:48	0	490.7	488.2	0	488.2	18.2	18.2	18.2	255	26.9	0		0
AF4000	0	OPTION_S	33	0	Ramp	#####	0:00:53	0	490.9	488.5	0	488.5	19	19	19	255	26.9	0		0
AF4000	0	OPTION_S	33	0	Ramp	#####	0:00:58	0	491.2	488.6	0	488.6	19.3	19.3	19.3	255	26.9	0		0
AF4000	0	OPTION_S	33	0	Ramp	#####	0:01:03	0	491.4	488.7	23.9	488.7	18.6	18.6	18.6	255	26.9	0		0
AF4000	0	OPTION_S	33	0	Ramp	#####	0:01:08	0	491.7	489	23.9	489	19.3	19.3	19.3	255	26.9	0		0
AF4000	0	OPTION_S	33	0	Ramp	#####	0:01:13	0	491.9	489.2	23.9	489.2	18.6	18.6	18.6	255	26.9	0		0

Data file column format

- controllerType                    0=AF4X, 1=AF4000
- kilnMode                         Configured mode of the controller
- controllerConfig                AF4000 - current TC/relay config setting
- activeProgram                    Index of the current running program
- segmentIndex                    Index of the program segment (0-19)
- programState                    0=Ramp state active, 1=Hold state active
- WallTime                         Clock time from beginning of a firing
- FiringTime                        Elapsed time from beginning of a firing
- heatWorkAdjusted                0=Set Point not adjusted, 1=Heatwork calculated Set Point
- Setpoint                         Controller temperature setpoint
- AvgT                              Average temperature in F or C of all thermocouples
- Rate                                Calculated ramp rate from start of ramp



## AutoFire Remote Monitoring Software

TopT	Top thermocouple temperature in F or C
MidT	Middle thermocouple temperature in F or C
BtmT	Bottom thermocouple temperature in F or C
TopP	Top relay power output (0-100)
MidP	Middle relay power output (0-100)
BtmP	Bottom relay power output (0-100)
activeAlarm	Current active alarm, 255 = no alarm
AmbT	Temperature of the electronics board in F or C
currentXfmr	Value of current transformer in Amps