AutoFire RMS

(Remote Monitoring Software)

SOFTWARE INSTRUCTIONS

Version: 1.4.x

For more information contact:
The Edward Orton Jr. Ceramic Foundation
6991 Old 3C Highway
Westerville OH 43082 USA

(Phone) 614-895-2663
(Fax) 614-895-5610
www.OrtonCeramic.com

Email:
info@OrtonCeramic.com

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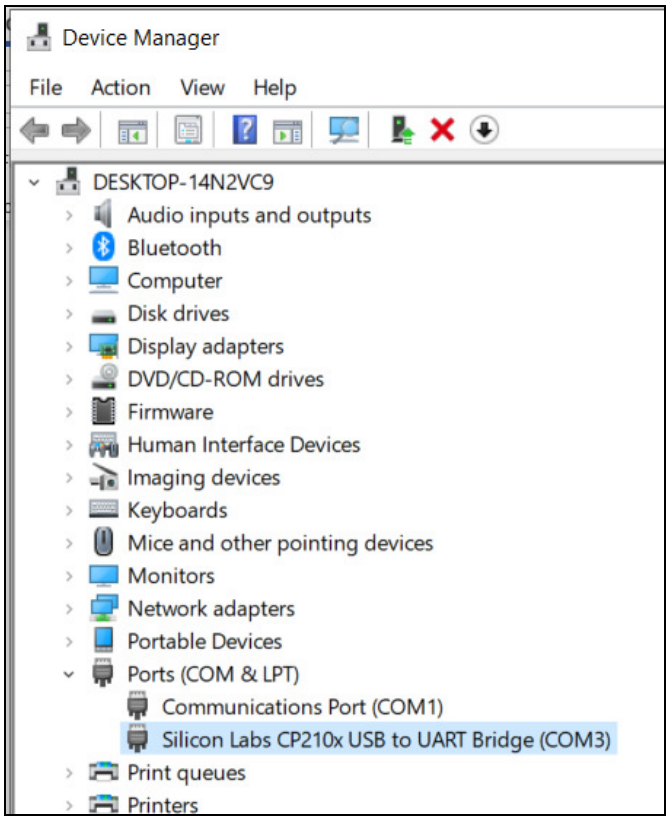
Computer System Requirements

Processor	1 GHz
RAM	512 MB
Disk space	256 MB
Operating System (minimum)	Windows 7 SP1
Operating System (recommended)	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.

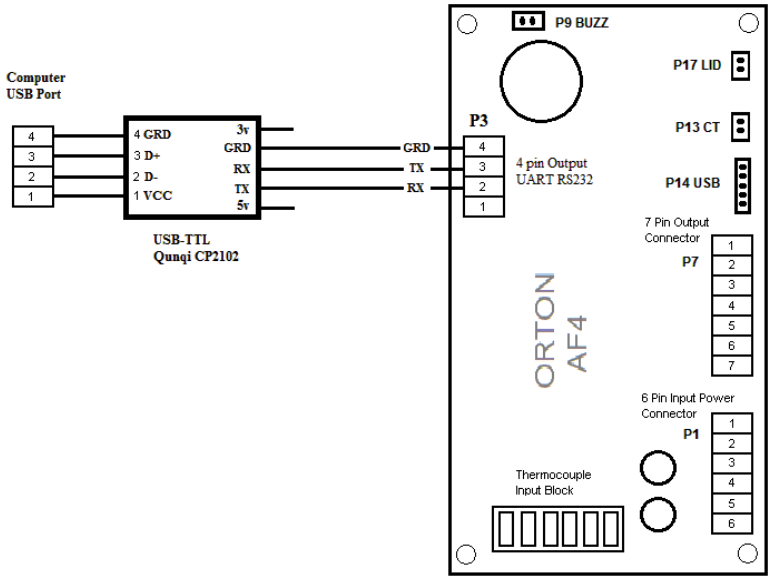


If the device is not recognized, or reported to not be working properly, you may need to download the latest driver for the Silicon Labs CP2102 USB converter or FTDI DB9-USB-D3-F. Or search the installation CD for the appropriate driver.

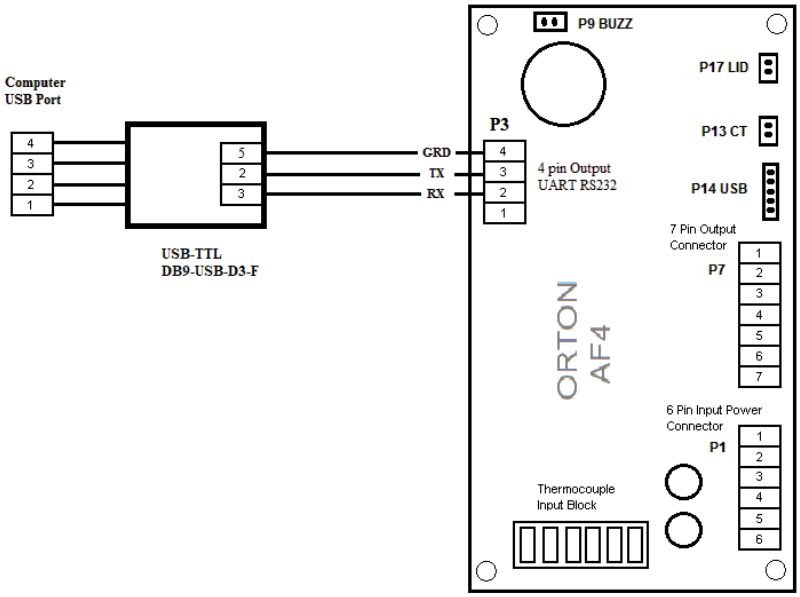
Hardware Interface

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)

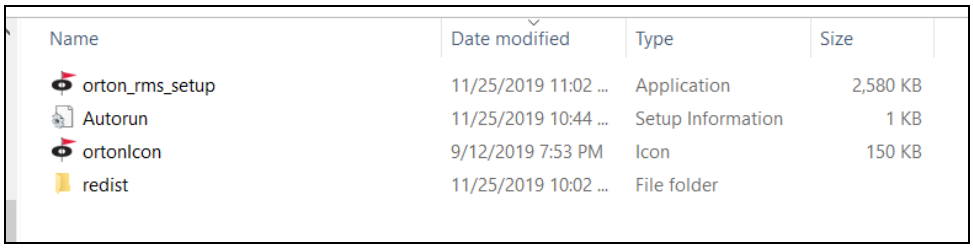


For DBP-USB-D3-F converter (Orton wall-mount units)



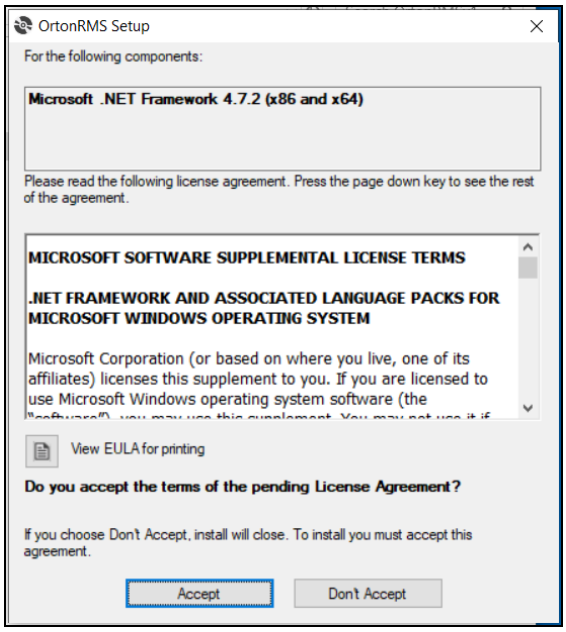
Software Installation

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.

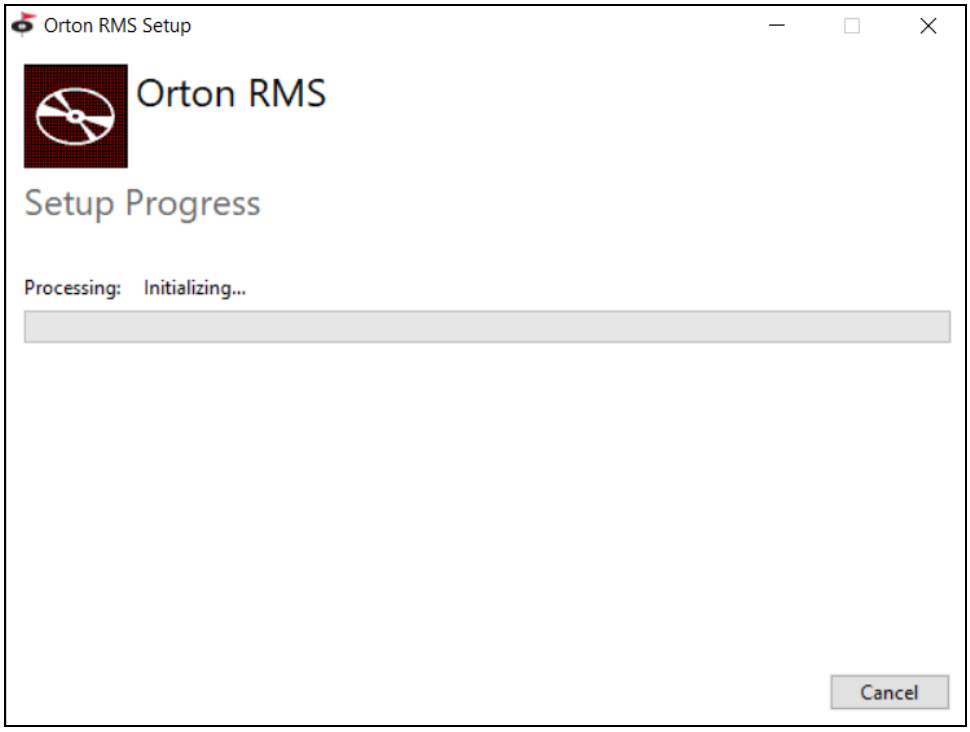


Click [Install] to to continue the installation

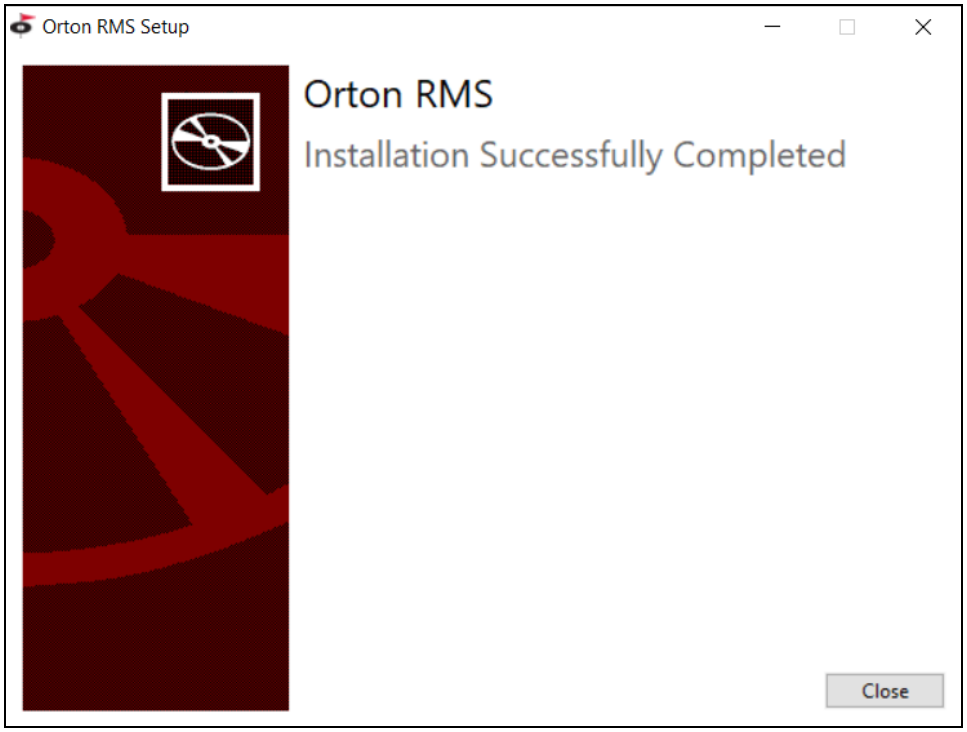
If prompted, accept the license agreement for .NET framework. If your operating system does not have the required version of .NET framework, it will be installed.



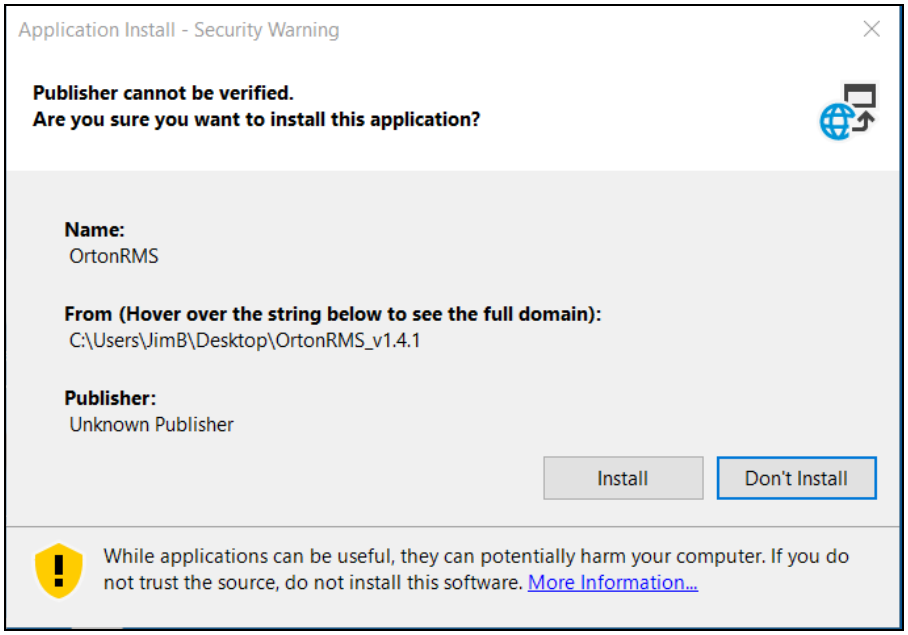
Wait for files to transfer



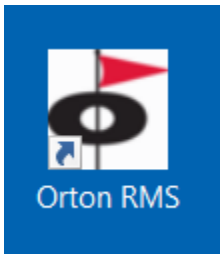
When complete, select [Close]



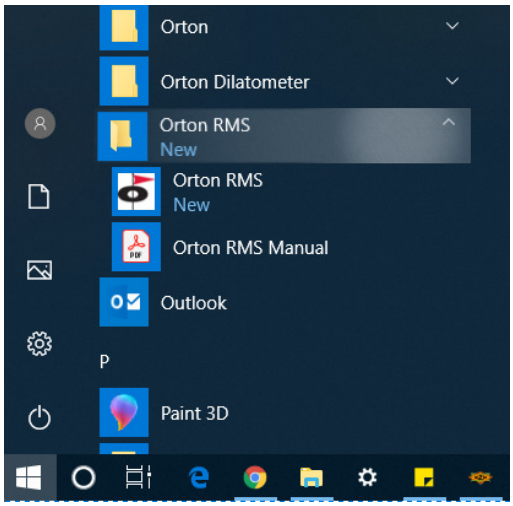
If you get a security warning, Select Install



An Orton RMS shortcut icon should appear on your desktop



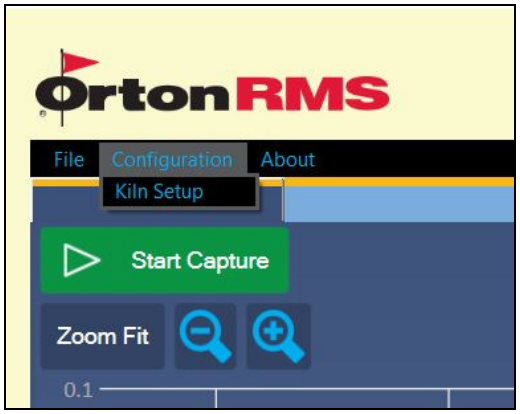
The Orton RMS Folder should appear in your Windows Start menu



Configuration

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

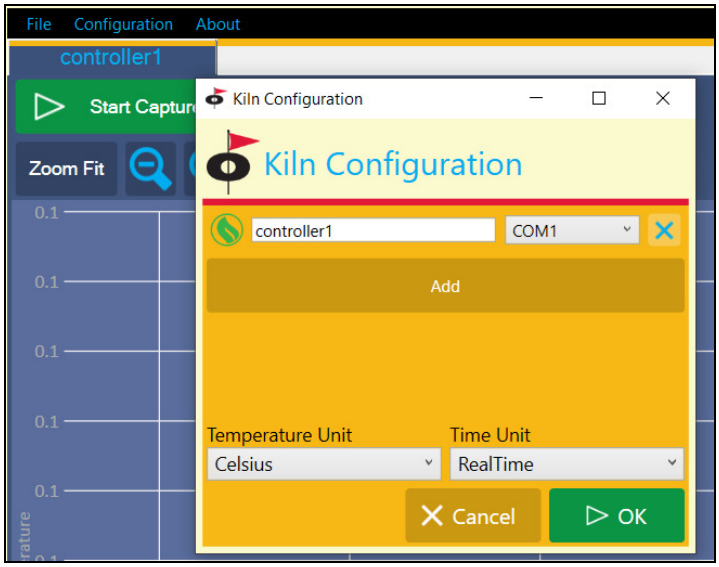
If the Kiln configuration screeen does not appear automatically, you can find it on the pull down menu at the top of the screen under Configuration > Kiln Setup



Select and set the preferences for the controller monitoring.

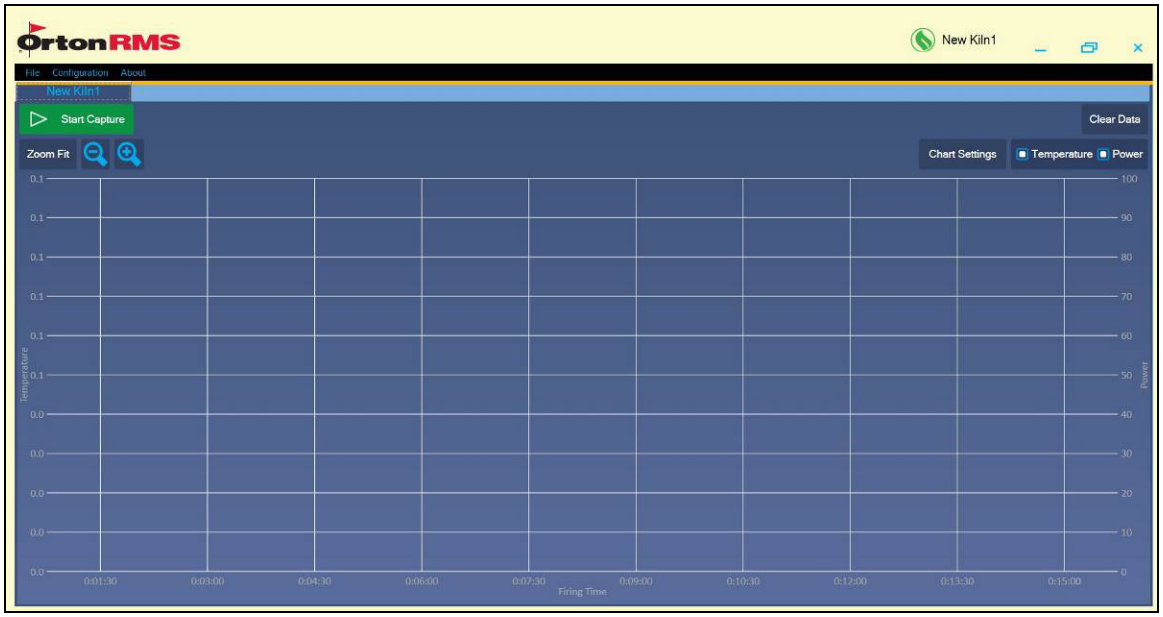
[Add] – allows you to add up to 4 kiln controllers for monitoring.
Each connection can be assigned an identification and a COM port.

- 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

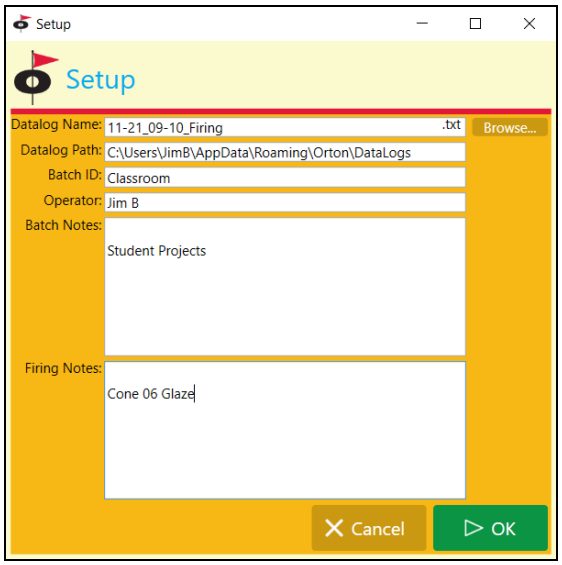
The main capture screen allows you to chart and monitor the controller firing in real-time.



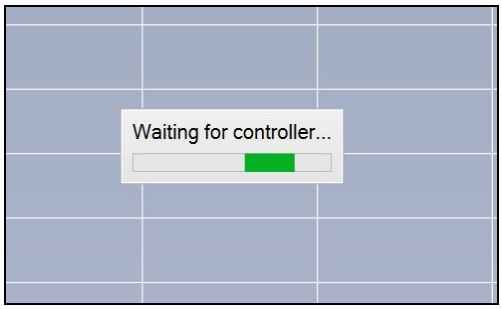
To begin a new datalogging session, the controller must be connected and actively running a firing schedule.

Click the Start Capture button

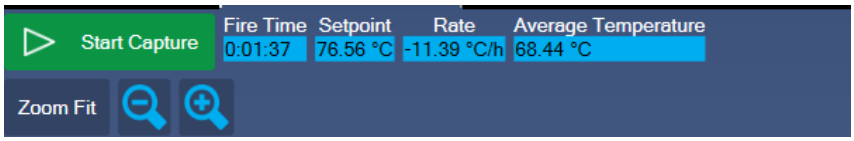
The Setup screen allows you to assign a filename and insert notes for the firing log.



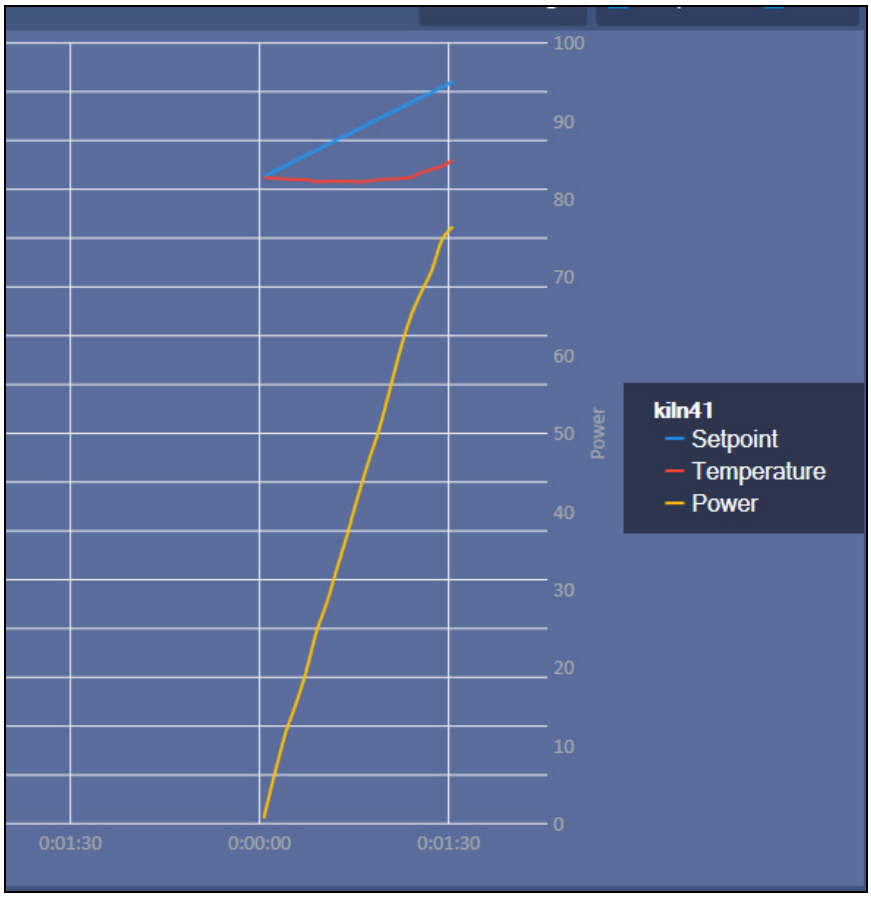
If the controller has not been started, a pop-up message will appear as 'Waiting for controller'



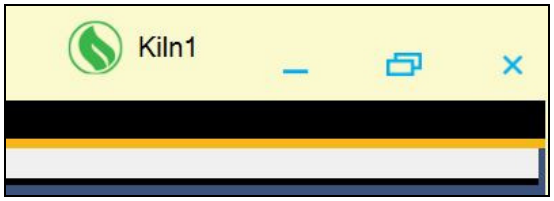
After communication is established, the screen will show active data collection values above the graph next to the Start Capture button



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

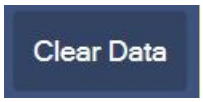


If a datalog session is active, the flame icon at the top of the screen will be green. Otherwise, it appears red.



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

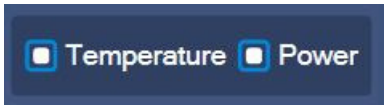
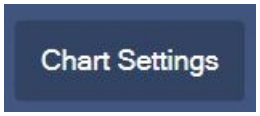
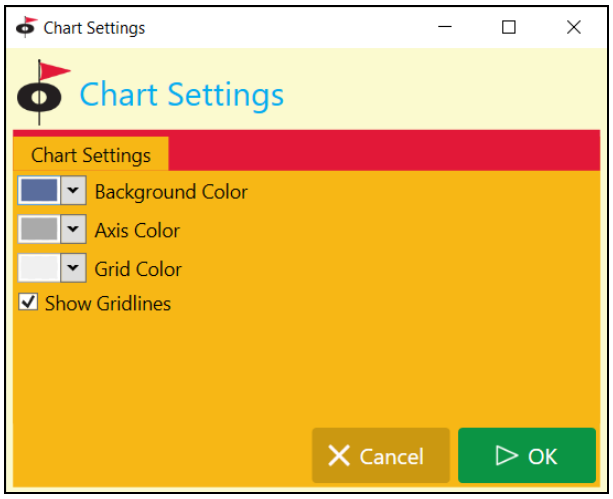


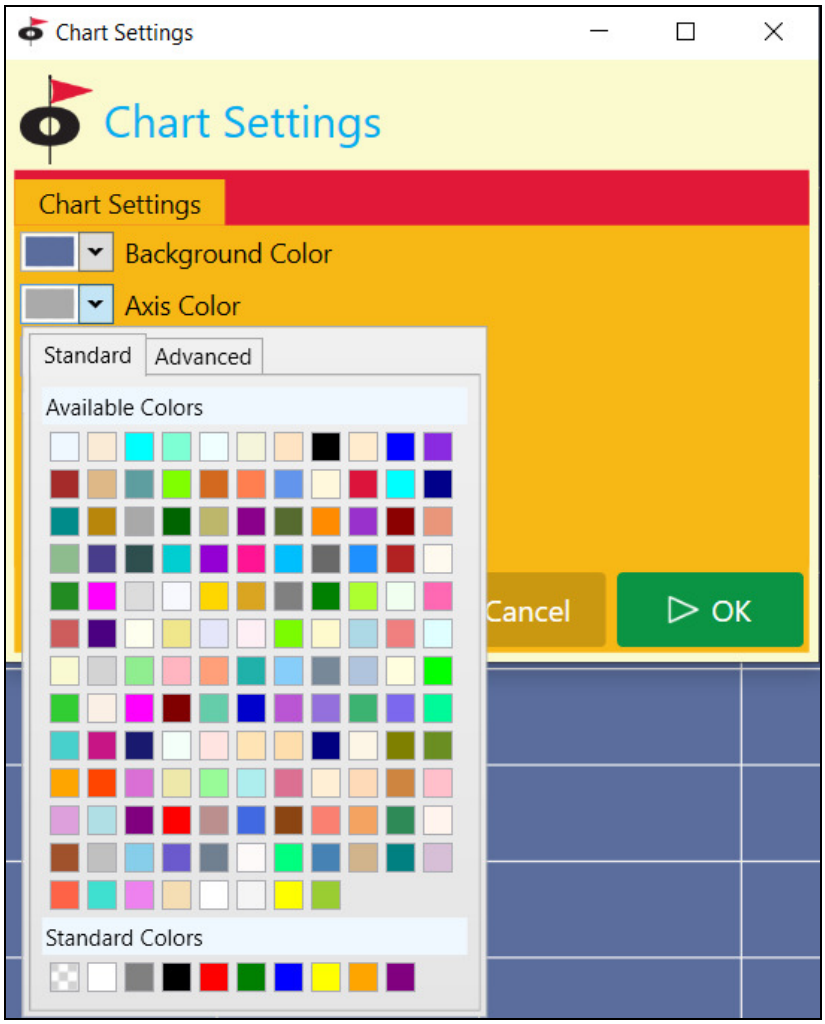
Chart Settings allows you to change the color of the graph lines, background and grid.



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



Select a new color from the pallete.



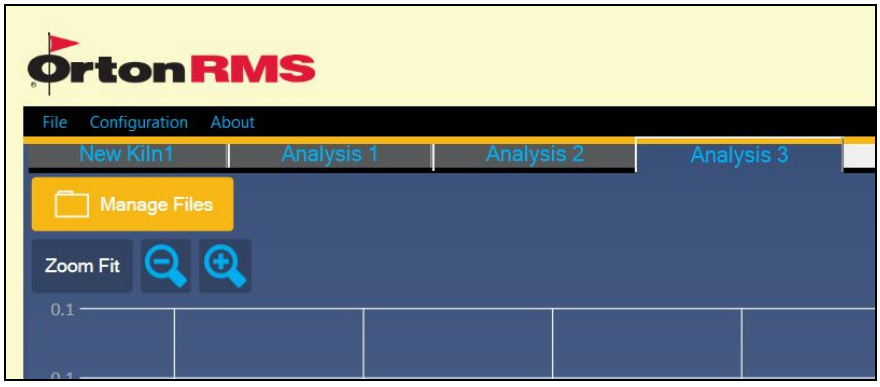
While capturing data, zoom features can be used to adjust the graph area.

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

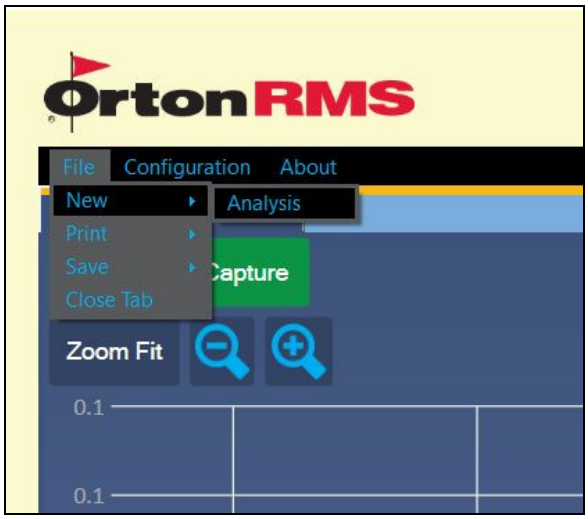
The + and – buttons are for zooming in and out.

Analysis

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

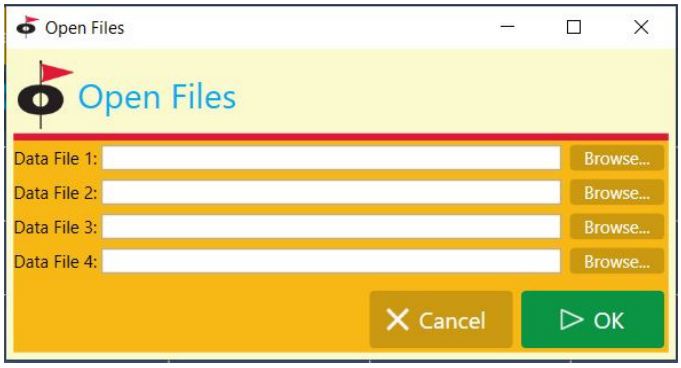


To open an analysis tab, Select the pull-down menu under File > New > Analysis



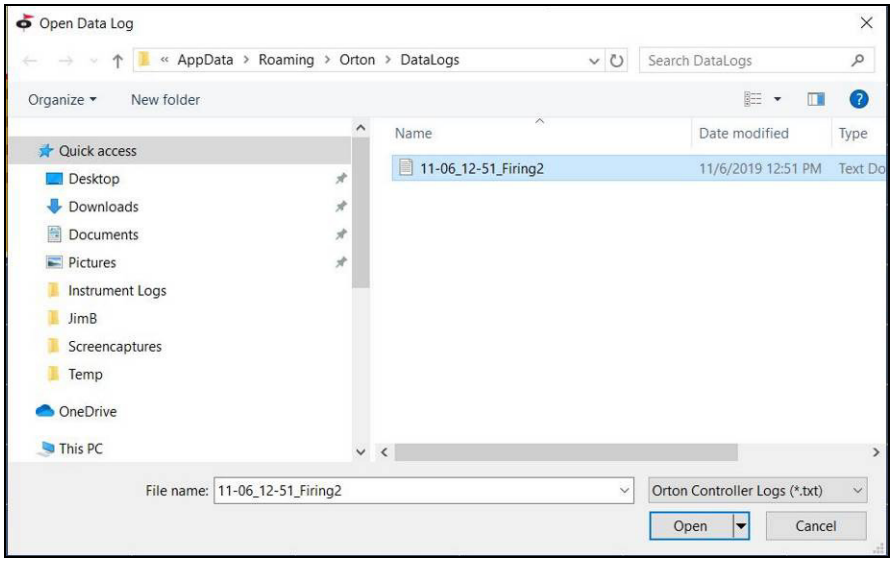
To select data files for Analysis, click on the Manage Files button.

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

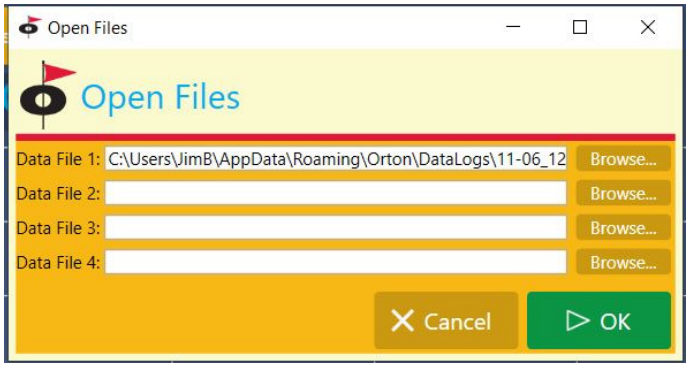


To select a file, click the Browse button next to the Data file field. This will open Windows explorer at the default file save location.

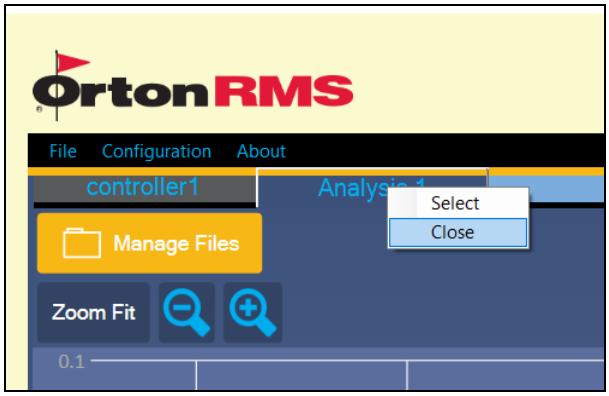
You can also open the files from this browse screen to see the raw data in Notepad or copy/send the file to another location. Right click on the filename for file options.



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

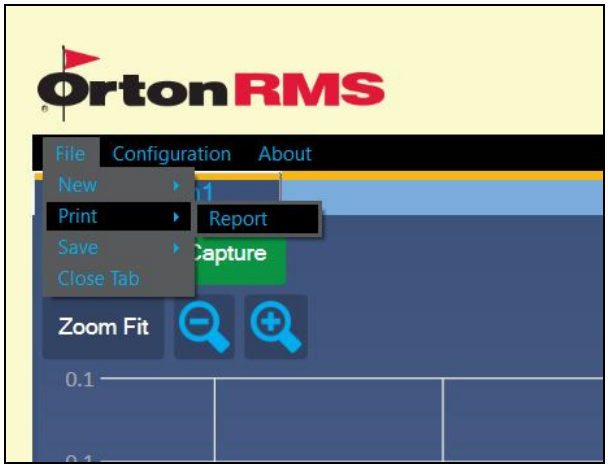


To close and analysis tab, Right click on the Tab and select Close.



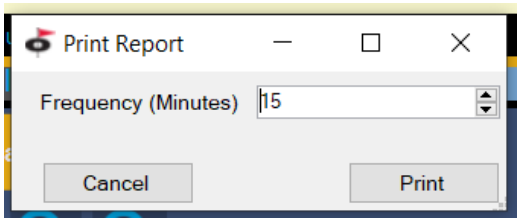
Printed Reports

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.



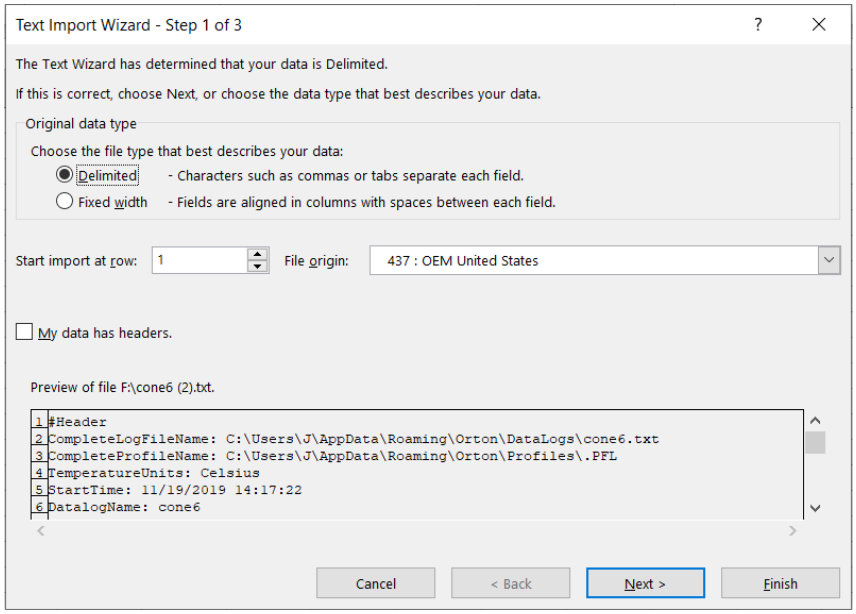
The printed report includes firing information from the setup screen and tabular data for time and temperature.

File Name: C:\Users\J\AppData\Roaming\Orton\DataLogs\cone6.txt
Profile Name: C:\Users\J\AppData\Roaming\Orton\Profiles\.PFL
Batch ID: classrooom
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

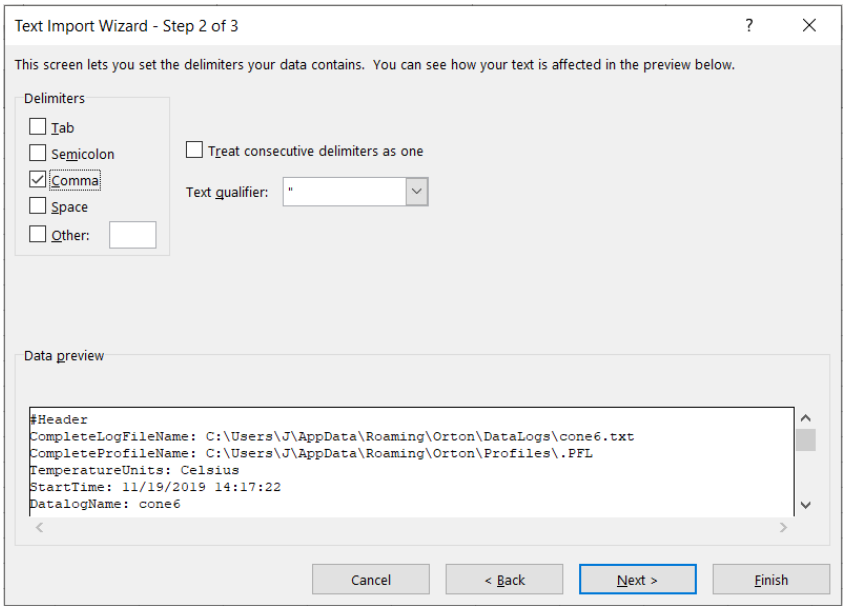
Elapsed Time (H:MM:SS)	Average	Top	Middle	Bottom
00:00:03	488.0		488.0	
01:00:03	605.8		605.8	
02:00:03	696.0		696.0	
03:00:03	785.3		785.3	
04:00:03	876.2		876.2	
05:00:03	964.8		964.8	
06:00:03	1055.5		1055.5	
07:00:03	1124.4		1124.4	
08:00:03	1169.3		1169.3	
09:00:03	1198.0		1198.0	

Excel Worksheets

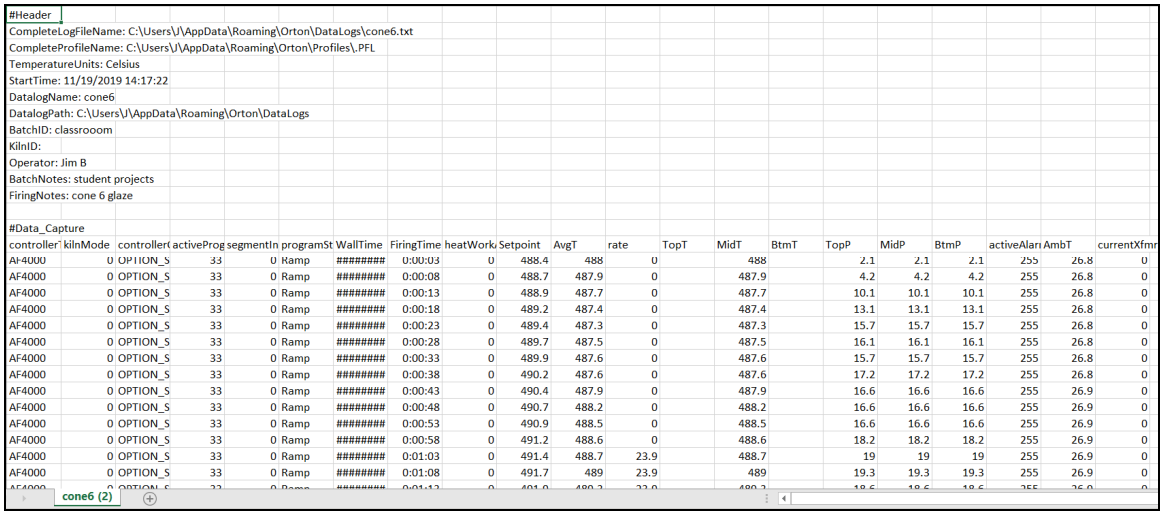
You can open the data files as a delimited file type



Choose Comma as the delimiter.



Data will appear in columns with labels



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

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