

For use with the REED SD-Series (SD-947, SD-1128, SD-2010, SD-230, SD-3007, SD-4023, SD-4207, SD-4214, SD-4307, SD-6020, SD-6100, SD-8205, SD-9300, SD-9901) GU-3001 and TQ-8800.

Compatible with Microsoft Windows© XP, Vista and 7

**\*\*\*All screenshots were produced using a PC computer running Microsoft Windows 7\*\*\***

**\*\*\*For the purpose of this software guide the REED SD-947 with 4 K-type Thermocouples and USB-01 were used.\*\*\***

**\*\*\*Guide Exceptions\*\*\***

#### **SD-2010**

- This product features 5 channels that measure type of temperatures. As the user cannot label the different channels in the software, the parameters must be set on the instrument. The user must note the channels and match them to the channels in the software.

#### **SD-9300/SD-230/SD-4307**

- This product is a multi-function instrument. All measurements use a single channel and the parameter provided will correspond to the selected probe attached to the instrument. Whether a user is logging in the software or on the meter itself, only one parameter can be logged at a time.

#### **SD-4207/SD-4214**

- This product has interchangeable units of measure (m/s, km/h, fpm, etc.). In order to have the software read the desired unit, a user must select the desired unit of measure on the instrument first.

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#### **USB Driver**

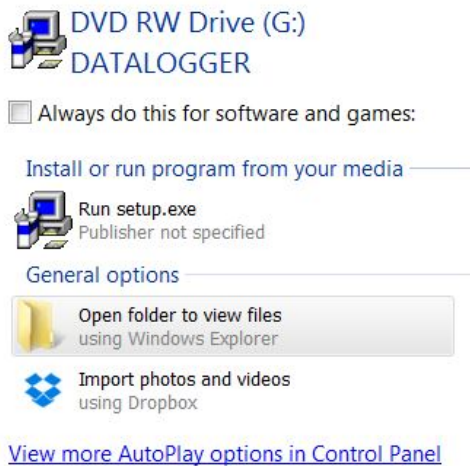
- In order to use the REED Data Acquisition Software, a compatible USB cable is required (REED model USB-01).
- When installing the driver, the USB cable must be plugged into the computer as well as the instrument.
- Ensure the toggle switch located on the USB cable is set to the appropriate number (All SD models should be set to "2", TQ-8800 should be set to "1". For further information on settings, please consult the USB-01 user manual.
- Once plugged in and the instrument is powered on, insert the included driver CD into the computer. The driver will automatically install the driver and assign a COM port for

the instrument. Please note this COM port is important and should be documented for future use.

### Software Installation

\*Before installing the SW-U801-WIN software, please ensure your computer is running Microsoft Windows® version XP, Vista or 7.

- 1) Insert the disc into drive and the following prompt will appear on screen.



- 2) Select the first option, “Run setup.exe”. The software installation wizard will take you through a series of prompts to complete the installation.
- 3) To locate the program, click on the start button and search for ‘Datalogger’.

### Setting up the Data Logger in the Software

- 1) In order to set up the logger in the software, select the “Setup(S)” option:



\*Please note that the letters in brackets do not correspond to keyboard shortcuts, they must be manually selected with your mouse.

- 2) In the “System Setup” screen, various parameters can be set;
  - a. System Scan Rate: Instrument Sampling rate
  - b. Max Record Data: Maximum # of records that will be kept
  - c. Com Port: Assigned port when driver was installed. If forgotten, it can be searched by using the COM port detect button.

- d. Baud Rate: All REED SD series data loggers use a 9600 Baud rate.
- e. Text Display Type: # of default boxes shown when text display is opened (discussed later in guide).
- f. Angular Display: Similar to Text Display Type mentioned above.
- g. Chart Display: This mode displays a single channel at a time in real-time. Select the desired channel from this screen. Please note the desired display can also be selected once the data logger is running.
- h. Meter Type: Select "Normal Meter" (All REED SD Series data loggers work with this setting)

**System Setup**

System Scan Rate (1-3600 Sec)

Max Record Data

Comm. Port

baud rate

2400  9600

Text Display Type

Angular Display Type

Chart Display Chan.

Normal Meter  Special Meter

### 3) Create New Data File to Save Recording

This option under Setup is used to create a new database where recording data will be kept. A new file may be created each time or all data can be kept in one database.

Data File Name

C:\Program Files\DataLogger\data\datafile.mdb

Select Channel No

#### 4) Setup your Display

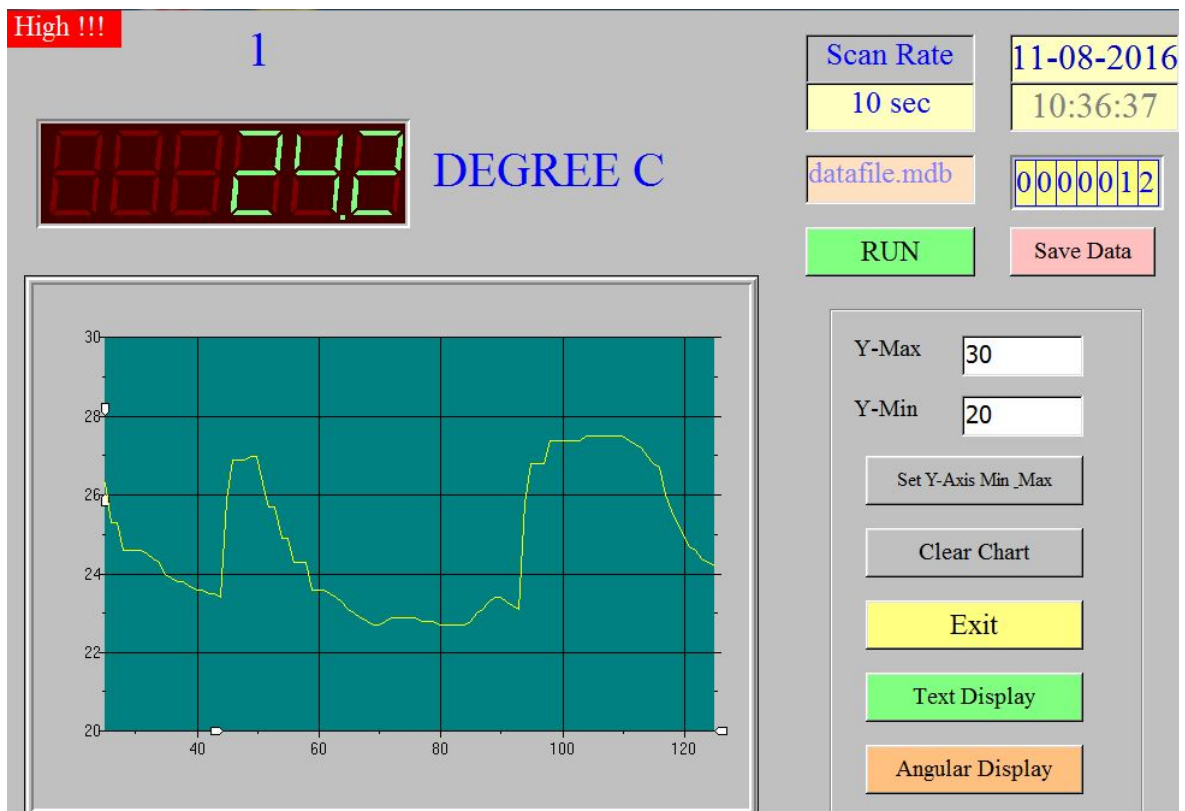
Now that the instrument is setup, the next step is to select “Monitor (M)” from the software.



It is strongly recommended that the automatic power off feature on the instrument is deactivated prior to the start of a logging session. All REED SD Series loggers have the option to switch this feature on or off under the PoFF menu. For more information please see the associated product user manual.

#### 5) Chart Display

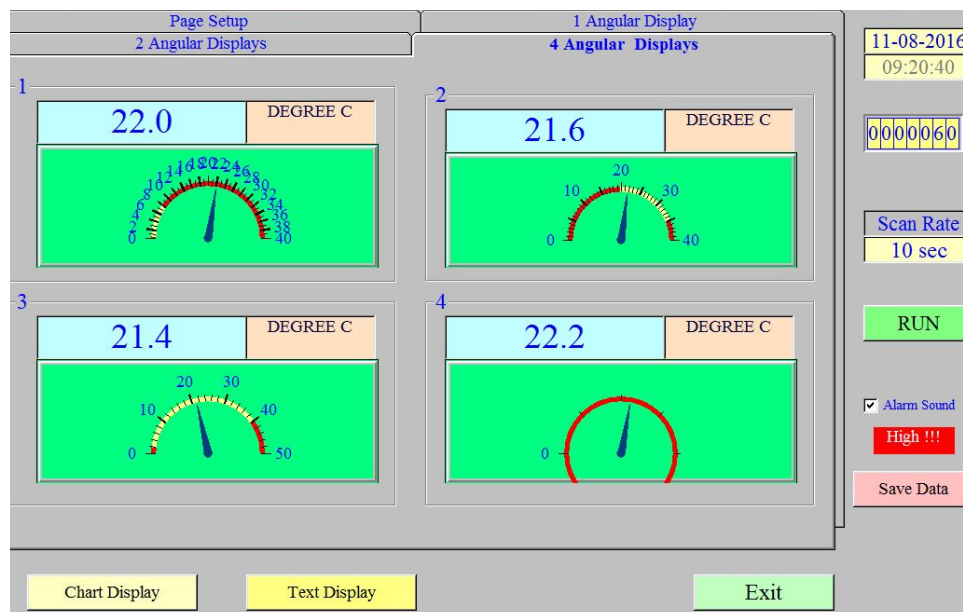
Screenshot of “Chart Display” when selected from the drop down menu.



- a. This display features a single channel and the parameters that were selected during the system setup. To begin logging data, click the “RUN” button and recording will begin at the set interval.

- b. Once the logging session is complete, click “Save Data”. This saves the data to the associated data file selected during the instrument set up.
  - c. Please note to obtain the best results, the Y-min and Y-max should be as close as possible to the recorded measurements. Choosing close values will indicate the detail required to analyze results. In order to save changes for the Y-max and Y-min, click the “Set Y-Axis” button.
- 6) **Angular Display**

The angular display is the second option from the Monitor dropdown menu and looks like this:



- This display features four channels at once (in this example a SD-947 was used) with a graphical display. Similar to the Chart display, a user can also start the logger by clicking the RUN button and then Save Data to capture readings.
  - Angular Display setup provides the user with the option to set different scales for each channel as well as set visual alarms:
- 7) **Display Setup**

Further customization can be made in the display setup screen (screenshot below);

- a. Channel No: Dropdown box to select desired Channel to edit.
- b. Min Value: Minimum value displayed

- c. Max Value: Maximum value displayed
- d. Large Tick Delta: The numeric factor by which the graphic large tick changes
- e. Small Tick Delta: The numeric factor by which the graphic small tick changes
- f. Label Delta: Interval at which labels are present
- g. High Warning: High alarm set point
- h. Low Warning: Low alarm set point
- i. Decimals: # of displayed decimals on the temperature reading above the angular display
- j. Scale: A factor by which the reading is multiplied. E.g.: Instrument is reading 20.0C and a factor of 5 is selected, the reading displayed would be 100.0C
- k. Unit auto sense: Automatically detects primary parameter being measured. In our example, this is temperature.
- l. To save these parameters, click the save button.

The screenshot displays the software's configuration interface. On the left, there are three sections for 'Page Setup': 'One Display' (Display 1 set to 1), 'Two Display' (Display 1 set to 1, Display 2 set to 2), and 'Four Display' (Display 1 set to 1, Display 2 set to 2, Display 3 set to 3, Display 4 set to 4). A 'Save' button is located below these sections. The central 'Display Setup' window is active, showing a table of parameters for Channel No. 1:

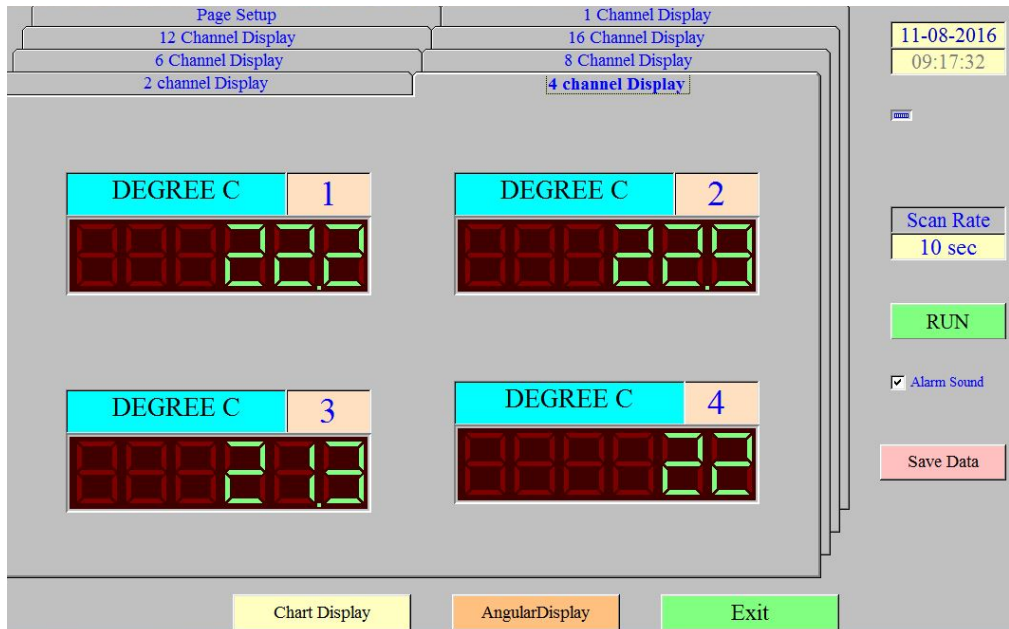
Channel No	1
Min Value	0
MaxValue	50
Large Tick Delta	5
Small Tick Delta	1
Label Delta	5
High Warning	40
Low Warning	0
Decimals	2
Scale	1

Below the table, there is a checked checkbox for 'Unit Auto Sense' and a 'Manual Unit' dropdown menu. On the right side of the interface, there is a date and time display (11-15-2016, 16:01:32), a numeric display (0000030), a 'Scan Rate' of 10 sec, a red 'PAUSE' button, a checked 'Alarm Sound' checkbox, and a 'Save Data' button.

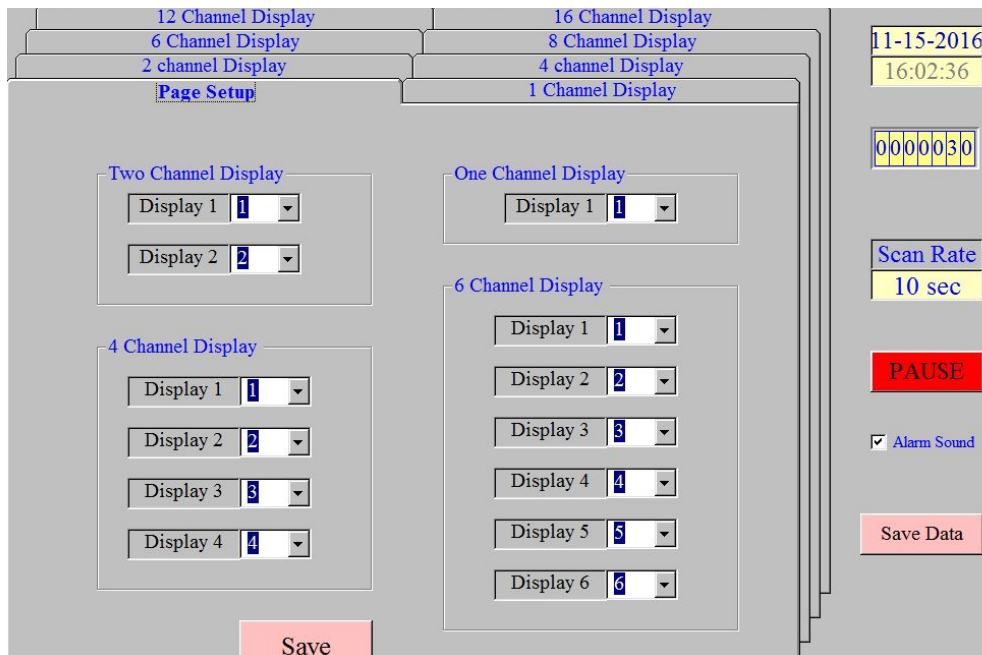
### Text Display

The Text Display is a digital measurement comparable to the instrument LCD screen.





The “RUN” and “Save Data” buttons perform the same functions as previous two display options mentioned above.



Customize which displays are shown on the different channel display options.

### Creating a Report

REED software can also be used to create reports and export data as either a text file (.txt) or a graph in PDF format (.pdf).

To create a report, select "Data Query" from the Report dropdown menu.

The screenshot shows the 'Find Data' window with the following components:

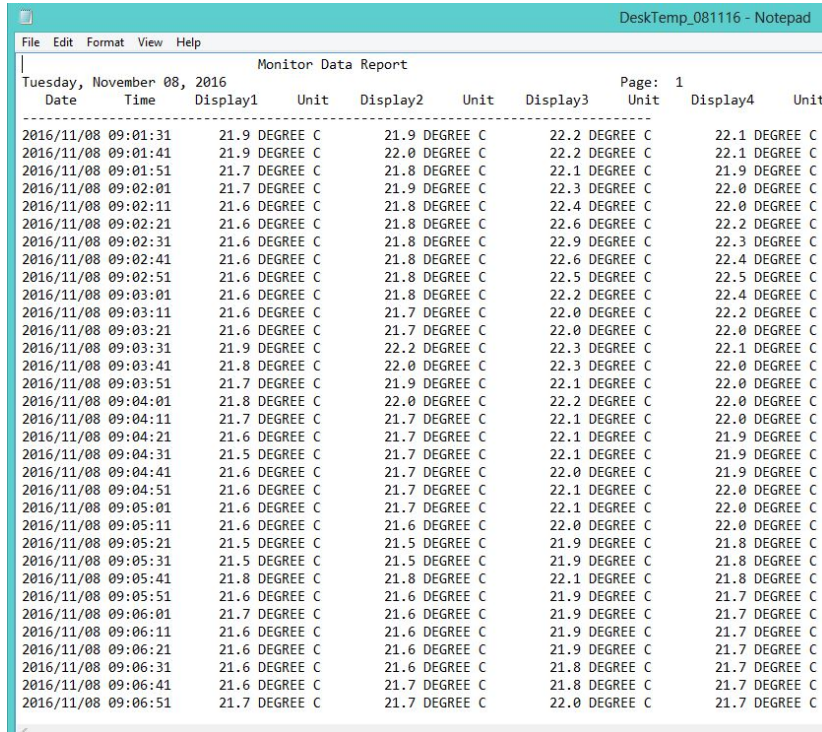
- Select Database:** C:\Program Files\DataLogger\data\datafile.mdb
- Channel Selection:** Chan. 1, 2, 3, 4 are checked; Chan. 5, 6, 7, 8 are unchecked.
- Date/Time Range:** Start Date: 11/08/2016, End Date: 11/24/2016. Start Time and END Time are empty.
- Table:** A table with columns: Record No., date, time, chan 1 unit 1, and chan 2 unit 2. Record 223 is highlighted.
- Graph:** A line graph titled 'Reed Sd-947' and 'Ambient Desk Temp' showing temperature data over time. The Y-axis ranges from 10 to 25.
- Buttons:** Data Query, Show Chart, Print Chart, Clear Chart, Print Data, Exit, and Setup.
- Footer Information:** Header: Reed Sd-947, Footer: Ambient Desk Temp, Y-Max: 25, Y-Min: 10, Y-Grid: 5, X-Grid: 5.

Query (search criteria) is defined by the selected channels, date and time (optional).

All of the information on the bottom right corner is required. The X and Y grid provide the user with the option to add a grid to the graph for visual reference.



Once the information is obtained, a user can generate a raw data file in text (.txt) format:

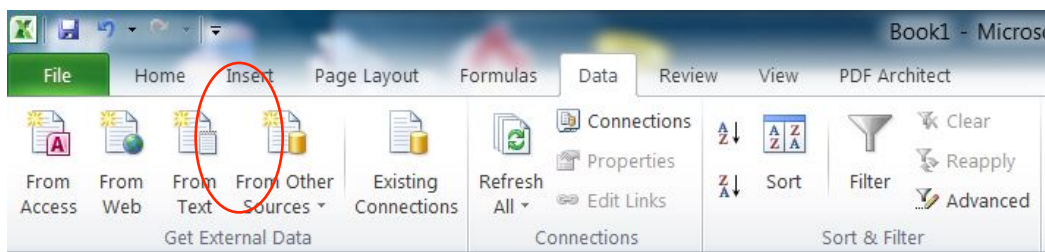


Date	Time	Display1	Unit	Display2	Unit	Display3	Unit	Display4	Unit
2016/11/08	09:01:31	21.9	DEGREE C	21.9	DEGREE C	22.2	DEGREE C	22.1	DEGREE C
2016/11/08	09:01:41	21.9	DEGREE C	22.0	DEGREE C	22.2	DEGREE C	22.1	DEGREE C
2016/11/08	09:01:51	21.7	DEGREE C	21.8	DEGREE C	22.1	DEGREE C	21.9	DEGREE C
2016/11/08	09:02:01	21.7	DEGREE C	21.9	DEGREE C	22.3	DEGREE C	22.0	DEGREE C
2016/11/08	09:02:11	21.6	DEGREE C	21.8	DEGREE C	22.4	DEGREE C	22.0	DEGREE C
2016/11/08	09:02:21	21.6	DEGREE C	21.8	DEGREE C	22.6	DEGREE C	22.2	DEGREE C
2016/11/08	09:02:31	21.6	DEGREE C	21.8	DEGREE C	22.9	DEGREE C	22.3	DEGREE C
2016/11/08	09:02:41	21.6	DEGREE C	21.8	DEGREE C	22.6	DEGREE C	22.4	DEGREE C
2016/11/08	09:02:51	21.6	DEGREE C	21.8	DEGREE C	22.5	DEGREE C	22.5	DEGREE C
2016/11/08	09:03:01	21.6	DEGREE C	21.8	DEGREE C	22.2	DEGREE C	22.4	DEGREE C
2016/11/08	09:03:11	21.6	DEGREE C	21.7	DEGREE C	22.0	DEGREE C	22.2	DEGREE C
2016/11/08	09:03:21	21.6	DEGREE C	21.7	DEGREE C	22.0	DEGREE C	22.0	DEGREE C
2016/11/08	09:03:31	21.9	DEGREE C	22.2	DEGREE C	22.3	DEGREE C	22.1	DEGREE C
2016/11/08	09:03:41	21.8	DEGREE C	22.0	DEGREE C	22.3	DEGREE C	22.0	DEGREE C
2016/11/08	09:03:51	21.7	DEGREE C	21.9	DEGREE C	22.1	DEGREE C	22.0	DEGREE C
2016/11/08	09:04:01	21.8	DEGREE C	22.0	DEGREE C	22.2	DEGREE C	22.0	DEGREE C
2016/11/08	09:04:11	21.7	DEGREE C	21.7	DEGREE C	22.1	DEGREE C	22.0	DEGREE C
2016/11/08	09:04:21	21.6	DEGREE C	21.7	DEGREE C	22.1	DEGREE C	21.9	DEGREE C
2016/11/08	09:04:31	21.5	DEGREE C	21.7	DEGREE C	22.1	DEGREE C	21.9	DEGREE C
2016/11/08	09:04:41	21.6	DEGREE C	21.7	DEGREE C	22.0	DEGREE C	21.9	DEGREE C
2016/11/08	09:04:51	21.6	DEGREE C	21.7	DEGREE C	22.1	DEGREE C	22.0	DEGREE C
2016/11/08	09:05:01	21.6	DEGREE C	21.7	DEGREE C	22.1	DEGREE C	22.0	DEGREE C
2016/11/08	09:05:11	21.6	DEGREE C	21.6	DEGREE C	22.0	DEGREE C	22.0	DEGREE C
2016/11/08	09:05:21	21.5	DEGREE C	21.5	DEGREE C	21.9	DEGREE C	21.8	DEGREE C
2016/11/08	09:05:31	21.5	DEGREE C	21.5	DEGREE C	21.9	DEGREE C	21.8	DEGREE C
2016/11/08	09:05:41	21.8	DEGREE C	21.8	DEGREE C	22.1	DEGREE C	21.8	DEGREE C
2016/11/08	09:05:51	21.6	DEGREE C	21.6	DEGREE C	21.9	DEGREE C	21.7	DEGREE C
2016/11/08	09:06:01	21.7	DEGREE C	21.6	DEGREE C	21.9	DEGREE C	21.7	DEGREE C
2016/11/08	09:06:11	21.6	DEGREE C	21.6	DEGREE C	21.9	DEGREE C	21.7	DEGREE C
2016/11/08	09:06:21	21.6	DEGREE C	21.6	DEGREE C	21.9	DEGREE C	21.7	DEGREE C
2016/11/08	09:06:31	21.6	DEGREE C	21.6	DEGREE C	21.8	DEGREE C	21.7	DEGREE C
2016/11/08	09:06:41	21.6	DEGREE C	21.7	DEGREE C	21.8	DEGREE C	21.7	DEGREE C
2016/11/08	09:06:51	21.7	DEGREE C	21.7	DEGREE C	22.0	DEGREE C	21.7	DEGREE C

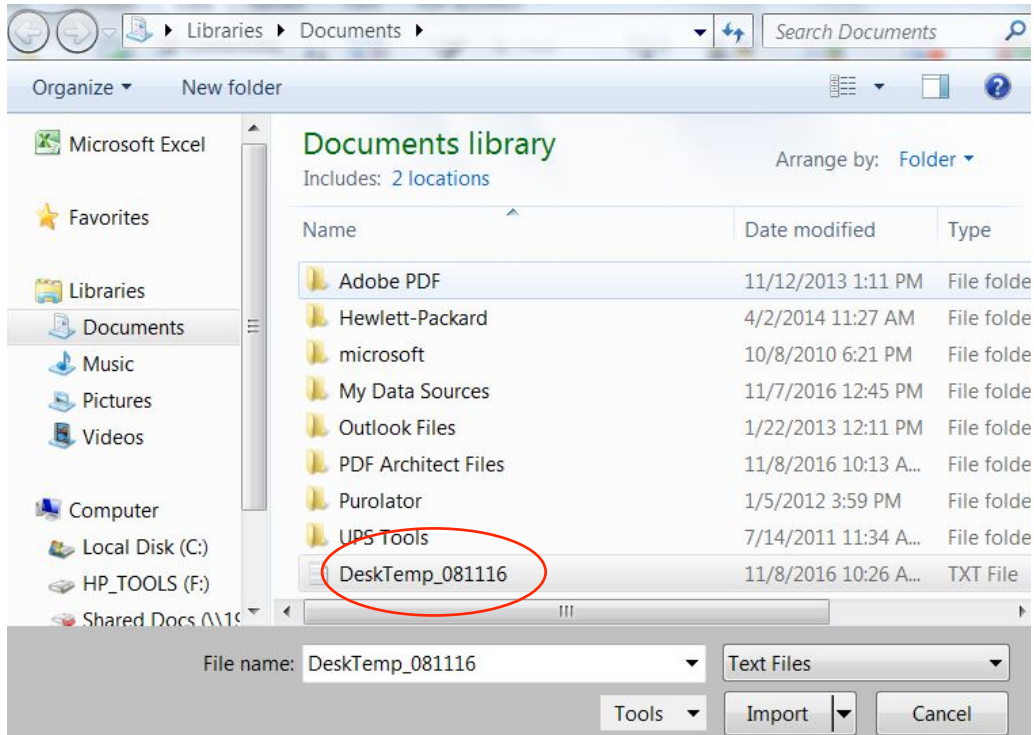
### Importing a text file into Excel

The text file above can then be imported into Excel for further analysis.

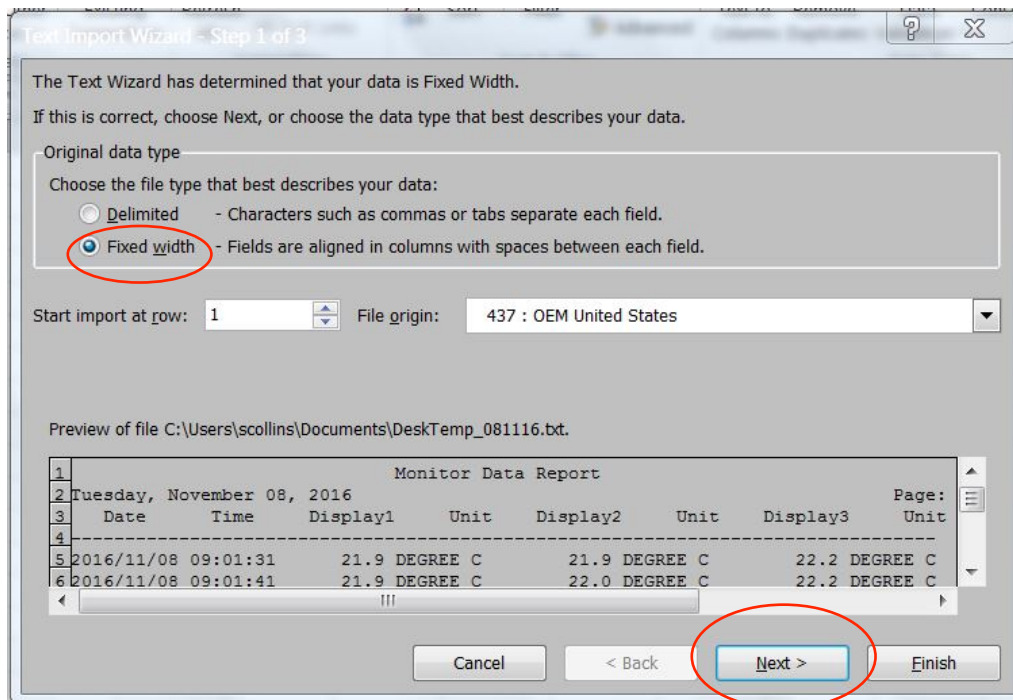
- 1) Once excel is open, click the tab and select the text button under the External Data Tab:



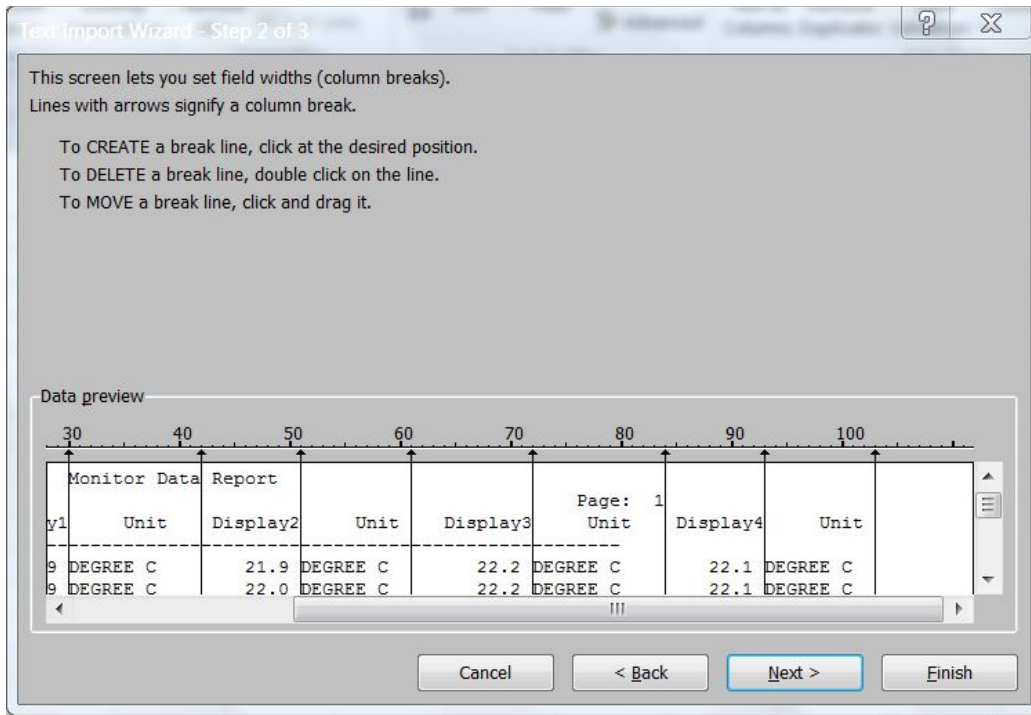
- 2) Select the desired text file.



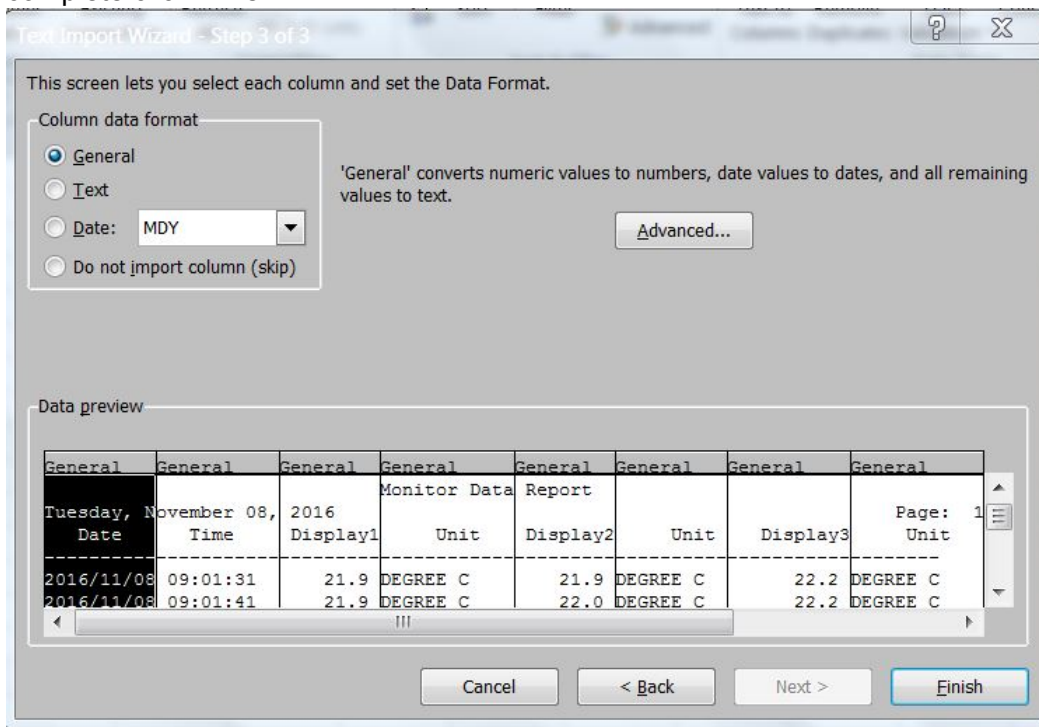
- 3) The first step in the import is to select "fixed width" column, this way the data appropriately separates.



- 4) The next step is to set the correct column size. As the text format will not be a perfect match with each import, the user is given an opportunity to adjust column sizes and add/delete column lines. Although this can resolve most format issues, a user may be required to make further adjustments once the file is created.

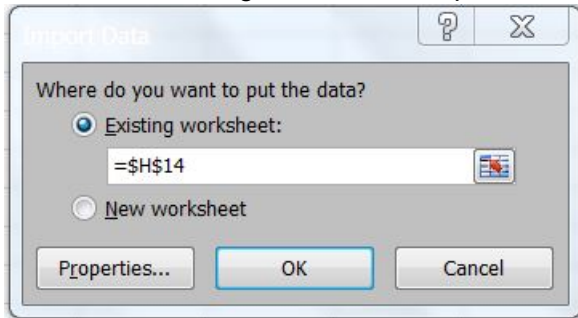


- 5) In step 3, the option to adjust the format of the newly created cells is provided. When complete click "finish".





6) Select the "Existing Worksheet" to paste into current workbook:



7) Example of data imported into Excel;

Monitor Data Report							Page:	1
Date	Time	Display1 Unit	Display2 Unit	Display3 Unit	Display4 Unit			
11/8/2016	9:01:31	21.9 DEGREE C	21.9 DEGREE C	22.2 DEGREE C	22.1 DEGREE C			
11/8/2016	9:01:41	21.9 DEGREE C	22 DEGREE C	22.2 DEGREE C	22.1 DEGREE C			
11/8/2016	9:01:51	21.7 DEGREE C	21.8 DEGREE C	22.1 DEGREE C	21.9 DEGREE C			
11/8/2016	9:02:01	21.7 DEGREE C	21.9 DEGREE C	22.3 DEGREE C	22 DEGREE C			
11/8/2016	9:02:11	21.6 DEGREE C	21.8 DEGREE C	22.4 DEGREE C	22 DEGREE C			
11/8/2016	9:02:21	21.6 DEGREE C	21.8 DEGREE C	22.6 DEGREE C	22.2 DEGREE C			
11/8/2016	9:02:31	21.6 DEGREE C	21.8 DEGREE C	22.9 DEGREE C	22.3 DEGREE C			
11/8/2016	9:02:41	21.6 DEGREE C	21.8 DEGREE C	22.6 DEGREE C	22.4 DEGREE C			
11/8/2016	9:02:51	21.6 DEGREE C	21.8 DEGREE C	22.5 DEGREE C	22.5 DEGREE C			
11/8/2016	9:03:01	21.6 DEGREE C	21.8 DEGREE C	22.2 DEGREE C	22.4 DEGREE C			
11/8/2016	9:03:11	21.6 DEGREE C	21.7 DEGREE C	22 DEGREE C	22.2 DEGREE C			
11/8/2016	9:03:21	21.6 DEGREE C	21.7 DEGREE C	22 DEGREE C	22 DEGREE C			
11/8/2016	9:03:31	21.9 DEGREE C	22.2 DEGREE C	22.3 DEGREE C	22.1 DEGREE C			
11/8/2016	9:03:41	21.8 DEGREE C	22 DEGREE C	22.3 DEGREE C	22 DEGREE C			
11/8/2016	9:03:51	21.7 DEGREE C	21.9 DEGREE C	22.1 DEGREE C	22 DEGREE C			
11/8/2016	9:04:01	21.8 DEGREE C	22 DEGREE C	22.2 DEGREE C	22 DEGREE C			
11/8/2016	9:04:11	21.7 DEGREE C	21.7 DEGREE C	22.1 DEGREE C	22 DEGREE C			
11/8/2016	9:04:21	21.6 DEGREE C	21.7 DEGREE C	22.1 DEGREE C	21.9 DEGREE C			
11/8/2016	9:04:31	21.5 DEGREE C	21.7 DEGREE C	22.1 DEGREE C	21.9 DEGREE C			
11/8/2016	9:04:41	21.6 DEGREE C	21.7 DEGREE C	22 DEGREE C	21.9 DEGREE C			
11/8/2016	9:04:51	21.6 DEGREE C	21.7 DEGREE C	22.1 DEGREE C	22 DEGREE C			
11/8/2016	9:05:01	21.6 DEGREE C	21.7 DEGREE C	22.1 DEGREE C	22 DEGREE C			
11/8/2016	9:05:11	21.6 DEGREE C	21.6 DEGREE C	22 DEGREE C	22 DEGREE C			

8) In addition to exporting a data file, a user can also create a PDF graph (example below)

