TSI Link™ Report Creator – Basic Analytics Multi Parameter Chart Report

Worksheet Guide (US)

Contents

Overview

The Multi Parameter Chart worksheet allows you to **combine multiple measurements from multiple devices onto a single chart so the interaction and comparative dynamics of them can be more easily seen**. It is a dynamic report that can be used in many situation and with many devices

If you are new to Report Creator, check out the Report Creator Product Page *for guides and videos including: setting up an account, installing the application, using the study manager, using the layout view, customizing report creator templates, etc.* This application guide builds upon those guides, it does not duplicate them.

Worksheet Templates

This guide covers the worksheet below.

Worksheet Template	Supported Measurements	Supported Instruments	Examples of Needs/Applications
Multi Parameter Chart	Select up to three measurements from a list of 30, which is in Appendix A.	OmniTrak™ Solution DustTrak™ Monitors Q-Trak™ XP Monitor	✓ Comparing trends for two or more pollutants in an area ✓ Complaint Troubleshooting

For other types of reports, the Report Creator Product Page has:

- A matrix of the **workbooks that have high level groups of reports**.
- **Detailed Guides** to all the reports in the *Resources* section. This includes guides to other Basic Analytics worksheet reports: Data Table, Control and Trends Report, and Correlation Report.
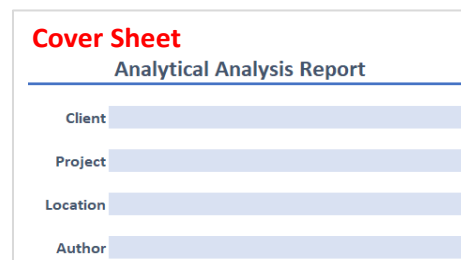
Worksheet Operation

These worksheet templates have similar structure. This section outlines the basic operating steps for them.

Step 1 Select the Worksheet

In Microsoft® Excel® software, click on **Report Creator Icon** in your Microsoft® Excel® Home Menu Ribbon.

Select the **Basic Analytics Workbook**, then select the **Multi Parameter Chart** Worksheet.

Note that the Basic Analytics Workbook is one of many that are available. To better understand the options, an overview of the workbooks available is on the Report Creator product page.

Cover Sheet
Analytical Analysis Report
Client
Project
Location
Author

Step 2 Cover Sheet

This workbook contains a simple Cover sheet that can be customized to suit your needs. See the *Customizing Report Creator Templates* in the RESOURCES section on the Report Creator Product Page.

Step 3 Enter Demographic Information, Select Parameters

After creating a Multi Parameter Chart worksheet, you can enter the demographic information.

Select Parameters

Select the measurements you wish to report on. Up to six measurements can be charted together. They are configured in the *Parameter* column of the Data Summary table.

- **The top 3 measurements will be displayed against the *left* vertical axis** of the chart. They should all have the same unit of measure. For example, include measures all with ppm would make sense, mixing ppm measures with ug/m^3 measures would not make sense. The left axis will use the first parameter for its units.
- **The bottom 3 measurements will be displayed against the *right* axis.** Use the same units and the first of this set will be used for the charts units.

You should arrange your measurements with expected peak values in mind. For example, Carbon Monoxide is generally less than 100 ppm, while a Particle Number count could be over 1,000,000 #/m^3. You should plot them on opposing axes so that both are visible on the chart.

You may also enter other information about the test in the header fields.

Multi Parameter Chart

ID:

Date:

Task/Activity/Location: Glass Cleaner Testing

Demographic Information

Comments:

Data Summary

Consistent Units per Axis

Select Parameters

	Parameter	Duration (hr)	Logging Interval (s)	Min	Max	Avg	Data
Top 3 rows on Right Axis	PM 2.5 (ug/m3)	0.12	1.	2.000	3.000	2.375	
	PM 1.0 (ug/m3)	0.12	1.001	0.000	9.700	2.990	
	PM Total (ug/m3)	0.12	0.998	0.000	0.000	0.000	
Bottom 3 rows on Right Axis	Ozone (ppb)	0.12	0.951	0.000	40.000	1.233	
	VOC (ppb)	0.12	1.	5.600	8.700	6.946	
	Formaldehyde (ppb)	0.12	0.998	3254.000	13754.000	8015.535	

Step 4 Import Study Data

To Import a study using *STUDY MANAGER* or *File Import.* Make sure the study names match the measurement labels. Swap them if necessary. When ready, click **Add Data** to import data into the worksheet.

NOTICE
If a single study contains multiple measurements that need to be plotted, you will need to import them one at a time. For example, if you want to plot PM 2.5 and PM 10 from the same study, import the study and assign it to PM 2.5. Then import the same study again and assign it to PM 10.
Also note that any unconfigured measurement slots in the table will have empty cell references displayed, such as "=A16".

Data files are typically loaded via the Study Manager This feature securely saves and backs up the data and makes it easier to move data from the devices to the Report Creator Application. Alternatively, data can be Imported.

NOTICE
The *Layout View* functionality is not supported in this Multi Parameter Chart Worksheet.

Worksheet   Layout View

1 to 6 studies (minimum of 1) are needed to complete worksheet.

Data can also be added manually

STUDY MANAGER

File Import   ? HELP

Select Marker

PM 2.5 (ug/m3)

=A16

=A17

CO (ppm)

VOC (ppm)

=A20

Step 5 Analyze Data

A statistical summary is shown, including a simple sparkline chart of the measurement, the minimum, the average, and maximum value.

The data are also plotted against their configured axis as shown in the example below.

You may wish to add additional context to the chart. Refer to Annotation Tools below for more information.
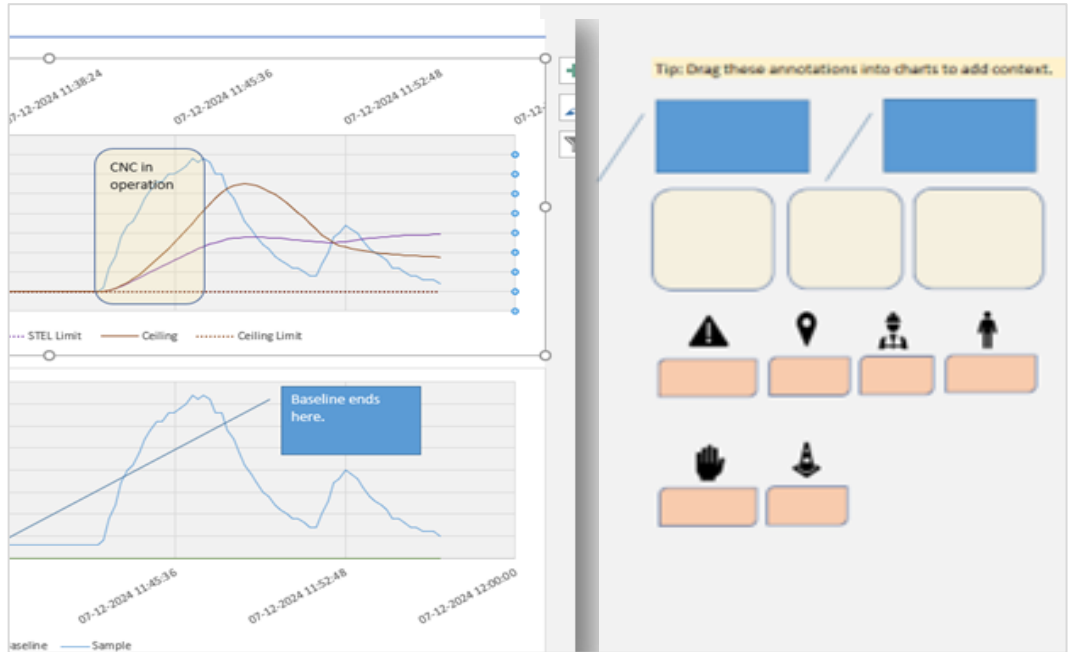
Annotation Tools

These worksheet templates contain a set of useful annotations outside of the printable range of the report, on the right side of the charts. These annotations can be simply dragged into the report. You can type information into the text boxes and position the line markers where you like.

Step 6 Complete the Assessment

To complete the report, you can add recommendations under the Conclusions section.

The print layout for this sheet does not include the measurement data in the blue tables at the bottom of the sheet. They will not appear in a PDF export either.

Appendix A – Available Parameters

Below is a list of the 30 parameters available for these workbook templates.

Metric	Units
PM 1.0 (ug/m³)	MICROGRAMS_PER_CUBIC_METER
PM 2.5 (ug/m³)	MICROGRAMS_PER_CUBIC_METER
PM RESP (ug/m³)	MICROGRAMS_PER_CUBIC_METER
PM 10 (ug/m³)	MICROGRAMS_PER_CUBIC_METER
PM Total (ug/m³)	MICROGRAMS_PER_CUBIC_METER
PM 1.0 (mg/m³)	MILLIGRAMS_PER_CUBIC_METER
PM 2.5 (mg/m³)	MILLIGRAMS_PER_CUBIC_METER
PM RESP (mg/m³)	MILLIGRAMS_PER_CUBIC_METER
PM 10 (mg/m³)	MILLIGRAMS_PER_CUBIC_METER
PM Total (mg/m³)	MILLIGRAMS_PER_CUBIC_METER
NC 0.3 - 0.5 (#/m³)	COUNT_PER_CUBIC_METER
NC 0.5 - 1.0 (#/m³)	COUNT_PER_CUBIC_METER
NC 1.0 - 2.5 (#/m³)	COUNT_PER_CUBIC_METER
NC 2.5 - 4.0 (#/m³)	COUNT_PER_CUBIC_METER
NC 4.0 - 10 (#/m³)	COUNT_PER_CUBIC_METER
NC 0.3 - 0.5 (#/ft³)	COUNT_PER_CUBIC_FOOT
NC 0.5 - 1.0 (#/ft³)	COUNT_PER_CUBIC_FOOT
NC 1.0 - 2.5 (#/ft³)	COUNT_PER_CUBIC_FOOT
NC 2.5 - 4.0 (#/ft³)	COUNT_PER_CUBIC_FOOT
NC 4.0 - 10 (#/ft³)	COUNT_PER_CUBIC_FOOT
CO_2 (ppm)	PARTS_PER_MILLION
Formaldehyde (ppb)	PARTS_PER_BILLION
CO (ppm)	PARTS_PER_MILLION
SO_2 (ppb)	PARTS_PER_BILLION
Ozone (ppb)	PARTS_PER_BILLION
NO_2 (ppb)	PARTS_PER_BILLION
CL (ppm)	PARTS_PER_MILLION
NH_3 (ppm)	PARTS_PER_MILLION
VOC (ppm)	PARTS_PER_MILLION
VOC (ppb)	PARTS_PER_BILLION

Knowledge Beyond Measure.