



TrakSYS™ Real Time Performance Management

# TrakSYS 7.0

## Web Part Data Interface

**Parsec Automation Corp.**

3000 East Birch Street

Suite 104

Brea, CA 92821 USA

Phone +1 714 996 5302

Fax +1 714 996 1845

[www.parsec-corp.com](http://www.parsec-corp.com)

© Parsec Automation Corp 2010. All rights reserved. Parsec Automation Corp., Parsec logo, and Parsec product names are trademarks of Parsec Automation Corp. References to other companies and their products use trademarks owned by the respective companies and are for reference purposes only.

## Revision History

---

| Date Revised | Primary Author | Version | Summary of Changes  |
|--------------|----------------|---------|---|
| 12/15/2009   | Kevin Woo      | 0.0     | Initial draft.  |
| 1/9/2009     | Bill Rokos     | 1.0     | Formatted with TrakSYS document template and final edits.             |
| 3/9/2009     | Bill Rokos     | 2.0     | Added updates for version 6.1 (SP1).                                  |
| 3/24/2009    | Bill Rokos     | 2.1     | Added DataAllowScale to Tag Comparison. This is post SP1 and pre SP2. |
| 6/25/2010    | Matt Meyer     | 7.0     | 7.0 version of the document.  |

## Table of Contents

---

|  |          |
|--|----------|
| <b>1. Introduction .....</b>   | <b>1</b> |
| 1.1. Purpose .....   | 1        |
| 1.2. Audience .....  | 1        |
| <b>2. Data Interface Basics .....</b>                                  | <b>1</b> |
| 2.1. Data Source Replacement .....                                     | 1        |
| 2.1.1. Concept .....   | 1        |
| 2.1.2. Using a SQL Data Source .....                                   | 1        |
| 2.1.3. Using an Excel Data Source .....                                | 1        |
| 2.2. Data Table Descriptions .....                                     | 1        |
| 2.2.1. Required Columns .....  | 2        |
| 2.2.2. Optional Columns .....  | 2        |
| 2.2.3. User Supplied Columns .....                                     | 2        |
| <b>3. Web Part Data Table Interfaces .....</b>                         | <b>2</b> |
| 3.1. Event Bar / Column / Pareto Chart .....                           | 2        |
| 3.1.1. Required Columns .....  | 2        |
| 3.1.2. Optional Columns .....  | 2        |
| 3.1.3. Sample Data .....   | 2        |
| 3.2. Event Pie / Funnel / Pyramid / Doughnut Chart .....               | 2        |
| 3.2.1. Required Columns .....  | 2        |
| 3.2.2. Optional Columns .....  | 3        |
| 3.2.3. Sample Data .....   | 3        |
| 3.3. Event Histogram Chart .....                                       | 3        |
| 3.3.1. Required Columns .....  | 3        |
| 3.3.2. Optional Columns .....  | 3        |
| 3.3.3. Sample Data .....   | 3        |
| 3.4. Event State Chart .....   | 3        |
| 3.4.1. Required Columns .....  | 3        |
| 3.4.2. Optional Columns .....  | 4        |
| 3.4.3. Sample Data .....   | 4        |
| 3.5. KPI Trend Chart (Single) .....                                    | 4        |
| 3.5.1. Required Columns .....  | 4        |
| 3.5.2. Optional Columns .....  | 4        |
| 3.5.3. Sample Data .....   | 5        |
| 3.6. KPI Trend Chart (Side by Side) / (Stacked Bar) .....              | 5        |
| 3.6.1. Required Columns .....  | 6        |
| 3.6.2. Optional Columns .....  | 6        |
| 3.6.3. Sample Data .....   | 7        |
| 3.7. KPI Line / Area / Stacked Line / Stacked Area Chart .....         | 7        |
| 3.7.1. Required Columns .....  | 7        |
| 3.7.2. Optional Columns .....  | 7        |
| 3.7.3. Sample Data .....   | 8        |
| 3.8. KPI Radar Chart .....   | 8        |
| 3.8.1. Required Columns .....  | 8        |
| 3.8.2. Optional Columns .....  | 8        |
| 3.8.3. Sample Data .....   | 8        |
| 3.9. KPI Scatter Chart .....   | 8        |
| 3.9.1. Required Columns .....  | 8        |
| 3.9.2. Optional Columns .....  | 9        |
| 3.9.3. Sample Data .....   | 9        |
| 3.10. KPI Radial / Linear (Vertical) / Linear (Horizontal) Gauge ..... | 9        |
| 3.10.1. Required Columns .....   | 9        |
| 3.10.2. Optional Columns .....   | 9        |
| 3.10.3. Sample Data .....  | 9        |
| 3.11. KPI Production Progress Gauge .....                              | 9        |
| 3.11.1. Required Columns .....   | 10       |
| 3.11.2. Optional Columns .....   | 10       |

|         |                                    |    |
|---------|------------------------------------|----|
| 3.11.3. | Sample Data .....                  | 10 |
| 3.12.   | Tag Comparison Chart.....          | 10 |
| 3.12.1. | Required Columns .....             | 10 |
| 3.12.2. | Optional Columns .....             | 11 |
| 3.12.3. | Sample Data .....                  | 11 |
| 3.13.   | KPI vs. Tag Comparison Chart ..... | 11 |
| 3.13.1. | Required Columns .....             | 11 |
| 3.13.2. | Optional Columns .....             | 12 |
| 3.13.3. | Sample Data .....                  | 12 |
| 3.14.   | SPC XBar (R and S) Chart .....     | 12 |
| 3.14.1. | Required Columns .....             | 12 |
| 3.14.2. | Optional Columns .....             | 12 |
| 3.14.3. | Sample Data .....                  | 12 |

## 1. Introduction

### 1.1. Purpose

Each Web Part in the TrakSYS WEBTrak portal retrieves data from the database using a built in default query. In some cases, it may be desirable to over-ride those default data tables and provide a developer defined query that returns data in the same format. This document describes the default Web Part data table schemas.

### 1.2. Audience

The target audience for this reference is a developer wishing to override the default data source built into the TrakSYS Web Parts. Expert skills in SQL query writing and knowledge of the TrakSYS data structures are required to use the information within.

## 2. Data Interface Basics

### 2.1. Data Source Replacement

#### 2.1.1. Concept

Web Parts that retrieve data from the TrakSYS database may be configured to take data from a developer defined query. The query that is provided must return data in the same format as the Web Part is expecting.

In order to over-ride a Web Part's default data table, change the **Mode** parameter from *Default* to either *SQL* or *Excel* (located in the Web Part's **Source** section).

#### 2.1.2. Using a SQL Data Source

When using a SQL data source, the query is specified in the Web Part's **Source** section in the **SQL** parameter. The query provided will be executed against the TrakSYS database by default. The query must return the same columns and data types that the Web Part requires (described below). The database or source that the query is executed against can be redirected by providing a valid OLEDB connection string in the **Connection String** parameter.

#### 2.1.3. Using an Excel Data Source

When using an Excel data source, the target file and sheet name must be specified in the Web Part's **Excel File** and **Excel Sheet** parameters. The **Excel File** parameter lists all available Excel files located in the **Program Files\Parsec\TrakSYS\webTrak\App\_Data\Excel** folder. The specified sheet within the selected file must contain the same columns and data types that the Web Part requires (described below).

### 2.2. Data Table Descriptions

Each Web Part's data table must contain specific columns. In addition some of the Web Parts support optional columns.

### 2.2.1. Required Columns

All columns in the Required Columns section of the interface must be present in the developer defined data table. They must also contain values of the appropriate data type. The order of the columns is not relevant.

### 2.2.2. Optional Columns

In some cases, Web Parts support processing optional columns. The optional columns may be in any order in relation to the other columns.

### 2.2.3. User Supplied Columns

All Web Parts support including additional columns not specified in the Required or Optional sections. These columns are ignored by the default chart rendering but may be used for custom tooltips, labels and linking purposes.

## 3. Web Part Data Table Interfaces

The sections below describe the required and optional columns for each Web Part.

### 3.1. Event Bar / Column / Pareto Chart

#### 3.1.1. Required Columns

| Column Name | Data Type       | Description   |
|-------------|-----------------|---|
| DataLabel   | STRING          | The label of the bar on the grouping axis.  |
| DataValue   | INTEGER / FLOAT | The value of the bar on the measurement axis. The default chart settings assume that this value is seconds.   |
| DataColor   | STRING          | The color of the bar (color name, web color value or integer RGB color value). A value of NULL causes the chart to use the color selected in the Web Part settings. |

#### 3.1.2. Optional Columns

There are no optional columns for this Web Part.

#### 3.1.3. Sample Data

| DataLabel   | DataValue | DataColor |
|-------------|-----------|-----------|
| Filler Down | 4923      | Blue      |
| Lunch       | 3242      | #BDBDF2   |
| Startup     | 3369      | NULL      |

### 3.2. Event Pie / Funnel / Pyramid / Doughnut Chart

#### 3.2.1. Required Columns

| Column Name | Data Type       | Description  |
|-------------|-----------------|--|
| DataLabel   | STRING          | The label of the slice in the chart.   |
| DataValue   | INTEGER / FLOAT | The value of the slice in the chart. The default chart settings assume that this value is seconds. The chart converts the value to a percentage in relation to the other rows for display. |
| DataColor   | STRING          | The color of the slice (color name, web color value, or integer RGB color value). A value of NULL causes the chart   |

|  |  |   |
|--|--|---|
|  |  | to use the color selected in the Web Part settings. |
|--|--|---|

### 3.2.2. Optional Columns

There are no optional columns for this Web Part.

### 3.2.3. Sample Data

| DataLabel   | DataValue | DataColor |
|-------------|-----------|-----------|
| Filler Down | 4923      | Blue      |
| Lunch       | 3242      | #BDBDF2   |
| Startup     | 3369      | NULL      |

## 3.3. Event Histogram Chart

### 3.3.1. Required Columns

| Column Name | Data Type     | Description                              |
|-------------|---------------|--|
| DataValue   | INTEGER/FLOAT | The value you wish to plot for the bars. |

### 3.3.2. Optional Columns

There are no optional columns for this Web Part.

### 3.3.3. Sample Data

| DataValue |
|-----------|
| 25        |
| 10        |
| 23        |

## 3.4. Event State Chart

Each row in the following data table represents a single Slice on one row of the Event State Chart.

### 3.4.1. Required Columns

| Column Name | Data Type | Description   |
|-------------|-----------|---|
| SeriesID    | INTEGER   | A Series is a grouping of horizontal rows (Groups) on the chart. This field holds a unique numeric ID for the Series that this Slice belongs in. If no Series is required or applicable, return the value of -1 in this column.   |
| SeriesName  | STRING    | A Series is a grouping of horizontal rows (Groups) on the chart. This field holds a unique string label for the Series that this Slice belongs in. If no Series is required or applicable, return an empty string in this column.   |
| GroupID     | INTEGER   | A Group is a collection of Slices rendered on a single horizontal row on the chart. This field holds a unique numeric ID (within the parent Series) for the Group that this Slice belongs in. If no Group is required or applicable, return the value of -1 in this column. |
| GroupName   | STRING    | A Group is a collection of Slices rendered on a single horizontal row on the chart. This field holds a unique string  |



|                    |          |  |
|--------------------|----------|--|
|                    |          | label (within the parent Series) for the Group that this Slice belongs in. If no Group is required or applicable, return an empty string in this column.   |
| SliceID            | INTEGER  | A Slice is a single block within one Group on the chart. This field holds a unique numeric ID (within the parent Group) for the Slice.   |
| SliceName          | STRING   | A Slice is a single block within one Group on the chart. This field holds a string label for the Slice. This label is typically displayed in the ToolTip when the mouse hovers over the Slice on the chart.                                      |
| SliceLegend        | STRING   | This is a string label for the Slice that is used for display in the Legend. This label may be the same or different than the SliceName. Legend items will be created for each unique value in the SliceLegend field over the entire data table, |
| SliceColor         | STRING   | This is the color of the Slice (color name, web color value, or integer RGB color value).  |
| SliceStartDateTime | DATETIME | This is the start date and time of the Slice.  |
| SliceEndDateTime   | DATETIME | This is the end date and time of the Slice.  |

### 3.4.2. Optional Columns

There are no optional columns for this Web Part.

### 3.4.3. Sample Data

| SeriesID | SeriesName | GroupID | GroupName       | SliceID | SliceName | SliceLegend | SliceColor | SliceStartDateTime | SliceEndDateTime  |
|----------|------------|---------|-----------------|---------|-----------|-------------|------------|--------------------|-------------------|
| 3        | Caspacker  | 1       |                 | 1       | Starved   | Starved     | #BDBDF2    | 1/1/2008 09:41:00  | 1/1/2008 09:51:00 |
| 3        | Caspacker  | 1       |                 | 1       | Starved   | Starved     | #BDBDF2    | 1/1/2008 10:16:00  | 1/1/2008 09:51:00 |
| 3        | Caspacker  | 1       |                 | 1       | Starved   | Starved     | #BDBDF2    | 1/1/2008 12:02:00  | 1/1/2008 10:27:00 |
| 2        | Labeler    | 5       | Backed Up       | 1       | Backed Up | Backed Up   | Orange     | 1/1/2008 16:04:00  | 1/1/2008 16:22:00 |
| 2        | Labeler    | 4       | Side Cover Open | 1       | Active    | Fault       | Red        | 1/1/2008 09:38:00  | 1/1/2008 16:29:00 |

## 3.5. KPI Trend Chart (Single)

The data table for the KPI Trend Chart (Single) contains a set of data rows to be trended. Each row contains a value to be plotted as a bar and another value to be plotted as a point in a line trend. Both values in the pair must be plotted to the same location on the X-Axis.

### 3.5.1. Required Columns

| Column Name | Data Type         | Description   |
|-------------|-------------------|---|
| DataGroup   | STRING / DATETIME | The X-Axis label of the bar/line value pair.  |
| DataBar     | INTEGER / FLOAT   | The data value of the bar.  |
| DataLine    | INTEGER / FLOAT   | The data value of the line point.   |
| DataColor   | STRING            | The color of the bar (color name, web color value or integer RGB color value). A value of NULL causes the chart to use the color selected in the Web Part settings. |

### 3.5.2. Optional Columns

| Column Name         | Data Type | Description  |
|---------------------|-----------|--|
| DataAnnotationCount | INTEGER   | The number of annotations/notes for a bar. If the Web Part is configured to show annotations, then any bars with |



|                     |                 |  |
|---------------------|-----------------|--|
|                     |                 | a non-zero value for DataAnnotationCount will display a flag on chart. If this column is not specified, it is assumed 0.                               |
| DataUpperLimit      | INTEGER / FLOAT | The value used to plot the upper limit/target line on the chart. The limit lines are only displayed if the Show Limits Web Part setting is selected.   |
| DataLowerLimit      | INTEGER / FLOAT | The value used to plot the lower limit/target line on the chart. The limit lines are only displayed if the Show Limits Web Part setting is selected.   |
| DataUpperLimitLabel | STRING          | The legend label text for the optional Upper Limit line. If this field is not present the label is derived from a resource file entry.                 |
| DataUpperLimitColor | STRING          | The color (color name, web color value, or integer RGB color value) of the optional Upper Limit line. If this field is not present the color is Green. |
| DataLowerLimitLabel | STRING          | The legend label text for the optional Lower Limit line. If this field is not present the label is derived from a resource file entry.                 |
| DataLowerLimitColor | STRING          | The color (color name, web color value, or integer RGB color value) of the optional Lower Limit line. If this field is not present the color is Red.   |
| DataExtraLineValue  | INTEGER/FLOAT   | A data value for an extra trend line that can be added to the chart.   |
| DataExtraLineLabel  | STRING          | The legend label text for an extra trend line that can be added to the chart.  |
| DataExtraLineColor  | STRING          | The color (color name, web color value, or integer RGB color value) of the extra trend line that can be added to the chart.                            |

### 3.5.3. Sample Data

| DataGroup         | DataBar | DataLine | DataColor | DataAnnotationCount | DataUpperLimit | DataLowerLimit |
|-------------------|---------|----------|-----------|---------------------|----------------|----------------|
| 9/1/2008 12:00 AM | .75     | .75      | Red       | 0                   | .85            | .4             |
| 9/1/2008 1:00 AM  | .82     | .785     | Blue      | 2                   | .85            | .4             |
| 9/1/2008 2:00 AM  | .45     | .673     | #DBDBF2   | 1                   | .85            | .4             |

### 3.6. KPI Trend Chart (Side by Side) / (Stacked Bar)

The data table for the KPI Trend Chart (Side by Side) or (Stacked Bar) contains a set of data rows to be trended. Each row contains several values to be plotted as a bar and another value to be plotted as a point in a line trend.

Each row in this data table can correspond with a variable number of bars on the chart. Each bar will have a set of fields in the row describing it (DataBarID, DataBarValue, DataBarLabel, and DataBarColor). The field names for each set will be suffixed by a two digit numeric id starting at 01. So a data table with groups of 3 bars would have the following fields (in addition to the other fields described in the tables below).

DataBarID01

DataBarValue01  
 DataBarLabel01  
 DataBarColor01  
 DataBarID02  
 DataBarValue02  
 DataBarLabel02  
 DataBarColor02  
 DataBarID03  
 DataBarValue03  
 DataBarLabel03  
 DataBarColor03

All bar values in the same row are plotted as a group of bars to one label on the X-Axis. The line value is an aggregation of the group.

### 3.6.1. Required Columns

| Column Name    | Data Type         | Description   |
|----------------|-------------------|---|
| DataGroup      | STRING / DATETIME | The X-Axis label of the bar values and line value.  |
| DataBarValueXX | INTEGER / FLOAT   | The data value that corresponds with the bar indicated by the field name. XX should be the two digit number of the bar starting at 01.  |
| DataBarLabelXX | STRING            | The bar label that corresponds with the bar indicated by the field name. XX should be the two digit number of the bar starting at 01.   |
| DataBarColorXX | STRING            | The color (color name, web color value, or integer RGB color value) that corresponds with the bar indicated by the field name. XX should be the two digit number of the bar starting at 01. |
| DataLineValue  | INTEGER / FLOAT   | The data value of the line point.   |

### 3.6.2. Optional Columns

| Column Name        | Data Type     | Description  |
|--------------------|---------------|--|
| DataGroupID        | INTEGER       | The numeric ID that corresponds with the DataGroup filed value. This would primarily be used for linking out to drill downs.                         |
| DataBarIDXX        | INTEGER       | The ID that corresponds with the bar indicated by the field name. XX should be the two digit number of the bar starting at 01.                       |
| DataExtraLineValue | INTEGER/FLOAT | A data value for an extra trend line that can be added to the chart.   |
| DataExtraLineLabel | STRING        | The legend label text for an extra trend line that can be added to the chart.  |
| DataExtraLineColor | STRING        | The color (color name, web color value, or integer RGB color value) of the extra trend line that can be added to the chart.                          |
| DataUpperLimit     | INTEGER/FLOAT | The value used to plot the upper limit/target line on the chart. The limit lines are only displayed if the Show Limits Web Part setting is selected. |

|                     |               |   |
|---------------------|---------------|---|
| DataLowerLimit      | INTEGER/FLOAT | The value used to plot the lower limit/target line on the chart. The limit lines are only displayed if the Show Limits Web Part setting is selected.  |
| DataUpperLimitLabel | STRING        | The legend label text for the optional Upper Limit line. If this field is not present the label is derived from a resource file entry.  |
| DataUpperLimitColor | STRING        | The color (color name, web color value, or integer RGB color value) of the optional Upper Limit line. If this field is not present the color is Green.  |
| DataLowerLimitLabel | STRING        | The legend label text for the optional Lower Limit line. If this field is not present the label is derived from a resource file entry.  |
| DataLowerLimitColor | STRING        | The color (color name, web color value, or integer RGB color value) of the optional Lower Limit line. If this field is not present the color is Red.  |
| <CustomField>XX     | ANY           | Any field name in the table that ends in a two digit number can be referenced in the labels or tooltips of the chart using an expression like {data CustomFieldName}. The bar number the expression is linked to at runtime will determine which field is used. |

### 3.6.3. Sample Data

The sample data below is for a chart with two bars per group.

| Data Group        | Data BarID0 1 | Data BarValue0 1 | Data BarLabel0 1 | Data BarColor0 1 | Data BarID0 2 | Data BarValue0 2 | Data BarLabel0 2 | Data BarColor0 2 | Data LineValue |
|-------------------|---------------|------------------|------------------|------------------|---------------|------------------|------------------|------------------|----------------|
| 9/1/2008 12:00 AM | 1             | 78               | Calc 1           | Red              | 2             | 83               | Calc 2           | Blue             | 80             |
| 9/2/2008 12:00 AM | 1             | 60               | Calc 1           | Red              | 2             | 70               | Calc 2           | Blue             | 65             |
| 9/3/2008 12:00 AM | 1             | 85               | Calc 1           | Red              | 2             | 95               | Calc 2           | Blue             | 90             |

## 3.7. KPI Line / Area / Stacked Line / Stacked Area Chart

### 3.7.1. Required Columns

| Column Name  | Data Type         | Description   |
|--------------|-------------------|---|
| DataLabel    | STRING / DATETIME | The X-Axis label of the line value pair. This value remains the same within all the rows returned.  |
| DataSource01 | STRING            | The name of the line.   |
| DataValue01  | INTEGER / FLOAT   | The data value of the line point.   |
| DataColor01  | STRING            | The color of the line (color name, web color value, or integer RGB color value). A value of NULL causes the chart to use the color selected in the Web Part settings. |

### 3.7.2. Optional Columns

| Column Name | Data Type | Description |
|-------------|-----------|-------------|
|-------------|-----------|-------------|

|              |                 |   |
|--------------|-----------------|---|
| DataSource01 | STRING          | The name of the data points being plotted.  |
| DataSource02 | INTEGER / FLOAT | The data value of the line point.   |
| DataSource03 | STRING          | The color of the line (color name, web color value, or integer RGB color value). A value of NULL causes the chart to use the color selected in the Web Part settings. |
| DataSource04 | STRING          | The name of the data points being plotted.  |
| DataSource05 | INTEGER / FLOAT | The data value of the line point.   |
| DataSource06 | STRING          | The color of the line (color name, web color value, or integer RGB color value). A value of NULL causes the chart to use the color selected in the Web Part settings. |

### 3.7.3. Sample Data

| DataLabel         | DataSource01 | DataSource02 | DataSource03 | DataSource04 | DataSource05 | DataSource06 |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 9/1/2008 12:00 AM | Sample 01    | .75          | Red          | Sample 04    | .85          | Blue         |
| 9/1/2008 1:00 AM  | Sample 02    | .785         | Red          | Sample 05    | .85          | Blue         |
| 9/1/2008 2:00 AM  | Sample 03    | .673         | Red          | Sample 06    | .85          | NULL         |

## 3.8. KPI Radar Chart

### 3.8.1. Required Columns

| Column Name | Data Type         | Description   |
|-------------|-------------------|---|
| SeriesName  | STRING / DATETIME | The name of data series.  |
| SeriesColor | STRING            | The color of the line (color name, web color value, or integer RGB color value). A value of NULL causes the chart to use the color selected in the Web Part settings. |
| A           | INTEGER / FLOAT   | The value to plot.  |
| B           | INTEGER / FLOAT   | The value to plot.  |
| C           | INTEGER / FLOAT   | The value to plot.  |

### 3.8.2. Optional Columns

| Column Name | Data Type       | Description        |
|-------------|-----------------|--------------------|
| D           | INTEGER / FLOAT | The value to plot. |
| E           | INTEGER / FLOAT | The value to plot. |

### 3.8.3. Sample Data

| SeriesName | SeriesColor | A | B | C   |
|------------|-------------|---|---|-----|
| Sample 01  | Red         | 1 | 2 | 1.5 |
| Sample 02  | Green       | 2 | 1 | 2   |
| Sample 03  | Red         | 2 | 1 | 1   |

## 3.9. KPI Scatter Chart

### 3.9.1. Required Columns

| Column Name | Data Type       | Description                               |
|-------------|-----------------|---|
| DataX       | INTEGER / FLOAT | The X value of the scatter point to plot. |

|                |                 |  |
|----------------|-----------------|--|
| DataY          | INTEGER / FLOAT | The Y value of the scatter point to plot.  |
| DataLineStartX | INTEGER / FLOAT | The X value of the starting point of the line. This value remains the same within all the rows returned. |
| DataLineStartY | INTEGER / FLOAT | The Y value of the starting point of the line. This value remains the same within all the rows returned. |
| DataLineEndX   | INTEGER / FLOAT | The X value of the ending point of the line. This value remains the same within all the rows returned.   |
| DataLineEndY   | INTEGER / FLOAT | The Y value of the ending point of the line. This value remains the same within all the rows returned.   |
| DataGroup      | STRING          | The name of the data to which the X & Y coordinates corresponds.   |

### 3.9.2. Optional Columns

There are no optional columns for this Web Part.

### 3.9.3. Sample Data

| DataGroup | DataX | DataY | DataLineStartX | DataLineStartY | DataLineEndX | DataLineEndY |
|-----------|-------|-------|----------------|----------------|--------------|--------------|
| Sample 01 | 5     | 25    | 0              | 100            | 50           | 100          |
| Sample 02 | 10    | 27    | 0              | 100            | 50           | 100          |
| Sample 03 | 20    | 39    | 0              | 100            | 50           | 100          |

## 3.10. KPI Radial / Linear (Vertical) / Linear (Horizontal) Gauge

The data table expected for the KPI Gauge should contain only a single row. If more than one row is returned, the additional rows (beyond the first) are ignored.

### 3.10.1. Required Columns

| Column Name | Data Type       | Description                            |
|-------------|-----------------|--|
| Value       | INTEGER / FLOAT | This is the value of the gauge needle. |

### 3.10.2. Optional Columns

| Column Name | Data Type       | Description  |
|-------------|-----------------|--|
| MinValue    | INTEGER / FLOAT | When specified, the Web Part settings that determine the <b>Range 1 Max</b> and <b>Range 2 Min</b> Web Part parameter values are overridden with this value. |
| MaxValue    | INTEGER / FLOAT | When specified, the Web Part settings that determine the <b>Range 2 Max</b> and <b>Range 3 Min</b> Web Part parameter values are overridden with this value. |

### 3.10.3. Sample Data

| Value | MinValue | MaxValue |
|-------|----------|----------|
| 75    | 20       | 80       |

## 3.11. KPI Production Progress Gauge

The data table expected for the KPI Production Progress Gauge should contain only a single row. If more than one row is returned, the additional rows (beyond the first) are ignored.

### 3.11.1. Required Columns

| Column Name      | Data Type | Description  |
|------------------|-----------|--|
| BarValue         | INTEGER   | The production progress value to assign to the Bar.                                |
| BarLabel         | STRING    | The name associated with the Bar.  |
| BarDateTime      | DATETIME  | The date/time value to assign to the Bar (for label and tooltip purposes).         |
| MarkerValue01    | INTEGER   | The value to assign to a marker on the gauge.                                      |
| MarkerLabel01    | STRING    | The label to assign to a marker on the gauge.                                      |
| MarkerDateTime01 | DATETIME  | The date/time to assign to a marker on the gauge (for label and tooltip purposes). |
| ScaleMinimum     | INTEGER   | The starting value for the progress scale.   |
| ScaleMaximum     | INTEGER   | The ending value for the progress scale.   |
| ScaleMajorTick   | INTEGER   | The interval value for major tick marks.   |
| ScaleMinorTick   | INTEGER   | The interval value for minor tick marks.   |

### 3.11.2. Optional Columns

| Column Name      | Data Type | Description  |
|------------------|-----------|--|
| MarkerValue02    | INTEGER   | The value to assign to a marker on the gauge.                                      |
| MarkerLabel02    | STRING    | The label to assign to a marker on the gauge.                                      |
| MarkerDateTime02 | DATETIME  | The date/time to assign to a marker on the gauge (for label and tooltip purposes). |
| MarkerValue03    | INTEGER   | The value to assign to a marker on the gauge.                                      |
| MarkerLabel03    | STRING    | The label to assign to a marker on the gauge.                                      |
| MarkerDateTime03 | DATETIME  | The date/time to assign to a marker on the gauge (for label and tooltip purposes). |

### 3.11.3. Sample Data

| BarValue | BarLabel     | BarDateTime | MarkerValue01 | MarkerLabel01      | MarkerDateTime01 | ScaleMinimum | ScaleMaximum | ScaleMajorTick | ScaleMinorTick |
|----------|--------------|-------------|---------------|--------------------|------------------|--------------|--------------|----------------|----------------|
| 10       | Sample Label | 06/24/2010  | 50            | Half way milestone | 07/31/2010       | 0            | 100          | 25             | 10             |

## 3.12. Tag Comparison Chart

The data table for the Tag Comparison Chart contains multiple sets of Tag value data in a single table. Each set of Tag value data should be UNIONed in the order that the Tags are to appear on the chart. Each row of the table represents the value of the Tag line at a specific point on the X-Axis. The first data set is plotted on the left Y-Axis and the second data set is plotted on the right Y-Axis. All data sets greater than 2 are scaled and plotted against the left Y-Axis.

### 3.12.1. Required Columns

| Column Name  | Data Type       | Description   |
|--------------|-----------------|---|
| DataLabel    | STRING          | This is typically the Tag's name and is displayed in the chart legend. The value should be the same for all rows corresponding to a single Tag (or some other data item). |
| DataValue    | INTEGER / FLOAT | This is the Y-Axis value for the point on the chart. This is typically the Tag's value.   |
| DataDateTime | DATETIME        | This is the X-Axis value for the point on the chart. This is the  |



|                |                 |  |
|----------------|-----------------|--|
|                |                 | date and time for the corresponding value.   |
| DataUpperScale | INTEGER / FLOAT | Used for scaling. Any data sets past the second are scaled using this value against the left Y-Axis. This value is ignored for data sets 1 and 2 but is required for data sets 3 and higher. |
| DataLowerScale | INTEGER / FLOAT | Used for scaling. Any data sets past the second are scaled using this value against the left Y-Axis. This value is ignored for data sets 1 and 2 but is required for data sets 3 and higher. |

### 3.12.2. Optional Columns

| Column Name    | Data Type       | Description  |
|----------------|-----------------|--|
| DataStep       | BOOLEAN         | When this column is set to 1, the transition between values is plotted as a step. When the value is 0, the transition is a direct line between points. The step plot mode is typically used for discrete values or values that do not have many values.                            |
| DataUpperLimit | INTEGER / FLOAT | The value used to plot the upper limit/target line on the chart. The limit lines are only displayed if the Show Limits Web Part setting is selected. The limit values for the chart are read from only the rows of the first data set in the table.                                |
| DataLowerLimit | INTEGER / FLOAT | The value used to plot the lower limit/target line on the chart. The limit lines are only displayed if the Show Limits Web Part setting is selected. The limit values for the chart are read from only the rows of the first data set in the table.                                |
| DataAllowScale | BOOLEAN         | When this column is set to 1, the value of the Tag is scaled using the DataUpperScale and DataLowerScale values (this is the default if the column is not present). When this column is set to 0, the value of the Tag is not scaled and plotted directly against the left Y axis. |

### 3.12.3. Sample Data

| DataLabel | DataValue | DataDateTime     | DataUpperScale | DataLowerScale | DataStep | DataUpperLimit | DataLowerLimit |
|-----------|-----------|------------------|----------------|----------------|----------|----------------|----------------|
| Tag 1     | 78.2      | 9/1/2008 1:00 AM | 100            | 0              | 0        | 90             | 40             |
| Tag 1     | 78.1      | 9/1/2008 2:30 AM | 100            | 0              | 0        | 90             | 40             |
| Tag 2     | 0         | 9/1/2008 1:00 AM | 1              | 0              | 1        |                |                |
| Tag 2     | 1         | 9/1/2008 3:30 AM | 1              | 0              | 1        |                |                |

## 3.13. KPI vs. Tag Comparison Chart

The data table for the KPI vs. Tag Comparison Chart is made up of two sets of rows. The first is a list of points for the KPI (values plotted on the left Y-Axis) and the second is a list of points for the Tag values (values plotted on the right Y-Axis). Both sets are plotted together on the X-Axis.

### 3.13.1. Required Columns

| Column Name   | Data Type       | Description   |
|---------------|-----------------|---|
| DataRowSeries | STRING          | This string specifies if the value in the data row corresponds to the KPI ("bar") or the Tag ("tag"). |
| DataDateTime  | DATETIME        | The date and time of the value point for the data row,  |
| DataValue     | INTEGER / FLOAT | The KPI or Tag value for the data row.  |

### 3.13.2. Optional Columns

There are no optional columns for this Web Part.

### 3.13.3. Sample Data

| DataSeries | DataDateTime       | DataValue |
|------------|--------------------|-----------|
| Bar        | 10/1/2008 12:00 AM | .45       |
| Bar        | 10/1/2008 1:00 AM  | .60       |
| Bar        | 10/1/2008 2:00 AM  | .53       |
| Line       | 10/1/2008 12:04 AM | 1023      |
| Line       | 10/1/2008 12:45 AM | 1078      |
| Line       | 10/1/2008 2:12 AM  | 1100      |

## 3.14. SPC XBar (R and S) Chart

The data table for the SPC XBar Chart contains a row for each individual sample to be grouped and plotted. The chart aggregates sample values with matching SampleSubGroupIDs into single calculated points.

### 3.14.1. Required Columns

| Column Name      | Data Type       | Description  |
|------------------|-----------------|--|
| SampleSubGroupID | INTEGER         | The Sub Group ID for the sample. Samples with the same Sub Group ID are grouped by the chart to create the SPC calculations.                             |
| SampleDateTime   | DATETIME        | The date and time that corresponds to the value for the sample row. All sample rows from the same Sub Group should contain the same date and time value. |
| SampleValue      | INTEGER / FLOAT | This is the recorded value for the sample represented by the data row.   |
| ProcessMean      | FLOAT           | This is the configured process mean for the sample.  |
| ProcessLcl       | FLOAT           | This is the configured process lower control limit for the sample.   |
| ProcessUcl       | FLOAT           | This is the configured process upper control limit for the sample.   |
| ProcessLsl       | FLOAT           | This is the configured process lower specification limit for the sample.   |
| ProcessUsl       | FLOAT           | This is the configured process lower specification limit for the sample.   |

### 3.14.2. Optional Columns

There are no optional columns for this Web Part.

### 3.14.3. Sample Data

| Sample SubGroupID | Sample DateTime     | Sample Value | Process Mean | Process Lcl | Process Ucl | Process Lsl | Process Usl |
|-------------------|---------------------|--------------|--------------|-------------|-------------|-------------|-------------|
| 1                 | 1/5/2009 9:05:00 AM | 43.1         | 48           | 42.8        | 55.6        | 46.5        | 49.5        |
| 1                 | 1/5/2009 9:05:00    | 40.7         | 48           | 42.8        | 55.6        | 46.5        | 49.5        |

|   |                            |      |    |      |      |      |      |
|---|----------------------------|------|----|------|------|------|------|
|   | AM                         |      |    |      |      |      |      |
| 1 | 1/5/2009<br>9:05:00<br>AM  | 39.8 | 48 | 42.8 | 55.6 | 46.5 | 49.5 |
| 2 | 1/5/2009<br>10:03:00<br>AM | 42.6 | 48 | 42.8 | 55.6 | 46.5 | 49.5 |
| 2 | 1/5/2009<br>10:03:00<br>AM | 38.4 | 48 | 42.8 | 55.6 | 46.5 | 49.5 |
| 2 | 1/5/2009<br>10:03:00<br>AM | 43.2 | 48 | 42.8 | 55.6 | 46.5 | 49.5 |

## About Parsec

---

Parsec Automation Corp. (Parsec) is the developer of TrakSYS™, the leading real-time performance management (RPM) and decision support software. Manufacturing companies worldwide rely on Parsec for flexible and configurable tools to quickly track, record, analyze, and report the events critical to productivity enhancement. Without production disruption TrakSYS™ helps manufacturers to significantly improve asset utilization and efficiency, increase capacity with no new capital equipment, reduce production costs, and improve profitability. With measureable ROI TrakSYS™ fuels Lean, Six Sigma, TPM, and Operational Excellence efforts. For more information about Parsec please visit the corporate web site at [www.parsec-corp.com](http://www.parsec-corp.com).

© 2010 Parsec Automation Corp. All rights reserved. TrakSYS™, LOGICTrak™, MODELTrak™, INTELLITrak™, GLOBALTrak™, EVENTTrak™, ALERTTrak™, SENSORTrak™, LEANTrak™, PRODUCTTrak™, WEBTrak™, HISTORITrak™, AUDITTrak™, IMPROVETrak™, SPCTrak™, BATCHTrak™ and any other Parsec products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of Parsec Automation Corp. All other products and service names mentioned are the trademarks of their respective companies. Data contained in this document serve informational purposes only.



## **Terms and Conditions of Use**

---

Upon receipt of this electronic publication, it is understood that the user will and must fully comply with the terms and conditions of use as stipulated herein.

This publication is protected by United States copyright laws and international treaties. Unless otherwise noted, the entire contents of this publication are copyrighted by Parsec Automation Corp., and may not be reproduced, stored in another retrieval system, posted on any Website, or transmitted in any form or by any means without prior written consent of Parsec Automation Corp. Unauthorized reproduction or distribution of this publication, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent necessary to protect the rights of Parsec Automation Corp.

The trademarks and registered trademarks of the corporations mentioned in this publication are the property of their respective holders. All information contained in this report is current as of publication date. Information contained in this publication has been obtained from sources Parsec Automation Corp. believes to be reliable, but is not warranted by the publisher. Opinions in this publication reflect judgment at the time of publication and are subject to change without notice.

### **THIS DOCUMENT IS FOR ELECTRONIC DELIVERY ONLY**

**The following are prohibited:**

- **Transmittal via the Internet**
- **Reproduction for Sale**
- **Posting on any Website**