User Manual for the graphomate bubbles 2.0
for SAP Lumira 2.0 Discovery
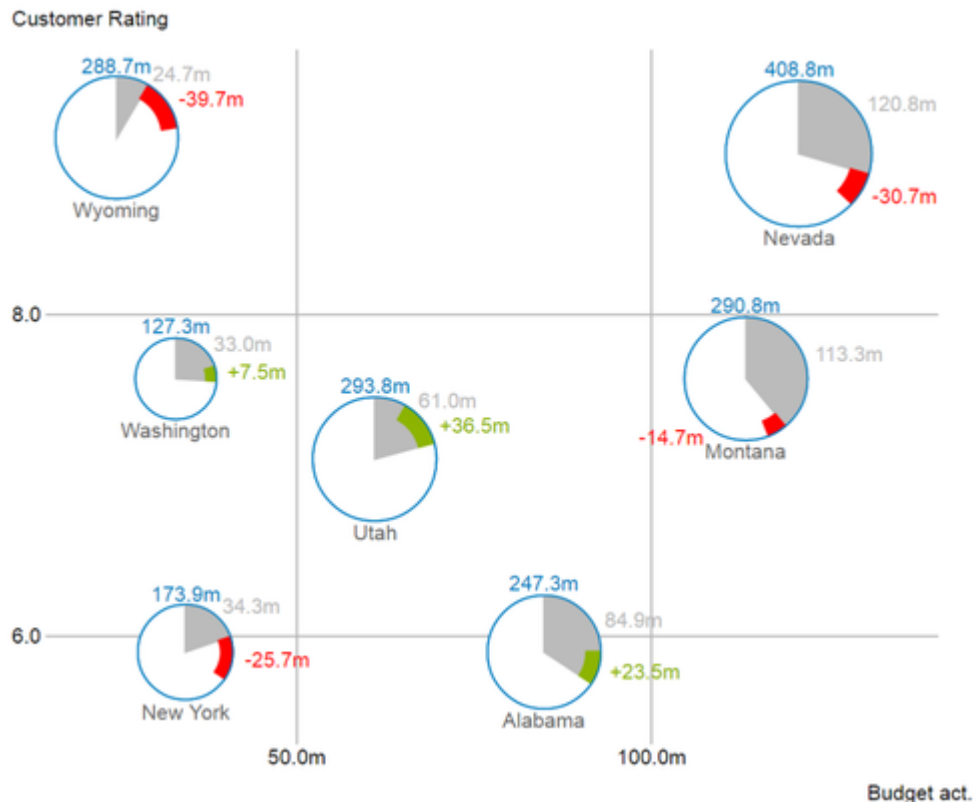
Version 2.0 – as of October2017

https://www.graphomate.com

graphomate.

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Introduction

Visualizations are gaining more and more importance in regards to quick and safe communication. Information presented in a simple, yet meaningful way supports deciders to find patterns and deviations. Good information design can give you a quick and efficient overview of your business. The International Business Communication Standards (IBCS) are working as a ruleset of how meaningful visualizations are used most effectively for business reporting and dash boarding.

In addition to our *graphomate charts* and the *graphomate tables* we offer the *graphomate bubbles* as another component for SAP Designer (furthermore „Designer"), which aligns itself with the IBCS concepts. Designer is the successor of the Web Application Designer (WAD) from the SAP BEx-Suite and tightly coupled with SAP BW. It uses HTML5 web technologies to produce BI Applications in the browser and as such does not restrict you to certain end devices, including mobile devices.

With our Designer extension *graphomate bubbles* we present a highly configurable visualization solution for this platform. The *graphomate bubbles* extension is suitable to map a portfolio of values for a small number of obects on two value axes. Up to 5 KPIs can be visualized for approximately two dozen bubbles. A two-dimensional utilization as scatterplot supports up to 100 *bubble* elements. In addition it can be used as a „*bubble chart*" to find patterns and correlations in up to 5 dimensions of highly aggregated data. Of course the *graphomate bubbles* also offer many additional features you might be familiar with from our other components. This includes a collision logic for overlapping labels, a number format configuration and optical customization.

The *graphomate bubbles for Discovery* extension needs **SAP Lumira Discovery 2.0**.

Installation

Local installation of the extension to Lumira Discovery

You have installed Lumira Discovery 2.0 SP02+ on your computer.

1. Save the zipfile *graphomate_bubbles_x.x.x.x_LmDi2.x.zip* to a folder of your choice.
2. Start Lumira Discovery and select menuextensions (or use the shortcut strg+J)
3. Click on the "+" icon in the upper right corner and select the zip-file
4. Restart Lumira Discovery

If you installed a new version of our extension and the new features are not available or if you installed it for the first time and can't select it from the chart picker, the reason could be Lumira Discovery's extension cache. To make sure an installed extension is available after restarting Lumira Discovery, you can deactivate the extension cache by performing the following steps:

- Navigate to the installation directory of Lumira Discovery and open the settings file. Its default path is: *C:\Program Files\SAP BusinessObjects Lumira\Lumira Discovery\Desktop\SBOPLumiraDiscovery.ini*
- Change the value of line *-Dhilo.cef.cache.enabled* from *true* to *false*
- Save the file (administrator rights needed)

Removing the extension from Lumira Discovery

1. Start Lumira Discovery and select menuextensions (or use the shortcut strg+J)
2. Hover above the list entry "graphomate bubbles" and select the trash icon on the right
3. Restart Lumira Discovery

In case of deinstallation issues you can delete the extension files manually. Per default they are located in the following directory: *C:\Users\<User>\.sapvi_2\extensions*

In the extensions directory you can delete the following files and directories to completely uninstall the extension:

- The file *\eclipse\plugins\graphomate.viz.ext.bubbles_x.x.x.x.jar*
- The whole directory *\features\graphomate*

Quick Start

You have imported a data source into your project and now want to visualize your data using *graphomate bubbles for Lumira Discovery*.

1. Select *"gm bubbles"* from the chart picker's extension tab.

2. Select the newly created component in your design area and click on "Maximize".
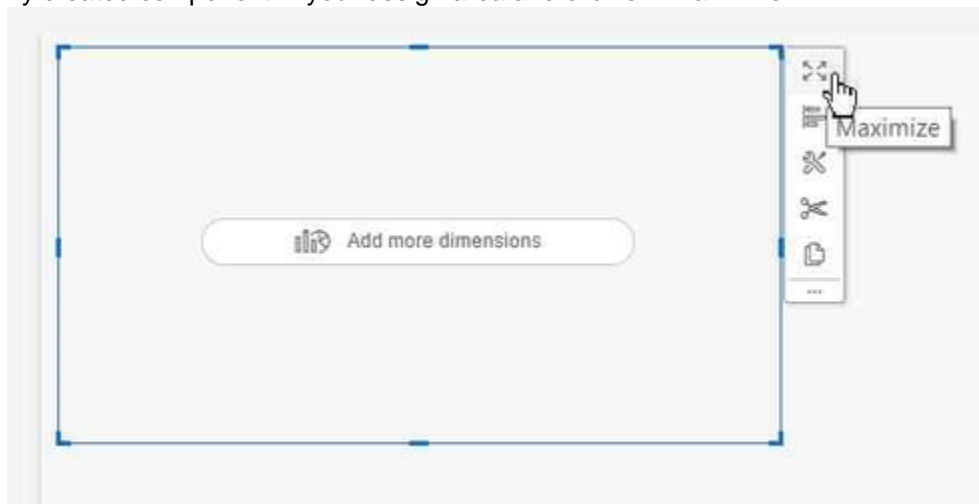
3. Now you can drag&drop at least one dimension to the Dimensions feed and at least one measure to the Base Measures feed.
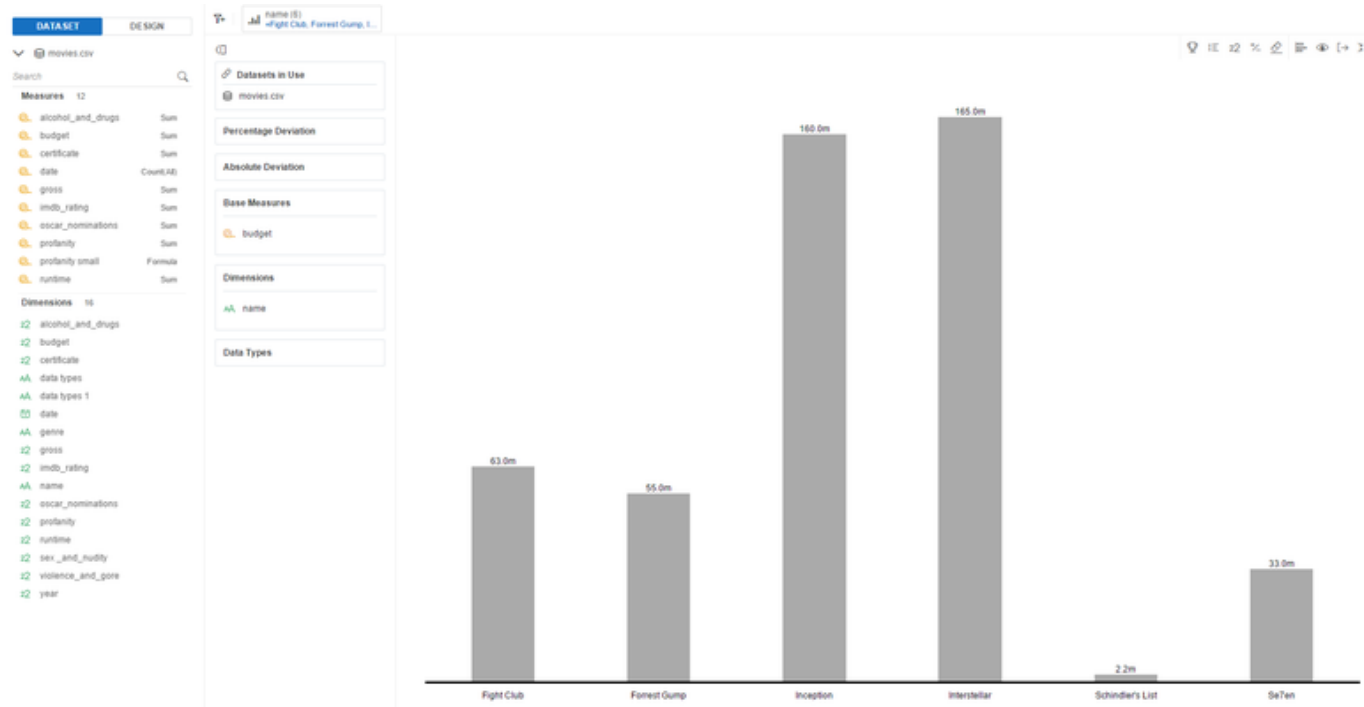
3. You can drag two comparable measures to a deviation feed to create a deviation chart. You can also drag additional measures to the Base Measure feed.
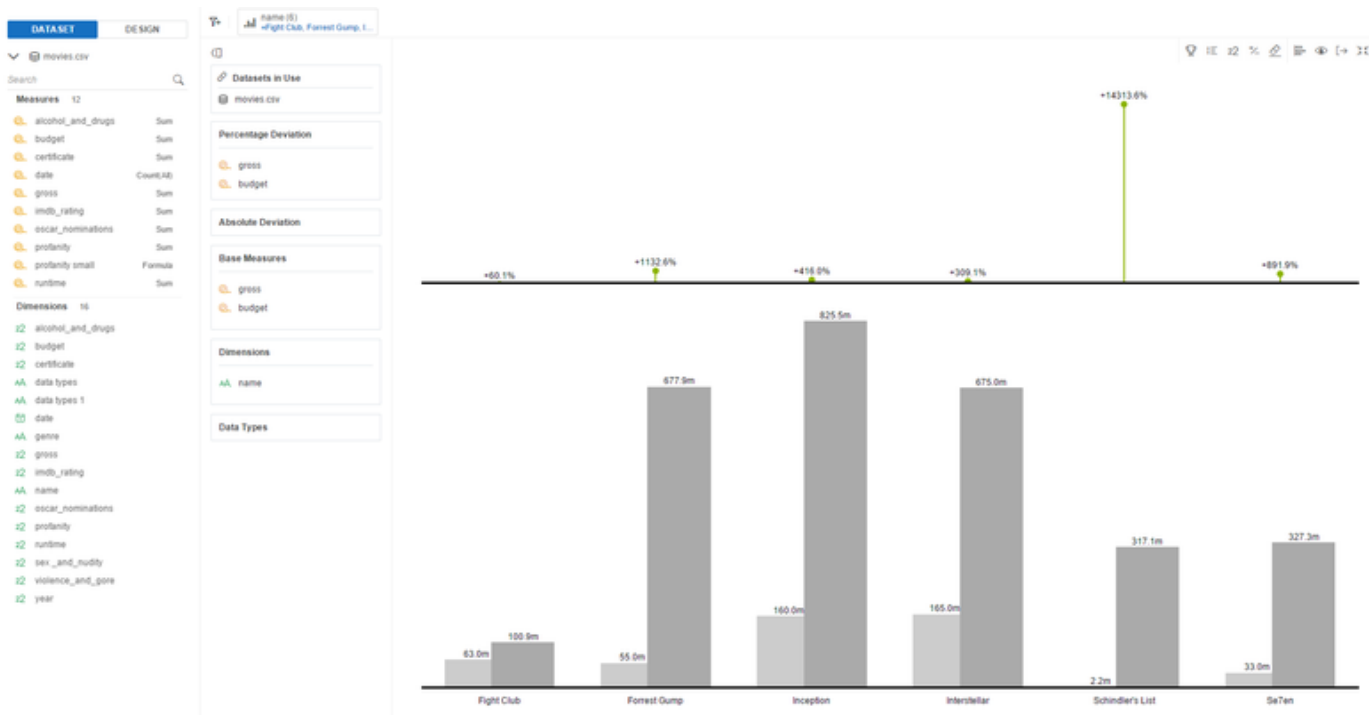
4. By switching to the Design tab you are able to change the chart's properties like changing the orientation from temporal to structural. Select the "tool" icon on the design tab to access the property editor. Then use the drop down menu to navigate to different property categories.

Overview

Data Dimensions of the graphomate bubbles

With the *graphomate bubbles* you will be able to visualize up to five data dimensions. These data series are the following.

Dimension	Description
X Axis	A series of values which will represent the coordinates on the x axis of the data points. The x axis represents the main dimension and serves as source for the extraction of diagram labels.
Y Axis	A series of values which will represent the coordinates on the y axis of the data points. The y axis represents the subordinate dimension which contains a matching value for each element of the x axis.
Circle	A series of values representing the area of the *Bubbles*. Setting data of this series is optional, but it requires the previously described series to be set. If no data is set here the chart will be drawn as a *Scatterplot*.
Arc	A series of values representing the area of the grey segment of each bubble (see picture below). This optional segment show the share of the corresponding value of the *Circle* series. Hence it is obligatory that the *Circle* series is set, if you want to use the *Arc* series.
Deviation	A series of values, also optional, which represents yet another segment of the whole circle. This segment is intended for a previous year value. This value's deviation from the *Arc* value is displayed by a red or green bar (see picture below) for a positive or negative deviation respectively. This series can only be used if the previously described series are set.

Visual objects of the graphomate bubbles
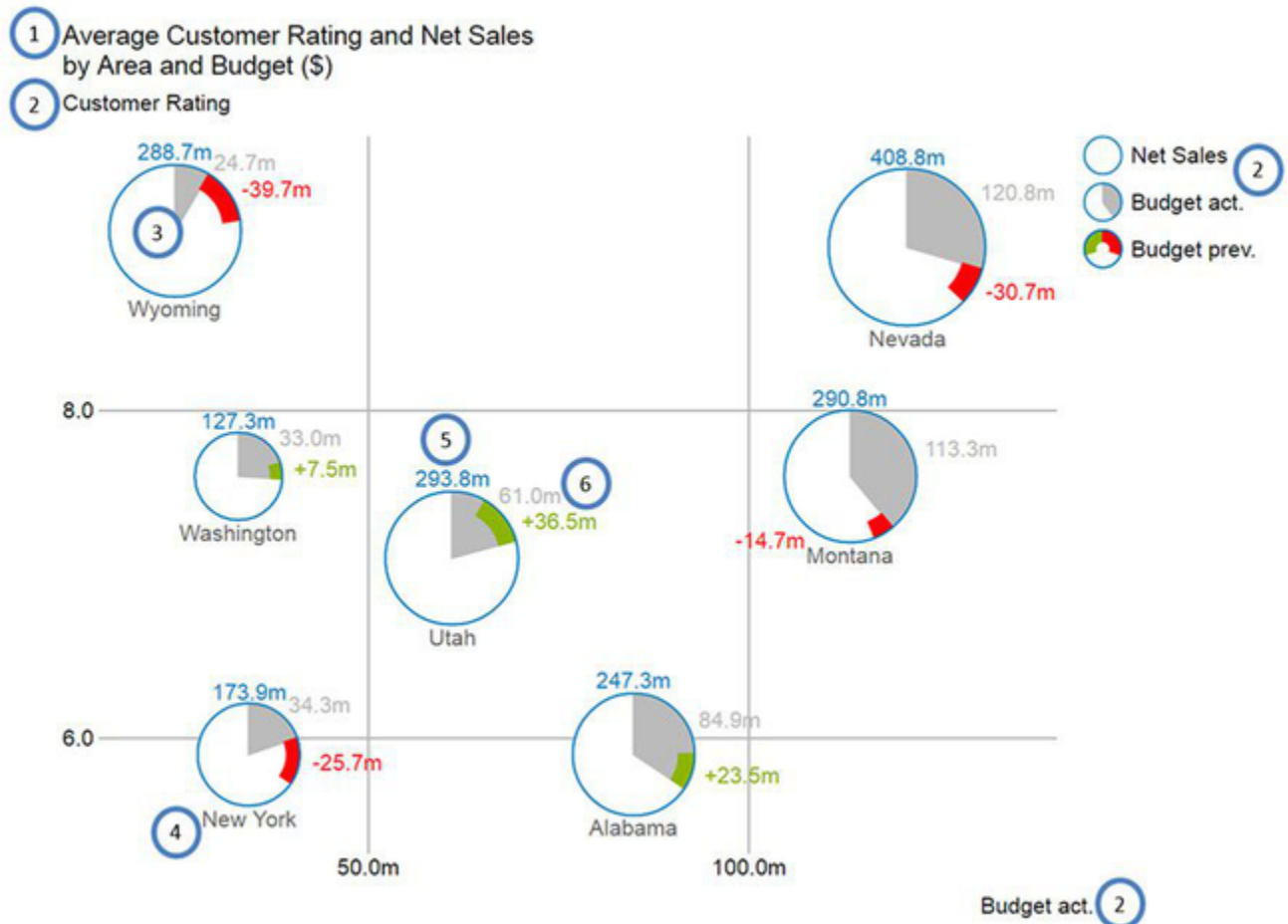
1. *Title* for the diagram (may contain more than one row).
2. *Series Labels*, one for each data series. They are automatically generated from the data selection. The *Serie s Labels* of the data series *X Axis* und *Y Axis* (see above, *Budget act.* And *Customer Rating*) are displayed on the respective axis. They are called *Axis Labels*. The *Series Labels* for the data series *Circle, Arc* and *Deviati on* (see above, *Net Sales, Budget act.* and *Budget prev.*) are displayed as a legend on the right.
3. *Bubbles*: The elements of this diagram are called *Bubbles* and represent a set of information according to the selected data series.
4. The *Category Label* is the label for a *Bubble*, which is generated from the data selection of the x axis series.
5. The *Circle Label* of a *Bubble* specify the value of its *Circle Dimension*, which is the data series that defines this *Bubbles'* area.
6. The *Value Labels* of a *Bubble* specify the values of *Arc* dimension (see above, grey area) and the deviation from the dimension *Deviation* (see above, red and green bars).

Properties

The properties of the *graphomate bubbles for Discovery* can be edited within the "Properties Sheet". You can access it on the side pane's Design Tab. It provides a number of property categories which you can select from by using the topmost dropdown menu.

General
Transparent Background: Deactivates the background color.   *Title:* You can set a title for the Bubble diagram.   *Padding:* Sets the space in [px] surrounding the while diagram.   *Display Title:* If the checkbox is enabled the title will be displayed on the canvas.

Fonts	
Category Label Font Size: The *Category Label font size* in [px].	Fonts ∨
Legend Font Size: Sets the font size used by the legend in [px].	Category Label Fo... 12
Value Label Font Size: The *Value Label Font Size* in [px].	Legend Font Size 12
Title Font Size: The font size for the title in [px].	Value Label Font ... 12
Font Family: You can change the global font family*.*	Title Font Size 14
	Font Family Arial

Scaling

Minimal Radius: Restricts the radius of the Bubbles in [px], so that no bubbles with a radius lower than this value can exist.	Scaling
	Minimal Radius 5
Maximal Radius: Restricts the radius of the Bubbles in [px], so that no bubbles with a radius higher than this value can exist.	Maximal Radius 42
Draw Full Boxes: Activating the checkbox will result in a scaling of the axis that ensures equally sized boxes for the whole grid. If deactivated the scaling will be chosen to optimally use the given space. This may result in half sized boxes. To prevent misleading visualizations the Outer Grid Lines will be omitted.	✔ Draw Full Boxes
	☐ Use Fixed Begin of X Axis
	☐ Use Fixed End of X Axis
Use Fixed Begin of X Axis: If activated the manual defined value for the beginning of the scale of the x axis is used.	☐ Use Fixed Begin of Y Axis
Use Fixed End of X Axis: If activated the manual defined value for the end of the scale of the x axis is used.	☐ Use Fixed End of Y Axis
Use Fixed Begin of Y Axis: If activated the manual defined value for the beginning of the scale of the y axis is used.	Fixed Begin of X Axis 0
Use Fixed End of Y Axis: If activated the manual defined value for the end of the scale of the y axis is used.	Fixed End of X Axis 0
Fixed Begin of X Axis: The value for the beginning of the scale of the x axis.	Fixed Begin of Y Axis 0
Fixed End of X Axis: The value for the end of the scale of the x axis.	Fixed End of Y Axis 0
Fixed Begin of Y Axis: The value for the beginning of the scale of the y axis.	
Fixed End of Y Axis: The value for the end of the scale of the y axis.	

Colors

Circle Color: The color of the circle border.

Arc Color: The color of the arc.

Good Color: The color used for the positive deviations.

Bad Color: The color used for the negative deviations.

Category Label Color: The color of the category labels.

Negative Deviation is Good: Activating the checkbox will cause positive deviations to be considered bad, therefore applying Bad Color to these deviations (and vice versa).

Colored Circle: Activating results in the area of the circles being filled with Circle Color.

Colors   ⌄

Circle Color   ■

Arc Color   ■

Good Color   ■

Bad Color   ■

Category Label C…   ■

☐ Negative Deviation is Good

☐ Colored Circle

Labels

Display Value Labels: With this option you can activate or deactivate the Value Labels. Please note that the Value Labels have the lowest priority in regard to the collision logic, which means they are hidden first if they overlap with other Bubbles, Value Labels, Category Labels or Circle Labels.

Numeral JS String: Set the format for absolute values according to the numeral.js rules – see Number Formatting.

Locale: Locale can be changed here. If set to *AUTO* the locale of the settings is used.

Display Category Labels: This option will result in the Category Labels being displayed *(Always), (Never)* or according to the collision logic *(Auto).* The Auto mode will hide Category Labels when they are colliding. Category Labels have a high priority so they will still be displayed when they collide with Value Labels or Circle Labels. They are only hidden when they collide with other Category Labels or Bubbles.

Display Circle Values: This option will result in the Circle Labels being displayed *(Always), (Never)* or according to the collision logic *(Auto).* The Auto Mode will hide Circle Labels when they are colliding. Circle Labels have a higher priority than Value Labels, but a lower one than Category Labels or other Bubbles. Along these priorities the collision logic will hide or show labels.

Display Axis Labels: Controls whether or not the axis labels are displayed, which result from the X Axis and Y Axis data series.

> **Priority of label visibility (from high to low) on collision**
> - Category Labels
> - Circle Labels
> - Value Labels

Labels ⌄

☑ Display Value Labels

Numeral JS String   0.0a

Locale   en ⌄

Display Category ... auto ⌄

Display Circle Val... auto ⌄

☑ Display Axis Labels

Item Visibility

Display Legend: If it is deactivated, no Legend will be displayed. When activated the legend will only show if there is a selection for the Circle, Arc or Deviation series.

Display Outer Grid Lines: Outer Grid Lines can be activated using the checkboxes.

Display Inner Grid Lines: Inner Grid Lines can be activated using the checkboxes.

Interval size X Axis: Additional lines on the x axis in the grid defined by the size of the interval.

Interval size Y Axis: Additional lines on the y axis in the grid defined by the size of the interval.

Interval count X Axis: Additional lines on the x axis in the grid defined by the count of intervals.

Interval count Y Axis: Additional lines on the y axis in the grid defined by the count of intervals.

Item Visibility

☑ Display Legend

☐ Display Outer Grid Lines

☑ Display Inner Grid Lines

Interval size X Axis   0

Interval size Y Axis   0

Interval count X Axis   0

Interval count Y Axis   0

Known Issues

At the moment there are no Known Issues.

Number Formatting

Possible Input for The numeral.js Format String

Floating point		
Number	**Format String**	**Output**
10000	'0,0.0000'	10.000,0000
10000.23	'0,0'	10
-10000	'0,0.0'	-10.000,0
-0.23	'.00'	-,23
-0.23	'(.00)'	(,23)
0.23	'0.00000'	0,23000
0.23	'0.0[0000]'	0,23
1230974	'0.0a'	1,2m
1460	'0 a'	1 k
1	'0o'	1st
Currency		
Number	**Format String**	**Output**
1.000.234	'$0,0.00'	$1.000,23
1000.2	0,0[.]00 $'	1.000,20 $
1001	'$ 0,0[.]00'	$ 1.001
Percentage		
Number	**Format String**	**Output**
1	'0%'	100%
-0.43	'0 %'	-43%

Source