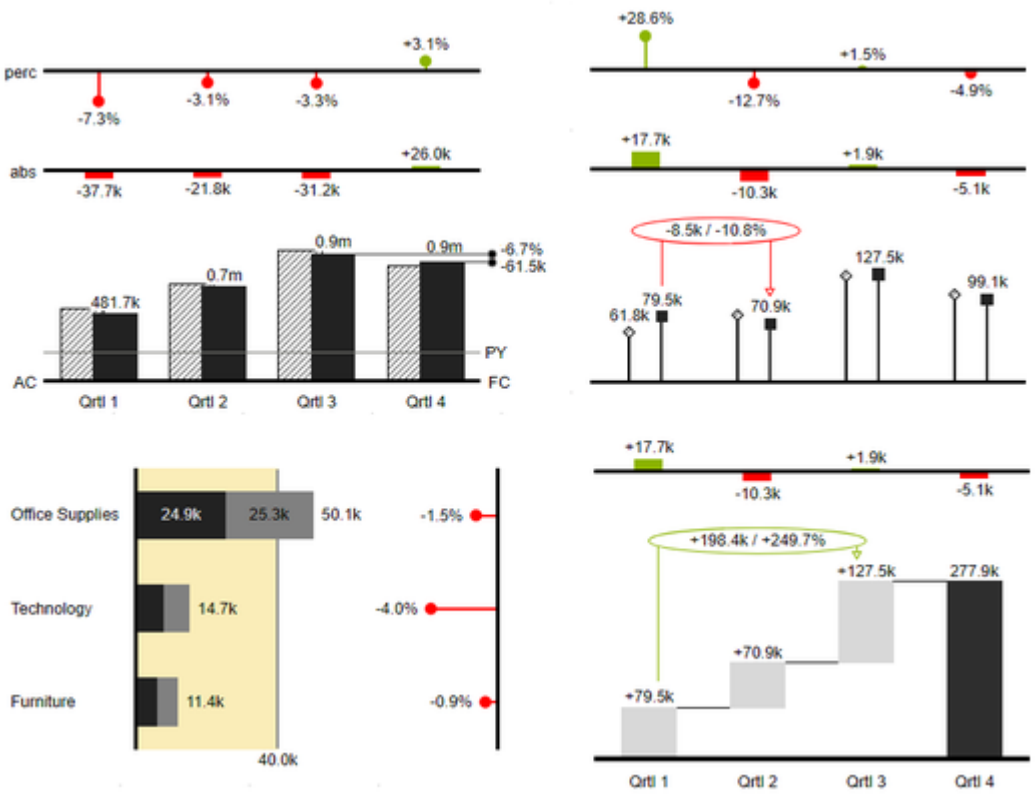
User Manual for the graphomate charts for SAP Analytics Cloud



Version 2021.4 – as of December 2021

https://www.graphomate.com

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Introduction

The topic of visualization is becoming more and more important for a fast and secure communication of information. Simple but meaningful representations of information support the decision maker better in capturing correlations, patterns or outliers than tables or decorative elements could - such as pie charts or speedometers. Good information design allows a quick and effective overview on their business.

The **graphomate charts** are our first product and through constant development it is still the most comprehensive. They are based on **six chart types** that can be aligned horizontally and vertically. So you can easily and exhaustively implement the recommendations of the International Business Communication Standards **(IBCS).**

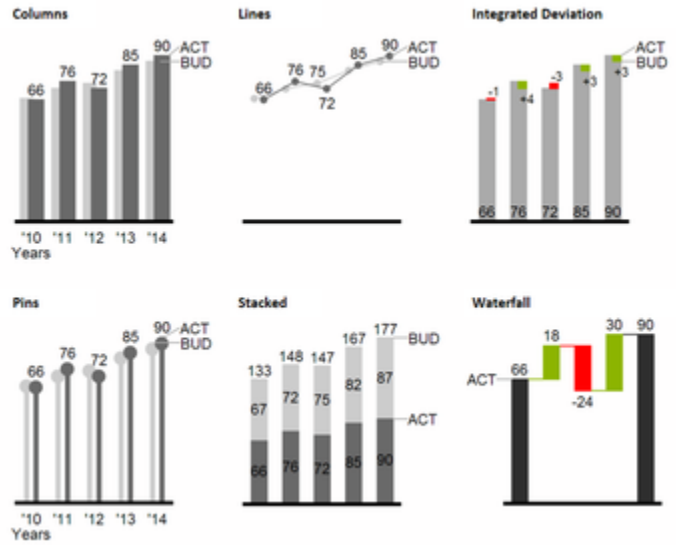
In addition to bar and column diagrams, you can use needle and stack diagrams, but also waterfall diagrams - e.g. for P&L or contribution margin calculations - to map a notation according to IBCS.

In the following we describe the properties of the graphomate charts and the possibility to configure them in our user interface. This user interface is almost identical in all BI front ends - Power BI, Tableau, SAP Analytics Cloud and Lumira Designer. Formatting settings of graphomate charts can be stored on the graphomate server and used in other environments.

Introductory Examples

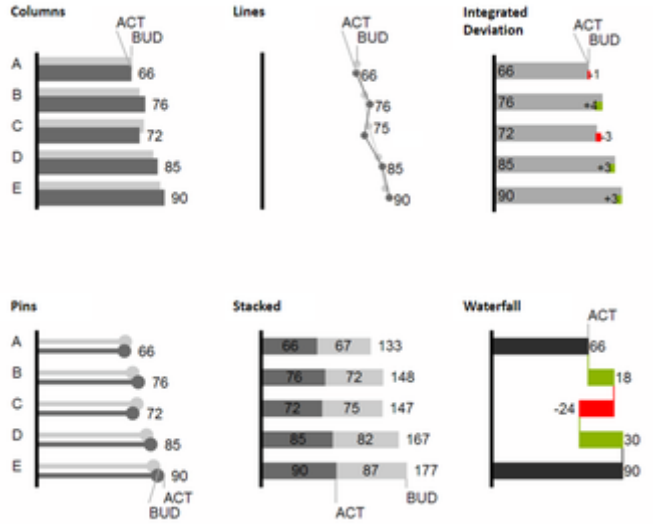
Chart Types

graphomate charts offer a wide range of chart types which can be extensively customized according to your reporting requirements. We distinguish between the following chart types:



We recommend these chart types for visualization of developments over time.

For the comparison of structures or hierarchies we recommend the use of charts with a vertical category axis:

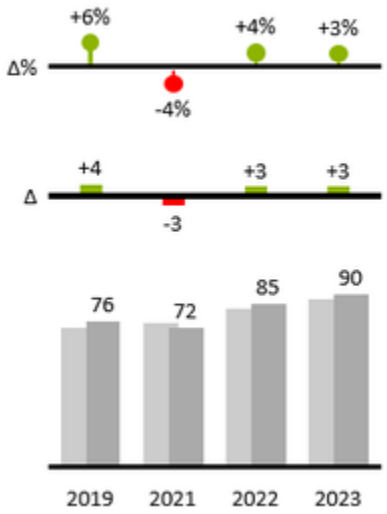


All charts can always be used in vertical or horizontal orientation. The Comparison Group enables you to use the same scales. Each chart must be assigned to the same Comparison Group. It is possible to use up to 12 data series – either consecutively or – in a stacked chart - on top of each other. The name of a data series can be displayed at the data series itself or alternatively on the axis of the base chart.

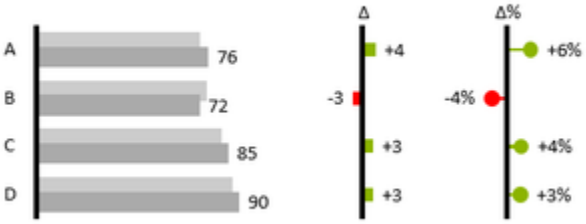
Deviation Axes

With a simple mouse click, *graphomate charts* enables you to set additional axes above all chart types, which display the percentage or absolutes deviations between two data series. Of course you can name the deviation series and display the names in the chart.

columns with deviation axes



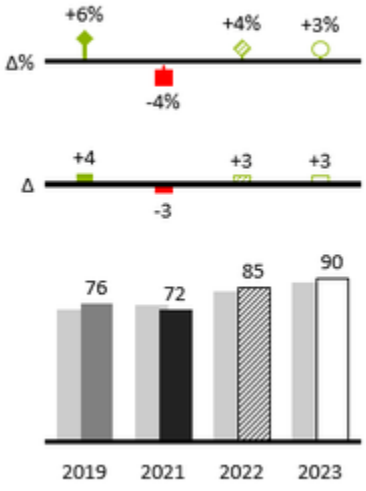
bars with deviation axes



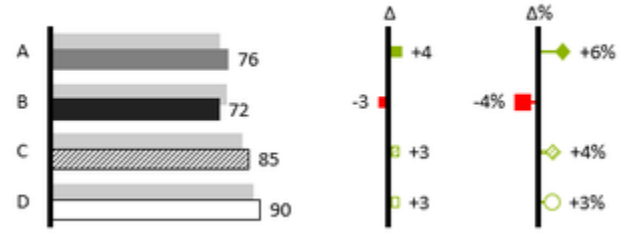
Scenarios (previously Data Types)

Furthermore, each element of a chart can be formatted independently. This is achieved by using the *Scenarios*. These *Scenarios* enable you to use a customized visual language for your company. *Scenarios* are defined in the *S cenarios Definition* and then they are attributed to each element of a *Data Series* on the tab *Data*. The color, filling, shape and width of the chart elements can be defined by using *Scenarios*. Please note that the use of *Scenarios* aff ects the deviation axes: The *Scenario* of the *Subtrahend* can be seen in the elements, the *Scenario* of the *Minuend* i s used in the axis – as long as the axis has a thickness of at least 3 px.

columns with scenarios and deviations axes



bars with scenarios and deviation axes



Installation

In the SAP Analytics Cloud the graphomate extensions are installed as so-called 'Custom Widget'.

The upload of the contribution.json is done as described below::

1. Choose from Main Menue / Browse / Custom Widgets
2. Use the '+'-symbol to select and store the graphomate JSON

The graphomate extensions can now be used as 'custom widget' in the Application Designer.

Quickstart

Using a graphomate extensions in an Analytic Application and data connection (workaround necessary)

> At the moment, SAP has not yet released the data binding via the SDK of the SAC, which is why a short script is required to bind data at runtime.

Data sources in the SAC Application Designer are currently always connected with widgets. Therefore it is first necessary to connect a standard table with a data source and to execute the desired selection. Afterwards the following script text can be used in the onInitialization script to transfer the data of the standard table to the matrix.

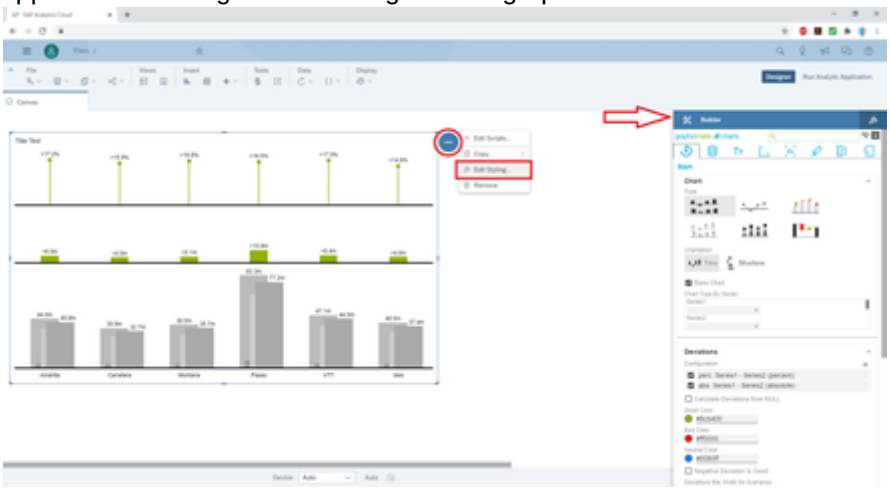
The following script should be used (for example *graphomate charts*):

```
graphomate_chart.setResultSetFromChart(Chart_1);
```

> If the SAP standard chart contains configured deviations, these are interpreted as a further series and not as deviation in the graphomate chart.

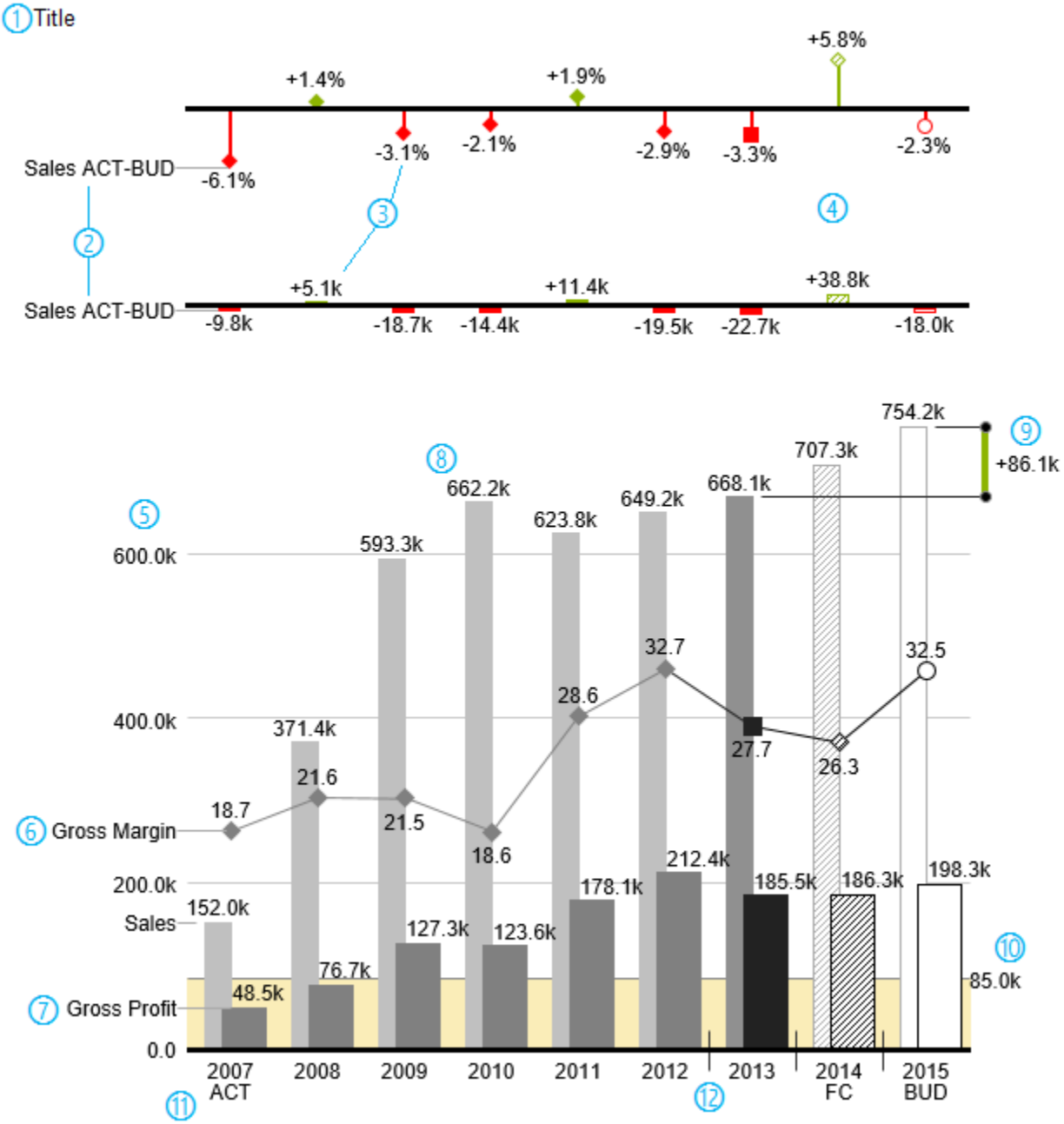
Open the graphomate property sheet (GPS)

Settings for the components are set via the graphomate property sheet. Select the graphomate extension and go to the 3 dots next to the component. Then select "Edit Styling". The Builder Panel (red arrow) with the GPS should appear. Now configure the settings on the graphomate matrix as desired.



Overview Visual Objects of the graphomate charts

These examples are valid for all chart types – in structure and time depictions.

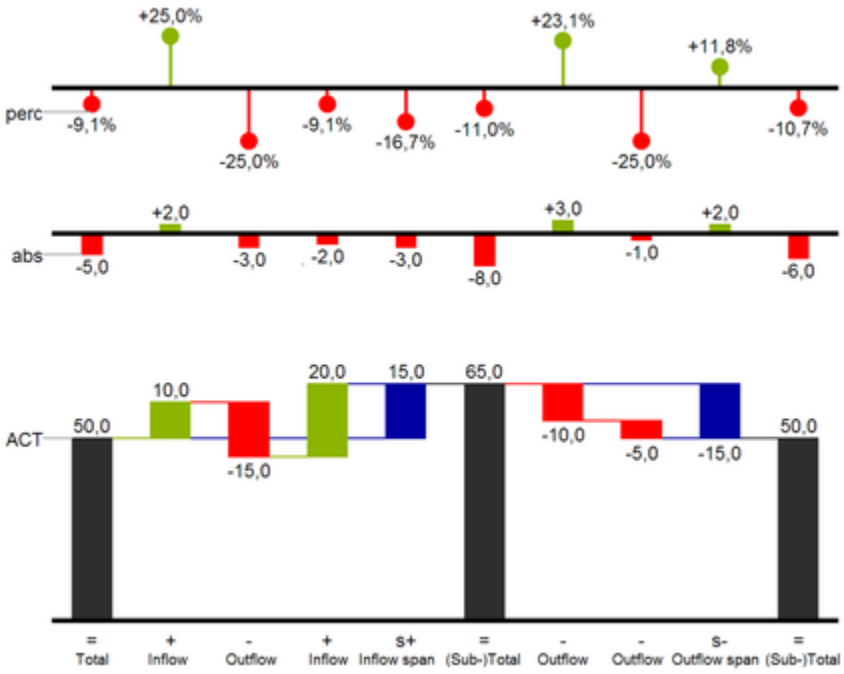


1. Chart title.
2. Percentage and absolute deviation between data series with data series labels.
3. Percentage and absolute data labels can be formatted independently.
4. By using *Scenarios*, the chart elements and axis carry information: deviation of forecast (hatched) to budget data is shown. Therefore the deviation axis is hollow.
5. A value axis with help lines can be displayed optionally for all charts.

6. Charts can be superimposed, thus enabling you to depict combination charts - in this case a line chart with data series labeling and data types for previous periods (grey rhombus), actual (black square), forecast (hatched rhombus) and planned data (hollow).
7. Column chart with two data series (-labels) and use of *Scenarios*. Sales are shown with lighter and narrower columns, which can be controlled centrally by the use of *Scenarios*.
8. Data labels are free to define. For example, use the apostrophe for the representation of millions.
9. Emphasize the difference between two elements with the function *Highlight*.
10. Scaling helper show different scales of charts.
11. Multi-line axes labels are automatically copied from the source data.
12. So-called *Separators* help to structure the category axis.

Waterfall Charts

A waterfall chart – often also called a flying bricks chart or, in finance, a bridge shows how an initial value is increased (inflow) or decreased (outflow) by a series of values, which lead to a final value – if necessary with subtotals and spans. For a flexible use of the waterfall in *graphomate charts* an additional element has to be defined: the *Waterfall Calculation Path*. This element determines, whether the value to be shown is an in- or an outflow value. For further information to the *Waterfall Calculation Path* see appendix. It is, of course, possible to use the waterfall horizontally or vertically, just like all other charts. Additional deviation axes are also possible. Furthermore, *Scenarios* can be used for formatting. Please note that *Scenarios* will overwrite the colors of in- and outflows as well as the colors of sums and spans which have been defined on the tab *Chart Specific*.



Above you can see a visualization of the operators for the calculation path and their effects on the elements of the waterfall chart. The following table gives some more explanations:

Function	Sign	Display
(Sub-)Total	=	Value is shown beginning at the axis.
Inflow	+	Increase of previous value and data label on the element.
Outflow		Decrease of previous value and data label on the element.

Inflow Span	s+	Positive overall change based on a totals item.
Outflow Span	s-	Negative overall change based on a totals item.
Neutral	0	Neutral position with own color scheme
Standard	„"	Difference to previous value according to data value sign (+/-).

graphomate property sheet (GPS)

The following usage structure can be found in all graphomate extensions with the graphomate property sheet (GPS):

Search field

Use the search field to quickly find a setting (example "Title") and change it.

Connection to the graphomate server

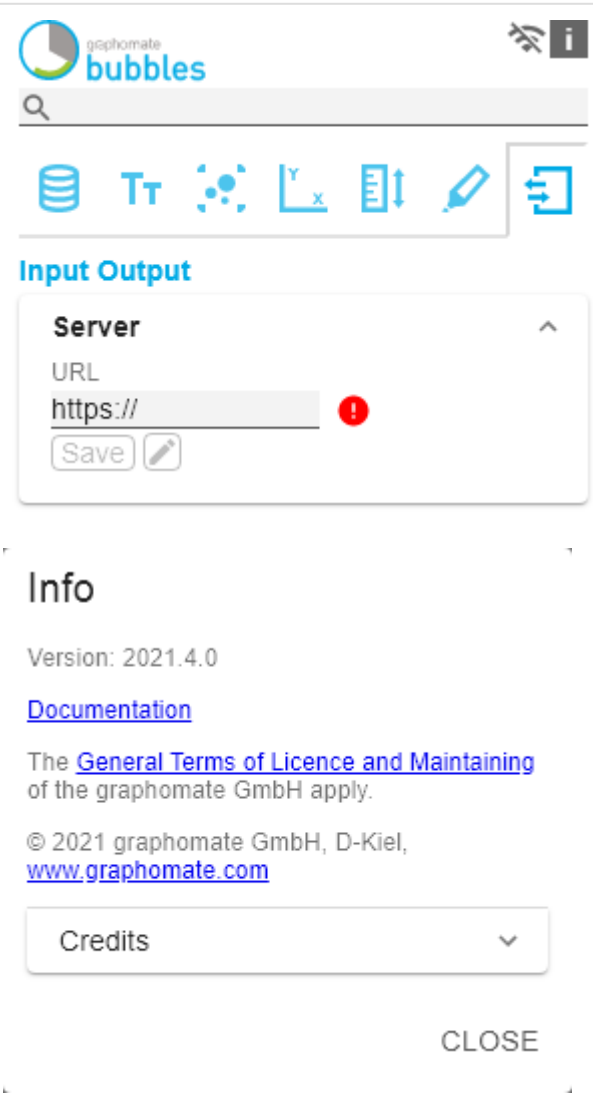
active connection to graphomate server

no active connection to the graphomate server

Info Tab

In the header of the GPS there is an info symbol ( ). Click on the icon to open a tab with relevant information:

- the version number of the installed extension (important information for the support)
- link to the graphomate Support Desk
- to the general terms and conditions
- to the graphomate website and
- a list of the software libraries used (Credits)



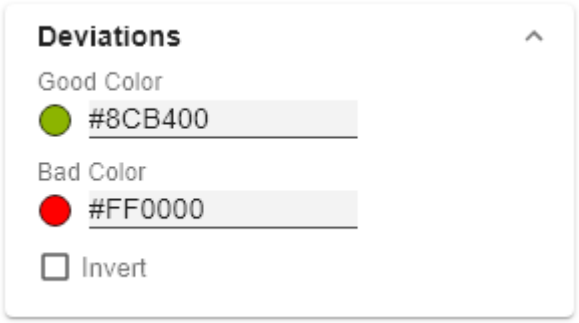
Checkboxes

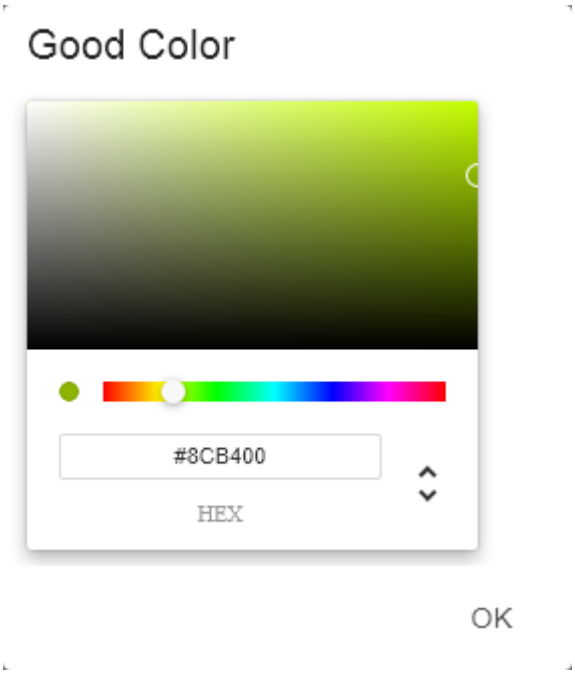
An active property is indicated by a white check mark in the checkbox. To deactivate it, click on the checkbox again.

Color Picker

You can enter the color value as HEX code or click on the colored circle.

Use the Color Picker or enter color values as HEX, RGB, or HSL code. You switch between these color models using the small arrows on the right side of the color picker.





Adding new elements to lists

Click on the + icon to create new elements in a list.

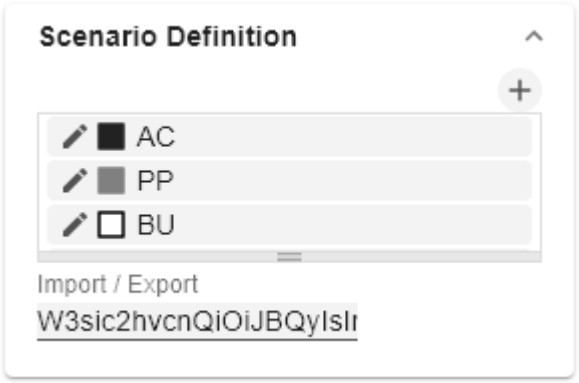
Actions with elements of a list

When hovering over an entry, different icons may appear and cause the following action:

Moves the entry up or down in the list

Creates a copy of the entry

. Click on the icon to delete the selected entry.



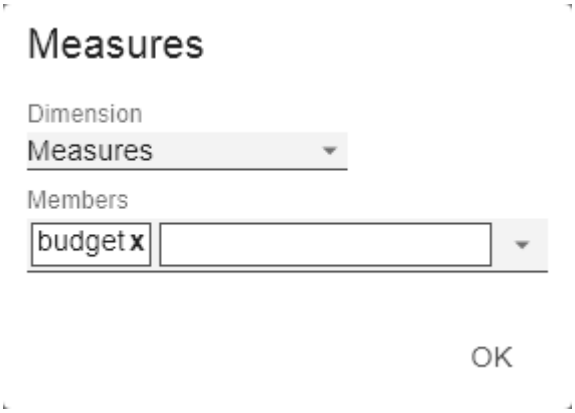
Filter Option

In some cases, it is necessary that several settings are only applied to certain key figures, dimensions or dimensional characteristics. You can use the filter option to define the combination to which the setting is to be applied.

In the example on the left, the desired setting is only applied to the key figure "budget". This can be, for example, a certain number formatting, a scenario or a certain icon for displaying the key figure.

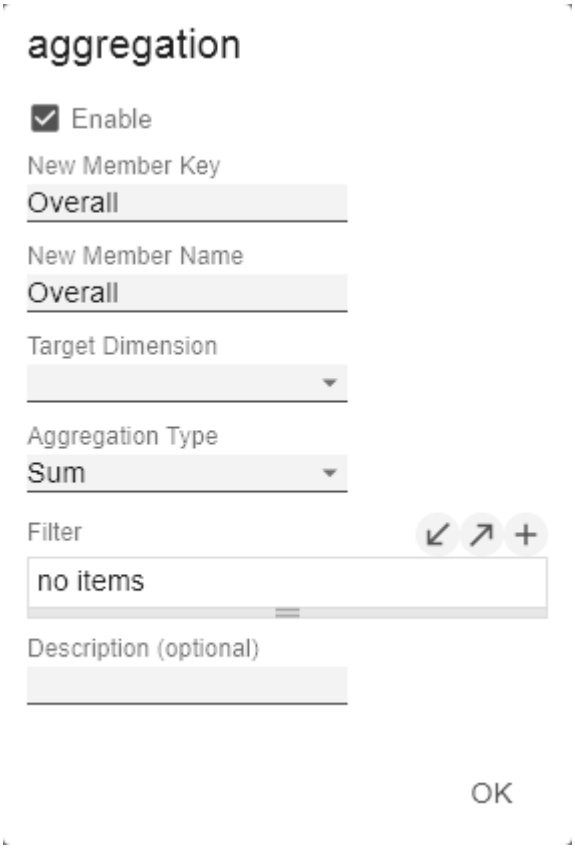
Filter states can be defined in the following settings of graphomate extensions:

- graphomate matrix
  - Value Format
  - Calculations/Deviations
  - Scenario Assignment
  - Bar Chart Assignment
  - Pin Chart Assignment
  - Background Bar Assignment
- graphomate bubbles
  - Value Format
- graphomate pictograms
  - Pictograms/Icon Assignment



Copy Filter

Filter settings on dimensions can be saved to the clipboard and reused in other graphomate extensions settings. Use the symbols for this purpose.



Input mode: Field / comma separated list (csv)

Properties with the CSV symbol allow the definition of settings on the graphomate property sheet in two variants. The mode can be changed by clicking on the CSV symbol. The following modes are available:

1. per field: The value is entered per field. After one field has been filled, another field is created automatically. For the Scenario Assignement (see picture) a list with all configured scenarios appears. By clicking on the scenario, the property for the element of the series is applied.
2. As a list: The entry is made as a comma-separated list.

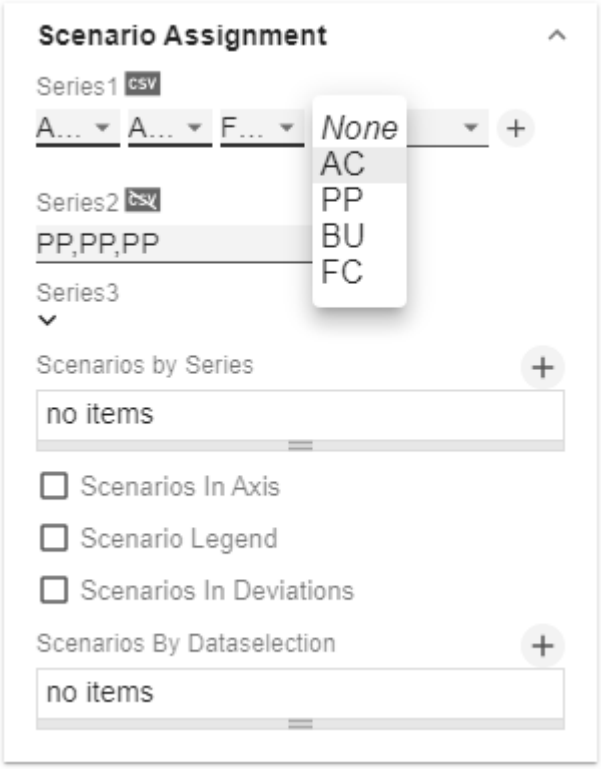
Example: Application of the scenarios to elements of a series (see picture)

The first series contains two actual values (AC) and a forecast value (FC). The second series contains only

values from the previous period (PP). You can enter the assignment of the scenarios as follows:

Variant per field for series 1: AC (field 1), AC (field 2), FC (field 3), AC (field 4, highlighted in the list)

Variant as list for series 2: PP,PP,PP,PP,



Start Tab

Chart

Type

You can select the desired diagram type by clicking on the corresponding icon.

Orientation

All diagrams can be used horizontally and vertically aligned:

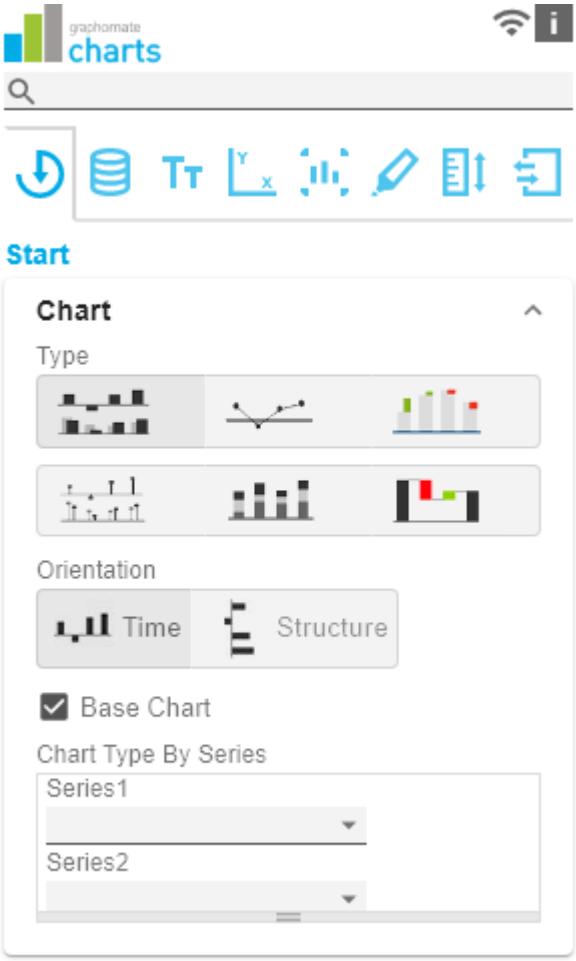
- horizontal for developments over time *(Time),*
- vertical for structural comparisons *(Structure)*.

Base Chart

The Base Chart checkbox shows and hides the basic chart. This allows deviation charts to be used without basic charts.

Chart Type By Series

To display combination charts, select the desired chart type from the dropdown (*None, Bar, Line, Offsetbar, Pin, Stackedbar, Waterfall*).



Deviations

Configuration

Use the + sign to create *deviations*, which are shown above the basic diagram. To remove a deviation, click the red trash can. By default, an absolute and a percentage deviation are shown. The checkbox (de)activates the visibility of a deviation.

Configuration Pop-Up

The checkbox *Enabled* sets the visibility of the selected deviation.

- *Label:* Name the deviation.
- *Type:* Choose between *absolute* or *percentage* deviation.
- *Minuend*: The value to be used as a reference value.
- *Subtrahend*: The value that is checked to see how far it deviates from the reference value.

Calculation:

Absolute: minuend- subtrahend

Percentage: (minuend - subtrahend) / | subtrahend|

The order in which these deviation axes are displayed corresponds to the order in the *Deviations Configuration*.

Calculate Deviations from NULL

Specifies whether deviations should also be calculated from NULL values.

Good Color

Here you can set the color for positive connoted values by clicking on the corresponding colored circle to open the color picker.

Bad

Here you can set the colors for negatively connoted values by clicking on the corresponding colored circle to open the color picker.

Neutral Color

Here you can set the colors for neutral connoted values by clicking on the corresponding colored circle to open the color picker.

Negative Deviation Is Good

This option inverts the color scheme for the colors of the deviation. For example, negative values can be displayed with green color when using the original colors.

Deviation Bar Width for Scenarios

The Bar Width applies to the bar width *(percent* or *absolute)* of the absolute deviations. (Applies if the option '*Scenarios in Deviation*' on the *Data Tab* is activated).

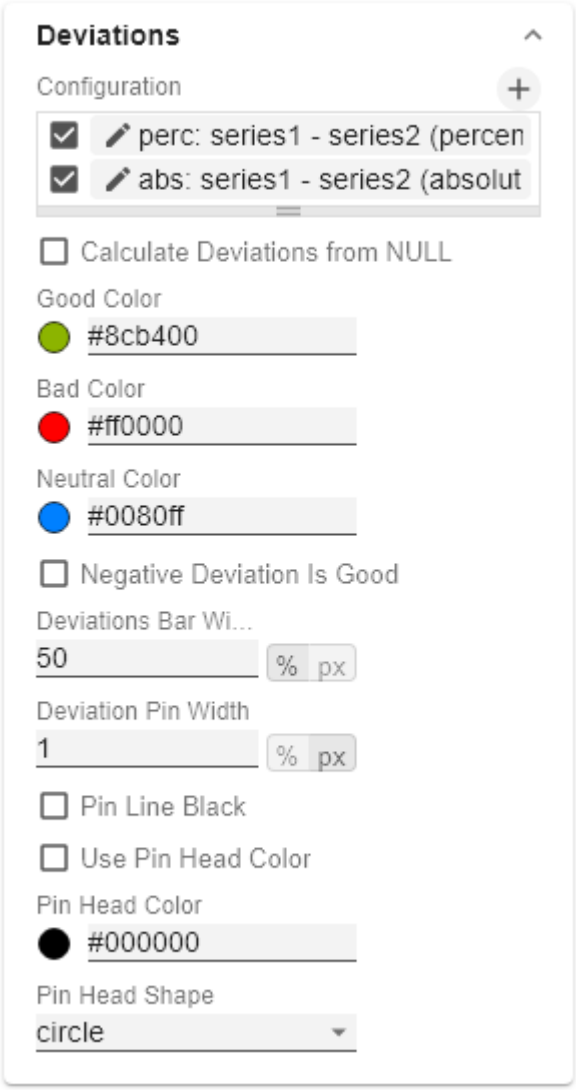
Deviation Pin Width

Use this option to define the width of the needle in the percentage deviation chart. The option takes effect when the 'Scenarios in Deviations' option is enabled on the Data Tab.

Pin Line Black

This option colors the needle line in the deviation graph black.

Use Pin Head Color



(De)activates the selected *Pin Head Color*. If deactivated, the stored color values of the deviations are applied (default: green/red)

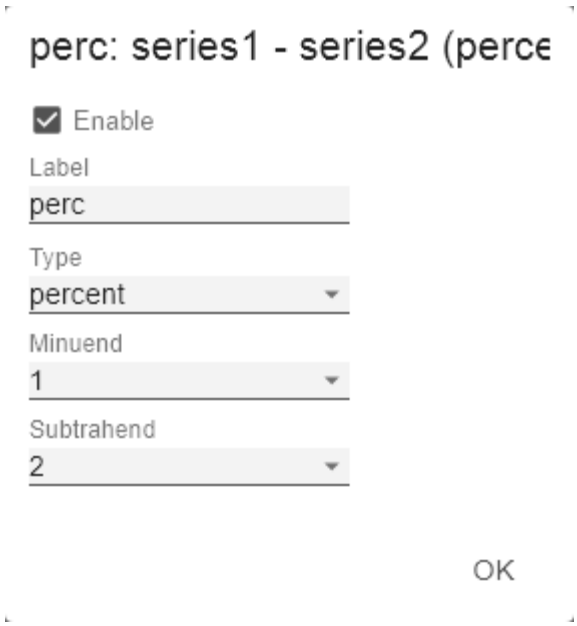
Pin Head Color

The head color of the needle in the percentage deviation diagram. The color is not applied to the needle heads in the base chart.

Pin Head Shape

Select which shape in the line chart is used for a data point. The following options are available:

- *circle*
- *rect*
- *rhomb*
- *triangle*
- *wedge*
- *none*



Layout

Padding

Padding in [px] sets a border around the diagram.

Spacing

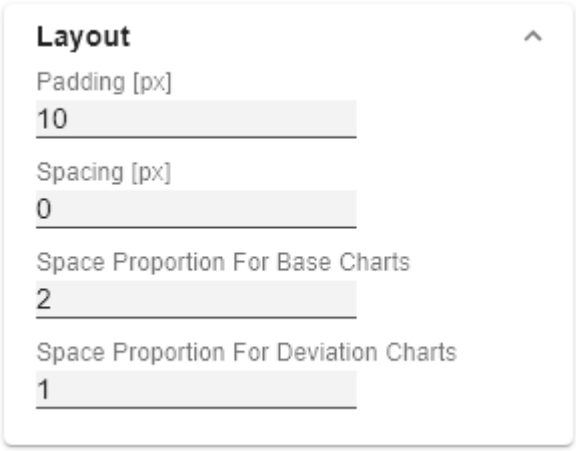
Spacing also in [px] defines the distance between the basic and deviation diagram.

Space Proportion For Base Chart

Place that the Base Chart takes up. Formula for determining the space: Factor / (sum of all factors)

Space Proportion For Deviation Charts

Space that a deviation diagram takes up. Formula for determining the space:
Factor / (sum of all factors)



License

License Key

Enter the license key here.

Data Tab

Small Multiples

Zum Darstellen von sogenannten "Kleinen Vielfachen" verwenden Sie folgende Optionen.

Split Dimension

Bestimmen Sie, welche Dimension als Split-Dimension für die Berechnung der Small Multiples herangezogen werden soll.

- Power BI: Die Option *Split Dimension* ist im Visualisierungsbereich (Visualization Feed) unter Werte-Felder (Values) zu finden.
- SAP Analytics Cloud: Dimension, über deren Member die Small Multiples berechnet werden
- Tableau: Dimension, über deren Member die Small Multiples berechnet werden

N Count

Definiert die Anzahl der Charts die vor der 'Rest'-Position dargestellt werden sollen.

- Die N Small Multiples vor der 'Rest'-Position werden nach ihrer jeweiligen Gesamtsumme mit dem größten Small Multiple beginnend absteigend sortiert.
- Übersteigt die Zahl N die Anzahl der vorhandenen Member der Split Dimension, so kann keine 'Rest'-Position gebildet werden. Die absteigende Sortierung bleibt jedoch bestehen.
- Setzt man den N Count auf "0" oder "none", so entspricht die Reihenfolge der Small Multiples der Reihenfolge der Split Dimension Member aus der Datenquelle.

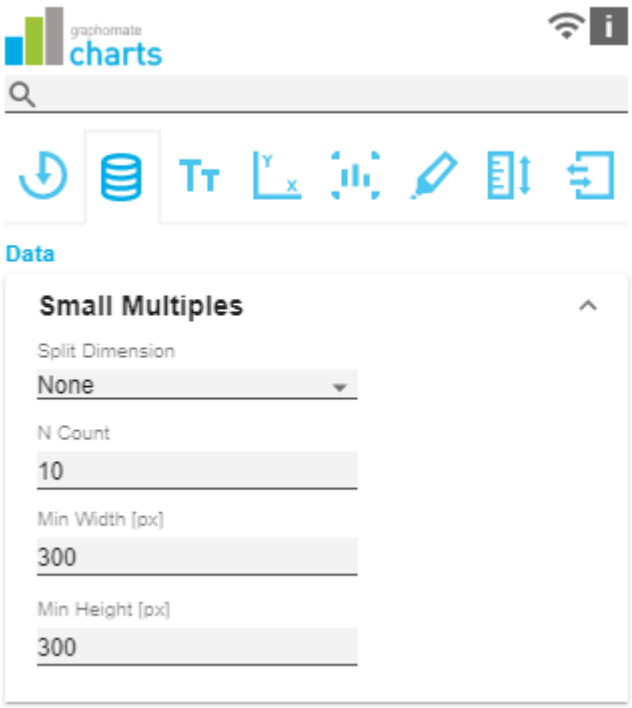
Min Width [px]

Definiert die Mindestbreite eines Small Multiples Charts.

Min Height [px]

Definiert die Mindesthöhe eines Small Multiples Charts.

Wenn eine Split Dimension gesetzt ist, dann ist die Option "Crop Category Labels" aktiviert und als Titel wird der jeweilige Member der Split



Dimension angezeigt unabhängig von den gewählten Einstellungen im graphomate Property Sheet.

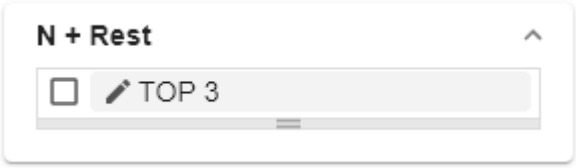
N + Rest

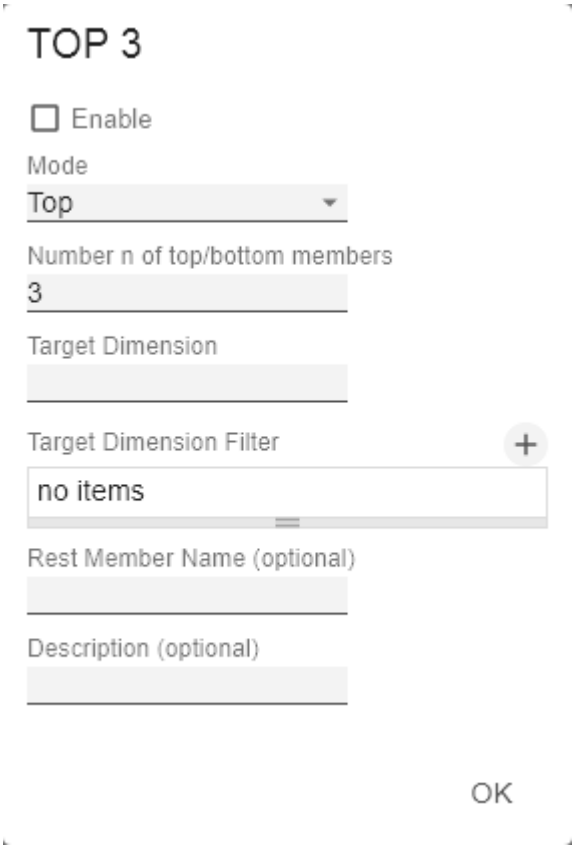
Nutzen Sie diese Option, um die Anzahl der Member (N + Rest) einer benutzerdefinierten Dimension zu definieren. Im einfachsten Fall entspricht dies dann der Anzahl Kategorieelemente eines Charts.

N + Rest Pop Up

Sie können eine Konfiguration von N + Rest für die graphomate charts definieren:

- *Enable*: Aktiviert den Modus.
- *Mode:* Wählen Sie zwischen Top (Oberste) und Bottom (Unterste).
- *Number n of top/bottom members*: Definieren Sie die Anzahl der top/bottom Elemente.
- *Target Dimension*: Die Dimension, für die die top /bottom-Member ermittelt werden sollen - z.B. "Country".
- *Target Dimension Filter*: Hier wird gefiltert, welche Kennzahlen oder Member anderer Dimensionen (z. B. bei impliziten Hierarchien) sich auf das Ranking auswirken sollen
- *Rest Member Name (optional)*: Legt eine Beschreibung für die Rest-Position fest.
- *Description (optional):* Legt eine Beschreibung für die eingestellte Konfiguration fest.





Series

Styles

An dieser Stelle definieren Sie das Styling einer Serie. Mit dem Series Style Pop-Up bestimmen Sie das Aussehen der Datenreihen, sofern Sie keine Scenarios verwenden. Scenarios überschreiben die *Series Styles*.

Import/Export

Kopieren Sie diese Zeichenkette um Szenarien in anderen graphomate charts Komponenten zu nutzen.

Visibilities

Legen Sie hier über die Checkbox fest, welche der Serien im Chart sichtbar sind sollen.

Element Offset

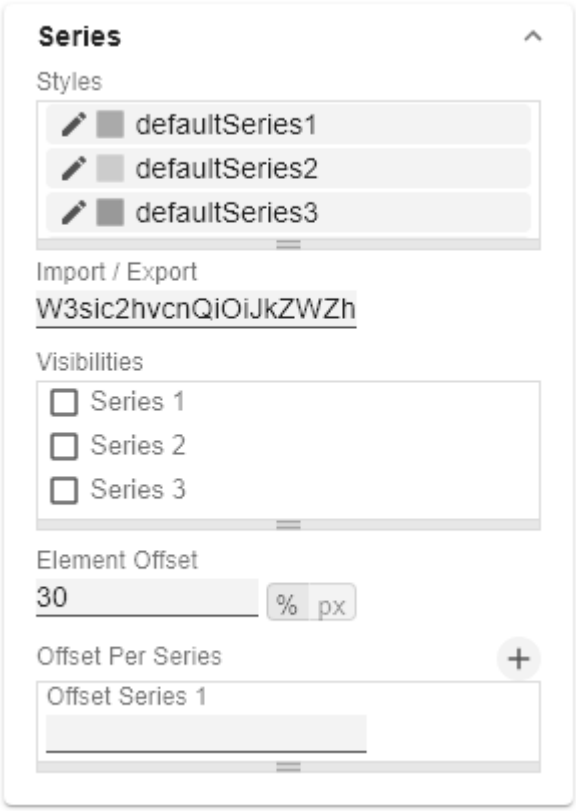
Der Parameter *Element Offset* bestimmt die Verschiebung der Elemente auf der Kategorieachse zueinander. Diese kann über den Schalter prozentual *(percent)* oder absolut *(absolute)* in [px] angegeben werden. Zur Verschiebung in Gegenrichtung können auch negative Werte verwendet werden.

Offset per Series

Der Offset kann hier pro Serie festgelegt werden.

Series Style Pop-Up

- *Color:* Definieren Sie hier die Farbe über den Colorpicker oder geben Sie einen HEX-Code ein.
- *Fill Type*: Als Füllmuster stehen zur Auswahl: Gefüllt *(Filled),* ohne Füllung *(Empty),* Schraffur abwärts (*Hatched Down*), dicke Schraffur abwärts (*Hatched Down Bold*), Schraffur aufwärts (*Hatched Up*), dicke Schraffur aufwärts (*Hatched Up Bold*), gepunktet *(Dotted)*
- *Shape:* Bezieht sich auf die Pinköpfe oder Linienpunkte. Folgende Formen stehen zur Auswahl: Kreis *(circle),* Rechteck *(rect),* Raute *(rhomb),* Keil *(wedge),* Kein Symbol *(none)*
- *Width:* Bestimmt die Breite der Elemente. Diese kann in Prozent *(percent)* der Kategoriebreite als auch absolut *(absolute)* in [px] vorgegeben werden
- *Font Weight:* Wählen Sie zwischen der Schriftstärke normal *(normal)* oder fett (bold).



Scenario Definition

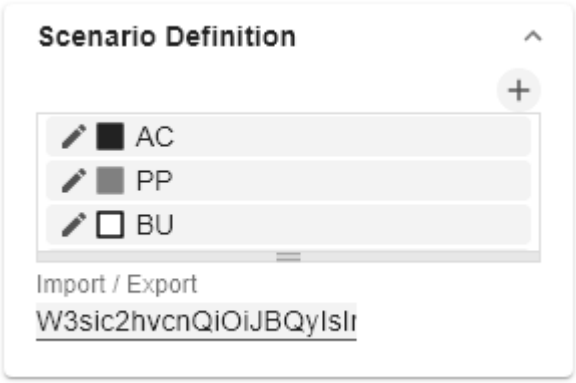
Das Listenelement enthält alle Definition von Szenarien in diesem Diagramm. Durch Klick auf das +-Symbol wird ein neues Szenario angelegt. Beim Hovern über ein Listenelement erscheint eine rote Mülleimer, die das Löschen eines Szenarios impliziert.

Import/Export

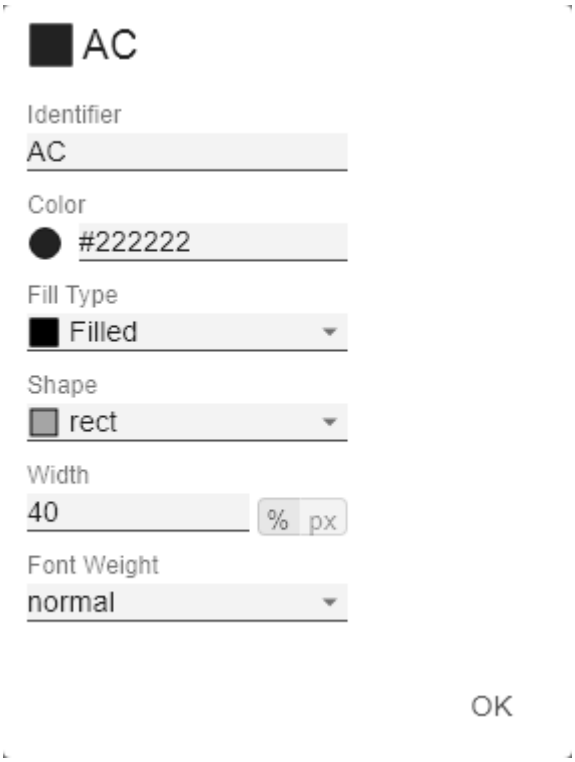
Kopieren Sie diese Zeichenkette um Szenarien in anderen graphomate charts Komponenten zu nutzen.

Scenario Definition Pop-Up

- *Identifier:* Vergeben Sie ein eindeutiges Kürzel für das Szenario



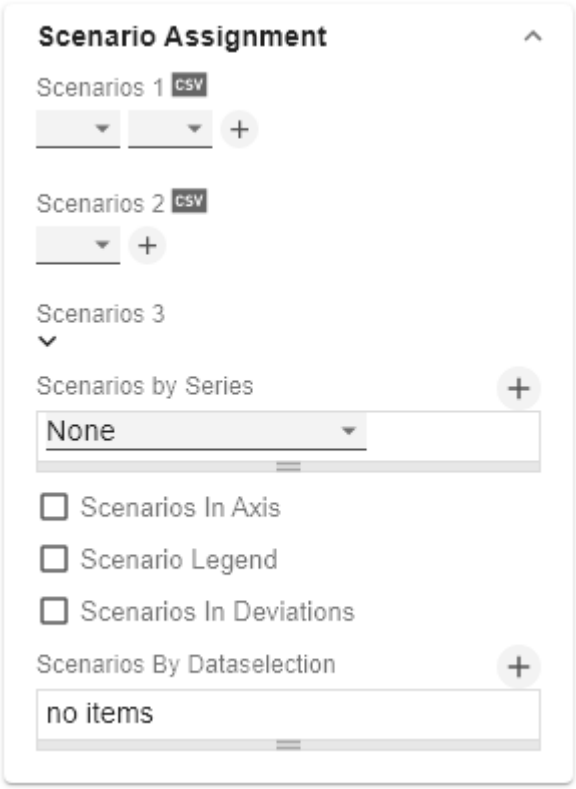
- *Color:* Definieren Sie hier die Farbe über den Colorpicker oder geben Sie einen HEX-Code ein.
- *Fill Type*: Als Füllmuster stehen zur Auswahl: Gefüllt (Filled), ohne Füllung (Empty), Schraffur abwärts (Hatched Down), dicke Schraffur abwärts (Hatched Down Bold), Schraffur aufwärts (Hatched Up), dicke Schraffur aufwärts (Hatched Up Bold), gepunktet (Dotted)
- *Shape:* Bezieht sich auf die Pinköpfe oder Linienpunkte. Folgende Formen stehen zur Auswahl: Kreis *(circle),* Rechteck *(rect),* Raute *(rhomb),* Keil *(wedge),* Kein Symbol *(none)*
- *Width:* Bestimmt die Breite der Elemente. Diese kann in Prozent *(percent)* der Kategoriebreite als auch absolut *(absoulte)* in [px] vorgegeben werden.
- *Font Weight:* Wählen Sie zwischen der Schriftstärke normal *(normal)* oder fett *(bold).*



Scenario Assignment

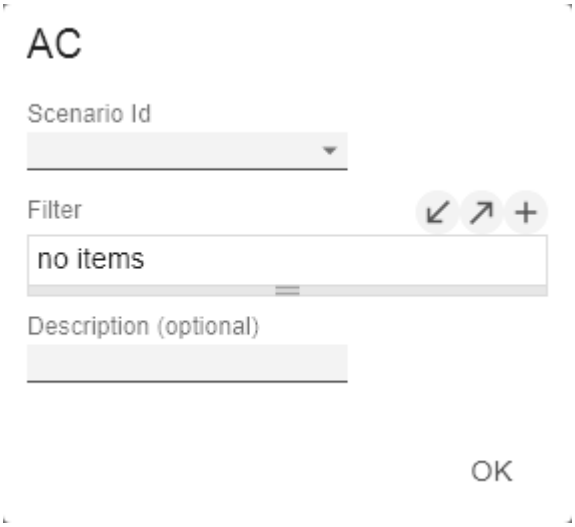
Die Vergabe der Szenarien kann über zwei Wege erfolgen:

1. Szenario pro Element einer Serie (*Scenarios 1, Scenarios 2 etc.*)
   a. Ein Feld repräsentiert ein Element der gewählten Serie. Sobald in ein Feld das Kürzel des Scenarios eingegeben wird, erweitert sich die Reihe um ein Feld.
   b. Alternativ können Sie mit Klick auf den csv-Button die Eingabe über eine Kommeseparierte Zeichenkette eingeben (Bsp.: AC,AC,AC,FC,FC, BU)
2. Szenario pro Serie (*Scenarios by Series*)
   a. Eine Linie entspricht einer Serie. Geben Sie hier ein Datenkürzel an, welches für die komplette Serie verwendet wird.
   b. über das +-Symbol können weitere Felder (resp. Serien) mit einem Datenkürzel vergeben werden.
3. Szenario pro Datenselektion (Scenarios by Dataselection)
   a. Definieren Sie, welchem Szenario welche Daten zugeordnet werden.



In folgender Rangfolge werden die Szenarien angewendet:

- Scenarios pro Element einer Serie vor
- Scenarios by Series vor
- Scenarios by Dataselection



Scenarios in Axis

Ist die Checkbox aktiviert, werden die *Szenarien* der ersten Datenreihe in den Achsen dargestellt, sofern die *Axis Thickness* größer oder gleich 3 [px] ist.

Scenario Legend

Bei aktivierter Checkbox, wird im Diagramm eine Legende mit den jeweiligen Szenarien angezeigt. Diese können später direkt im Diagramm über ein Dropdown Menü vom Anwender verändert werden.

Die Szenario Legende ist nur in Verbindung mit der Property "Scenarios by Series" funktionsfähig.

Scenarios in Deviations

Ist die Checkbox aktiviert, werden die Szenarien in den Abweichungen *(Deviations)* dargestellt.

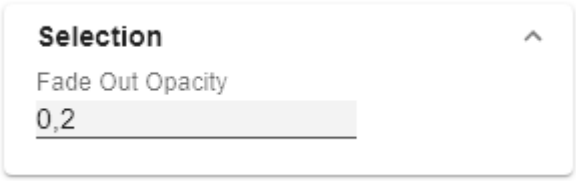
Scenarios by Dataselection Pop-Up

Diese Property bestimmt, welchem Szenario welche Daten zugeordnet werden.

Jede Konfiguration hat folgende Eigenschaften:

- *Scenario Id*: Die ID des Szenarios, das verwendet werden soll. Dafür muss ein Szenario mit dieser ID in der Szenario Definition definiert sein.
- *Filter*: Für jede Dimensionsausprägung, die hier über das + -Zeichen ausgewählt wird, wird das gewählte Szenario vergeben.
- *Description:* Legt eine Beschreibung für die eingestellte Konfiguration fest.

Selection



Fade Out Opacity

Dieser Wert bestimmt inwieweit charts Elemente ausgeblendet werden sollen, die nicht selektiert sind. Der Wert beginnt bei *0.0 (vollständig ausgeblendet)* und reicht bis *1.0 (vollständig sichtbar)*.

Labels Tab

Value Format

With the Value Format you define the way values are displayed in the diagram. You can access the configuration by clicking on an element in the list.

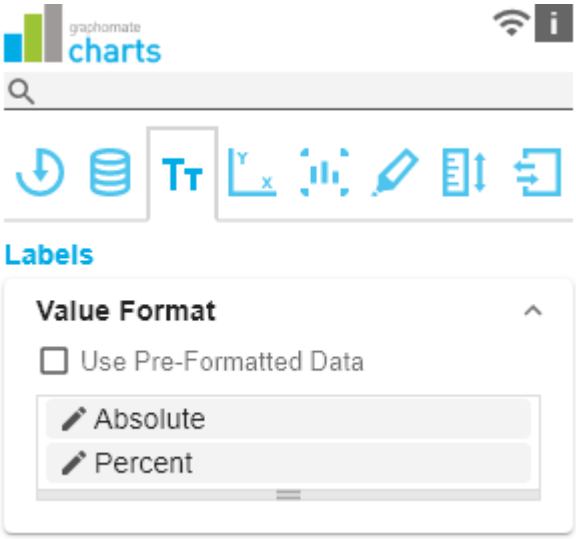
Use Pre-Formatted Data

If this option is activated, the number formatting of the data source is used.

Value Format Pop-Up

Define the number format using the following options:

- *Locale:* Defines abbreviations, decimal and thousand separators for the respective language. You can choose between *en*, *de*, *fr* and *auto*.
- *Format Type:* Defines the type of number output. You can choose between *number* (decimal number), *percent* (percentage), *ordinal* (ordinal number) and *time* (duration).
- *Abbreviations:* Defines the type of abbreviations for all numbers to be formatted. You can choose between *mean* (abbreviation of the mean value), *min* (abbreviation of the minimum value), *max* (abbreviation of the maximum value), *auto* (best-suited abbreviation for the respective number), *trillion* (trillion abbreviation), *billion* (billion abbreviation), *million*, *thousand* and *none* (no abbreviation at all).
- *Negative Sign:* Defines how negative numbers are displayed. You can choose between *minus*, *parenthesis*, and *none* (no sign).
- *Prefix:* The input value is placed before the number.
- *Suffix:* The input value is placed after the number.
- *Thousands Separator:* Replaces the thousand separator set by the selected *locale.*
- *Decimal Separator:* Replaces the decimal separator set by the selected *locale.*
- *Total Digits:* Defines how many digits the number may consist of. *Total Digits* is prioritized over *Decimal Digits.*
- *Decimal Digits:* Defines how many decimal places of the formatted number are displayed.
- *Scaling Factor:* The value of each data point is multiplied by the entered number to scale values.
- *Zero Format:* When the checkbox is activated, any data value equal to *0* (the number zero) is replaced by the entered value.
- *Null Format:* Any data value that equals *NULL* (no value) is replaced by the entered value.

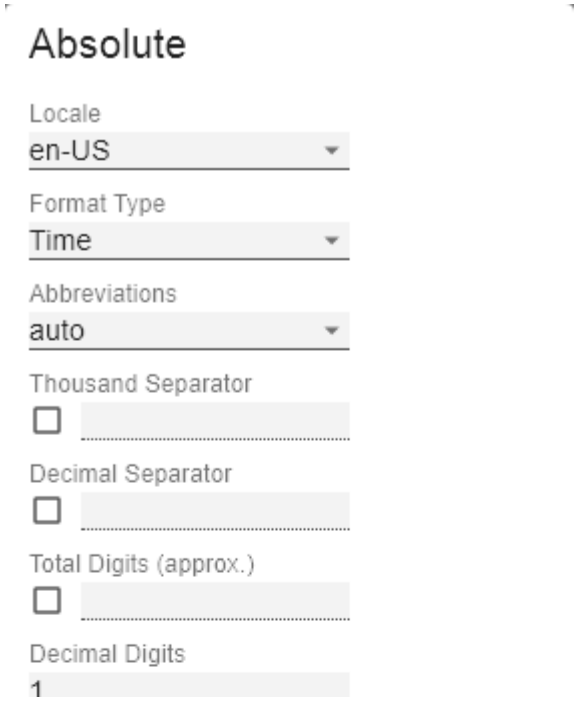


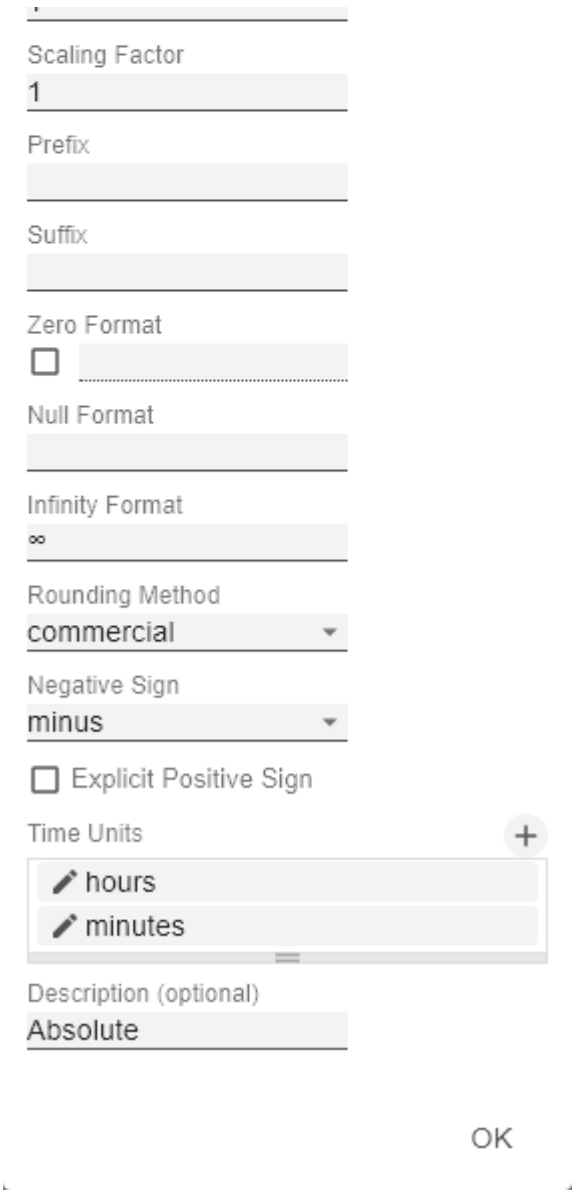
- *Error Format:* If a data value is undefined or the result of an arithmetic error such as dividing by 0 (zero), the data value is replaced by the entered value.
- *Rounding Method:* Defines the rounding method. You can choose between *half up* (23.5 24, -23.5 -23), *com mercial* (23.5 24, -23.5 -24) and *trim* (23.5 23, -23.5 -23).
- *Explicit Positive Sign:* Defines whether a positive number should always be preceded by a + (plus sign).
- *Time Units*: If Time has been specified for the format type, the time units can be set here. The default setting interprets data values as seconds and displays them as hours and minutes with decimal places in the format *h: mm.m*
- *Description:* Defines a description for the set configuration.

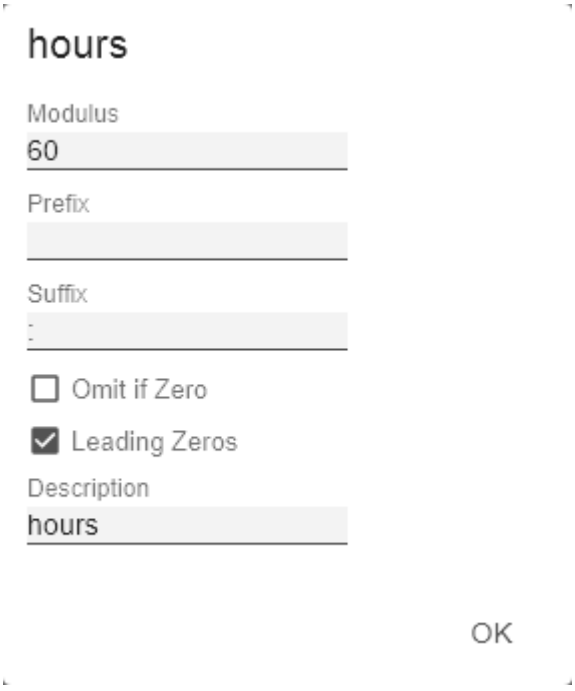
Time Units Pop Up

For the Format Type *Time*, a system of units can be configured with the help of the Time Units Property, which in the default setting consists of hours and minutes. Each number formatted in this way is then splitted in its values for each unit. The order of the unit list defines their relationship from the largest unit (top) to the smallest unit (bottom). Each unit contains the following options:

- *Modulus*: defines the arithmetic relationship between the units. In terms of modular arithmetic, the number reflects how many entities of the next smaller unit fit into an entity of the current unit. If the current unit is the smallest of the unit system, the modulus establishes the reference to the raw value to be formatted. Thus, in the case of a unit system of hours and minutes with raw values that are given in minutes, the hours unit carries the modulus 60 and the minutes unit carries the modulus 1.
- *Prefix*: Defines the local prefix with which the value of this unit should begin. It can be used as a separator to values of larger units.
- *Suffix*: Defines the local suffix that should follow the value of this unit. For example, it can contain a unit abbreviation or be used as a separator to values of smaller units.
- *Omit If Zero*: Sets whether values of this unit should be omitted if they equal 0.
- *Leading Zeros*: Sets whether values of this unit should be displayed with one or more leading zeros (depending on the reference to the next larger unit).
- *Description*: Sets a description for the unit to make it easier to recognize in the list.




Scaling Factor
1
Prefix
Suffix
Zero Format
Null Format
Infinity Format
∞
Rounding Method
commercial
Negative Sign
minus
Explicit Positive Sign
Time Units
hours
minutes
Description (optional)
Absolute
OK



Value Labels

Label Positioning

Determine the mode that controls the data labeling. Three modes are available:

- *none:* The data label is not displayed.
- *fix:* The data label is always displayed.
- *auto:* In case of overlaps, the data label is hidden or offset; adjustable by means of Collision Adjustment

Collision Adjustment [px]

Adjusts the collision algorithm of the labels of the auto mode of the value labels. The smaller the value, the more sensitive the algorithm is to collisions. Negative values are also allowed. (Note: Bold labels are not considered by the collision algorithm, so they always appear).

Background

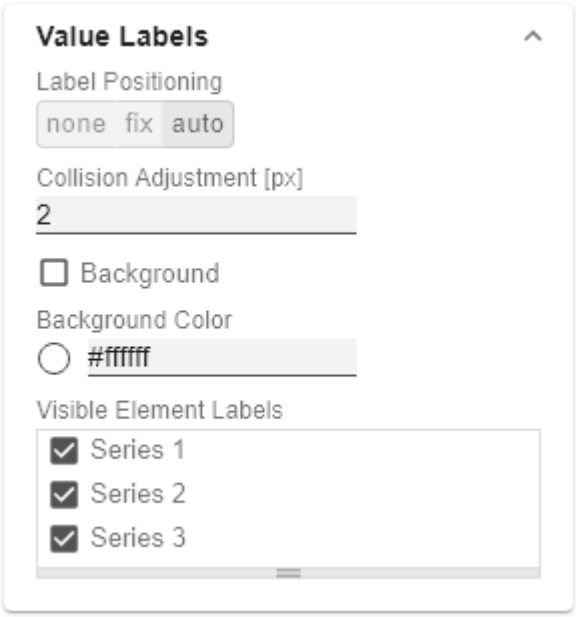
This option draws a colored area behind the *Value Labels*. With *Background Color* you define the desired color.

Background Color

With *Background Color* you define the desired color of the area.

Visible Element Labels

Define from which series the element label is visible.



Label Picking

If this option is enabled, you can use the subordinate settings to control which labels are displayed according to certain criteria. Consequently, only those labels that match the selected criteria are displayed. The following options are available:

Force First Value Label

The first label of a series is displayed.

Force Last Value Label

The last label of a series is displayed.

Force Min Value Label

The minimum value of each series is displayed.

Force Max Value Label

The maximum value of each series is displayed.

Force Before Separators

All values before a separator are displayed. This option depends on the settings under *Separators*.

Force Peak Labels

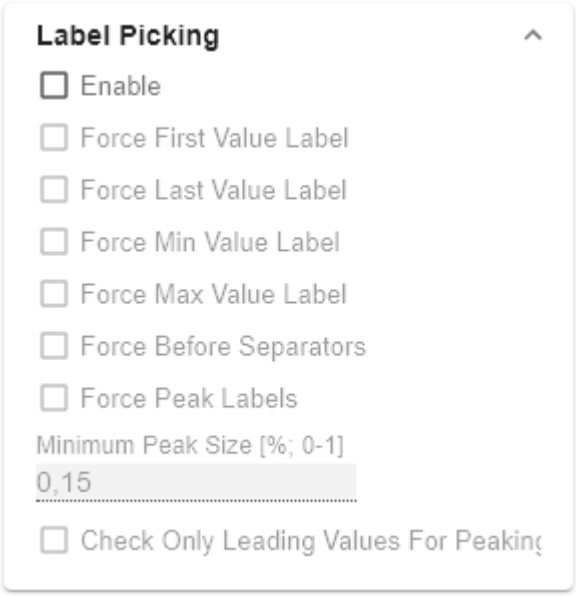
This option displays local minima and maxima. What a local minimum/maximum is can be controlled with the option *Minimum Peak Size in %*.

Minimum Peak Size in %

Determines how much values must deviate from their neighbors to be considered a local minimum/maximum.

Check Only Leading Values For Peak

The peak calculation only refers to the previous value; the following value is not taken into account.



Font

Size [px]

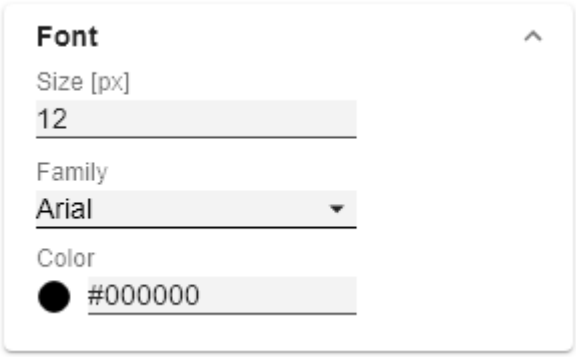
This property determines the font size in pixel.

Family

Define the global font. You can choose between *Arial, Tahoma, Lucida Console, Verdana* and *Calibri* or type in the name of a font which is installed on your system.

Color

This property determines the font color as HEX code. Alternatively, the Color Picker can be used.



Title

If the *Enable* checkbox is activated, the title will be displayed.

Title Text

Enter a *Title* for the charts here. Multiline texts will be rendered accordingly, i.e. the line break will be applied. The following HTML tags can be used for formatting: 'b', 'i', 'p', 'span', 'div', 'br', 'h1', 'h2', 'h3', 'h4', 'h5', 'h6', 'hr', 'ol', 'ul', 'li' and 'blockquote'.

For the following result
ACME Ltd.
P&L by *Segment*
2021 AC, BU

this input is necessary:

ACME Ltd.
P&L by Segment
2021 AC, BU

Series Labels

Left/Top

Activate the checkboxes to display the data label on the left /top of the data series.

Right/Bottom

Activate the checkboxes to display the data label on the right/bottom of the data series.

Series Label

Enter the desired labeling of a series manually.

Custom Series Labels

If this option is enabled, you can define a custom label for each series. Otherwise, the series labels are set data-driven. Enter the desired label of a series manually here.

Max Series Labels Width [px]

Maximum width of the data series labels, up to where the *padding* is scaled. If this value is exceeded, the labels are cut off.

Category Labels

(De-)activate the display of the category label using *Enable.*

Visibility

The checkbox controls row-by-row (level x) whether the category labels should be suppressed or displayed.

Max Width [px]

If this value is greater than 0, it indicates the reserved space for the category labels in pixels. If the length of the labels is greater than the specified width, they are shortened by omission points. For values smaller or equal to zero, the reserved space is calculated automatically. *Max Category Label Width* can only be set in *Structure Mode* and with deactivated hierarchical labels (*Hierarchical Label Display* set to *false*).

Suppress Repetition

Controls line by line (level x) whether repetitive category labels should be suppressed or displayed.

Hierarchical Label Display

Enables a hierarchical display of category labels. The category labels of each member are displayed in a separate column. The hierarchical display is only possible in *Structure Mode*.

Line Break Category Labels

The character or string in place of which category labels are split across multiple lines. For example, using a space for the label "ACT Jan 2001" would make it a three-line label.

Category Label Rotation [degree]

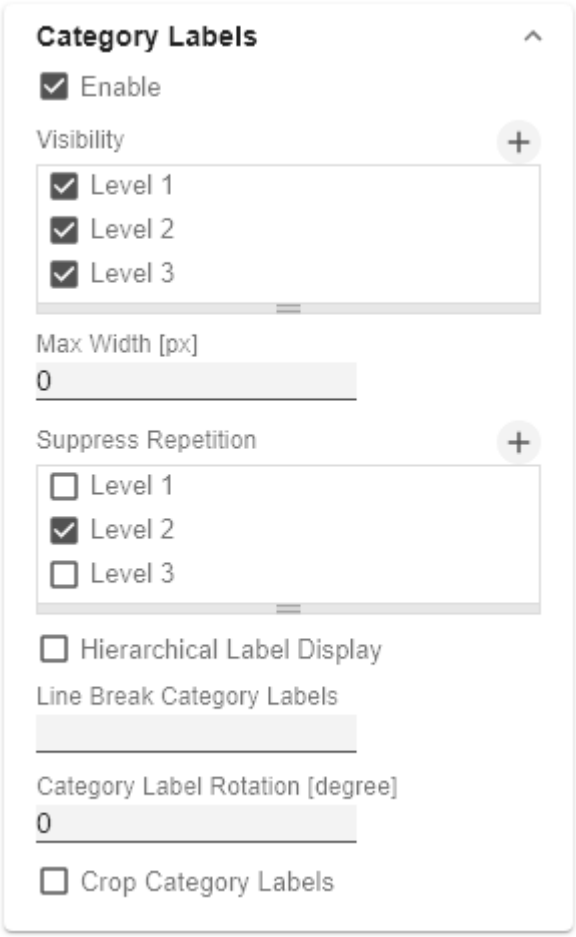
Specifies the angle by which the category labels are rotated. The rotation is counterclockwise.

Crop Category Labels

If this option is enabled, the category labels in Time mode will have a maximum width of the specified category width. If the labels are longer, they will be truncated by ... cut off.

Category Labels from Measure (only in Power BI)

This setting derives the category labels from the linked measures if no dimension is specified in the category field in the data pane.



Axis Labels

Left/Top

Activate the check boxes to display the axis label on the left /top of the data series.

Right/Bottom

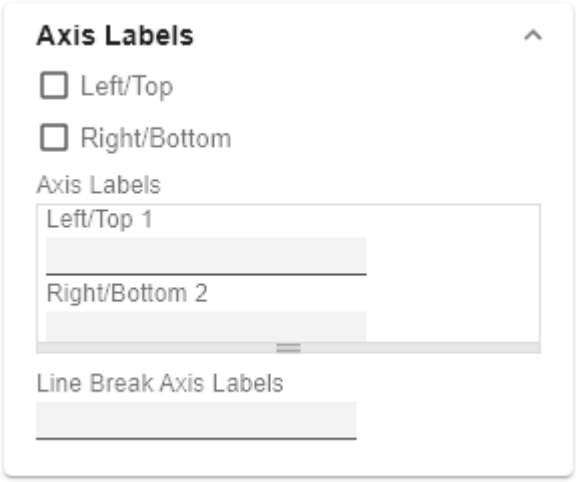
Activate the check boxes to display the axis labeling on the right/bottom of the data series.

Axis Labels

Enter the desired labeling of the axis manually.

Line Break Axis Labels

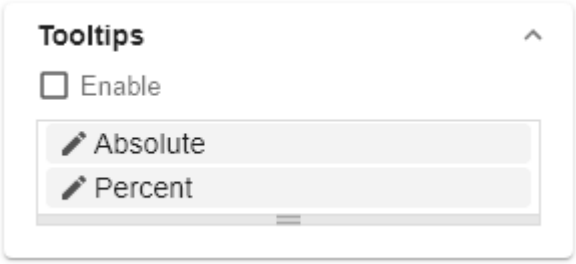
The character or string where the axis labels are split over several lines (similar to the property *line break category labels*).



Tooltips

If this check mark is set, tooltips are displayed on the diagram at runtime, showing detailed information for the corresponding element.

> The tooltips cannot be activated in Power BI via the GPS. Please use the visualization Pane in Power BI and activate the Quick Info setting to display the tooltips in the graphomate charts.

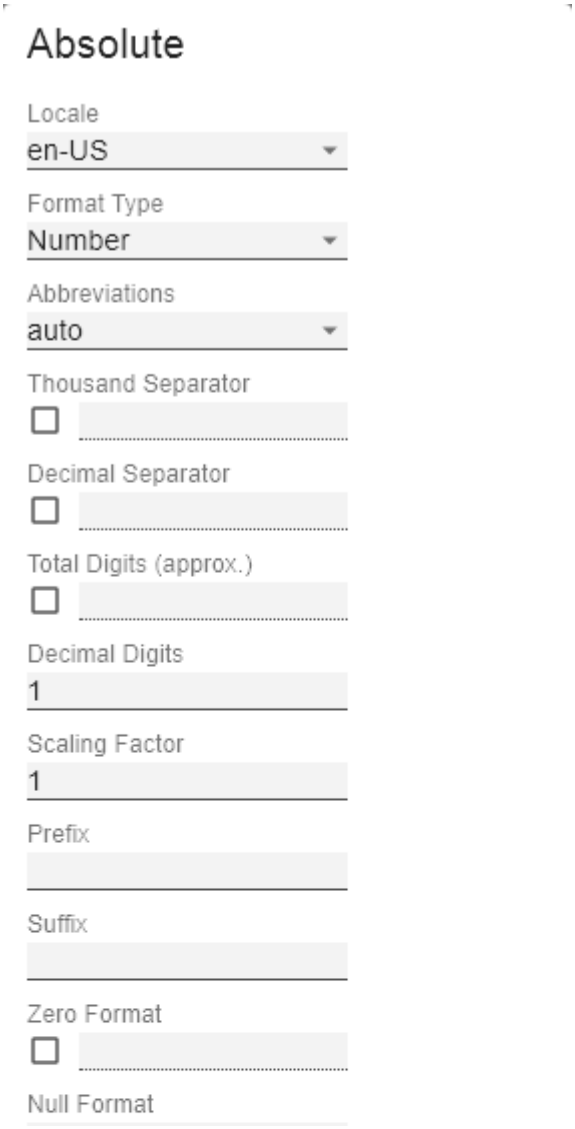


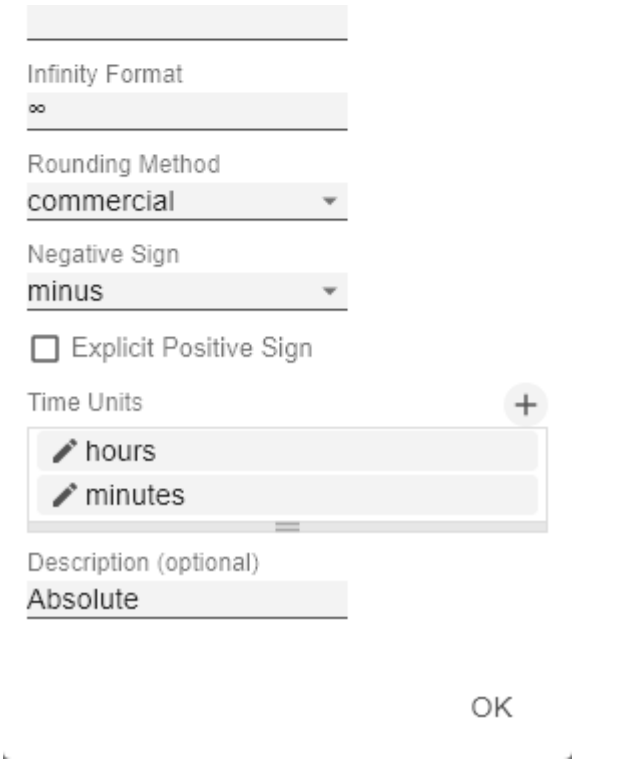
Value Format Tooltips Pop-Up

Define the number format using the following options:

- *Locale:* Defines abbreviations, decimal and thousand separators for the respective language. You can choose between *en*, *de*, *fr* and *auto*.
- *Format Type:* Defines the type of number output. You can choose between *number* (decimal number), *percent* (percentage) and *ordinal* (ordinal number).
- *Abbreviations:* Defines the type of abbreviations for all numbers to be formatted. You can choose between *mean* (abbreviation of the mean value), *min* (abbreviation of the minimum value), *max* (abbreviation of the maximum value), *auto* (best-suited abbreviation for the respective number), *trillion* (trillion abbreviation), *billion* (billion abbreviation), *million*, *thousand* and *none* (no abbreviation at all).

- *Negative Sign:* Defines how negative numbers are displayed. You can choose between *minus*, *parenthesis*, and *none* (no sign).
- *Prefix:* The input value is placed before the number.
- *Suffix:* The input value is placed after the number.
- *Thousands Separator:* Replaces the thousand separator set by the selected *locale.*
- *Decimal Separator:* Replaces the decimal separator set by the selected *locale.*
- *Total Digits:* Defines how many digits the number may consist of. *Total Digits* is prioritized over *Decimal Digits.*
- *Decimal Digits:* Defines how many decimal places of the formatted number are displayed.
- *Scaling Factor:* The value of each data point is multiplied by the entered number to scale values.
- *Zero Format:* When the checkbox is activated, any data value equal to *0* (the number zero) is replaced by the entered value.
- *Null Format:* Any data value that equals *NULL* (no value) is replaced by the entered value.
- *Error Format:* If a data value is undefined or the result of an arithmetic error such as dividing by 0 (zero), the data value is replaced by the entered value.
- *Rounding Method:* Defines the rounding method. You can choose between *half up* (23.5 24, -23.5 -23), *com mercial* (23.5 24, -23.5 -24) and *trim* (23.5 23, -23.5 -23).
- *Explicit Positive Sign:* Defines whether a positive number should always be preceded by a + (plus sign).
- *Description:* Defines a description for the set configuration.




Infinity Format
∞
Rounding Method
commercial
Negative Sign
minus
Explicit Positive Sign
Time Units
hours
minutes
Description (optional)
Absolute
OK

Axes Tab

Categories

Category Axis

Use this box to control the visibility of the Category Axis.

Axis Thickness [px]

Define the thickness of the category axis in pixels.

Category Width is Fixed

When the property is activated, a fixed width of a category is reserved.

Category Width [px]

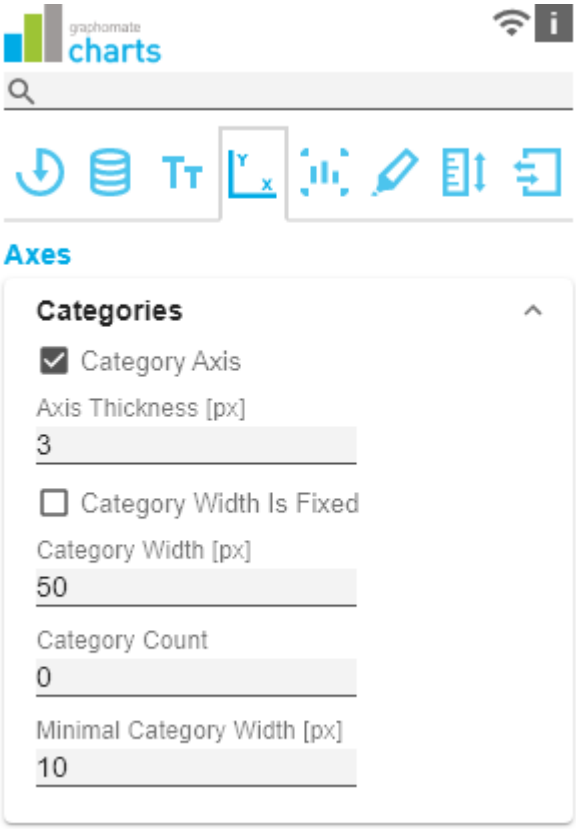
Defines the *category width* for the property *Category Width is Fixed* in [px].

Category Count

If this value is not equal to 0, it specifies how many categories should be displayed. Surplus elements are then cut off, missing elements are filled with empty categories.

Minimal Category Width [px]

If the automatically calculated category width is smaller than the value defined here, a scroll bar is displayed in the chart.



Value Axis

Enable

(De)Activate the visibility of the value axis using the *Enable* option.

Flip Value Axis

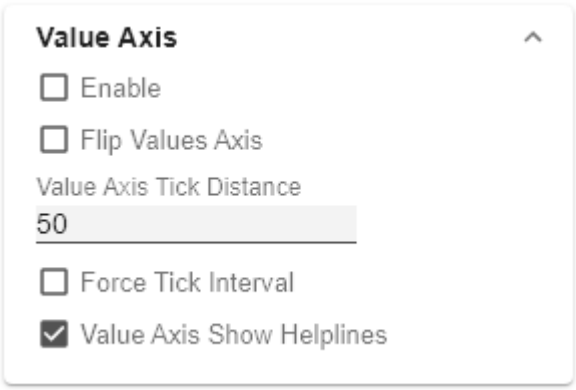
Switches the value axis to the other side. (right/left or up /down)

Value Axis Tick Distance

The distance between the ticks of the value axis. This is a guide value. The ticks are always positioned on "even" values.

Force Tick Interval

If *Force Tick Interval* is active, the axis ticks are displayed exactly in the entered interval.



Value Axis Show Helplines

Depending on the selected separator type (*Category Labels* or *Scenarios)* the index for the positioning of the separators is defined here. (For C*ategory Labels*, the index refers to the selected line, and for *Scenarios,* the index refers to the linked series).

Separators

You have the possibility to set so-called *separators* in the diagram.
These can be set automatically for *category labels* or changed *scenarios* or manually according to the selected switch.

Length [px]

Defines the length of the separator in pixels.

Thickness [px]

Specifies the thickness of the separator in pixels.

Separators in Front

If this option is enabled, the separator line is drawn in front of the axis.

Color

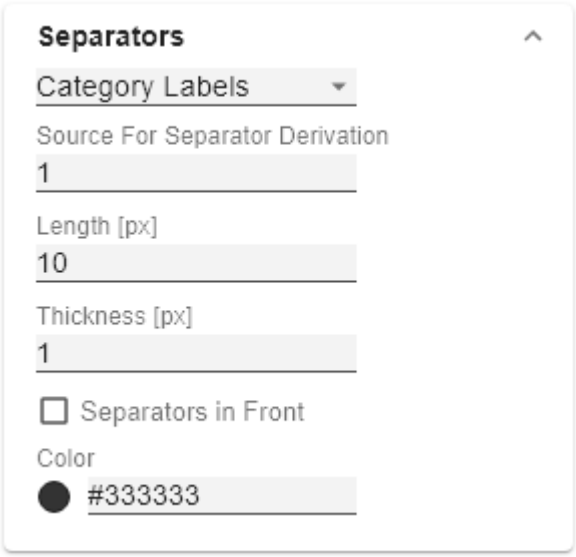
Define the color of the separator using Color Picker or HEX code.

Source For Separator Derivation (Category Labels, Scenarios)

This option determines the category row for displaying the separators in mode *xy*.

Manual Separators Positions

Use this dialog to manually enter the separator position. You can add further positions using the + symbol. Enter the position of the separator using an integer. The indexing starts at 0.



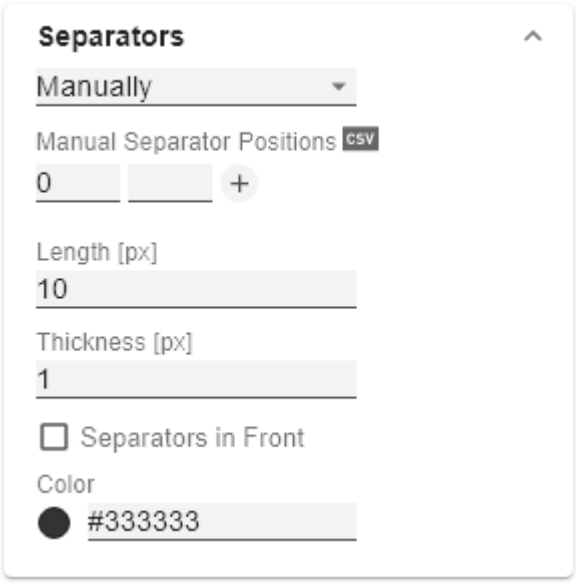


Chart Specific Tab

Bar Chart

Ending Line Visible

The checkbox (de)activates the ending lines in the bar or column chart.

Ending Line Overlap [px]

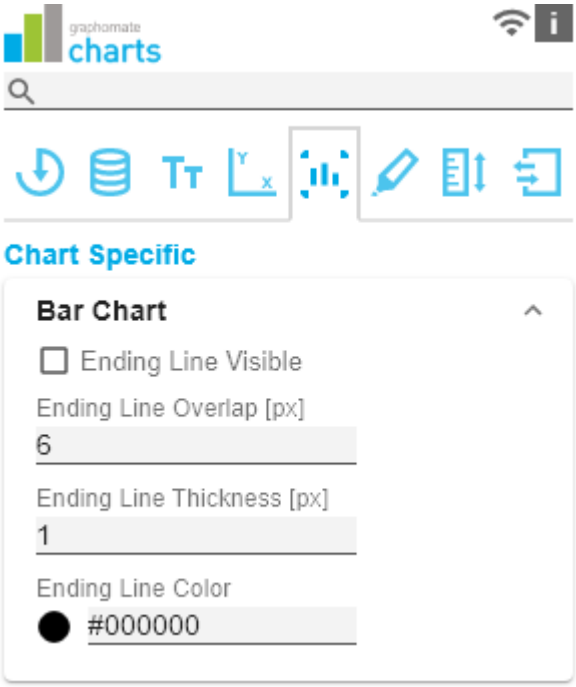
The value overlap of the KPI ending lines in [px] right and left above the bar.

Ending Line Thickness

Define the thickness of the ending lines in [px].

Ending Line Color

Specify the color value of the KPI ending lines.



Waterfall Chart

Determine the colors of the waterfall elements - corresponding to the *calculation path*.

Calculation Path

For the flexible use of the waterfall you store the corresponding arithmetic operation here. By clicking on the csv symbol you can switch between the standard field input or the comma separated input.

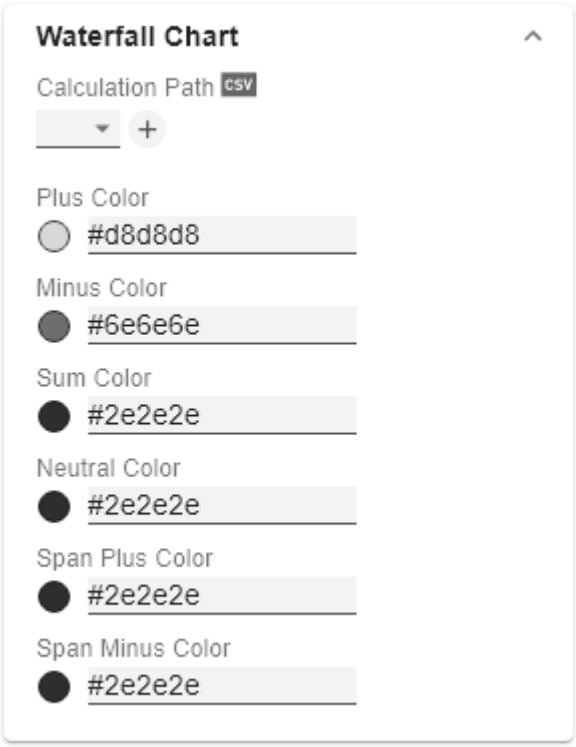
possible calculation options:

- " " does not apply special formatting *(space)*
- + Inflow *(Plus)*
- - Outflow *(Minus)*
- = Subtotals *(Sum)*
- "0" neutral position *(Neutral)*
- s+ positive margin *(Span Plus)*
- s- negative margin *(Span Minus)*

Waterfall Colors

Set color values for the different calculation options using the Color Picker or a HEX code.

> Please note that the use of scenarios overrides this formatting.



Line Chart

Line Dot Radius X

Specify the X-radius in the line chart. The input value can be interpreted as a *percentage* or *absolute value*.

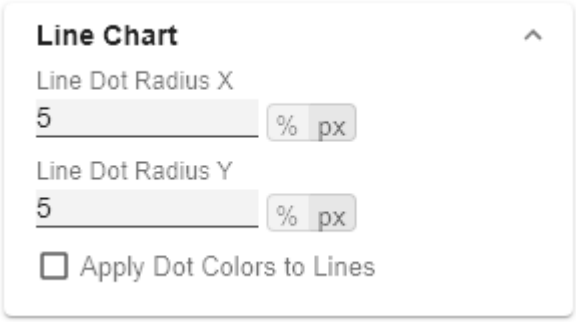
Line Dot Radius Y

Specify the Y-radius in the line chart. The input value can be interpreted as a *percentage* or *absolute value*.

> By differentiating between X and Y, ellipses and the like can also be implemented.

Apply Dot Colors to Lines

With this setting activated, the color of the heads is also applied to the lines.



Pin Chart

Pin Width

Define the thickness of the line of pins in pin charts. With *Pin Width* = "0" you can implement a dot chart. The input value can be interpreted as a *percentage* or *absolute* value.

Pin Head Radius X

Specify the X-radius in the needle chart. The input value can be interpreted as a *percentage* or *absolute* value.

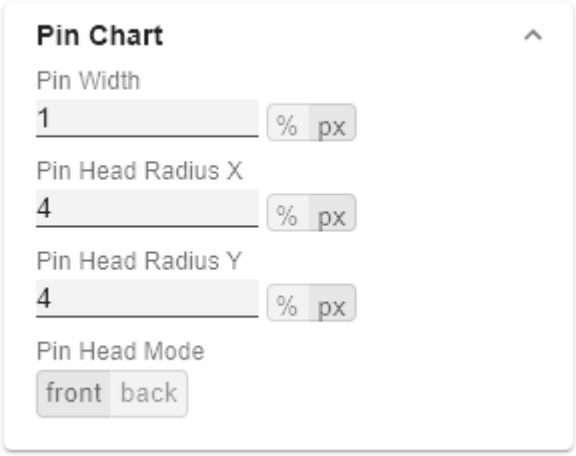
Pin Head Radius Y

Specify the Y-radius in the needle chart. The input value can be interpreted as a *percentage* or *absolute* value.

Pin Head Mode

The setting *front (top aligned)* draws the needle head in front of the line and concludes above with the value of the respective element value.

The setting *back (center aligned)* draws the needle head behind the line and positions the head centered on the respective element value.



Stacked Bar Chart

Controls the mode of the stacked bar charts. The following modes are available:

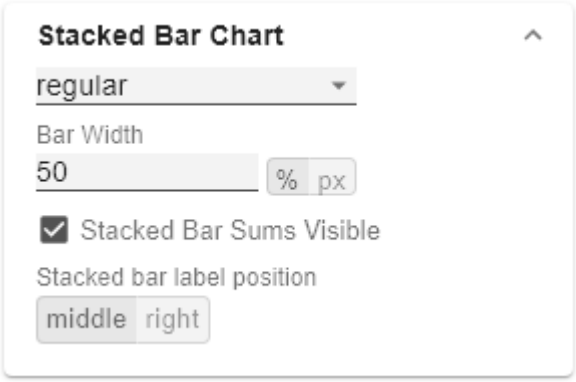
- *Regular*: The totals are formed from the absolute values, i.e. negative values are added up positively.
- *Negative*: Negative values are also added up as such. There are also negative stack columns.
- *Negative2*: This mode forms the total sum (similar to Realnumber only without the sum sign), but arranges the elements like negatives. If the total sum is negative, this stands left/bottom at the bar and with positive total sum accordingly right/top.
- *Realnumber*: The sums are formed from the real numbers, but only positive stacks are formed.
- *Percent*: The stack segments are displayed as percentages of the sum of each stack.

Stacked Bar Sums Visible

(De)activates the totals above the stacks. The input value can be interpreted as a *percentage* or *absolute value*.

Stacked Bar Label Position

Controls whether the labels of the stack are displayed in the *middle* or on the *right*.



Offsetbar Chart

Offset bars on left side

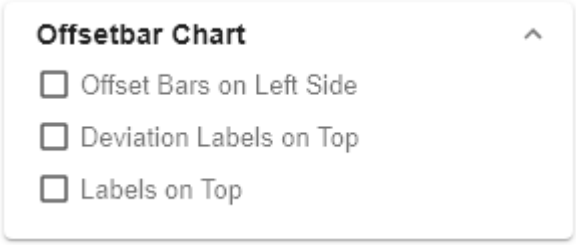
Displays the deviation bars of the offset bar chart on the left instead of the right.

Deviation Labels On Top

Always shows the labels of the deviations at the top of the offset bar charts. Otherwise, the negative deviation labels are displayed within the bar.

Labels on Top

Shows the labels of the offset bar above the bar and not within it.



Emphasis Tab

Reference Lines

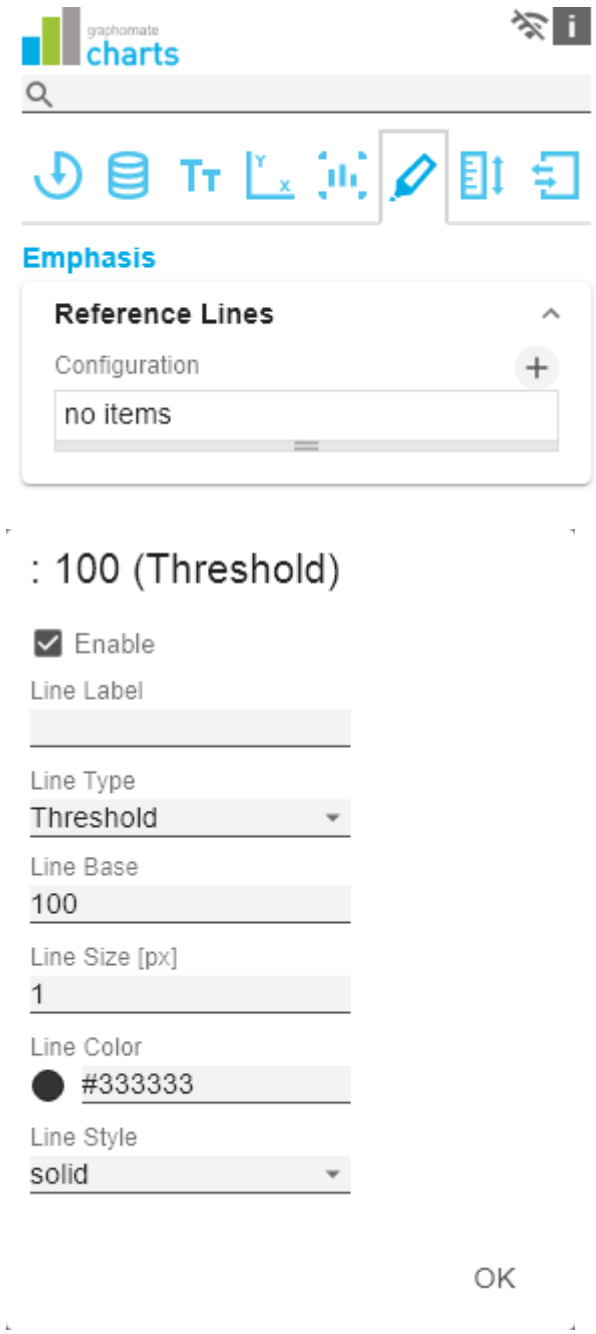
Configuration

With this element you can define lines, for example to visualize certain limit values or statistical quantities. Use the + symbol to add new lines and the red trash can to delete existing line configurations.

Configuration Pop-Up

The following properties can be defined:

- *Enable:* (De)activates the visibility of the line
- *Line Label*: Enter the name of the reference line here. This is displayed in the diagram.
- *Line Type*:
  - *Threshold*: A line is drawn parallel to the category axis, whose position can be determined via the *Line Base*.
  - *Lin.Reg.*: A regression line is displayed for all values of a visible series. Via the *Line Base* field the index (starting with 1) of the desired series can be selected.
  - *Median*: Represents the median of a visible series as a line parallel to the category axis. The index (starting at 1) of the desired series can be selected via the *Line Base* field.
  - *Average*: Represents the average value of a visible series in the form of a line parallel to the category axis. The index (starting at 1) of the desired series can be selected via the *Line Base* field..
- *Line Base*: This property applies if you have selected 'Threshold' for Line Type. Enter the value for the line position here.
- *Line Size (px):* Define the thickness of the Reference Line in px.
- *Line Color*: Determine the color for the line using Color Picker or enter an appropriate HEX code.
- *Line Style*: Three modes are available to display the line: *solid*, *dotted* or *dashed*



Highlight

You can use this function to highlight the absolute and /or percentage difference between different chart elements. To do this, activate the checkbox and set the indexes of the categories where the highlighting should start and end.

single

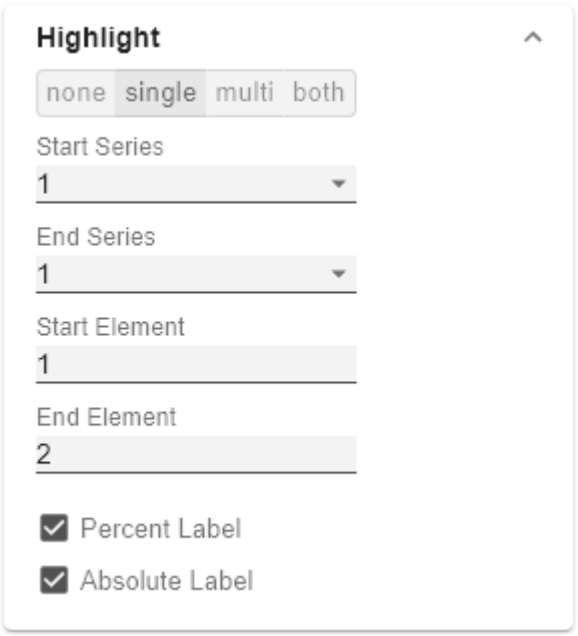
You can choose between a single highlighting on the side (single) or highlighting multiple elements within the diagram (multi). If you choose single highlighting, the first element in the list is displayed and all other elements are ignored. You can also choose whether the absolute and/or percentage values are to be displayed.

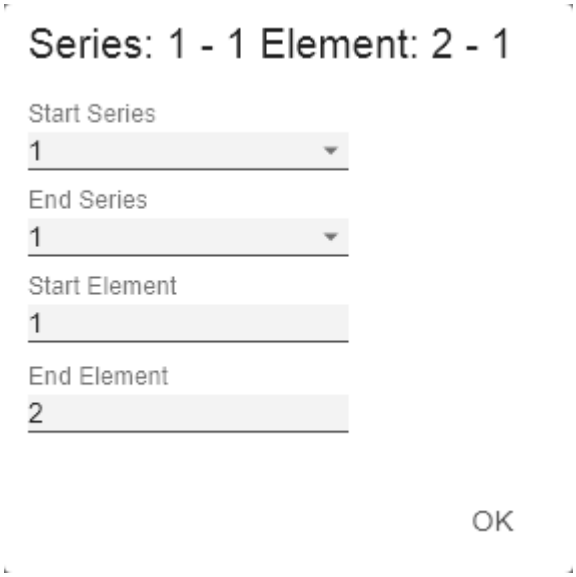
multi

In multi mode, several highlights can be created using the + symbol. In the pop-up, you define the indexes of the categories for which the highlighting should start (Start Series and Start Element) and end (End Series and End Element).

both

In *both* mode, *single* and *multi* modes can be used at the same time. Make the settings as described above.





Highlight Group

Enable

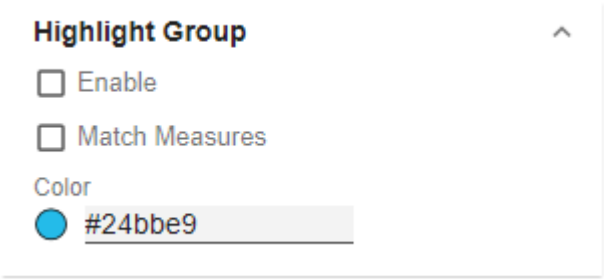
To assign elements to each other, activate the Highlight Group.

Match Measures

If this option is activated, the measures of the dimension are considered in addition to the member combination.

Color

Determines in which colour the Highlight Group should be displayed.



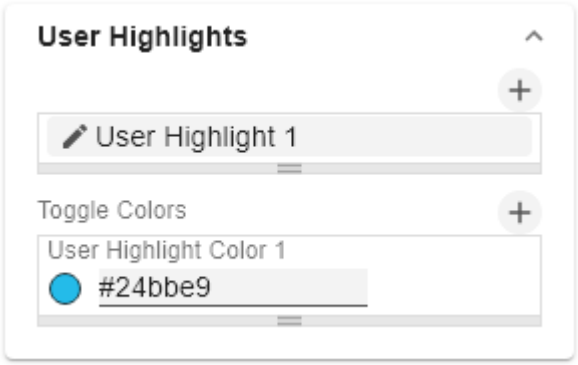
User Highlight

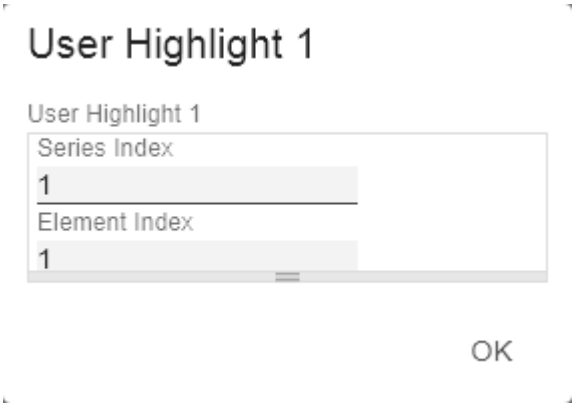
This property can be used to adjust and read out the list of user highlights. The User Highlights can be set at runtime by ALT + mouse click on a value in the diagram. In this way, this value is highlighted with a frame.

User Highlight Pop-Up

Specify here which element should be highlighted initially. Assign the index of the series (Series Index) and the index of the element (Element Index).

Toggle Colors



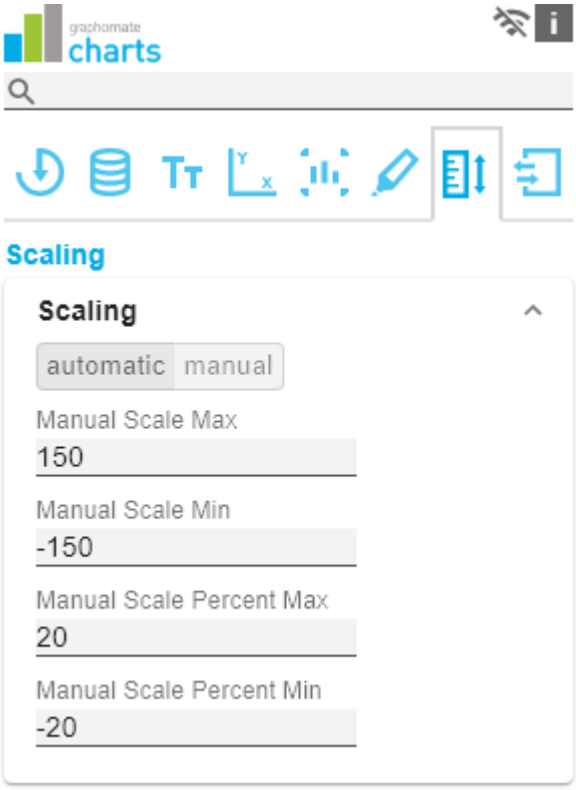
A list of colors through which highlights (highlighted values at run time using ALT+click) are toggled when the user repeatedly selects them.	

Scaling Tab

Scaling

The default setting automatic scales the diagram according to the Min and Max values from all data to be displayed.

Alternatively, you can manually set min/max scaling values for absolute and percentage values under manual. Chart min values > "0" intersect the value axis.



Synchronize

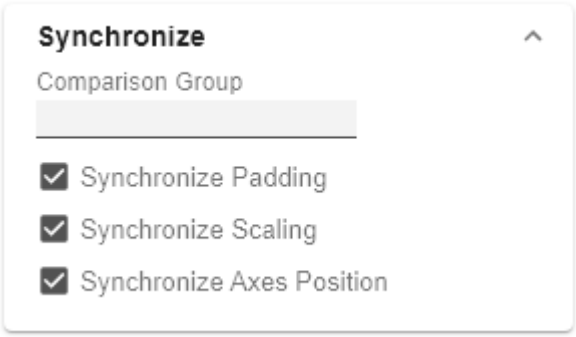
Comparison Group

You can use the *Comparison Group* to scale several charts identically. When you assign a Comparison Group, Overlay is displayed in the diagram.
Assign an identical group abbreviation for all diagrams concerned. Now the minimum and maximum of the data basis of this group is used.

> Comparison Group in Power BI:
> Use unique abbreviations. For example, "ReportName_AA" instead of just a letter like "A" or "B". Otherwise, the Comparison Group may not synchronise in the reports.

> This function is not supported by Tableau Desktop.

Synchronize Padding



Specifies whether the padding should be taken from the Comparison Group or whether it should be determined independently for the diagram.

Synchronize Scaling

Specifies whether the scaling should be taken from the Comparison Group or whether it should be determined independently for the diagram.

Synchronize Axes Position

Specifies whether the axis positions should be taken from the Comparison Group or whether they should be determined independently for the chart.

Outliers

Use Outlier Threshold

If the Outliers property is activated, the manually defined value from which outliers are displayed is used.

short - long

Here you select how outliers are displayed. In short mode, the outliers are displayed as small triangles on the axis. In long mode, however, the outliers are displayed over the entire available area, according to IBCS rules.

Size [px]

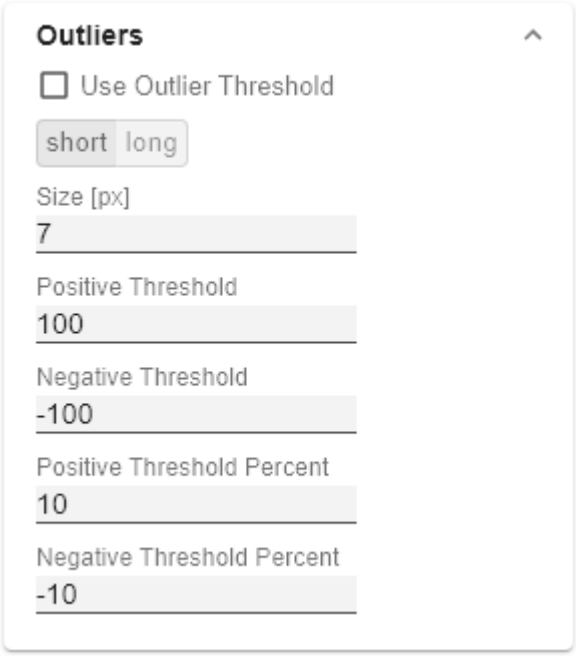
The size of the outlier character in pixels.

Negative/Positive Threshold

With automatic scaling, this is the value up to which everything in the diagram scales automatically. If a value in the data exceeds this limit, this value is not used for the maximum calculation. All values above this value are then displayed accordingly as outliers.

Negative/Positive Threshold Percent

Same function as Negative/Positive Threshold, but for percentage values in the deviation diagrams.



Scaling Helper

Here you can activate and define if the Scaling Helper appears as a line or area.

Value

Enter the value for the position of the Scaling Helper here.

Line Color

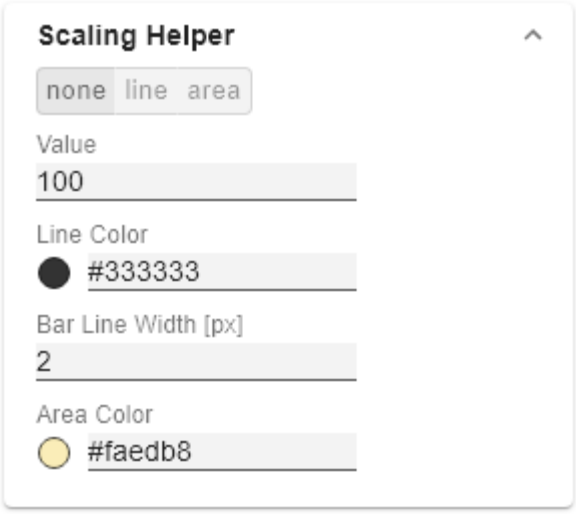
Use the Color Picker or a HEX code to define the color of the line (Line Color).

Bar Line Width [px]

Specify the line width of the Scaling Helper in pixels.

Area Color

Use the Color Picker or a HEX code to define the color of the area (Area Color).



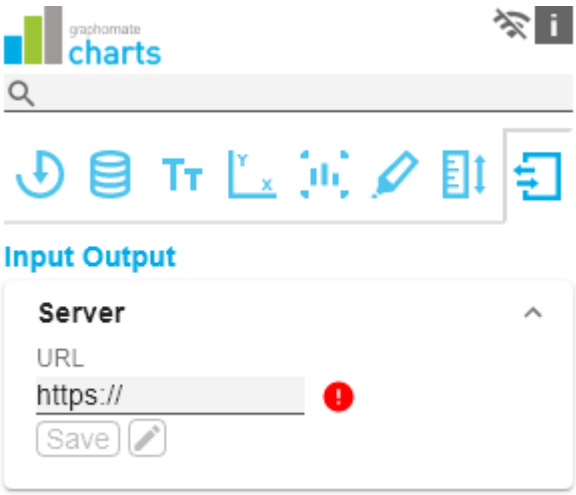
Input Output Tab

The functions of this tab are used to exchange templates for the graphomate charts. Connect to the graphomate server - a free component of graphomate GmbH - to store or load a graphomate charts template. This way you can exchange preconfigured graphomate charts designs between BI frontends that support the graphomate server. Currently these are: Power BI, Tableau, SAP Analytics Cloud, SAP Lumira Designer, SAP Web Intelligence, SAP UI5 and Microsoft Excel.

Server Configuration

Here you enter the URL of the graphomate server to which the component should connect and from which you want to save or retrieve templates.
If you have entered the URL to the server, a green check mark indicates that a connection could be established.
If another server is used later, the button next to the save button can be pressed and the server URL can be edited.

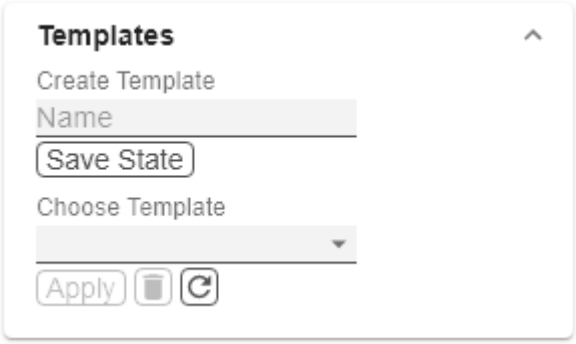
The hyperlink *"Admin"* allows you to jump to the admin area of the graphomate server.



Templates

If the current settings are to be saved as a template, a new template name can be entered in the input field labeled *Cre ate Template* and confirmed by clicking the *Save State* button. If the entered name complies with the naming convention, the template is saved on the server and a toast with the corresponding message is displayed in the lower part of the graphomate property sheet. However, if the entered name does not meet the expected naming conventions, an error message with the permitted characters is displayed accordingly.

With *Choose Template* templates stored on the server can be retrieved and applied. To do this, the desired template must be selected and the *Apply* button must be pressed. If you want to delete a template, you have to select the template in the list and press the *Delete (bin)* button. If changes have been made to the templates on the server side, you have to click on the *Refresh* button. Changes should then be visible.



Default Values

Here you will find the default values of the preset *Series Styles* and *Scenarios*. Copy the character string and paste it back into the *Data* tab in the relevant *Import/Export* area.

Series Styles:

W3sic2hvcnQiOiJkZWZhdWx0U2VyaWVzMSIsImNvbG9yIjoiI2FhYWFhYSIsImZpbGx0eXBlIjoiZmlsbGVkIiwic2hhcGUiOiJjaXJjbGUiLCJ0aGlja25lc3MiOjEsImJhcndpZHRoIjowLjQsInBpbndpZHRoIjowLjI1LCJmb250d2VpZ2h0IjoicmVndWxhciJ9LHsic2hvcnQiOiJkZWZhdWx0U2VyaWVzMiIsImNvbG9yIjoiI2NjY2NjYyIsImZpbGx0eXBlIjoiZmlsbGVkIiwic2hhcGUiOiJjaXJjbGUiLCJ0aGlja25lc3MiOjEsImJhcndpZHRoIjowLjQsInBpbndpZHRoIjowLjI1LCJmb250d2VpZ2h0IjoicmVndWxhciJ9LHsic2hvcnQiOiJkZWZhdWx0U2VyaWVzMyIsImNvbG9yIjoiIzk5OTk5OSIsImZpbGx0eXBlIjoiZmlsbGVkIiwic2hhcGUiOiJjaXJjbGUiLCJ0aGlja25lc3MiOjEsImJhcndpZHRoIjowLjQsInBpbndpZHRoIjowLjI1LCJmb250d2VpZ2h0IjoicmVndWxhciJ9LHsic2hvcnQiOiJkZWZhdWx0U2VyaWVzNCIsImNvbG9yIjoiI2JiYmJiYiIsImZpbGx0eXBlIjoiZmlsbGVkIiwic2hhcGUiOiJjaXJjbGUiLCJ0aGlja25lc3MiOjEsImJhcndpZHRoIjowLjQsInBpbndpZHRoIjowLjI1LCJmb250d2VpZ2h0IjoicmVndWxhciJ9LHsic2hvcnQiOiJkZWZhdWx0U2VyaWVzNSIsImNvbG9yIjoiIzc3Nzc3NyIsImZpbGx0eXBlIjoiZmlsbGVkIiwic2hhcGUiOiJjaXJjbGUiLCJ0aGlja25lc3MiOjEsImJhcndpZHRoIjowLjQsInBpbndpZHRoIjowLjI1LCJmb250d2VpZ2h0IjoicmVndWxhciJ9LHsic2hvcnQiOiJkZWZhdWx0U2VyaWVzNiIsImNvbG9yIjoiIzg4ODg4OCIsImZpbGx0eXBlIjoiZmlsbGVkIiwic2hhcGUiOiJjaXJjbGUiLCJ0aGlja25lc3MiOjEsImJhcndpZHRoIjowLjQsInBpbndpZHRoIjowLjI1LCJmb250d2VpZ2h0IjoicmVndWxhciJ9LHsic2hvcnQiOiJkZWZhdWx0U2VyaWVzNyIsImNvbG9yIjoiIzU1NTU1NSIsImZpbGx0eXBlIjoiZmlsbGVkIiwic2hhcGUiOiJjaXJjbGUiLCJ0aGlja25lc3MiOjEsImJhcndpZHRoIjowLjQsInBpbndpZHRoIjowLjI1LCJmb250d2VpZ2h0IjoicmVndWxhciJ9LHsic2hvcnQiOiJkZWZhdWx0U2VyaWVzOCIsImNvbG9yIjoiIzY2NjY2NiIsImZpbGx0eXBlIjoiZmlsbGVkIiwic2hhcGUiOiJjaXJjbGUiLCJ0aGlja25lc3MiOjEsImJhcndpZHRoIjowLjQsInBpbndpZHRoIjowLjI1LCJmb250d2VpZ2h0IjoicmVndWxhciJ9LHsic2hvcnQiOiJkZWZhdWx0U2VyaWVzOSIsImNvbG9yIjoiIzMzMzMzMyIsImZpbGx0eXBlIjoiZmlsbGVkIiwic2hhcGUiOiJjaXJjbGUiLCJ0aGlja25lc3MiOjEsImJhcndpZHRoIjowLjQsInBpbndpZHRoIjowLjI1LCJmb250d2VpZ2h0IjoicmVndWxhciJ9LHsic2hvcnQiOiJkZWZhdWx0U2VyaWVzMTAiLCJjb2xvciI6IiM0NDQ0NDQiLCJmaWxsdHlwZSI6ImZpbGxlZCIsInNoYXBlIjoiY2lyY2xlIiwidGhpY2tuZXNzIjoxLCJiYXJ3aWR0aCI6MC40LCJwaW53aWR0aCI6MC4yNSwiZm9udHdlaWdodCI6InJlZ3VsYXIifSx7InNob3J0IjoiZGVmYXVsdFNlcmllczExIiwiY29sb3IiOiIjMTExMTExIiwiZmlsbHR5cGUiOiJmaWxsZWQiLCJzaGFwZSI6ImNpcmNsZSIsInRoaWNrbmVzcyI6MSwiYmFyd2lkdGgiOjAuNCwicGlud2lkdGgiOjAuMjUsImZvbnR3ZWlnaHQiOiJyZWd1bGFyIn0seyJzaG9ydCI6ImRlZmF1bHRTZXJpZXMxMiIsImNvbG9yIjoiIzIyMjIyMiIsImZpbGx0eXBlIjoiZmlsbGVkIiwic2hhcGUiOiJjaXJjbGUiLCJ0aGlja25lc3MiOjEsImJhcndpZHRoIjowLjQsInBpbndpZHRoIjowLjI1LCJmb250d2VpZ2h0IjoicmVndWxhciJ9LHsic2hvcnQiOiJkZWZhdWx0U2VyaWVzMTMiLCJjb2xvciI6IiM0NDAwMDAiLCJmaWxsdHlwZSI6ImZpbGxlZCIsInNoYXBlIjoiY2lyY2xlIiwidGhpY2tuZXNzIjoxLCJiYXJ3aWR0aCI6MC40LCJwaW53aWR0aCI6MC4yNSwiZm9udHdlaWdodCI6InJlZ3VsYXIifSx7InNob3J0IjoiZGVmYXVsdFNlcmllczE0IiwiY29sb3IiOiIjMDAwMDAwIiwiZmlsbHR5cGUiOiJmaWxsZWQiLCJzaGFwZSI6InNxdWFyZSIsInRoaWNrbmVzcyI6MSwiYmFyd2lkdGgiOjAuNCwicGlud2lkdGgiOjAuMjUsImZvbnR3ZWlnaHQiOiJyZWd1bGFyIn0seyJzaG9ydCI6IlUiLCJjb2xvciI6IiMwMDAwMDAiLCJmaWxsdHlwZSI6ImVtcHR5Iiwic2hhcGUiOiJjaXJjbGUiLCJ0aGlja25lc3MiOjEsImJhcndpZHRoIjowLjQsInBpbndpZHRoIjowLjI1LCJmb250d2VpZ2h0IjoicmVndWxhciJ9LHsic2hvcnQiOiJkZWZhdWx0U2VyaWVzIiwiY29sb3IiOiIjMDAwMDAwIiwiZmlsbHR5cGUiOiJmaWxsZWQiLCJzaGFwZSI6InNxdWFyZSIsInRoaWNrbmVzcyI6MSwiYmFyd2lkdGgiOjAuNCwicGlud2lkdGgiOjAuMjUsImZvbnR3ZWlnaHQiOiJyZWd1bGFyIn0seyJzaG9ydCI6IlUiLCJjb2xvciI6IiMwMDAwMDAiLCJmaWxsdHlwZSI6ImVtcHR5Iiwic2hhcGUiOiJjaXJjbGUiLCJ0aGlja25lc3MiOjEsImJhcndpZHRoIjowLjQsInBpbndpZHRoIjowLjI1LCJmb250d2VpZ2h0IjoicmVndWxhciJ9XQ==

Scenarios (AC, FC, PP, BU):

W3sic2hvcnQiOiJBQyIsImNvbG9yIjoiIzIyMjIyMiIsImZpbGx0eXBlIjoiZmlsbGVkIiwic2hhcGUiOiJyZWN0IiwidGhpY2tuZXNzIjoxLCJiYXJ3aWR0aCI6MC40LCJwaW53aWR0aCI6MC4yNSwiZm9udHdlaWdodCI6Im5vcm1hbCJ9LHsic2hvcnQiOiJQUCIsImNvbG9yIjoiIzgwODA4MCIsImZpbGx0eXBlIjoiZmlsbGVkIiwic2hhcGUiOiJyaG9tYiIsInRoaWNrbmVzcyI6MSwiYmFyd2lkdGgiOjAuNCwicGlud2lkdGgiOjAuMjUsImZvbnR3ZWlnaHQiOiJub3JtYWwifSx7InNob3J0IjoiQlUiLCJjb2xvciI6IiMwMDAwMDAiLCJmaWxsdHlwZSI6ImVtcHR5Iiwic2hhcGUiOiJjaXJjbGUiLCJ0aGlja25lc3MiOjEsImJhcndpZHRoIjowLjQsInBpbndpZHRoIjowLjI1LCJmb250d2VpZ2h0IjoicmVndWxhciJ9LHsic2hvcnQiOiJkZWZhdWx0U2VyaWVzIiwiY29sb3IiOiIjMDAwMDAwIiwiZmlsbHR5cGUiOiJmaWxsZWQiLCJzaGFwZSI6InNxdWFyZSIsInRoaWNrbmVzcyI6MSwiYmFyd2lkdGgiOjAuNCwicGlud2lkdGgiOjAuMjUsImZvbnR3ZWlnaHQiOiJyZWd1bGFyIn0seyJzaG9ydCI6IkZDIiwiY29sb3IiOiIjMDAwMDAwIiwiZmlsbHR5cGUiOiJmaWxsZWQiLCJzaGFwZSI6InNxdWFyZSIsInRoaWNrbmVzcyI6MSwiYmFyd2lkdGgiOjAuNCwicGlud2lkdGgiOjAuMjUsImZvbnR3ZWlnaHQiOiJyZWd1bGFyIn0seyJzaG9ydCI6IkFDIiwiY29sb3IiOiIjMDAwMDAwIiwiZmlsbHR5cGUiOiJmaWxsZWQiLCJzaGFwZSI6InNxdWFyZSIsInRoaWNrbmVzcyI6MSwiYmFyd2lkdGgiOjAuNCwicGlud2lkdGgiOjAuMjUsImZvbnR3ZWlnaHQiOiJyZWd1bGFyIn1d

Known Issues (charts)

- Power BI - Tooltips
  - Tooltips are enabled in Power BI (Web and Desktop) on the *Visualizations pane* in the *Format pane* (color scroll icon) under *"QuickInfo".*
  - Settings for the formatting of the tooltips can be made via the GPS.
- Power BI - Comparison Group in Power BI:
  - Use unique abbreviations. For example, "ReportName_AA" instead of just a letter like "A" or "B". Otherwise, the Comparison Group may not synchronise in the reports.
- *Data Series Width* in the *Data Series Style Editor* is, at the moment, only possible for bar/column charts. Please use the parameter *Bar Width* in the properties for waterfall, stacked and offset bar charts.
  Also the *Width* of the *Data Types* cannot be used for waterfall and stacked bar charts.
- *Series Labels* Right/Bottom of the waterfall and the stacked bar chart are not always drawn correctly.
- Scaling a waterfall chart manually with a positive minimum results in all elements beeing rendered into the bars.
- Tooltips are not shown for NULL value labels in Internet Explorer
- The Single-/Multi-Highlighting function is not supported for different chart types per series.
- With different chart types per series and the "Use Outlier Threshold" function activated, there is a wider gap between the value axis and the category labels.
- If the value of the Scaling Helper is bigger then the Outlier Threshold (*Use Outlier Threshold: true),* the value of the Outlier Threshold will be replaced with the value of the Scaling Helper. (Same behavior with negative values for the Scaling Helper.
- Setting the scaling using scaling groups does not result in equal scaling between the graphomate charts and the graphomate matrix.
- In structure mode, the scenario legend is going to be overlapped by the chart.

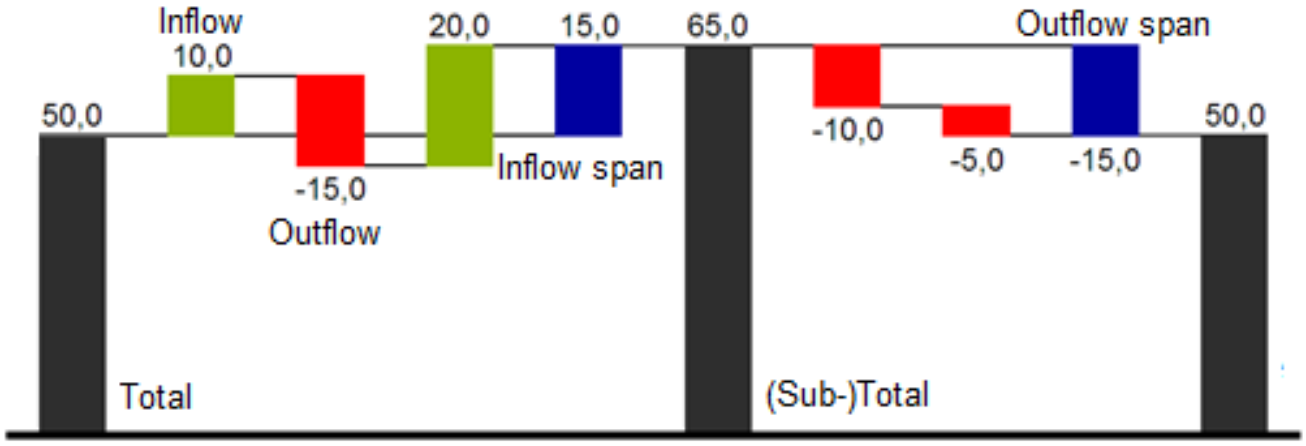
Known Issues (SAC)

- SAP has not yet released the data binding via the SDK of SAC, which is why a short script for data binding at runtime is required. See *Quickstart*.

Waterfall Calculation Path

Waterfall Calculation Path

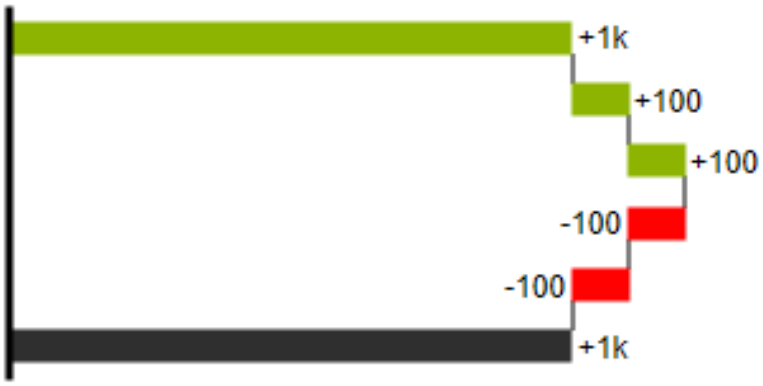
A waterfall chart – often also called a flying bricks chart – shows how an initial value is increased (inflow) or decreased (outflow) by a series of values, which lead to a final value – if necessary with subtotals and spans.



In case of using *Scenarios* the colors of the *Scenarios* overwrite the color scheme of the *Chart Specific* tab.

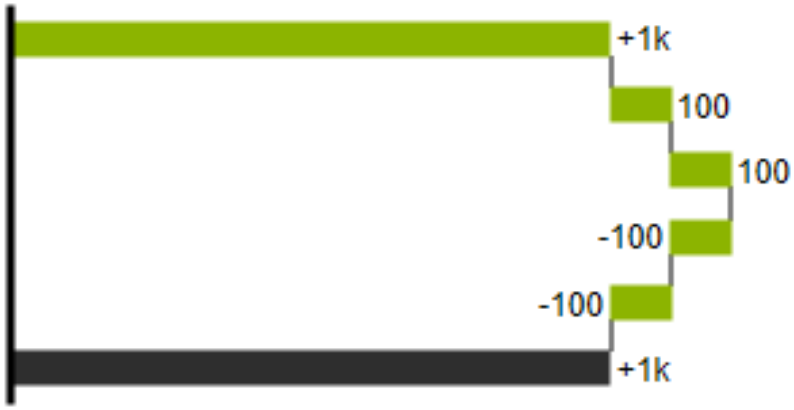
For a flexible use of the waterfall in *graphomate charts* an additional *Data Series* has to be defined: the *Waterfall Calculation Path*. This *Data Series* determines, whether the value to be shown is an in- or an outflow value, a (sub-) total or a span. In general, the sign of the data series value determines the effect on the (sub-) totals of the waterfall. Negative values are interpreted as outflow values, positive values are interpreted as inflow values and colored according to the color scheme on the *Chart Specific* tab.

By default, the last element of a waterfall is interpreted as the sum total. A waterfall without entries in the *Waterfall Calculation Path* would therefore look like this. By defining the *Waterfall Calculation Path* the appearance and the sign of each waterfall element can be controlled independently - even via scripting language. The following options can be used:



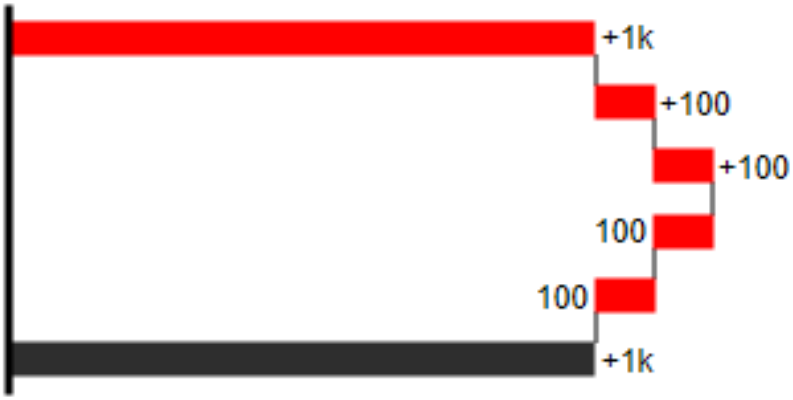
+=inflow

Positive signs are suppressed, the ⊕-color is applied to the elements.

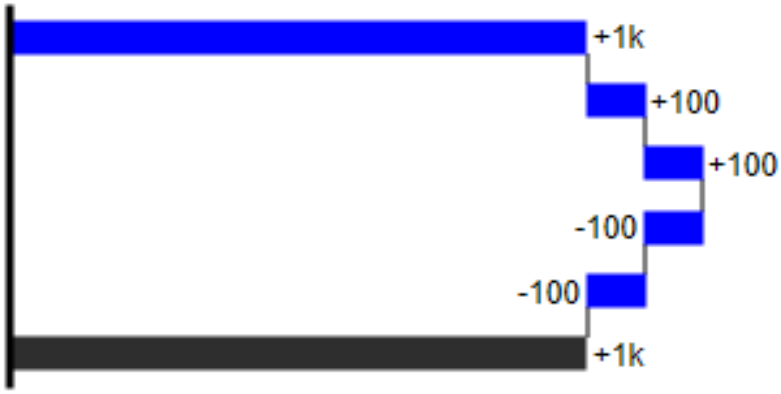


-=outflow

Negative signs are suppressed, the ⊖-color is applied to the elements.

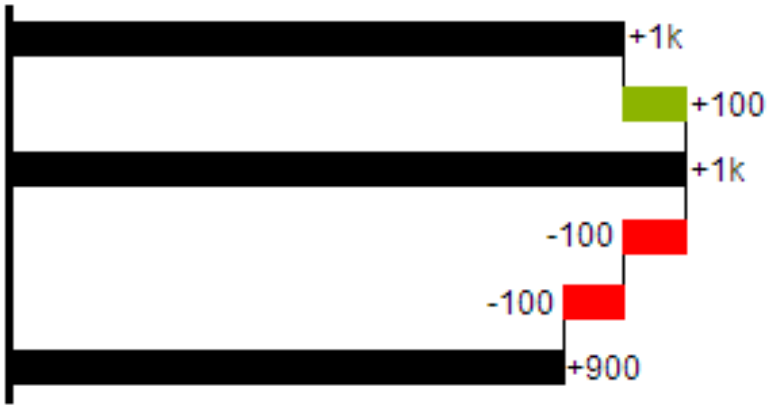


All signs are shown, the (0)-color is applied to the elements.**0 =neutral position**

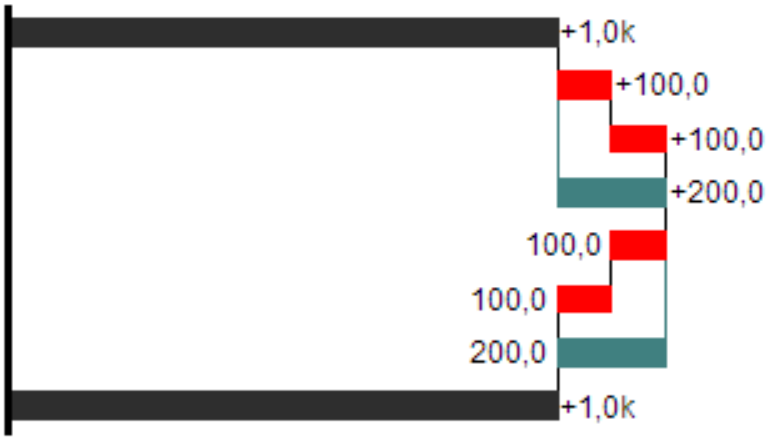


==(Sub-)total

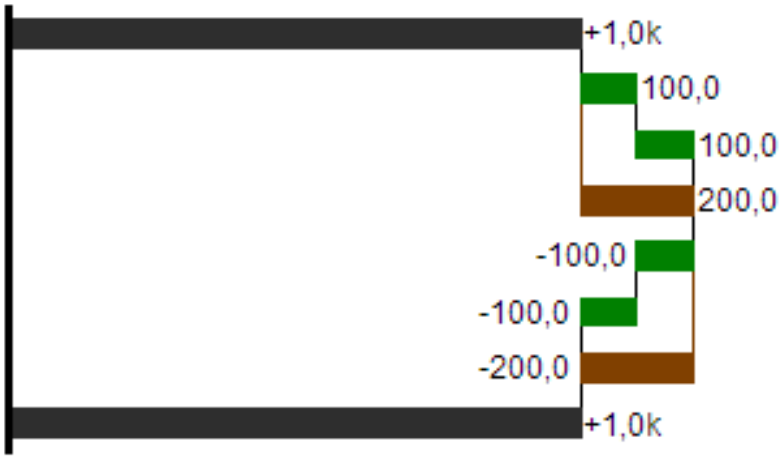
The element starts at the value axis and the (=)-color is applied to those elements.



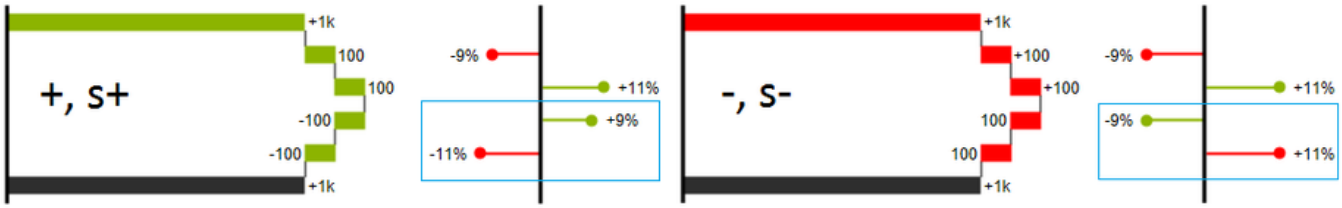
s-=outflow span
With the help of a span single changes can be summarized starting from a (sub-)total.
With an outflow span single cost items can be aggregated to a total cost.
Corresponding to outflow elements (see above) negative signs are suppressed and the (s-)-color is applied to the elements.



s+=inflow span
With an inflow span single inflow items can be aggregated starting from a (sub-)total.
Corresponding to inflow elements (see above) positive signs are suppressed and the (s+)-color is applied to the elements.



The (-) and (s-)values in the Waterfall Calculation Path also have an effect on the corresponding deviation charts: For negative values, which are now shown without signs based on the (-) and (s)-entries, the sign and the orientation of the deviation is reversed by necessity. Otherwise there is a risk of misinterpretation.



Stacked Bar Modes

When displaying values in the form of stacked bar charts, 5 different modes can be used for summation. The following graphic shows the modes: