

Package: controlcharts (via r-universe)

October 21, 2026

Title Interactive Plotting for Funnel, Sigma, and Statistical Process Control Charts

Version 0.0.27

Description Generate interactive funnel plots, multi-indicator sigma charts, and statistical process control ('SPC') charts. Chart calculation and plotting use JavaScript, allowing dynamic charts without a Shiny server. For more details see Spiegelhalter (2004) <[doi:10.1002/sim.1970](https://doi.org/10.1002/sim.1970)> and Pfadt & Wheeler (1995) <[doi:10.1901/jaba.1995.28-349](https://doi.org/10.1901/jaba.1995.28-349)>.

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funnel	<i>Generate interactive Funnel chart</i>
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Description

Generate interactive Funnel chart

Usage

```
funnel(  
  data,  
  keys,  
  numerators,  
  denominators,  
  indicators = NULL,  
  tooltips = NULL,  
  labels = NULL,  
  aggregations = NULL,  
  title = NULL,  
  canvas_settings = NULL,  
  funnel_settings = NULL,  
  misc_settings = NULL,  
  outlier_settings = NULL,  
  scatter_settings = NULL,  
  line_settings = NULL,  
  x_axis_settings = NULL,  
  y_axis_settings = NULL,  
  label_settings = NULL,  
  summary_table_settings = NULL,  
  tooltip_settings = NULL,  
  width = NULL,  
  height = NULL,  
  elementId = NULL,  
  return_objs = c("html_plot", "static_plot", "limits")  
)
```

Arguments

data	A data frame containing the data for the chart.
keys	A vector or column name representing the categories of the chart.
numerators	A numeric vector or column name representing the numerators for each category.
denominators	A numeric vector or column name representing the denominators for each category.
indicators	Optional vector or list of vectors identifying indicators. Supplying indicators displays a multi-indicator sigma chart using the native Funnel visual. Each indicator is calculated against its comparison population.
tooltips	A vector or column name, or a list of them, representing additional tooltips for each category. Each is labelled by its name in the list, or else by the expression supplied. NULL for none. Limits include them with their R types, reduced within each key by aggregations\$tooltips.
labels	A vector or column name representing the labels for each category. NULL for none.
aggregations	A list of aggregation function names for each field if multiple values are provided for each key. Valid options are: • "first": returns the first non-missing value • "last": returns the last non-missing value • "sum": returns the sum of values • "mean": returns the mean of values • "min": returns the minimum value • "max": returns the maximum value • "median": returns the median value • "count": returns the count of non-missing values Defaults to "sum" for numerators and denominators, and "first" otherwise. Every aggregation ignores missing values; an all-missing group has a count of 0 and is otherwise missing. Numerators and denominators are aggregated independently.
title	Optional title to be added to the top of the chart. It can be a character string for the title text only, or a list with the following options: • text: Title text (default: NULL) • font_size: Font size of the title (default: "16px") • font_weight: Font weight of the title (default: "bold") • font_family: Font family of the title (default: "'Arial', sans-serif") • x: Horizontal (x) position of the title as a percentage (default: "50%") • y: Vertical (y) position of the title in pixels (default: 5) • text_anchor: Text anchor of the title (default: "middle") • dominant_baseline: Dominant baseline of the title (default: "hanging") • subtitle: Subtitle text, drawn below the title (default: NULL) • subtitle_font_size: Font size of the subtitle (default: "12px")

	• <code>subtitle_font_weight</code>: Font weight of the subtitle (default: "normal")
<code>canvas_settings</code>	Optional list of settings for the canvas, see <code>funnel_default_settings('canvas')</code> for valid options.
<code>funnel_settings</code>	Optional list of settings for the Funnel chart, see <code>funnel_default_settings("funnel")</code> for valid options.
<code>misc_settings</code>	Optional native MISC settings. <code>group</code> selects a value from keys; if omitted, the first group is shown. See <code>funnel_default_settings("misc")</code> for valid options.
<code>outlier_settings</code>	Optional list of settings for outliers, see <code>funnel_default_settings('outliers')</code> for valid options. Detection switches use the first valid outlier settings after sorting and aggregating keys for the whole chart, for both plots and limits.
<code>scatter_settings</code>	Optional list of settings for scatter points, see <code>funnel_default_settings('scatter')</code> for valid options.
<code>line_settings</code>	Optional list of settings for lines, see <code>funnel_default_settings('lines')</code> for valid options.
<code>x_axis_settings</code>	Optional list of settings for the x-axis, see <code>funnel_default_settings('x_axis')</code> for valid options.
<code>y_axis_settings</code>	Optional list of settings for the y-axis, see <code>funnel_default_settings('y_axis')</code> for valid options.
<code>label_settings</code>	Optional list of settings for labels, see <code>funnel_default_settings('labels')</code> for valid options.
<code>summary_table_settings</code>	Optional list of settings for the summary table, see <code>funnel_default_settings('summary_table')</code> for valid options. A table shown by <code>show_table</code> has no static plot. Indicators show the MISC chart instead of the table.
<code>tooltip_settings</code>	Optional list of settings for tooltips, see <code>funnel_default_settings('tooltips')</code> for valid options.
<code>width</code>	Optional width of the chart in pixels. If NULL (default), the chart will fill the width of its container.
<code>height</code>	Optional height of the chart in pixels. If NULL (default), the chart will fill the height of its container.
<code>elementId</code>	Optional HTML element ID for the chart.
<code>return_objs</code>	Character vector of object types to return. Valid values are: • <code>"html_plot"</code>: Interactive <code>htmlwidgets</code> plot • <code>"static_plot"</code>: Non-interactive SVG plot • <code>"limits"</code>: Calculated control limits • <code>"limit_lines"</code>: Control limits across the full range of denominators, for drawing the limit lines (not returned by default)

When `summary_table_settings` sets `show_table` without indicators, `"static_plot"` is omitted by default.

Value

An object of class `controlchart` containing the interactive plot, static plot, limits data frame, and a function to save the plot. Limits and limit lines include every group, with supplied indicator columns included by name. Multi-indicator limits also include direction-adjusted scores. Limits include the typed key, named after the keys expression and duplicated as key, and tooltip columns by name. Limit lines describe denominator curves and have no observation keys or tooltips. Empty input returns empty limits and limit lines, without plots.

funnel-shiny	<i>Shiny bindings for wrapper</i>
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Description

Output and render functions for using wrapper within Shiny applications and interactive Rmd documents.

Usage

```
funnelOutput(outputId, width = "100%", height = "400px")

renderfunnel(expr, env = parent.frame(), quoted = FALSE)
```

Arguments

<code>outputId</code>	output variable to read from
<code>width, height</code>	Must be a valid CSS unit (like <code>'100%'</code> , <code>'400px'</code> , <code>'auto'</code>) or a number, which will be coerced to a string and have <code>'px'</code> appended.
<code>expr</code>	An expression that generates a wrapper
<code>env</code>	The environment in which to evaluate <code>expr</code> .
<code>quoted</code>	Is <code>expr</code> a quoted expression (with <code>quote()</code>)? This is useful if you want to save an expression in a variable.

Value

- Interactive Shiny widget for funnel plot
- Interactive Shiny widget for funnel plot

funnel_default_settings

Get default settings for Funnel charts Retrieve the default settings for Funnel charts or a specific settings group.

Description

Get default settings for Funnel charts Retrieve the default settings for Funnel charts or a specific settings group.

Usage

```
funnel_default_settings(group = NULL)
```

Arguments

group	Optional. A specific settings group to retrieve. If NULL, all settings groups are returned.
-------	---

Value

A list of default settings for Funnel charts or the specified settings group.

Examples

```
#' # Get all default settings for Funnel charts
funnel_default_settings()
# # Get default settings for a specific group
funnel_default_settings("x_axis")
```

misc

Generate a multi-indicator sigma chart

Description

Delegates to [funnel\(\)](#) with indicator columns and a selected group. Calculations, rendering, settings, and interactivity use the native Funnel visual.

Usage

```
misc(
  data,
  keys,
  numerators,
  denominators,
  indicators,
```

```

    target,
    ...,
    misc_settings = NULL
)

```

Arguments

<code>data</code>	A data frame containing the data for the chart.
<code>keys</code>	A vector or column name representing the categories of the chart.
<code>numerators</code>	A numeric vector or column name representing the numerators for each category.
<code>denominators</code>	A numeric vector or column name representing the denominators for each category.
<code>indicators</code>	A vector or list of vectors identifying indicators.
<code>target</code>	A single value from keys to display. Numeric targets match numeric keys by value.
<code>...</code>	Additional arguments passed to funnel() .
<code>misc_settings</code>	Native MISC settings, with group supplied by target. See <code>funnel_default_settings("misc")</code> for valid options.

Value

An object of class `controlchart`, as returned by [funnel\(\)](#). The plot displays target; limits include every group and separate indicator columns. Request `"limit_lines"` in `return_objs` for each indicator's curves.

Examples

```

comparison <- data.frame(
  organisation = rep(LETTERS[1:4], 2),
  indicator = rep(c("Measure A", "Measure B"), each = 4),
  numerator = c(8, 5, 4, 6, 2, 4, 5, 3),
  denominator = 10
)
misc(
  comparison,
  keys = organisation,
  numerators = numerator,
  denominators = denominator,
  indicators = indicator,
  target = "A",
  return_objs = "limits"
)

```

misc-shiny	<i>Shiny bindings for multi-indicator sigma charts</i>
------------	--

Description

Shiny bindings for multi-indicator sigma charts

Usage

```
miscOutput(outputId, width = "100%", height = "400px")  
  
renderMisc(expr, env = parent.frame(), quoted = FALSE)
```

Arguments

outputId	Output variable to read from.
width, height	Valid CSS dimensions.
expr	An expression that generates a MISC chart.
env	Environment in which to evaluate expr.
quoted	Whether expr is quoted.

Value

An interactive Funnel widget displaying a MISC chart.

misc_default_settings	<i>Get default settings for multi-indicator sigma charts</i>
-----------------------	--

Description

Get default settings for multi-indicator sigma charts

Usage

```
misc_default_settings(group = NULL)
```

Arguments

group	Optional settings group. If NULL, all groups are returned.
-------	--

Value

Native Funnel settings used by `misc()`.

spc*Generate interactive SPC chart*

Description

Generate interactive SPC chart

Usage

```
spc(  
  data,  
  keys,  
  numerators,  
  denominators,  
  groupings,  
  indicators = NULL,  
  xbar_sds,  
  tooltips = NULL,  
  labels = NULL,  
  aggregations = NULL,  
  title = NULL,  
  canvas_settings = NULL,  
  spc_settings = NULL,  
  outlier_settings = NULL,  
  nhs_icon_settings = NULL,  
  scatter_settings = NULL,  
  line_settings = NULL,  
  x_axis_settings = NULL,  
  y_axis_settings = NULL,  
  date_settings = NULL,  
  label_settings = NULL,  
  summary_table_settings = NULL,  
  tooltip_settings = NULL,  
  width = NULL,  
  height = NULL,  
  elementId = NULL,  
  return_objs = c("html_plot", "static_plot", "limits")  
)
```

Arguments

data	A data frame containing the data for the chart.
keys	A vector or column name representing the categories (x-axis) of the chart.
numerators	A numeric vector or column name representing the numerators for each category.

denominators	A numeric vector or column name representing the denominators for each category. Optional for i, i_m, i_mm, run and mr charts, which then plot numerators divided by denominators; an indicator whose denominators are all missing plots its numerators.
groupings	A vector or column name representing the grouping for each category.
indicators	A vector or list of vectors representing indicator categories for the summary table.
xbar_sds	A numeric vector or column name representing the x-bar and standard deviation values for each category.
tooltips	A vector or column name, or a list of them, representing additional tooltips for each category. Each is labelled by its name in the list, or else by the expression supplied. NULL for none. Limits include them with their R types, reduced within each key by aggregations\$tooltips.
labels	A vector or column name representing the labels for each category. NULL for none.
aggregations	A list of aggregation function names for each field if multiple values are provided for each key. Valid options are: • "first": returns the first non-missing value • "last": returns the last non-missing value • "sum": returns the sum of values • "mean": returns the mean of values • "min": returns the minimum value • "max": returns the maximum value • "median": returns the median value • "count": returns the count of non-missing values Defaults to "sum" for numerators and denominators, and "first" otherwise. Every aggregation ignores missing values; an all-missing group has a count of 0 and is otherwise missing. Numerators and denominators are aggregated independently.
title	Optional title to be added to the top of the chart. It can be a character string for the title text only, or a list with the following options: • text: Title text (default: NULL) • font_size: Font size of the title (default: "16px") • font_weight: Font weight of the title (default: "bold") • font_family: Font family of the title (default: "'Arial', sans-serif") • x: Horizontal (x) position of the title as a percentage (default: "50%") • y: Vertical (y) position of the title in pixels (default: 5) • text_anchor: Text anchor of the title (default: "middle") • dominant_baseline: Dominant baseline of the title (default: "hanging") • subtitle: Subtitle text, drawn below the title (default: NULL) • subtitle_font_size: Font size of the subtitle (default: "12px") • subtitle_font_weight: Font weight of the subtitle (default: "normal")

canvas_settings	Optional list of settings for the canvas, see <code>spc_default_settings('canvas')</code> for valid options.
spc_settings	Optional list of settings for the SPC chart, see <code>spc_default_settings('spc')</code> for valid options.
outlier_settings	Optional list of settings for outliers, see <code>spc_default_settings('outliers')</code> for valid options. Detection switches use the first valid outlier settings after sorting and aggregating keys, separately for each indicator, for both plots and limits.
nhs_icon_settings	Optional list of settings for NHS icons, see <code>spc_default_settings('nhs_icons')</code> for valid options.
scatter_settings	Optional list of settings for scatter points, see <code>spc_default_settings('scatter')</code> for valid options.
line_settings	Optional list of settings for lines, see <code>spc_default_settings('lines')</code> for valid options.
x_axis_settings	Optional list of settings for the x-axis, see <code>spc_default_settings('x_axis')</code> for valid options.
y_axis_settings	Optional list of settings for the y-axis, see <code>spc_default_settings('y_axis')</code> for valid options.
date_settings	Optional list of settings for dates, see <code>spc_default_settings('dates')</code> for valid options.
label_settings	Optional list of settings for labels, see <code>spc_default_settings('labels')</code> for valid options.
summary_table_settings	Optional list of settings for the summary table, see <code>spc_default_settings('summary_table')</code> for valid options. A table shown by <code>show_table</code> has no static plot.
tooltip_settings	Optional list of settings for tooltips, see <code>spc_default_settings('tooltips')</code> for valid options.
width	Optional width of the chart in pixels. If NULL (default), the chart will fill the width of its container.
height	Optional height of the chart in pixels. If NULL (default), the chart will fill the height of its container.
elementId	Optional HTML element ID for the chart.
return_objs	Character vector of object types to return. Valid values are: "html_plot": Interactive <code>htmlwidgets</code> plot "static_plot": Non-interactive SVG plot "limits": Calculated control limits When indicators are supplied, or <code>summary_table_settings</code> sets <code>show_table</code> , "static_plot" is omitted by default.

Value

An object of class `controlchart` containing the interactive plot, static plot, limits, and a function to save the plot. Limits are a flat data frame. Supplied indicator columns are included by name. `xbar` and `s` limits include each group's size as denominator. The key column is named after the keys expression and retains its type. It is duplicated as `key` for compatibility. Tooltip columns are included by name. Empty input returns empty limits with typed keys and tooltips, without plots.

 spc-shiny

Shiny bindings for wrapper

Description

Output and render functions for using `wrapper` within Shiny applications and interactive Rmd documents.

Usage

```
spcOutput(outputId, width = "100%", height = "400px")
```

```
renderSpc(expr, env = parent.frame(), quoted = FALSE)
```

Arguments

<code>outputId</code>	output variable to read from
<code>width, height</code>	Must be a valid CSS unit (like <code>'100%'</code> , <code>'400px'</code> , <code>'auto'</code>) or a number, which will be coerced to a string and have <code>'px'</code> appended.
<code>expr</code>	An expression that generates a wrapper
<code>env</code>	The environment in which to evaluate <code>expr</code> .
<code>quoted</code>	Is <code>expr</code> a quoted expression (with <code>quote()</code>)? This is useful if you want to save an expression in a variable.

Value

Interactive Shiny widget for SPC chart

Interactive Shiny widget for funnel plot

spc_default_settings *Get default settings for SPC charts*

Description

Retrieve the default settings for SPC charts or a specific settings group.

Usage

```
spc_default_settings(group = NULL)
```

Arguments

group	Optional. A specific settings group to retrieve. If NULL, all settings groups are returned.
-------	---

Value

A list of default settings for SPC charts or the specified settings group.

Examples

```
#' # Get all default settings for SPC charts
spc_default_settings()
# # Get default settings for a specific group
spc_default_settings("x_axis")
```

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