

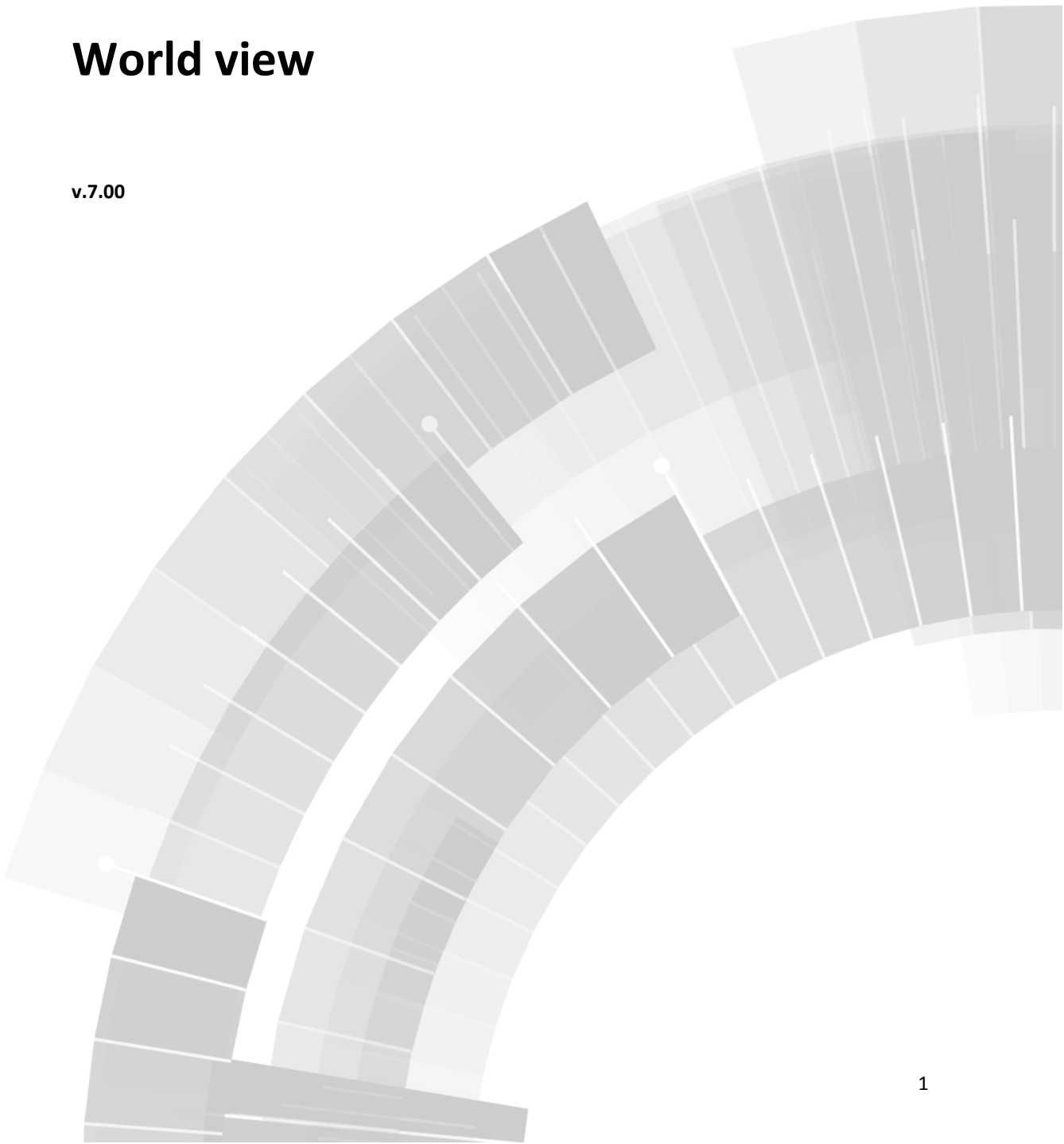


COPADATA
do it your way

zenon manual

World view

v.7.00





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1. Welcome to COPA-DATA help

GENERAL HELP

If you miss any information in this help chapter or have any suggestions for additions, please feel free to contact us via e-mail: documentation@copadata.com (<mailto:documentation@copadata.com>).

PROJECT SUPPORT

If you have concrete questions relating to your project, please feel free to contact the support team via e-mail: support@copadata.com (<mailto:support@copadata.com>)

LICENSES AND MODULES

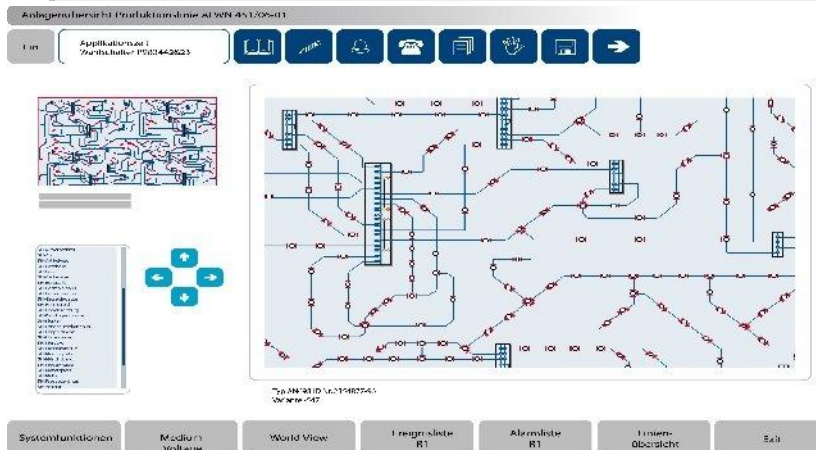
If you realize that you need additional licenses or modules, please feel free to contact the sales team via e-mail: sales@copadata.com (<mailto:sales@copadata.com>)

2. Worldview

With the help of the worldview screen, which are larger than the frame they are based on , can be displayed and controlled. With this it is possible to display very large equipment completely and to navigate in them. In the worldview you can zoom in on parts of the equipment. Dependent on the zoom steps you can define which details are displayed (zooming, panning and decluttering). You can also jump directly to elements.

Info

Some elements cannot be zoomed such as Combo/Listbox, Alarm Message List, diagram of the Extended Trend and so on. The size of these elements remains constant. However their position changes.



License information

Part of the standard license of the Editor and Runtime.

3. Engineering in the Editor

To use a worldview, you need:

1. a screen (on page 6) which is larger than its frame; this is the worldview
2. a screen of type **Worldview overview** (on page 6); this is used for navigating in the worldview and affects the frame of the worldview

Note: These two screen must be based on different frames.

When calling up the screen (on page 10) of type **Worldview overview**, you define which frame is controlled by this screen.

Hints:

- ▶ Do not use the **Worldview** as start screen.
- ▶ Start the **Worldview** and the **Worldview overview** together with the help of a script.

**Info**

At the navigation with Multi-touch a screen of type **Worldview overview** is not necessary. With Multi-touch you can directly navigate in the **Worldview**.

SCREEN ELEMENTS

The visibility of dynamic elements, vector elements and their names for object lists are defined in the properties of the respective objects: `Runtime/Worldview display/...`

3.1 Create worldview

In order to create a worldview:

1. create a new screen
2. go to property group `Size`
3. select the `Size from frame` property
4. deactivate this property (remove tick if necessary)
5. for properties `Width [pixels]` and `Height [pixels]` select values which exceed the size of the frame

Maximum values: 32.000

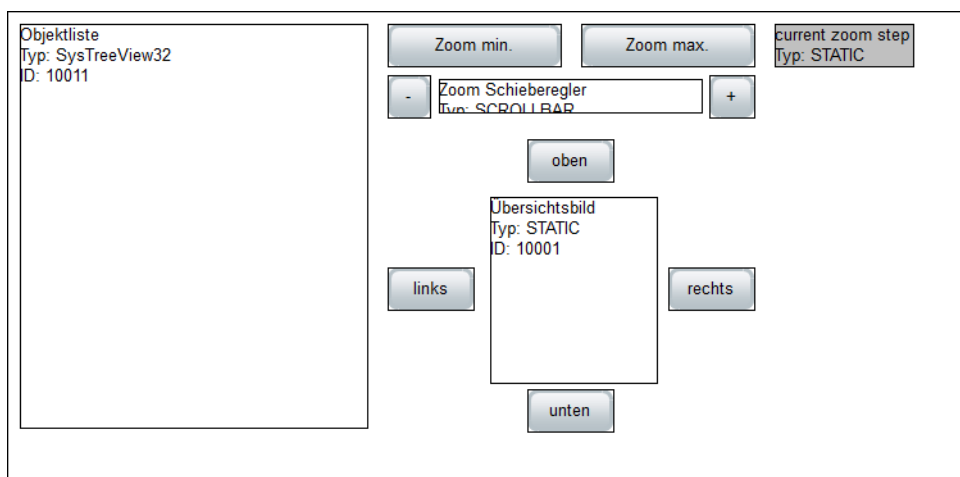
6. create a screen switch function for this screen

3.2 Creating a screen of the type **Worldview overview**

In order to create screen of type **Worldview overview**:

1. create a frame for the screen

2. regard the appropriated size (recommendation: 550 x 350 pixel)
3. for the frame activate properties **Always in the foreground** and **Do not close after losing focus**
4. create a new screen
5. chose **Worldview overview** as type
6. assign the screen to the frame
7. add the desired elements in order to control the worldview via menu **Control elements**
8. add a function for closing the screen of type **worldview navigation**
9. create a screen switch function for the screen of type **Worldview overview**



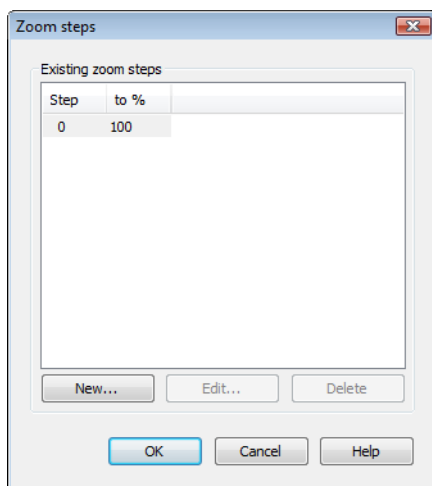
Parameters	Description
Add template	<p>Opens the dialog for selecting a template for the screen type.</p> <p>Templates are shipped together with zenon and can also be created by the user.</p> <p>Templates add pre-defined control elements to pre-defined locations in the screen. Elements that are not necessary can also be removed individually once they have been created. Additional elements are selected from the drop-down list and dragged onto the screen. Elements can be moved on the screen and arranged individually.</p>
Overview screen (frame)	Display the screen which is controlled.
Object list	List of the directly controllable Objects (on page 10).
current zoom level	Displays the current zoom level (on page 8).
Zoom min.	Turns off zooming. The screen is displayed in the size of the frame.
Zoom max.	Maximum zoom level.
Zoom slider	Slider for setting the zoom level.
+ (zoom in)	Zoom into the screen.
- (zoom out)	Zoom out of the screen.
to the left	Moves the displayed section to the left.
to the right	Moves the displayed section to the right.
up	Moves the displayed section up.
down	Moves the displayed section down.

3.3 Zoom steps

Zoom steps define the relation of frame size and displayed screen. The display takes place in steps to which percentage numbers are assigned. 100 % equals the frame size. The larger the section, the lower the step.

To engineer zoom steps:

1. navigate to group Graphical design/Runtime general in project properties
2. Click on the ... button in the Zoom steps for world view property
3. the dialog for configuring zoom steps is opened



Parameters	Description
Existing zoom steps.	In the list you can find the available zoom steps.
New...	Creates a new zoom step. You can edit the proposed value manually. The value must be between 1 and 100.
Edit...	Opens the field for the percentage value for the highlighted step.
Delete...	Deletes the selected zoom step.

MINIMUM ZOOM STEP

The minimum step is limited to the relation of the screen size to the frame size.

Example:

- ▶ 10 zoom steps from 10% to 100% are engineered.
- ▶ The screen is twice as large as the frame.
 - The zoom steps come up to 50%. From this point on the full screen size is displayed.

- ▶ The screen is four times as large as the frame.
 - The zoom steps come up to 20 %.

3.4 Objects

Each element in a screen can be given a unique name. This name can also be used for navigation in the worldview overview. A click on the name in the object list moves the displayed section until the element is in the middle of the displayed section.

To define objects:

1. click on the desired element
2. navigate to `Group Runtime` in properties
3. Click on the `Name for object list` property
4. enter a name for the object

In the Runtime all named objects are displayed in the object list.

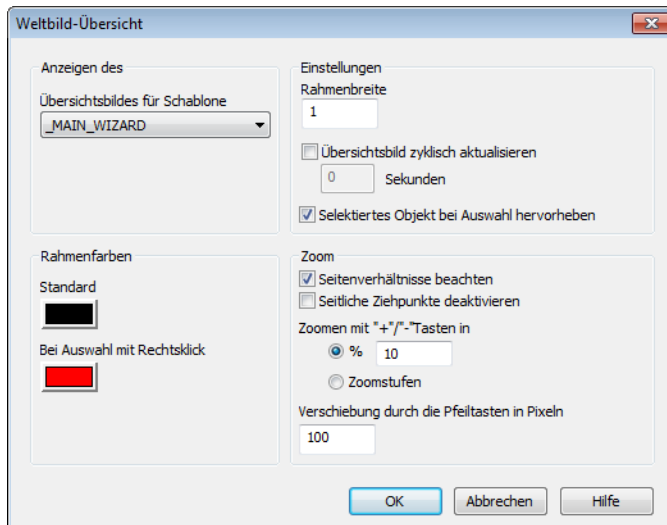
4. Function screen switch to worldview overview

At calling up a screen of type Worldview overview in the Runtime you define which Frame is navigated by the screen. The screen which should be controlled must not have property `Size from frame` and must be larger than the corresponding frame.

To engineer a function screen switch to a screen of type Worldview overview:

1. Create a new function
2. select screen switch
3. the dialog for selecting a screen is opened
4. select the screen of type Worldview overview (on page 6)

5. the dialog for configuring the screen is opened



Parameters	Description
Display of the overview screen for the frame	Selection of the frame which should be controlled from drop-down list.
Border color	Defines color display in the Runtime:
Standard	Color for the frame in the screen that indicates the currently selected area. Clicking on Color opens the palette.
When selecting with right click	Color of the border if the section is clicked with the right mouse button for moving. Clicking on Color opens the palette.
Settings	
Frame width	Width for the frame in the screen that indicates the currently selected area.
Cyclic update of the overview screen	Active: Dynamic elements in the assigned screen are updated defined time intervals.
Seconds	Time in seconds for the <code>cyclic update</code> .
Highlight selected object on selection	Active: If you click a object in the object list, the object is highlighted.
Zoom	Properties for zoom.
Maintain aspect ratio	Active: Aspect ratio are maintained during zooming.
Deactivate lateral drag points	Active: The drag points of the borders are deactivated and no longer displayed. Exception: Corner points.
Zooming with +/- keys in	Selection on how to use keys + and – for zooming. The keys must be assigned (on page 14) appropriately.
%	With the assigned keys zooming is done in percentage steps. Enter a value between 1 and 100. Default: 10
- Zoom steps	With the assigned keys zooming is done in zoom steps (on page 8).
Moving with arrow keys in pixels	Enter the number of pixels by which the screen is moved when using the arrow keys. The keys must be assigned (on page 14) appropriately.

	Enter a value between 1 and 16,000. Default: 100
OK	Applies information, closes dialog and opens dialog for replacing links.
Cancel	Discards all changes and closes dialog.
Help	Opens online help.

**Info**

*Changes of the property in the Editor only take effect in the Runtime after the screen of type **Worldview overview** is called up again.*

5. Operating during Runtime

To be able to navigate in a worldview in the Runtime, use:

- ▶ a screen of the type Worldview overview
or
- ▶ Multi-touch at a touch screen

WORLDVIEW OVERVIEW

1. call up screen Worldview (on page 6) with the help of a screen switch function
2. call up the screen of type Worldview overview (on page 6) with the help of a Screen switch function (on page 10)

Hint: Use a script in order to always call up both screen switch functions.

With the help of the control elements, the mouse and the keyboard you can navigate and zoom in the worldview. You can find details in the Worldview overview (on page 14) chapter.

MULTI-TOUCH

Activate property `Multi-touch` for `zoom` and `scroll` or program respective VBA/VSTA Events in order to scroll and zoom. You can find details in the `Navigation with Multi-touch in the worldview` (on page 17) chapter.

5.1 Worldview Overview

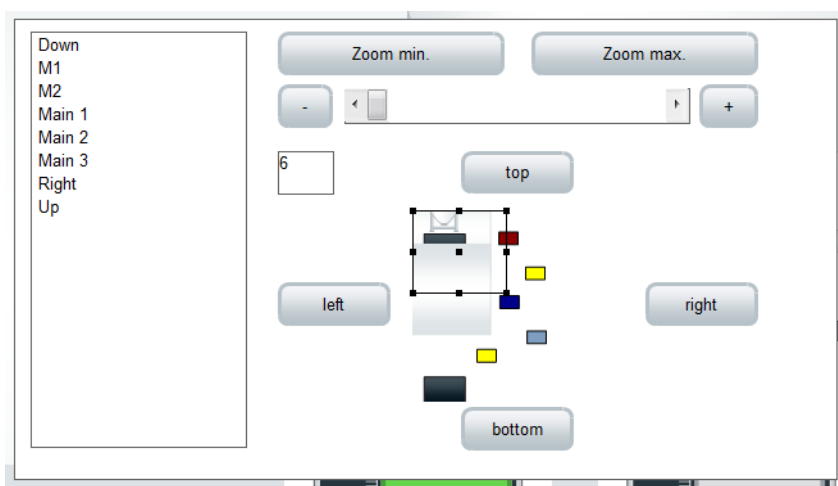
In the Runtime you have several possibilities to control zoom size and displayed section in the worldview overview:

- ▶ Control elements (on page 14)
- ▶ Mouse (on page 15) and touch
- ▶ Keyboard (on page 16)

The control elements can also be operated via touch screen. The points of contact for the operation via mouse are dimensioned respectively in order to be also operated via touch without problems.

When using Multi-touch (on page 17) you can directly navigate in the Worldview and a screen of type `Worldview overview` is not necessary.

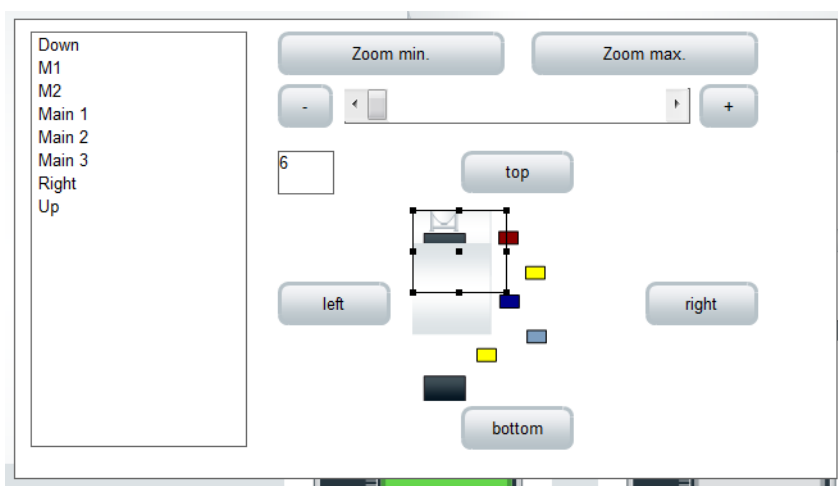
5.1.1 Navigation with control elements



Parameters	Description
Zoom min.	Turns off zoom. The section is displayed in the size of the frame.
Zoom max.	Maximum zoom level.
+	Zoom into the screen.
-	Zoom out of the screen.
Slider	Slider for setting the zoom level.
To the left	Moves the displayed section to the left.
To the right	Moves the displayed section to the right.
Up	Moves the displayed section up.
Down	Moves the displayed section down.
Object list	List of the directly controllable Objects (on page 10). Click on an object in order to center the object in the displayed screen section.

5.1.2 Navigation with the mouse

With the mouse and touch operation the following action are available:



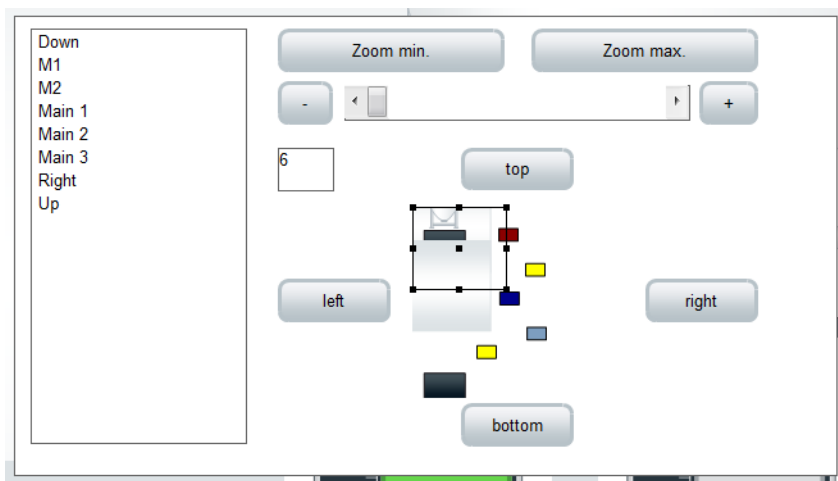
► Move section:

To move the displayed section of the worldview, you have several possibilities:

- a) In the section click on the center and move the mouse over the frame while holding the left mouse button.
 - b) Press the `space` bar and click in the worldview. The form of the mouse cursor changes to a hand. Now you can move the worldview with the help of the mouse. Left mouse clicks are not registered in the worldview when the space bar is pressed.
 - c) Click in the section with the right mouse button and move the mouse over the frame while holding the right mouse button.
 - d) Press and hold the mouse wheel and move the mouse over the frame.
- Zooming:
Click in the section and spin the mouse wheel in order to zoom. Zooming is carried out in the defined zoom steps (on page 8). During zooming the mouse cursor remains over the selected position in the screen.
- Scrolling:
The worldview can be scrolled with the mouse wheel:
- Vertical: Click in the worldview and spin the mouse wheel.
 - Horizontal: Click in the worldview, hold and press key `Shift` and spin the mouse wheel.

5.1.3 Navigation with the keyboard

You can also use the keyboard for zooming and moving. For this you must assign keys to control elements, for example:



- ▶ `up` -> arrow key `up`
- ▶ `down` -> arrow key `down`
- ▶ `left` -> arrow key `left`
- ▶ `right` -> arrow key `right`
- ▶ `+` (slider) -> key `+`
- ▶ `-` (slider) -> key `-`

To assign a key to a control element:

1. Highlight the control element
2. go to property `Key combination`
3. Click on the `...` button or in the input field
4. the dialog for defining the key combination is opened
5. click in field key combination
6. on the keyboard press the desired key or key combination, e.g. `+`
7. the key combination is displayed in the input field
8. Close the dialog by clicking on OK

5.2 Navigation with Multitouch in the worldview

Multi-touch for zooming and scrolling is suitable for the navigation on touch panels in the worldview. For this a screen of type `Worldview overview` is not necessary. To use Multi-touch in the worldview you must:

- ▶ activate them via property `Multi-touch for zoom and scroll`
- ▶ or implement them via VBA/VSTA

ZOOM AND SCROLL VIA PROPERTY MULTI-TOUCH FOR ZOOM AND SCROLL

To use Multi-touch without VBA/VSTA:

1. in the project settings activate property `Multitouch` active property in node `Touch` operation
2. deactivate property `Size` from frame in node `Size` at the properties of the screen
3. activate property `Multi-touch` for zoom and scroll in node `General` at the properties of the screen

With this you can scroll and zoom in the screen at touch operation using Multi-touch. With this VBA/VSTA for zooming and scrolling is deactivated.

ZOOM AND SCROLL VIA VBA/VSTA

To implement zooming and scrolling via VBA/VSTA Events, property `Multi-touch` for zoom and scroll must not be active.

The following is available in the `DynPicture`:

► Property

`int ZoomLevel`: Displays the current zoom level in the worldview (valid value only in the Runtime and for a worldview).

► Method

`SetZoomAndPos(float ZoomX, float ZoomY, int ZoomLevel, int CursorX, int CursorY, int PosX, int PosY, int PosMode):`

`ZoomX` -> New zoom factor X direction; if not used, set to 0

`ZoomY` -> New zoom factor Y direction; if not used, set to 0

`ZoomLevel` -> Zoom level, if not used, set to -1

`CursorX` -> Cursorposition X

`CursorY` -> Cursorposition Y

`PosX` -> New position X (see `PosMode`)

`PosY` -> New position Y (see `PosMode`)

`PosMode` -> Coordinates in `Pos`

-1 = PosX, PosY are ignored

0 = center point , original coordinates

1 = center point, zoomed coordinates

2 = left top, original coordinates

3 = left top, zoomed coordinates

4 = zoomed coordinates of the cursor from the top left

The position of the window is changed in such a way that after the zooming the mouse cursor is still over the position of the screen

Attention: `ZoomX`, `ZoomY` and `ZoomLevel` can never be used simultaneously. Either you enter a `ZoomLevel` or a zoom factor for x and y axis.