COPA-DATA
do it your way

zenon manual

Worldview

v.7.11

Contents

1. Welcome to COPA-DATA help

GENERAL HELP

If you cannot find any information you require in this help chapter or can think of anything that you would like added, please send an email to documentation@copadata.com (mailto:documentation@copadata.com).

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You can receive support for any real project you may have from our Support Team, who you can contact via email at support@copadata.com (mailto:support@copadata.com).

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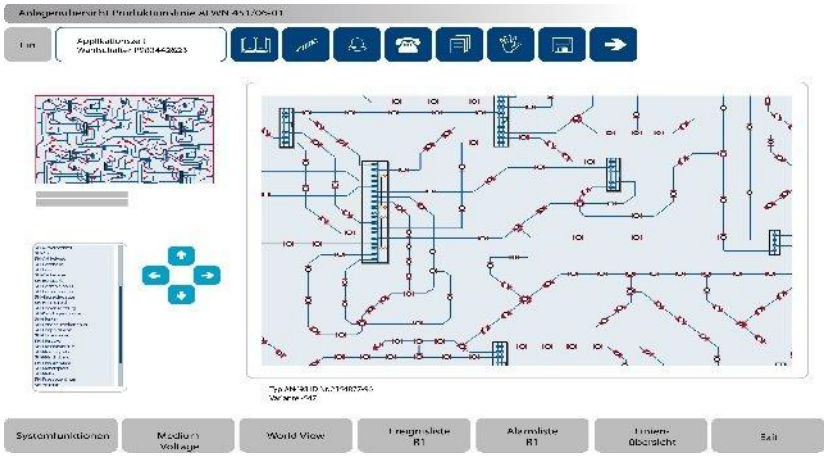
2. Worldview

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.

Information

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 7); this is used for navigating in the worldview and affects the frame of the worldview

Hinweis: 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.

> **Information**
>
> A worldview overview necessary when navigating a worldview screen with Multi-touch. 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

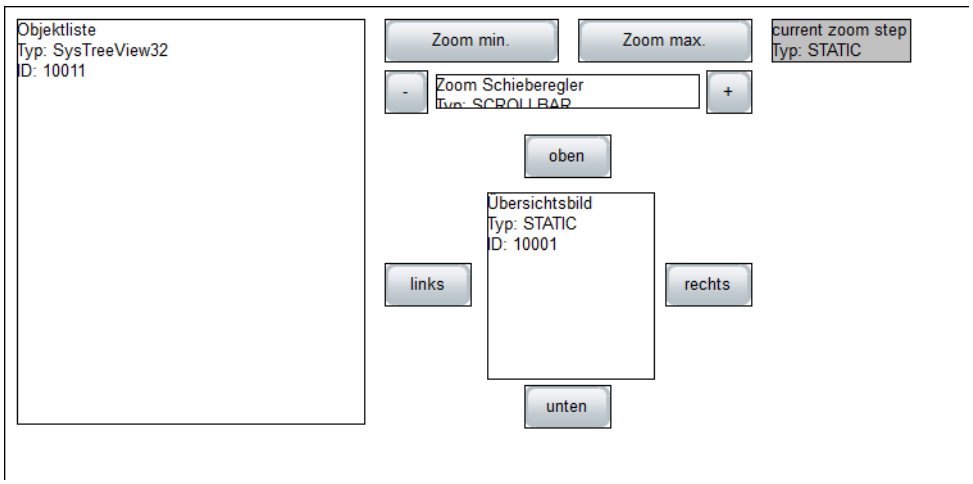
6. create a screen switch fucntion for this screen

> **Information**
>
> *Faceplates are not suitable for worldview. Linked screens are not scaled in screen containers, but always shown in their original size.*

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. Ensure that the size is suitable (recommended size: 550 x 350 pixels)
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`**



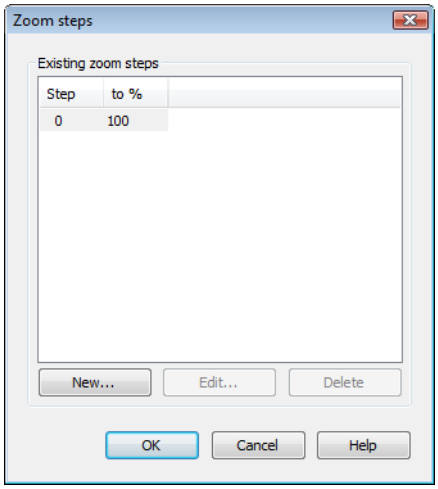
Parameters	Description
Insert template	Opens the dialog for selecting a template for the screen type. Templates are shipped together with zenon and can also be created by the user. Templates add pre-defined control elements to pre-defined locations in the screen. Elements that are not necessary can also be removed individually once they have been created. Additional elements are selected from the drop-down list and palced in the screen. Elements can be moved in the screen and placed individually.
Windows	Control elements for the overview window.
Overview Window	Display the screen which is controlled.
Object list	List of the directly controllable Objects (on page 10).
Show zoom steps	Displays the current zoom level (on page 9).
Zoom	Control elements for the operation of the zoom.
Zoom Minimum	Turns off zooming. The screen is displayed in the size of the frame.
Zoom Maximum	Maximum zoom level.
+	Zoom into the screen.
-	Zoom out of the screen.
Zoom slider	Slider for setting the zoom level.
Navigation	Buttons for navigation in the diagram.
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.

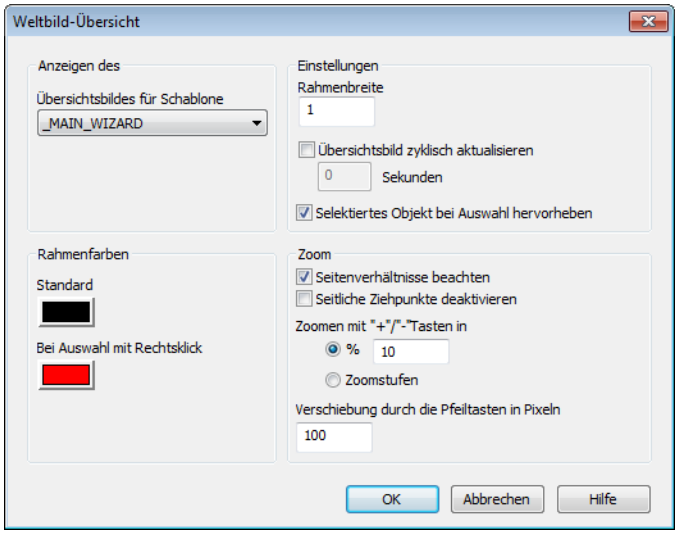
4. Function screen switch to Worldview overview

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 7)
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 at defined time intervals.
Seconds	Time in seconds for the cyclic update.
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 ratios are maintained when zooming.
Deactivate lateral drag points	Active: The drag points of the border 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 9).
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.

Information

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 gestures on 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 7) 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

You can also go directly to the worldview without its own worldview overview by means of Multi-Touch. You can find details in the Navigation with Multi-Touch in the worldview (on page 18) chapter.

5.1 Worldview Overview

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

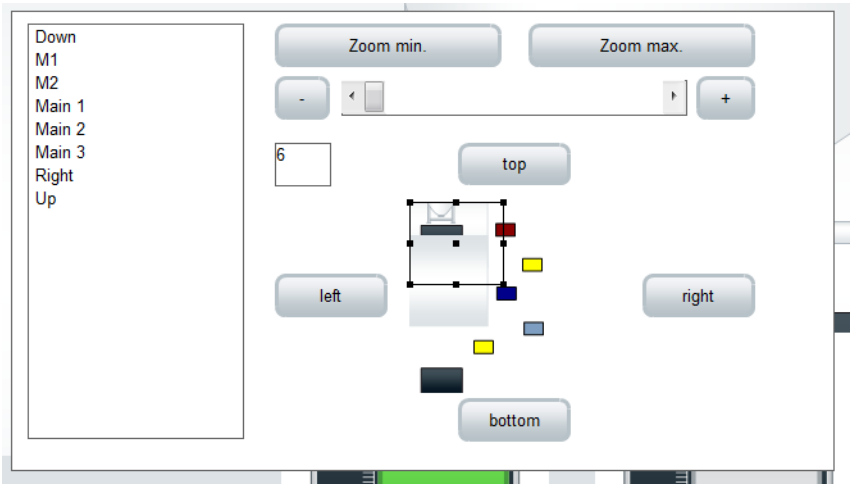
- Control elements (on page 15)
- Mouse (on page 16) and touch
- Keyboard (on page 17)

The control elements can also by 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 gestures (on page 18), you can directly navigate in the worldview and a `Worldview overview` type screen is not necessary.

> **Information**
>
> *The worldview overview is always in the foreground as its own window in Runtime, regardless of the settings for screen elements in the Editor.*

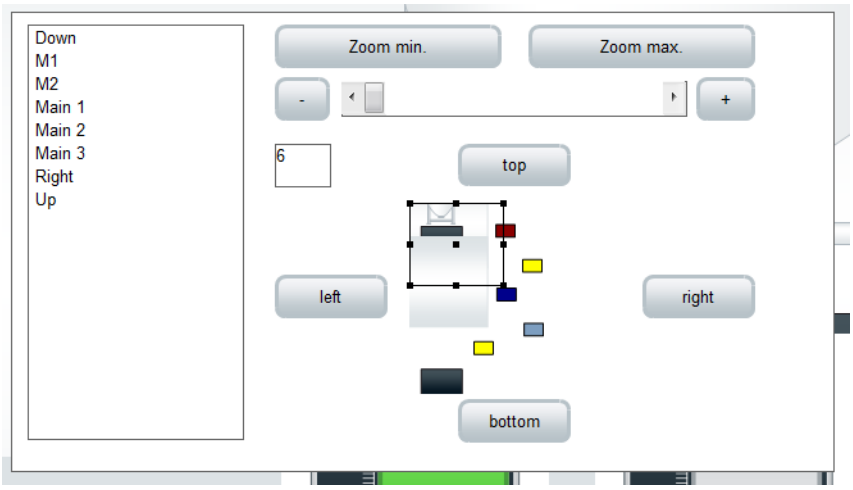
5.1.1 Navigation with control elements



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 9). During zooming the mouse cursor remains over the selected position in the screen.

- Scrolling:

The worldview can be scrolled with the mouse wheel:

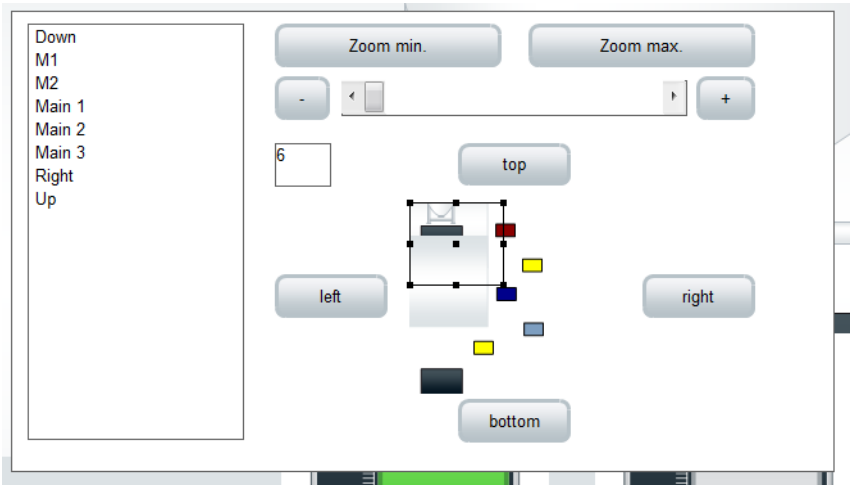
- Vertical: Click in the worldview and spin the mouse wheel.
- Horizontal: Click in the worldview, hold and press key `Shift` and spin the mouse wheel.

`Shift key + mouse wheel upwards`: scroll to the right

`Shift key + mouse wheel downwards`: scroll to the left

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. press the desired key or key combination on the keyboard, e.g.: +
7. the key combination is displayed in the input field
8. Close the dialog by clicking on OK

5.2 Navigation with Multi-Touch in the worldview

Multi-Touch gestures for zooming and scrolling are suitable for navigation on touch panels in the worldview. For this a screen of type `Worldview overview` is not necessary. The navigation can be implemented with:

- Windows 7 touch gestures (on page 18)
- Windows 8 touch gestures (on page 20)

5.2.1 Navigation under Windows 7

To be able to use Multi-Touch gestures under Windows 7 to navigate 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 properties in the `Interaction` note for the `Recognition` property, activate `Windows 7` or `Windows 8 Multi-Touch active`
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 `Interaction` at the properties of the screen

With this you can scroll and zoom in the screen with touch operation using Multi-Touch gestures. 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.

5.2.2 Navigation under Windows 8

To navigate in a worldview with Multi-Touch under Windows 8:

1. Deactivate the `Size from frame` property for the screen in the `Size` group
2. navigate to the `Interaction` group in the screen properties.
3. Configure the properties for `Zoomen` and `Verschieben`.

For the move gesture, you can define the direction - horizontal, vertical or both. To do this, use the `Horizontal verschieben` and `Vertikal verschieben` properties.