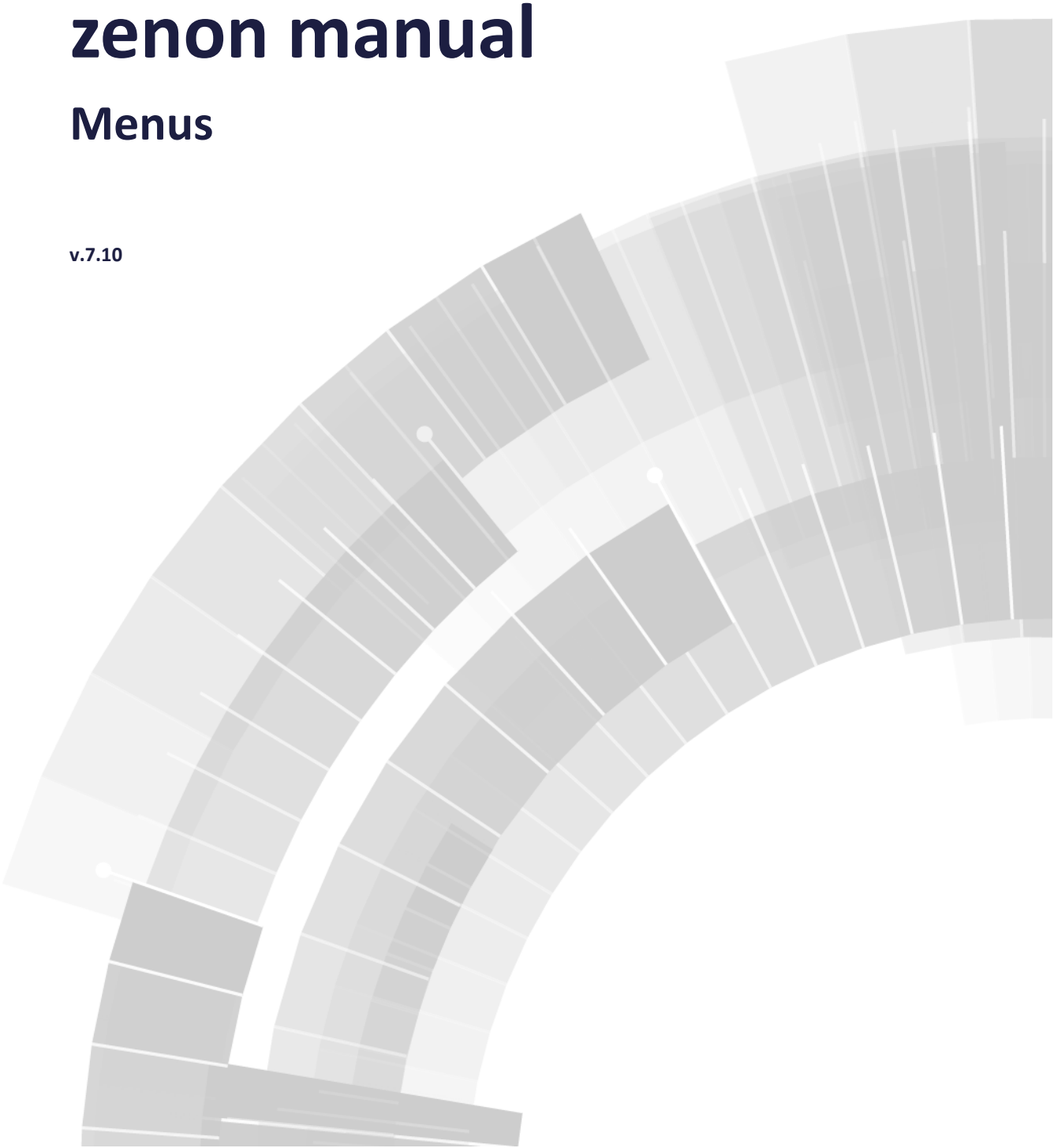
COPA-DATA
do it your way

# zenon manual

## Menus

v.7.10



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# 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).

### PROJECT SUPPORT

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).

### LICENSES AND MODULES

If you find that you need other modules or licenses, our staff will be happy to help you. Email sales@copadata.com (mailto:sales@copadata.com).

# 2. Menus

Windows-compliant menus are created in the menu editor. Two different types of menus are available:

- Main menus
- Context menus

**Note:** The operating system does not allow separate menus for single screens or frames.

**License information**

*Part of the standard license of the Editor and Runtime.*

### PROJECT MANAGER CONTEXT MENU

| Menu item | Action |
|---|---|
| **Main menu new** | Inserts a new main menu in the menu list of the detail view. |
| **Context menu new** | Inserts a new context menu in the menu list of the detail view. |
| **Export XML all...** | Exports all entries as an XML file. |
| **Import XML** | Imports entries from an XML file. |
| **Profile** | Opens the drop-down list which includes pre-defined Profiles. |
| **Help** | Opens online help. |

## 2.1 Engineering in the Editor

Select menu item Project Manager in order to open the menu editor in detailed view. You can chose from main and sub menus. With the context menu (entry **Main menu new** or **Context menu new**) you can create new menus. They then are displayed in the right part of the detail view. Menus can be imported and exported. You will find more information in chapter Import / Export / Menus.

**Attention**

*Requirement if main menus should be displayed in Runtime: The Main menus active (Nodes Graphical design) property must be activated in project properties.*

### CREATE NEW MENU ITEM

To create a new menu item:

1. Highlight the last entry
2. Confirm this with the Enter key

3. A new empty input field is created

### CREATE NEW SUB-MENU

To create a new sub-menu, activate the `Submenu` property in the superordinate menu item. A new entry field is thus opened for the sub-menu.

### MOVE MENU ITEM

1. Highlight the desired item (multiple selection is possible)
2. Hold down the left mouse button and move it to the new position
3. Note: If you move sub-menus to a menu item that is not defined as a sub-menu, the items are created as main menus.
   If you move the uppermost item, all sub-menus are moved with it.

### COPY MENU ITEM

1. Highlight the desired item (multiple selection is possible)
2. Select Copy in the context menu or in the tool bar
3. Select the save location for the copy

Note: If you copied sub-menus to a menu item that is not defined as a sub-menu, the items are created as main menus.
If you copy the uppermost item, all sub-menus are copied with it.

4. Select Insert in the context menu or in the tool bar
5. Hold down the left mouse button and move it to the new position

### RENAME MENU ITEM

1. select the menu item and edit it via:
   - Double-click or delayed double-click on the entry
     or
   - press key `F2` or key **`Return`** when the entry is selected
     or

- select command **Rename** in the context menu or from the tool bar

2. the current entry is highlighted
3. Enter the new name
4. confirm the change via:
   - Pressing key **Return**
   - switch to another menu item
5. or cancel the changes by pressing **Esc**

#### MULTIPLE SELECTION

To edit several entries at once

- press and hold **Ctrl** and click on the entries

or

- press and hold **Shift** and click on the entries

or

- press and hold **Shift** and use the arrow keys of the keyboard

To deselect an entry, click on the entry while still holding **Ctrl** or **Shift**.

To deselect all entries and only select a single entry, click on the desired entry.

### 2.1.1 Menus detail view toolbar and context menu

#### TOOLBAR

| Menu item | Action |
|---|---|
| **Main menu new** | Inserts a new main menu in the menu list of the detail view. |
| **Context menu new** | Inserts a new context menu in the menu list of the detail view. |
| **Create standard function** | Opens the dialog for selecting an action and creates a suitable function. The action is documented in the output window. |
| **Jump back to starting element** | If you entered the list via function **linked elements**, the symbol leads back to the start element.<br>Only available in the context menu when all linked elements are opened. |
| **Copy** | Copies selected entry to the clipboard. |
| **Paste** | Pastes the contents of the clipboard. |
| **Delete** | Deletes the selected entry without confirmation. |
| **Export selected XML** | Exports selected entries as an XML file. |
| **Import XML** | Imports entries from an XML file. |
| **Rename** | Opens menu item for renaming. |
| **Properties** | Opens the properties window for the selected entry. |
| **Help** | Opens the online help. |

### CONTEXT MENU RUNTIME MENUS

| Menu item | Action |
|---|---|
| **Main menu new** | Inserts a new main menu in the menu list of the detail view. |
| **Context menu new** | Inserts a new context menu in the menu list of the detail view. |
| **Help** | Opens the online help. |

## CONTEXT MENUS MAIN MENUS

| Menu item | Action |
|---|---|
| **Main menu new** | Inserts a new main menu in the menu list of the detail view. |
| **Help** | Opens the online help. |

**CONTEXT MENUS CONTEXT MENUS**

| Menu item | Action |
|---|---|
| **Context menu new** | Inserts a new context menu in the menu list of the detail view. |
| **Help** | Opens the online help. |

**CONTEXT MENUS MENUS**

| Menu item | Action |
|---|---|
| **Export selected XML** | Exports selected entries as an XML file. |
| **Import XML** | Imports entries from an XML file. |
| **Delete** | Deletes the selected entry without confirmation. |
| **Create standard function** | Opens the dialog for selecting an action and creates a suitable function. The action is documented in the output window. |
| **Properties** | Opens the properties window for the selected entry. |
| **Help** | Opens the online help. |

### 2.1.2 Define entries

Generally there are three types of menu entries:

| Parameters | Description |
|---|---|
| Action type | Sets out which type of action is to be carried out via the corresponding menu item in Runtime. Not all action types are available in the main menu (on page 11), some are only available via the context menu (on page 12).<br>▸ Acknowledge alarm (context menu only)<br>▸ Command input (context menu only)<br>▸ Acknowledge flashing (context menu only)<br>▸ Function<br>▸ Help<br>▸ No action<br>▸ Send value to hardware<br>▸ VBA macro (context menu only) |
| Submenu | Opens a sub-menu in Runtime. |
| Separator | A horizontal line divides menu entries. |

Underline text: Entering a & causes the following characters to be displayed as underlined.

Plan entries

To configure a menu item in the main menu or context menu:

1. Activate the corresponding menu cell
2. In properties, select:
   - Action type: depending on menu type
     see also: Main menu action types (on page 11) and Context menu action types (on page 12)
   - Menu ID: Entry ID
     Note: There are pre-defined types with a fixed ID available in the command input at Command input (on page 12)
   - Text: clear labeling of the menu cells

> **Attention**
>
> *The name of the `Text` property must be unique. If two names the same are issued, further menu items with the same name are not displayed.*

### Main menu action types

| Parameter | Description |
|---|---|
| `Function` | A defined function of zenon is executed by selecting the menu entry in the Runtime. |
| `Help` | A help chapter from a CHM file is displayed. |
| `No action` | No action is executed. |
| `Setting values` | By selecting menu item `Setting values` a fixed value can be send or a variable value can be increase or decrease by a fixed amount during Runtime. The entry is made with the help of the zenon standard dialog box. If one of the 3 keyboard screens (SETVALUEKBD, SETBOOLKBD or SETSTRINGKBD) is available in the project, it is automatically used.<br>For this action a variable can be selected directly, or if used in a context menu the variable can be selected from the clicked element. |

### Action types context menu

| Parameter | Description |
|---|---|
| Function | A defined function of zenon is executed by selecting the menu entry in the Runtime. |
| Help | A help chapter from a CHM file is displayed. |
| No action | No action is executed. |
| Setting values | By selecting menu item Setting values a fixed value can be send or a variable value can be increase or decrease by a fixed amount during Runtime. The entry is made with the help of the zenon standard dialog box. If one of the 3 keyboard screens (SETVALUEKBD, SETBOOLKBD or SETSTRINGKBD) is available in the project, it is automatically used.<br>For this action a variable can be selected directly, or if used in a context menu the variable can be selected from the clicked element. |
| VBA macro | A VBA macro is executed by selecting the menu entry in the Runtime. You can only select the VBA macros which are declared as Init event. |
| Alarms: Acknowledge | The alarms of all variables linked to the dynamic element that the context menu relates to are acknowledged. |
| Acknowledge flashing | Switches off the blinking of all alarms for variables that are linked to the dynamic element, which the context menu relates to. The alarms are not acknowledged by this. |
| Command input | Opens the defined command input window (only with an energy license) |

### Command

When creating a new action in the command input, a menu ID corresponding to the action type and the switching direction for the Action type property is created and offered in the drop-down list. If the content corresponds to an ID defined as standard text for the action type and switching direction, the content is adapted if the action type or switching direction change.

To create a context menu for the command input:

1. Create the desired actions in the command input
2. Select Action type in the properties of the context menu item as **command input**
3. Select the desired action and switching direction via the drop-down menu with the Menu ID property

4. Give it a clear label in the `Text` property

   Note: If no entry is defined for `Text`, the field is automatically filled with the "**`command input`**" label.

> **Attention**
>
> *The name of the `Text` property must be unique. If two names the same are issued, further menu items with the same name are not displayed.*
>
> *Because automatically created menu items with the same action result in the same text, there are macros (on page 15) available for these.*
>
> *The character sequence ID_CMD_AUTO is reserved for automatically created menu items. These must always be used with macros, because otherwise only the menu item is inserted.*

When checking for duplicate entries the following rules apply:

- Manual menu points have priority over automatic ones.
- If it is the same type then the last entry has twice the priority.
- If a duplicate entry is found, a warning is set off in the log. This includes the menu ID and description. Automatically expandable entries have **`<auto>`** added to the ID.

### ACTIONS FOR ACTION TYPE COMMAND INPUT

| Action | Switching direction | Menu ID |
|---|---|---|
| ID_CMD_AUTO | | This menu entry automatically shows all possible actions for an element, if no direct menu entry from the list is used already. |
| **Single command** | ON (1) | ID_CMD_EBEF_ON |
| **Single command** | OFF (1) | ID_CMD_EBEF_OFF |
| **Single command** | NONE | ID_CMD_EBEF_NONE |
| **Double command** | ON (1) | ID_CMD_DBEF_ON |
| **Double command** | OFF (2) | ID_CMD_DBEF_OFF |
| **Double command** | NONE | ID_CMD_DBEF_NONE |
| **Set value** | NONE | ID_CMD_SVALUE |
| **Set value** | DIRECT | ID_CMD_SVALUE_DIR |
| **Status default** | NONE | ID_CMD_STATE |
| **Status default** | ON (1) | ID_CMD_STATE_ON |
| **Status default** | OFF (0) | ID_CMD_STATE_OFF |
| **Replace** | NONE | ID_CMD_REPL_NONE |
| **Replace** | ON (1) | ID_CMD_REPL_ON |
| **Replace** | OFF (0) | ID_CMD_REPL_OFF |
| **Replace** | FAULT | ID_CMD_REPL_DEF |
| **Replace** | DIFF | ID_CMD_REPL_DIFF |
| **Manual correction** | NONE | ID_CMD_UPD_NONE |
| **Manual correction** | ON (1) | ID_CMD_UPD_ON |
| **Manual correction** | OFF (0) | ID_CMD_UPD_OFF |
| **Manual correction** | DIFF | ID_CMD_UPD_DIFF |
| **Manual correction** | FAULT | ID_CMD_UPD_DEF |
| **Manual correction** | DIRECT | ID_CMD_UPD_DIR |
| **Block** | NONE | ID_CMD_BLOCK |

| Action | Switching direction | Menu ID |
|---|---|---|
| **Release** | NONE | ID_CMD_UNLOCK |
| **Lock** | NONE | ID_CMD_LOCK |
| **Revision** | OFF (0) | ID_CMD_REV_OFF |
| **Revision** | ON (1) | **ID_CMD_REV_ON** |

**Info**

*For more information about using the contexst menus in the Command see chapter Energy Edition in section Context menu Command.*

### Macros for the context menu

A macro is a defined character sequence that is replaced by another text when menu items are created in Runtime. Virtually all macros can occur more than once per menu item. They can also contain further macros as a result. In doing so, the expansion sequence must be considered. Macros are not case sensitive when configuring menus. If macros contain a macro as a result, the macro must be contained in capitals in the result. The entry is made with $ as a prefix and suffix.

The sequence of the expansion is from left to right in the following priority.

1. $NOTE$
2. $TAG$
3. $REMA<Status>$
4. $RDIR$
5. $ALL$
6. $DIR$
7. $ACT$
8. $NOTE$

| Macro | Description |
|---|---|
| **$NOTE$** | The whole text including the macro is interpreted as a note. If the resulting text is empty, the **$ALL$** macro is used. |
| **$TAG$** | Is replaced by the identification of the action variable.<br>The identification can be translated by the online language translation function. If no translation character (@) is contained, the whole identification is highlighted for translation. |
| **$REMA<Status>$** | **<Status>** is a Rema or limit value state, the text of which is used as a replacement.<br>If the status is not present, the menu item is not displayed.<br>The limit value text is translated linguistically according to the placement of @ .<br>The status can be a number between $-2^{31}$ and $2^{31-1}$. Leading characters and a prefix are permitted. If characters are contained that cannot be converted to a number, or the number is outside the given area, the menu item is not displayed. |
| **$RDIR$** | Text for the switching direction from reaction matrix/limit value as in **$DIR$ macro, with the exception of:**<br>▸ Action `Write set value direct`<br>The text is taken from the rema/limit value of the status, which corresponds to the value of the set point to be set.<br>▸ Action `Status on` and `Status off`<br>Text is taken from the rema/limit value for the `on` or `off` statuses.<br>▸ Action `Correct direct`<br>The text is taken from the rema/limit value of the status, which corresponds to the value of the set point to be set. |
| **$ALL$** | Results in **Action naming**: **Switching direction**.<br>Corresponds to the combination of the **$ACT$:** macro **$DIR$** |
| **$DIR$** | Switching direction of the action. |
| **$ACT$** | Action naming of the action. |
| **$NOTE$** | For the last macro, the note macro is again checked and the text to the right of this including the macro is deleted.<br>If the resulting text is empty or only consists of spaces, the menu item is not |

| | |
|---|---|
| | inserted. |

### AUTOMATICALLY CREATED MENU ITEMS

Automatically created menu items are created as a menu ID with ID_CMD_AUTO. In this case, macros must always be used, because otherwise only a menu item would be inserted.

### COMPATIBILITY

Previous to version 6.51 text at automatic menu items was ignored. When converting projects that were created with versions earlier than 6.51, the macros $ALL$$NOTE$ are automatically inserted before the configured text. Therefore the menu items behave as before.

### ONLINE LANGUAGE SWITCH

The labeling for the menu item in the `Text` property is translated linguistically before macro expansion from the character `@`.

Note: If, for the **$TAGS$** macro, no translation indicator (`@`) is contained, the complete text is translated.

## Graphical design

The menus can be influenced graphically via the following functions

| Parameters | Description |
|---|---|
| Graphics file | Displays a graphics file in the left area. |
| Background graphic | A graphics file is used as the background of the menu entry. The alignment can be either in original size or stretched. |
| Check mark | Displays a check mark in the left area. This check mark has no influence on the availability of the linked functionality but only serves the display. The display and the functionality can only be controlled via VBA/VSTA in the Runtime. |
| visible | Activated: Menu item is displayed in Runtime and linked functionality is available. The visibility can only be controlled via VBA/VSTA in Runtime. |
| Separator active | Displays a horizontal dividing line instead of the menu item for logical categorization of the menu.<br>The dividing line can be defined in a width of 0 to 50 pixels and in any color desired. |

**Submenu**

To create sub-menus:

1. Activate the Submenu property
2. A new, empty menu field is created to the right of this
3. Define the items for the sub-menu or further sub-menus

Sub-menus are shown by an arrow to the right. Sub-menus can also be created as nested sub-menus.

## 2.2 Operating during Runtime

The menu editor menus correspond to the usual functionality that is common in Windows applications.

Menus are located and fixed in the upper left corner in Runtime.

Note: If there is alarm pending, the alarm line may cover the menus. In this case, the menus can only be operated once the alarms have been acknowledged. To avoid this, plan the alarm status line at a different location or activate frames for the template.

### 2.2.1 Displays menus in Runtime

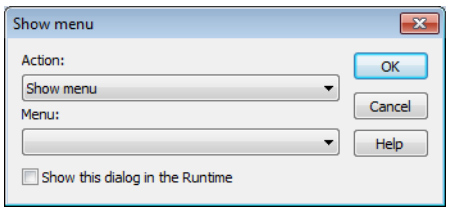
To display main menus (on page 19) in Runtime, the corresponding function must be created and linked.

Context menu (on page 20) are defined in the properties for the respective dynamic elements.

#### Displaying main menus

This function controls the display of main menus (on page 4).

1. Create a new function with **`New function`**
2. In the **`Screens`** node, select the **`Display menu`** function
3. Define the action to be carried out and the main menu




| Parameter | Description |
|---|---|
| **`Action`** | Selection of the action: |
| `Show menu` | The selected menu is displayed. |
| `Hide menu` | The selected menu is hidden. |
| `Change menu` | The current menu is hidden and the selected menu is displayed instead. |
| `If no menu exists` | The selected menu is displayed, if no menu is displayed at the moment. |
| **`Menu`** | Selection of menu. |
| `Show this dialog in the Runtime` | `Active`: This dialog is opened when the function is carried out in Runtime. |

**Info**

In the zenon Web Client (Webserver and Webserver Pro) the main menus are not displayed.

| Parameter | Description |
| --- | --- |

*Under CE (zenon under Windows CE) menus can only be displayed in the standards supported by Windows CE. Colors and fonts different than the Windows colors/fonts cannot explicitly be selected in the menus under CE.*

When the standard function is created from the context menu in the detail view, zenon automatically creates the function 'Show menu' for the selected menu.

### Displaying context menus

Context menus can be used in Runtime for dynamic elements. To display a context menu in Runtime, link the context menu with the desired dynamic element.

To do this:

1. navigate to the `Runtime` node in the dynamic element properties
2. select the `Context menu` property
3. select the desired context menu from the drop-down list

> **Attention**
>
> *Context menus are referenced via their name. This means: If a context menu is renamed, the linking to the dynamic element is lost and must be newly created.*