



**zenon**  
by COPA-DATA

# zenon Logic Handbook

## Release notes zenon Logic

v.9.4



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# 1 Welcome to the zenon Logic 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).

## SUPPORT FOR PROJECTS

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 Release notes zenon Logic 9.4

The following chapters contain information to the new features of zenon Logic 9.4.

## 3 Autocompletetion of parantheses when typing function call or array element index (F 178937)

In ST Language a click on the keyboard button symbol "(" inserts the ")" symbol, if the previous word is an instance or a function name.

A click on "[" inserts the "]" symbol.

The caret is put between the symbols in both cases.

## 4 Automatic installation of General Purpose Library for UDFBs (F 176573)

The new library is installed by the setup automatically. The link to the library is executed by default by the new project wizard.

Available function blocks:

- ▶ MAKE\_LWORD
- ▶ HI\_DWORD
- ▶ LO\_DWORD
- ▶ ROUND\_REAL

## 5 Binding supports STRING variables with maximal 200 characters (F 201190)

Strings up to 200 characters can be configured for binding.

If the maximum length of 200 characters is exceeded, a message is generated during compilation.

## 6 C - compiling default scripts update (127702)

The default scripts are adjusted to MSVC2017 Compiler.

Refer to your OEM instructions for knowing if this feature is enabled and which "C" compiler can be used.

## 7 CANbus - delay for periodical requests when application starts (F 206160)

The existing data block option **Max period / Delay** was enhanced with the possibility to configure a time delay for periodical requests. This delay is applied for the first activation when the **CANbus fieldbus driver** starts for the first time.

The delay avoids a possible CAN load peak if messages are sent all at once within the same period.

## 8 Cross reference analysis enhancements for detection of unused Bit Fields, Enumerated Datatypes and Structures (F 172353)

The Cross reference tools support now the listing of:

- ▶ unused Bit Fields
- ▶ unused Enumerated Datatypes
- ▶ unused Structures

The items which should be searched for can be defined in the **List Unused Items** dialog.

The results are presented in a structure overview in the Output window.

## 9 Datatype Editor: multiselect and remove of several items (F 178936)

Via multiple selection it is possible to delete content from a Type in one shot.

The deletion option can be used for the following Types:

- ▶ **Structures**
- ▶ **Enumerate Data Types**
- ▶ **Bitfields:** The deletion will be done without a confirmation dialog.

**Hint:** The deletion is only available in case of a homogeneous selection.

Additionally a **Undo/Redo** command is available now, which works in the **Enumerate Data Types** section and the **Bitfields** section.

**Hint:** The **Undo/Redo** command works only for one itemtype at a time.

## 10 Datatype list and function block list support new search for entries by letter input (F 174541)

Quick search for entries by entering the starting letters of the respective entry names, in datatype lists (drop-down lists) and list of function blocks.

The respective entry is focussed/selected due to the respectively matching item name. This is a well known function, e.g. in the Windows File Explorer.

## 11 Feature Sets for Workbench customization (F 176551)

A Feature Set is a collection of features like command menus, toolbar buttons, fieldbuses, profiles and so on.

The definition of a Feature Set allows to customize the Workbench via an own dialog and can be done manually or via the dialog buttons.

Predefined Feature Sets can be imported or exported, too.

## 12 Fieldbus configuration: New command "Go to Variable Definition" (F 174543)

If a variable is selected, you can use the **Go to Variable Definition** command in the fieldbus view now.

The command opens the variable editor and selects the corresponding variable.

## 13 Group navigation available for "Edit Variables as Text..." command (F 196317)

In the variable editor and in the structure list the group navigation can be used now in the **Edit Variables as Text...** command.

The dialog shows the groups of variables or structures, depending on the context in which the dialog has been opened.

The displayed content can be edited as text.

## 14 Inline editing of Tags and Descriptions for variables (F 192607)

In the FBD editor and in the LD editor **Tags** and **Descriptions** can be added for variables via a new pop up dialog directly.

Additionally this can be done in the corresponding column of the variable in the variable editor.



## 15 New energy protocols in the customize property page Feature Set (F 176551)

The following energy protocols have been added in the list of Feature Sets:

- ▶ DNP3
- ▶ IEC 60870
- ▶ IEC 62056

## 16 New possibility to select and delete entire lines in SFC editor (F 201574)

You can select a whole line now via a click into the small area between vertical toolbar and the content of the corresponding line.

Empty lines can be selected in this way and deleted.

## 17 New possibilities to inform about current state of Scanner connection (F 204153)

The EtherNet IP adapter can inform now about the current state of the Scanner connection via:

- ▶ the **EIPADAPTER** function block on the Adapter side
- ▶ a diagnostic variable configured as "**I/O connection OK**" on the scanner side

## 18 New property descriptions available for Options dialog (F 178943)

The **Options** dialog has been renewed to provide a better overview about the available properties:

- ▶ If you select a table entry, a short property description will be shown below the table.
- ▶ Additionally the column name **Description** has been changed to **Value range**.

## 19 Removal of macro related shortcuts in SFC Editor (F 189195)

The following shortcuts have been removed:

- ▶ **b** or **B** shortcut to add a macro body (step + transition + step)
- ▶ **m** or **M** shortcut to add a macro

## 20 Scroll position in program editor can be remembered for restart (F 178930)

Via the new property **Remember scroll position for restart** the scroll position can be saved and restored.

This property is activated by default.

## 21 Secure Authentication SAv2 and SAv5 (F 146870)

Support for Secure Authentication V5 according to IEEE Standard 1815-2012 and compatibility mode for Secure Authentication v2 according to IEEE Standard 1815-2010

- ▶ single user only (single Master-Outstation Association)
- ▶ Support for the modes: challenge/response and aggressive
- ▶ Use and secure storage of pre-shared update key
- ▶ Configuration for optional critical functions

## 22 Secured communication via TLS for several drivers (F 140410)

The following drivers support secured communication via TLS Authentication:

- ▶ DNP3 Master
- ▶ DNP3 Outstation
- ▶ IEC60870 Master
- ▶ IEC60870 Slave

## **23 Selection and Edition of vertical text blocks in ST and IL language via ALT key (F 172345)**

A few new shortcuts using the ALT key allow to simplify programming in ST and IL language.

## **24 stratonNG - Extended support for structure datatype addressing communication (F 178584)**

The addressable space for structure type information, as exchanged between zenon Logic Runtime and stratonNG driver has been extended, and is now based on a 32-bit value.

In earlier versions, the addressing offset for structure type information was limited to 128 kByte. Projects which made use of high quantities of structure datatypes could run into this limit.

The extended mechanism now supports a theoretical addressing limit of 4 GByte.

## **25 ST and IL Editors support overtype mode (F 178939)**

In ST and IL Editors, the current input mode can be toggled to "overtyping" mode, via the Insert key. Overtyping also works in case of a vertical selection over multiple text lines.

## **26 Support of alarms in Profinet IO Controller (F 153258)**

Alarms from Profinet IO devices can be evaluated and acknowledged now.

The evaluation and acknowledgment of alarms is done via specific function blocks in the IEC 61131-3 program code.

## **27 TESTBIT and SETBIT extension for support of 64 bit integers (F 206152)**

Bit access is available now for 64 bit integers.

## 28 T5Bus870Slave

### 28.1 T5Bus870Slave - startup, initialize and accept master connections in a controlled manner (F 187597)

The T5Bus870Slave fieldbus driver allows a controlled (delayed) startup of the communication with remote 870-masters. Use-cases are applications where the slave acts as data gateway and should delay the communication start until other fieldbus drivers (e.g. IEC61850 Client) delivered initial values.

When a variable of *T00* with *IOA 9* exists and the value is *FALSE*, the slave does not open the TCP socket. When the value changes to *TRUE*, the slave opens the TCP socket.

The socket remains open also when the value changes to *FALSE* again.

If the variable is not configured, the slave opens the TCP socket immediately while application starts.

### 28.2 Support of ASDU <20> in IEC 60870 Slave (F 171810)

Following enhancements were implemented:

- ▶ T5Bus870Slave supports ASDU **type ID 20**.
- ▶ UDINT variable is mapped as SCD (status + status change detection, 32 bit).
- ▶ Statusbits of this variable are mapped as QDS (quality descriptor).

## 29 Usage of multiple different instances of an UDFB in online mode (F 189181)

It is possible to open multiple different instances of one UDFB in the online mode.

Via an own dialog you can define, which UDFB instances should be opened in parallel.

## 30 Workbench can send larger recipes to target runtime (F 174537)

The total number (byte size) of variables in a recipe, which can be sent to the runtime target was increased.

If a recipe column should be send to the target and the selected type size exceeds 950 bytes and/or 50 variables, the values gets initialized in different cycles.

## **31 Wizard for creation of DNP3 master and outstation drivers (F 199506)**

A new wizard simplifies the creation of DNP3 master and outstation fieldbus drivers.