User's Manual

Symbol Editor



Foreword

This user's manual describes the Symbol Editor's handling precautions, functions, operating procedures, and other important information for use of the software. To ensure correct use, please read this manual thoroughly during operation. After reading this manual, keep it in a convenient location for quick reference in the event a question arises during operation. Please keep this manual in a convenient location in case questions arise during operation. Furthermore, for handling precautions, functions, and operating procedures for the DL series, or for the handling and operating procedures of Windows, please see the manuals for those respective products.

Notes

- The contents of this manual are subject to change without prior notice as a result of improvements to the product's performance and functionality. Refer to our website to view our latest manuals.
- The figures given in this manual may differ from those that actually appear on your screen.
- Every effort has been made in the preparation of this manual to ensure the accuracy of its contents. However, should you have any questions or find any errors, please contact your nearest YOKOGAWA dealer.
- Copying or reproduction by any means of all or any part of the contents of this manual without permission is strictly prohibited.
- This software creates data files compatible with the following DL series.
 DL850/DL850V series, DL850E/DL850EV series, DL350, DL950, DLM2000 series, DLM3000 series, DLM4000 series, DLM5000 series, DLM5000HD series, DL6000/DLM6000 series, SB5000 series, and DL9500/DL9700 series.

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Revisions

1st Edition	January, 2008
2nd Edition	June, 2008
3rd Edition	November, 2008
4th Edition	April, 2009
5th Edition	October, 2009
6th Edition	September, 2010
7th Edition	December, 2010
8th Edition	February, 2012
9th Edition	November, 2012
10th Edition	January, 2013
11th Edition	June, 2015
12th Edition	January, 2018
13th Edition	March, 2018
14th Edition	December, 2018
15th Edition	September, 2020
16th Edition	March, 2023
17th Edition	September, 2023

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Yokogawa Test & Measurement Corporation

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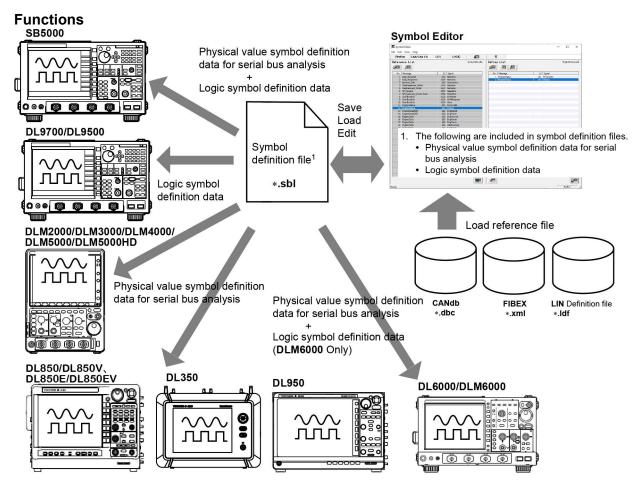
Article 5: Court with Jurisdiction

Should a dispute arise as a result of using This Software or in regards to this license agreement, both parties agree to discuss the issue in good faith. If an agreement cannot be reached, the Tokyo District Court shall be the exclusive agreement jurisdictional court of the first hearing.

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Product Overview



Create and Edit Physical Value Symbol Definition Files for DL850/DL850V, DL850E/DL850EV, DL350, DL950, DLM2000, DLM3000, DLM4000, DLM5000, DLM5000HD, DL6000/DLM6000, and SB5000 Series Serial Bus Analysis

You can create physical value symbol definition files for serial bus analysis. Created files can be saved for use on the DL850/DL850V, DL850E/DL850EV, DL350, DL950, DLM2000, DLM3000, DLM4000, DLM5000HD, DL6000/DLM6000, and SB5000. Saved files can be loaded and edited.

Import CANdb Files

You can load CANdb files and create physical value symbol definition files for the DL850/DL850V, DL850E/DL850EV, DL350, DL950, SB5000, DLM2000, DLM3000, DLM4000, DLM5000, DLM5000HD, and DL6000/DLM6000.

Import LIN Definition Files

You can load LIN definition files and create physical value symbol definition files for the DL850/DL850V, DL850E/DL850EV, DL350, and DL950.

Import FIBEX Files

You can load FIBEX files and create FlexRay physical value symbol definition files for the SB5000.

Create and Edit Logic Symbol Files for the SB5000, DLM6000, DL9700, and DL9500 Series

You can create logic symbol definition files that can be used on the SB5000, DLM6000, DL9700, and DL9500 series. Created files can be saved for use on the SB5000, DLM6000, DL9700, and DL9500 series. Saved files can be loaded and edited.

Search for Registered Messages

You can search created or loaded data for registered messages.

System Requirements

Personal Computer

A personal computer (PC) is required that is running Windows 10 or Windows 11 having a Core 2 Duo, 2 GHz or faster CPU and 1 GB or more (2 GB or more recommended) of memory.

Display

Resolution: SVGA/XGA (XGA or higher recommended)

Colors: 65536 or more

A display that is compatible with Windows 10 and Windows 11.

Mouse

A mouse that is compatible with Windows 10 and Windows 11.

DL Series and Firmware Able to Load Symbol Definition Files (*.sbl)

DL9700/DL9500 series: Version 4.00 and later SB5000 series: All firmware versions DLM2000 series: All firmware versions DLM3000 series: All firmware versions DLM4000 series: All firmware versions DLM5000 series: All firmware versions DLM5000HD series: All firmware versions DL6000/DLM6000 series: All firmware versions DL850/DL850V series: All firmware versions DL850E/DL850EV series: All firmware versions DL350: All firmware versions DL950: All firmware versions

Important Information for Users

If the PC enters a standby mode (a feature that may have been installed), this software may not be able to run continuously. Be sure to turn off the PC's standby mode.

Note:

Regarding FIBEX(Field Bus Exchange Format)

FIBEX is one kind of common data base (format) used in bus systems such as FlexRay developed by the ASAM consortium when exchanging data and information between nodes (ECU, etc.). It defines data (messages and symbols), information about the sending/receiving nodes, and other information in the xml language.

Installing and Uninstalling the Software

Installing

- 1. Download Symbol Editor from the Yokogawa Web site. Save the file to an appropriate location on the PC.
- 2. The downloaded file is compressed. Decompress the file using a suitable decompression program (such as WinZip). The "Symbol Editor" folder is created.

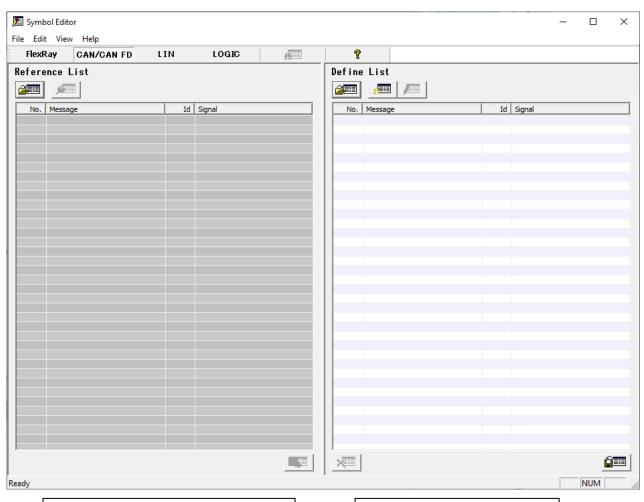
Uninstalling

Delete the Symbol Editor folder and all of its subdirectories.

1.1 Starting and Exiting the Program

• Starting the Program

Double-click **Symbol Editor.exe**. The program starts, and the window below appears.



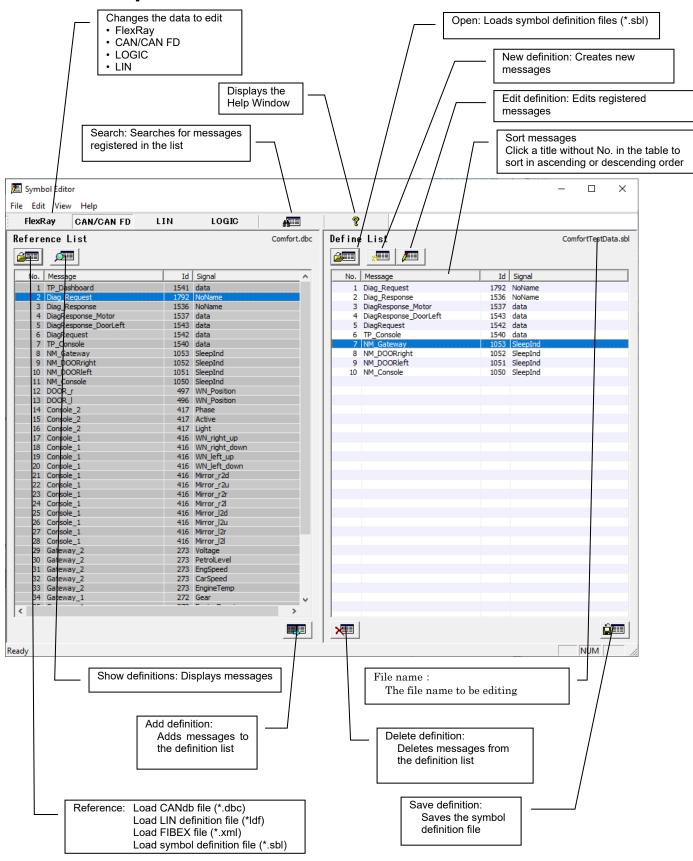
For loading files as reference data.

For editing definition files.

• Exiting the Program

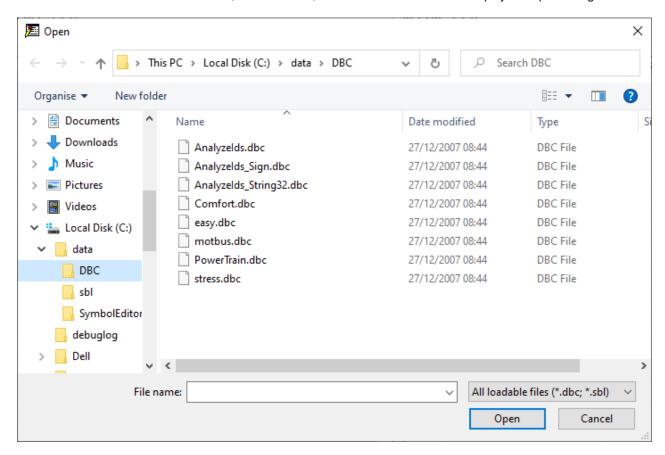
Click File > Exit.

1.2 Basic Operations in the Main Screen



2.1 Loading Reference Files

1. In the Reference list, click , or click **File** > **Reference** to display the Open dialog box.



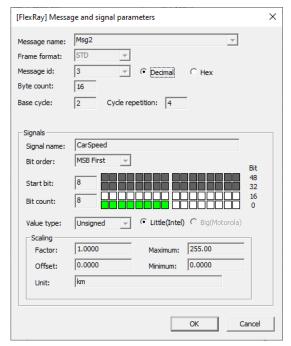
Type the name of file you wish to open in the File name box or select one from the list, then click Open. The messages are displayed in the reference list.

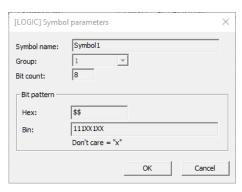
Note:

- If the edit mode is CAN/CAN FD, CANdb (*.dbc) and symbol definition (*.sbl) files can be loaded.
- If the edit mode is FlexRay, FIBEX (*.xml) and symbol definition (*.sbl) files can be loaded.
 FIBEX files are limited to FIBEX v2.x-based FlexRay definitions.
- · If the edit mode is LOGIC, symbol definition (*.sbl) files can be loaded.
- If the edit mode is LIN, LIN definition (*.ldf) and symbol definition (*.sbl) files can be loaded.
- · CANdb files can contain up to 5000 messages.
- · FIBEX files can contain up to 2048 messages.
- · LIN definition files can contain up to 3840 messages.

2.2 Displaying Definitions

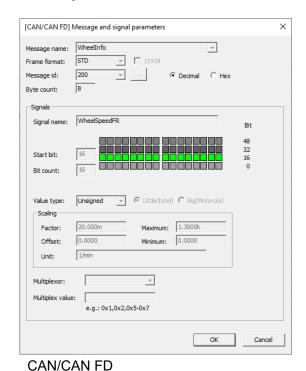
In the reference list, select a message then click **Edit** > **View** to display a dialog box for displaying definitions.

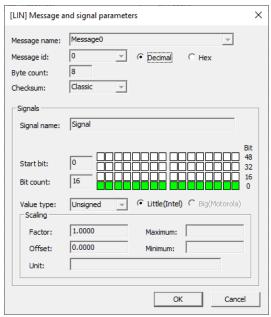




LOGIC

FlexRay





LIN

Note:

- The contents of the dialog box differs depending on the edit mode. The contents of messages do not change.
- CAN/CAN FD, FlexRay, LIN

The usage of bits within the message is shown to the right of the Start bit and Bit count boxes.

Meanings of colors White: Unused bit

Green: Bit used by signal in question

Gray: Bit used by other signal (4 gradations express multiple signals)

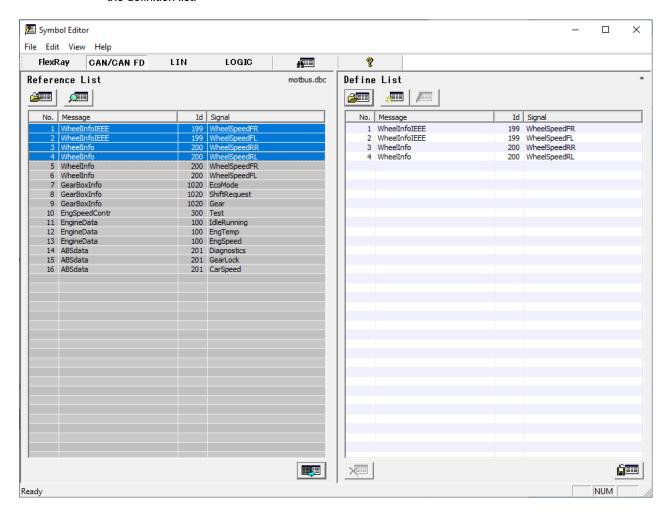
- · If the FIBEX definition encoding type is something other than INDENTICAL/LINNER, the start bit, bit count, and scaling are blank.
- For FlexRay, if the byte count is greater than 8, up to 64 bits in the position of the byte corresponding to the start bit is displayed.

2.3 Adding Definitions

In the reference list, select a message then click the definition list.



or click **Edit** > **Add. A** message is added to

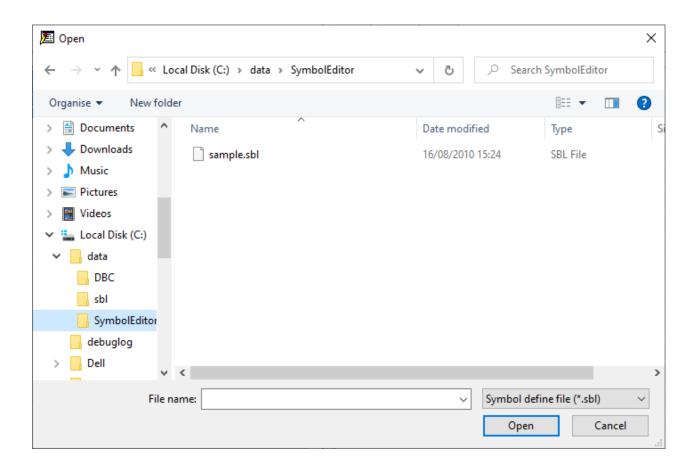


Note:

- You can select one message or multiple messages to add at a time.
- To select multiple messages, hold down the Ctrl key while clicking each message.
- When multiple messages are selected, all are added to the definition list together.
- You can add definitions by dragging messages from the reference list to the definition list.
- · Up to 500 messages can be registered in the definition list.
- Definitions cannot be added for the following signals.
 - (1) If the definition overlaps with another signal
 - (2) If part of the display screen is blank
 - (3) If the encoding type is something other than INDENTICAL/LINNER
 - (4) If the encoding information (bit order, start bit, bit count, or byte order specification) is invalid

3.1 Loading Definition Files

1. In the definition list, click , or click **File** > **Open** to display the Open dialog box.



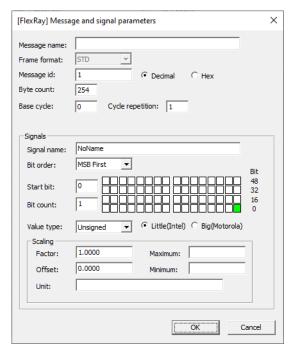
2. Type the name of file you wish to open in the File name box or select one from the list, then click **Open**. The messages are displayed in the definition list.

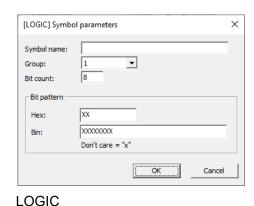
Note:

Symbol definition files (*.sbl) are loaded.

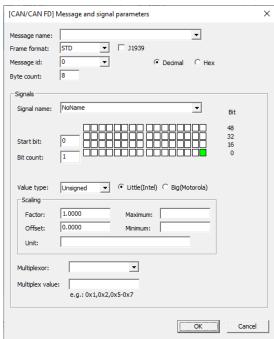
3.2 New Definitions

In the definition list, click , or click **Edit** > **New** to display the dialog box for new definitions.

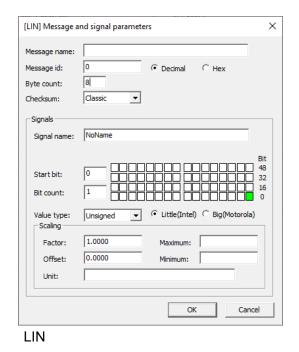




FlexRay



CAN/CAN FD



IM B9852US-01E 17th Edition

Note:

- · The contents of the dialog box differs depending on the edit mode.
- The characters that can be used in the Message name, Signal name, and Unit boxes are: 0 to 9, A to Z, a to z, %, _, (,), -, and /
- · You may not enter a message name that is already assigned to a message.
- · Up to 500 messages can be registered in the definition list.

CAN/CAN FD

- · You may not enter a signal name that already exists within a message.
- · Message ID setting range

If Frame format = STD, 0 to 2047 (7FF hex)

If Frame format = XTD, 0 to 536870911 (1FFFFFFF hex)

When the J1939 check box is selected, Frame format is fixed to XTD. *

· Byte count setting range

When the J1939 check box is not selected: 0 to 64*

When the J1939 check box is selected: 0 to 1785*

If 0, the signal cannot be set.

- The signal start bit setting range is 0 to (byte count \times 8 1).
- · The signal bit count setting range is 1 to 64.
- The maximum number of characters that can be used in the Message name, Signal name, and Unit boxes is 32.
- When creating a new definition, you can copy previously defined message and signal settings from the Message name, Message id, and Signal name lists.
- The usage of bits within the message is shown to the right of the Start bit and Bit count boxes.

Meanings of colors

White: Unused bit

Green: Bit used by signal in question

Gray: Bit used by other signal (4 gradations express multiple signals)

You can click or drag to select.

Multiplex setup*

Signals in the same message can be selected as Multiplexor. If Multiplexor is left blank, the Multiplex function is turned off.

Multiple multiplex values can be set.

To set multiple values, separate the values with commas or specify a range by hyphenating the minimum and maximum values.

* Only the DL950 and DL350 support J1939 and Multiplex.

LIN

- You may not enter a signal name that already exists within a message.
- The message id setting range is 1 to 63 (3F hex)
- · The byte count setting range is 0 to 8.

If 0, the signal cannot be set.

- The signal start bit setting range is 0 to (byte count \times 8 1).
- The signal bit count setting range is 1 to (byte count × 8 start bit).
- The maximum number of characters that can be used in the Message name, Signal name, and Unit boxes is 32.
- When creating a new definition, you can copy previously defined message and signal settings from the Message name, Message id, and Signal name lists.
- The usage of bits within the message is shown to the right of the Start bit and Bit count boxes.

Meanings of colors

White: Unused bit

Green: Bit used by signal in question

Gray: Bit used by other signal (4 gradations express multiple signals)

You can click or drag to select.

FlexRay

- · You may not enter a signal name that already exists within a message.
- · The message id setting range is 1 to 2047 (7FF hex)
- · The byte count setting range is 0 to 254.

If 0, the signal cannot be set.

- The signal start bit setting range is 0 to (byte count \times 8 1).
- The signal bit count setting range is 1 to (byte count × 8 start bit).
- The setting range for the base cycle is 0 to (cycle repetitions 1).

· The setting range for the cycle repetition is 1 to 64.

The send schedule for messages in FlexRay is determined by the base cycle and cycle repetition.

Base cycle: In communication cycles (0 to 63), specify the cycle at which the first

message is sent.

Cycle repetition: Specify an interval in numbers of cycles starting from the base cycle at

which messages are sent.

Ex. 1) Base cycle=3, Cycle repetition=4

The cycle count: 3, 7, 11, ...59, 63 is defined as the message send schedule.

Ex. 2) Base cycle=0, Cycle repetition=1

The entire cycle count: 0, 1, 2, ..., 63 is defined as the message send schedule.

- The maximum number of characters that can be used in the Message name, Signal name, and Unit boxes is 32.
- When creating a new definition, you can copy previously defined message and signal settings from the Message name, Message id, and Signal name lists.
- The usage of bits within the message is shown to the right of the Start bit and Bit count boxes.

Meanings of colors

☐White: Unused bit

Green: Bit used by signal in question

Gray: Bit used by other signal (4 gradations express multiple signals)
Up to 64 bits from the byte position corresponding to Start can be used.

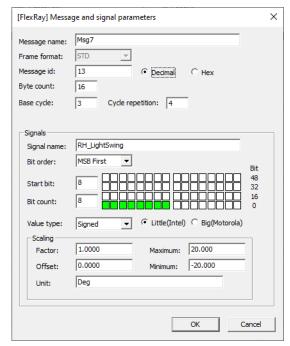
You cannot click or drag the mouse to select.

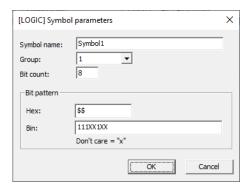
LOGIC

- You cannot create an identical bit pattern to one that already exists in the same group.
- · The maximum number of characters that can be used in the Message name box is 16.

3.3 Editing Definitions

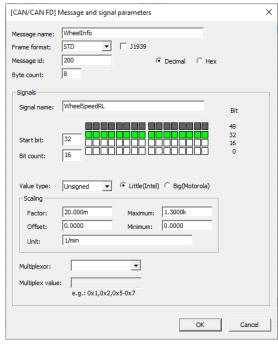
In the definition list, select a message and click for editing definitions.

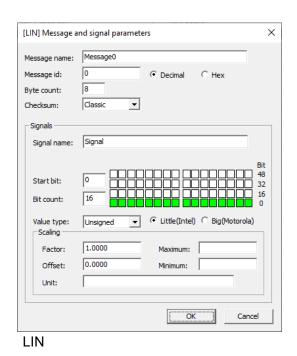




LOGIC

FlexRay



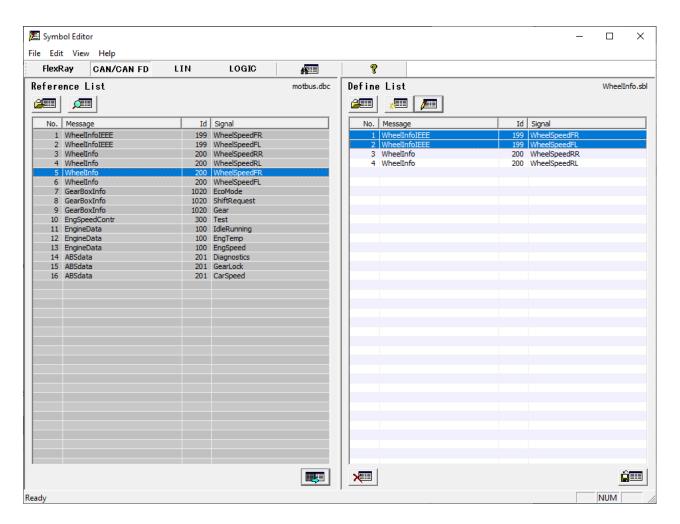


CAN/CAN FD

For precautions when editing definitions, see "Note" in section 3.2.

3.4 Deleting Definitions

In the definition list, select messages and click or click **Edit** > **Delete**. The selected messages are deleted from the definition list.

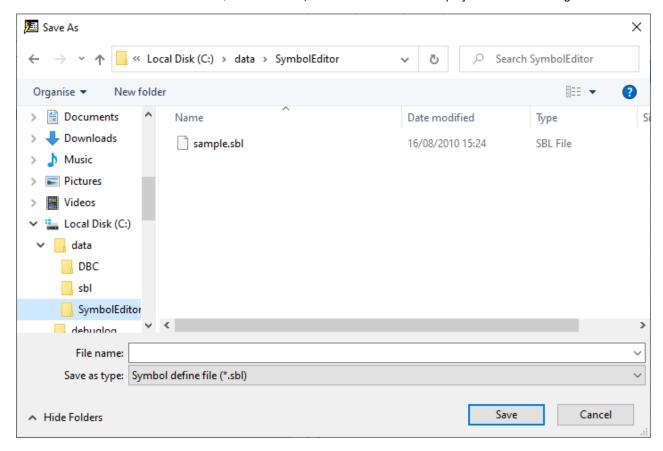


Note:

You can select one message or multiple messages to delete at a time. To select multiple messages, hold down the Ctrl key while clicking each message. When multiple messages are selected, all can be deleted from the definition list together.

3.5 Saving Definitions

1. In the definition list, click or click **File** > **Save** to display the Save As dialog box.



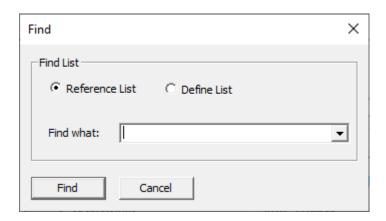
2. In the File name box, type the name under which you wish to save the file or select a file from the list, then click **Save**. The contents of the definition list are saved to the file.

Note:

You can save symbol definition files (*.sbl).

4.1 Searching for Messages

1. Click _____, or click Edit > Search to display the Find dialog box.



2. Enter the string you wish to search for in the Find what box, then click Find. The matching location in the specified list is selected and displayed.

Note:

You can select from a history of previously entered search strings in the list.

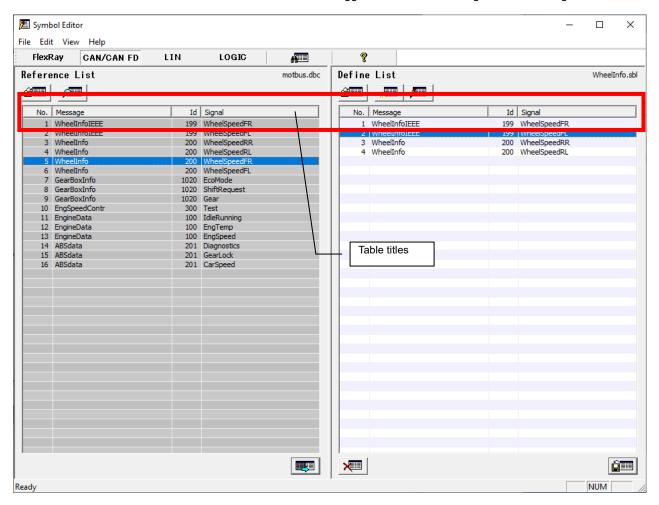
4.2 Selecting or Sorting All Items in the List

• Selecting All Items in the List

Click Edit > All to select all items in the active list.

Sorting All Items in the List

Click a column title without No. to sort. Toggles between ascending and descending sort order.



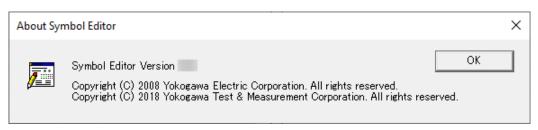
Note:

- When sorted, ▲ (ascending) or ▼ (descending) is indicated in the title.
- You can change the order of the messages by dragging them to any location in the definition list.

5 Other Functions

Version Information

Click **Help > About** to display version information.



User's Manual



Note:

Adobe Reader by Adobe Systems is required to open PDF files. You can download Adobe Reader from the following Web page. https://www.adobe.com/

Viewing the Yokogawa Test & Measurement Web Site

Click Help > YOKOGAWA Web site > Test & Measurement, or click Help > YOKOGAWA Web site > Symbol Editor. The Yokogawa Web site appears.

Note:

If your PC is connected to the Internet, the Yokogawa Web site is displayed.

Test & Measurement: The Yokogawa Test & Measurement home page is displayed.

Symbol Editor: The product page is displayed, containing the latest product information including information on version upgrades.