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## 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. Furthermore, for the handling precautions, functions, and operating procedures of 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 in performance or functionality. Display contents illustrated in this manual may differ slightly from what actually appears 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 representative as listed on the back cover of this manual.
- 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 SB5000 series and DL9500/DL9700 series.

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## Revisions

- 1st Edition January, 2008

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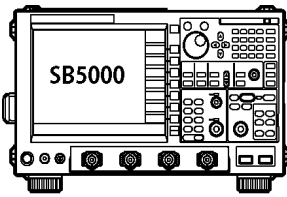
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# Product Overview

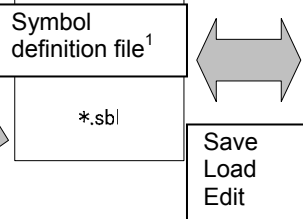
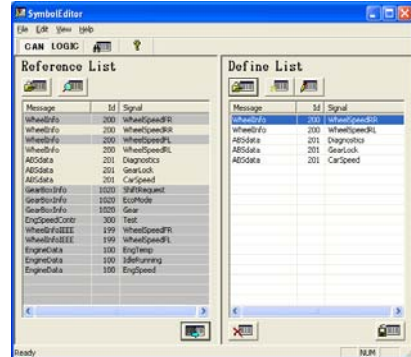
## Functions

SB5000

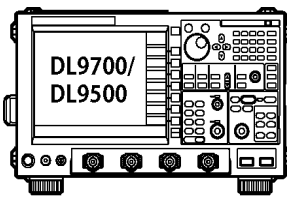


Physical value symbol definition data for serial bus analysis + Logic symbol definition data

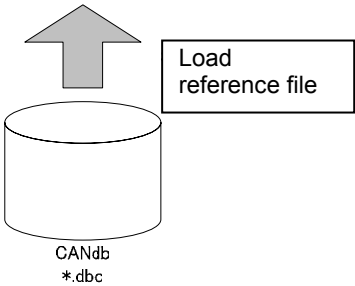
Symbol Editor



DL9700 / DL9500



Logic symbol definition data



1. The following are included in symbol definition files.
- Physical value symbol definition data for serial bus analysis
  - Logic symbol definition data

## Create and Edit Physical Value Symbol Definition Files for 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 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 SB5000.

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

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

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# System Requirements

## Personal Computer

A personal computer (PC) is required that is running Windows 2000 SP4 or later, Windows XP SP2 or later, or Windows Vista, having a Pentium 4, 2 GHz or faster CPU and 512 MB or more (1 GB or more recommended) of memory.

## Display

Display: SVGA/XGA (XGA or better recommended)

Colors: 65536 or more

The display must be compatible with Windows 2000 SP4 or later, Windows XP SP2 or later, or Windows Vista.

## Mouse

A mouse that is compatible with Windows 2000 SP4 or later, Windows XP SP2 or later, or Windows Vista.

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

DL9700/DL9500 series: Version 4.00 or later

SB5000 series: All firmware versions

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# Important Information for Users

## Disclaimers

By downloading and installing this software, the customer agrees to all of the following disclaimers.

- Yokogawa bears no liability for any problems occurring as a result of downloading or installing this software.
- Yokogawa bears no responsibility for any damage caused directly or indirectly as a result of using this software.
- This software is provided free of charge, however no unlimited warranty against software defects exists, nor is any claim made that the product is free of all defects whatsoever. Also, Yokogawa is not always able to repair defects (“bugs”) in, or respond to questions or inquiries about this software.
- Yokogawa reserves all rights to this software, including but not limited to all property rights, ownership rights, and intellectual property rights.

## Usage Precautions

- 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.

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# Installing and Uninstalling the Software

## Installing

1. Download the 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.

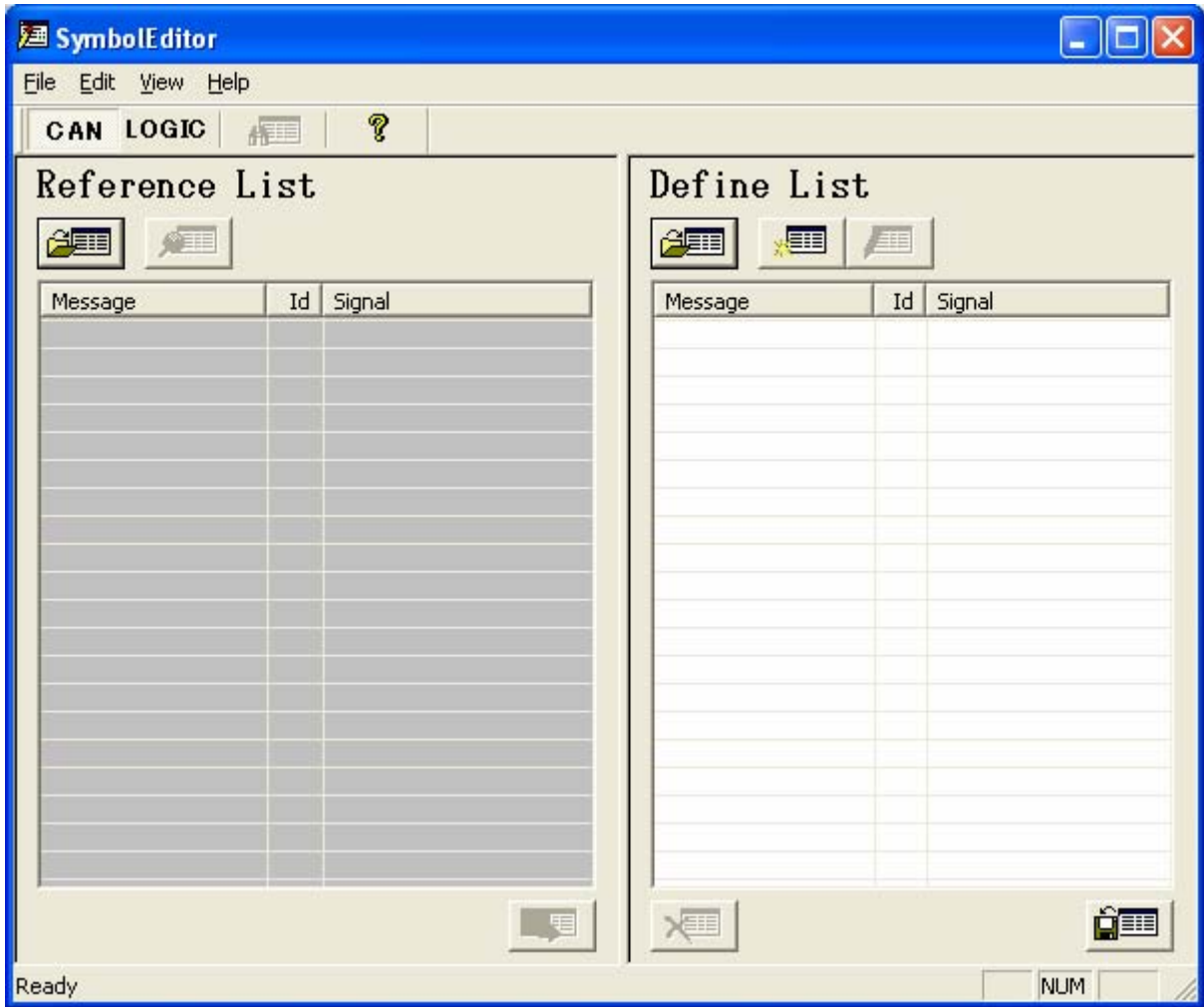
## Uninstalling

1. Delete the Symbol Editor folder.

# 1.1 Starting and Exiting the Program

## Starting the Program

Double-click **Symbol Editor.exe** to start the program. The window below is displayed.



Loads files as reference data.

Edits definition data.

## Exiting the Program

Click **File > Exit**.



## 1.2 Basic Operations in the Main Screen

The screenshot shows the SymbolEditor application window with two main panes: Reference List and Define List. The Reference List pane contains a table of CAN messages, and the Define List pane contains a table of symbol definitions. Callouts point to various icons and menu items, explaining their functions.

**Reference List Table:**

Message	Id	Signal
WheelInfo	200	WheelSpeedFR
WheelInfo	200	WheelSpeedRR
WheelInfo	200	WheelSpeedFL
WheelInfo	200	WheelSpeedRL
ABSdata	201	Diagnostics
ABSdata	201	GearLock
ABSdata	201	CarSpeed
GearBoxInfo	1020	ShiftRequest
GearBoxInfo	1020	EcoMode
GearBoxInfo	1020	Gear
EngSpeedContr	300	Test
WheelInfoIEEE	199	WheelSpeedFR
WheelInfoIEEE	199	WheelSpeedFL
EngineData	100	EngTemp
EngineData	100	IdleRunning
EngineData	100	EngSpeed

**Define List Table:**

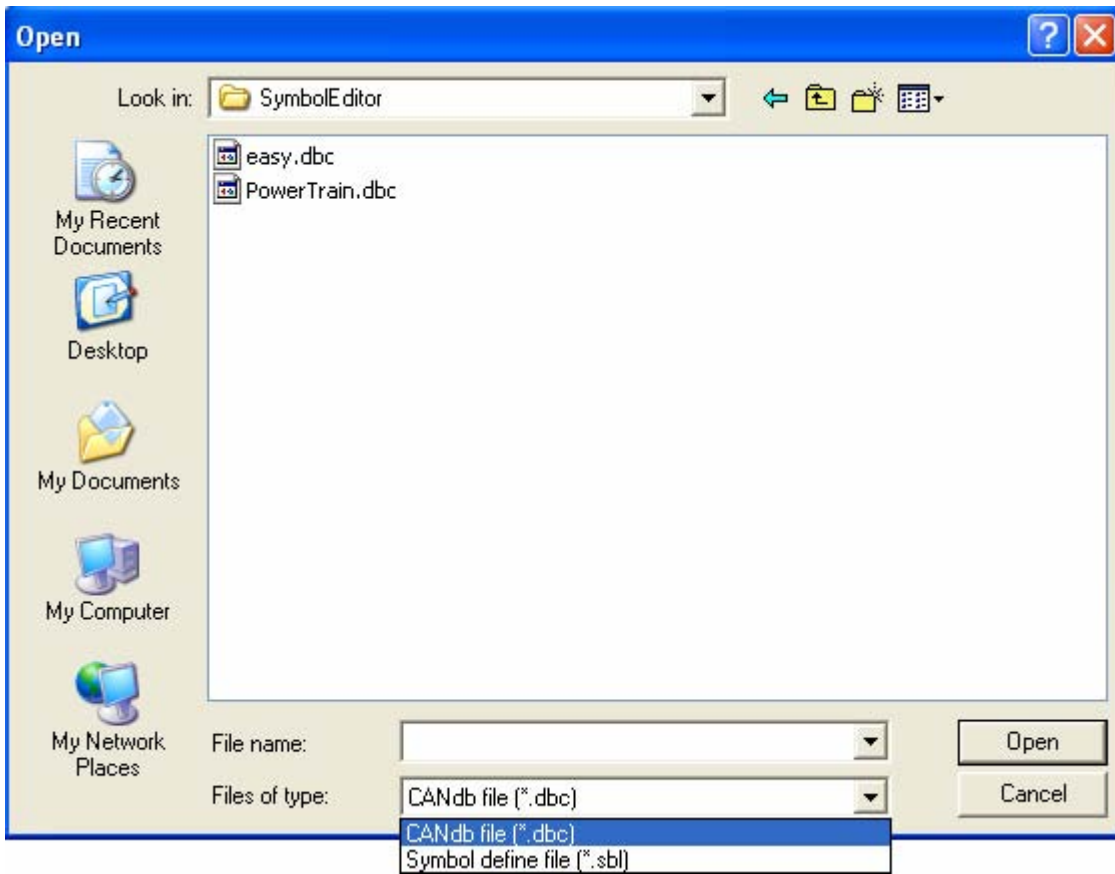
Message	Id	Signal
WheelInfo	2...	WheelSpeedRR
WheelInfo	2...	WheelSpeedRL

**Callout Functions:**

- Reference:** Loads CANdb (\*.dbc) and symbol definition files (\*.sbl)
- Add:** Adds messages to the definition list
- Delete:** Deletes messages from the definition list
- Save:** Saves symbol definition files
- View:** Displays messages
- Sorting:** Click a column title to sort by that column. Toggles between ascending and descending
- Edit:** Edits registered messages
- New:** Creates new messages
- Open:** Loads symbol definition files (\*.sbl)
- Searches for messages registered in the list**
- Opens the Help window**
- Selects the data to edit:**
  - CAN
  - LOGIC

## 2.1 Loading Reference Files

1. In the Reference list, click , or click **File > Reference** 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 reference list.

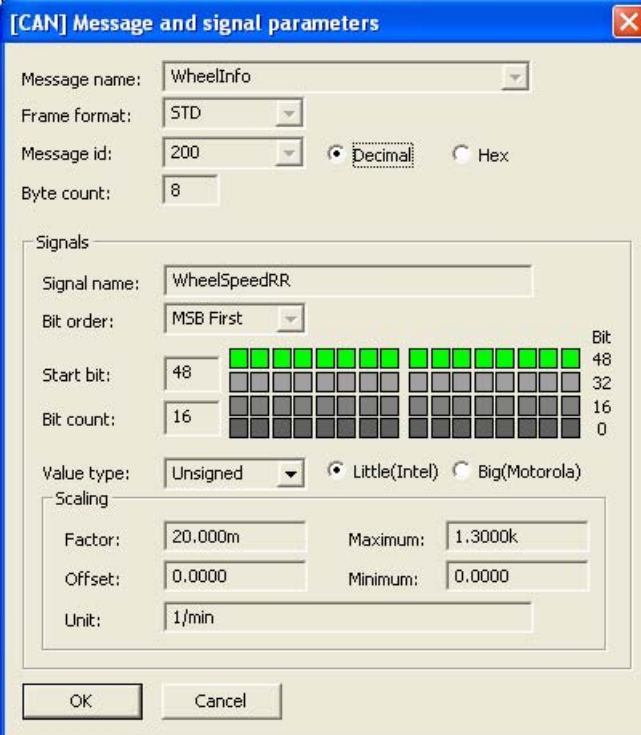
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**Note:**

- If the edit mode is CAN, CANdb (\*.dbc) and symbol definition (\*.sbl) files can be loaded.
  - CANdb files can contain up to 5000 messages.
  - If the edit mode is LOGIC, symbol definition (\*.sbl) files can be loaded.
-

## 2.2 Displaying Definitions

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



**[CAN] Message and signal parameters**

Message name: WheelInfo

Frame format: STD

Message id: 200  Decimal  Hex

Byte count: 8

Signals

Signal name: WheelSpeedRR

Bit order: MSB First

Start bit: 48

Bit count: 16

Value type: Unsigned  Little(Intel)  Big(Motorola)

Scaling

Factor: 20.000m Maximum: 1.3000k

Offset: 0.0000 Minimum: 0.0000

Unit: 1/min

OK Cancel

CAN



**[LOGIC] Message parameters**

Message name: Symbol1

Group: 1

Bit count: 3

Bit pattern

Hex: \$\$

Bin: 111X1XXX

Don't care = "x"

OK Cancel

LOGIC

### Note:

- The contents of the dialog box differs depending on the edit mode.
- The contents of messages do not change.

### CAN

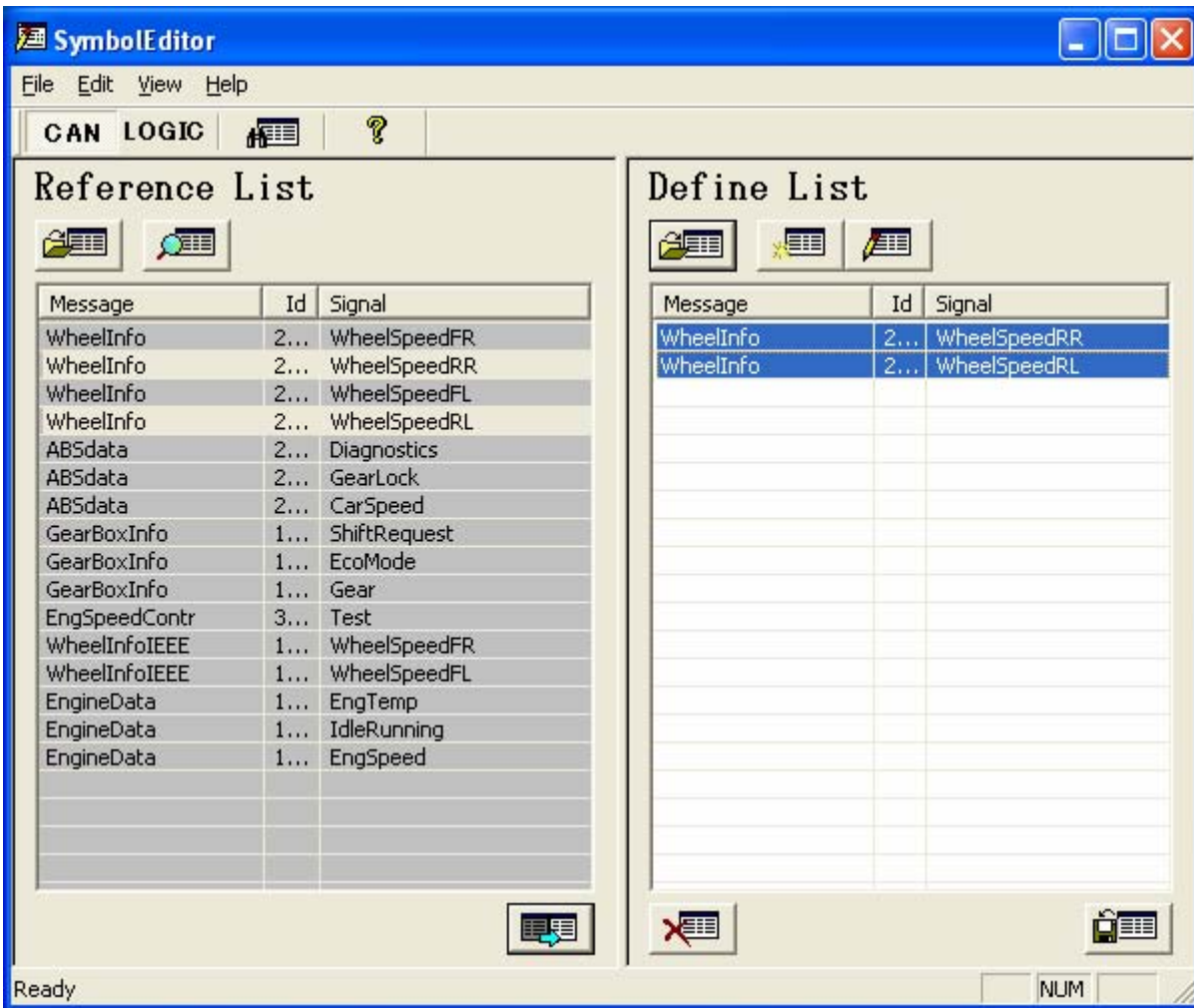
- The usage of bits within the message is shown to the right of the Start bit and Bit count boxes.

#### Meanings of colors

- White: Unused bit
- Green: Bit used by signal in question
- Gray: Bit used by other signal (4 gradations express multiple signals)

## 2.3 Adding Definitions

1. In the reference list, select a message then click  or click **Edit > Add**. A message is added to the definition list.



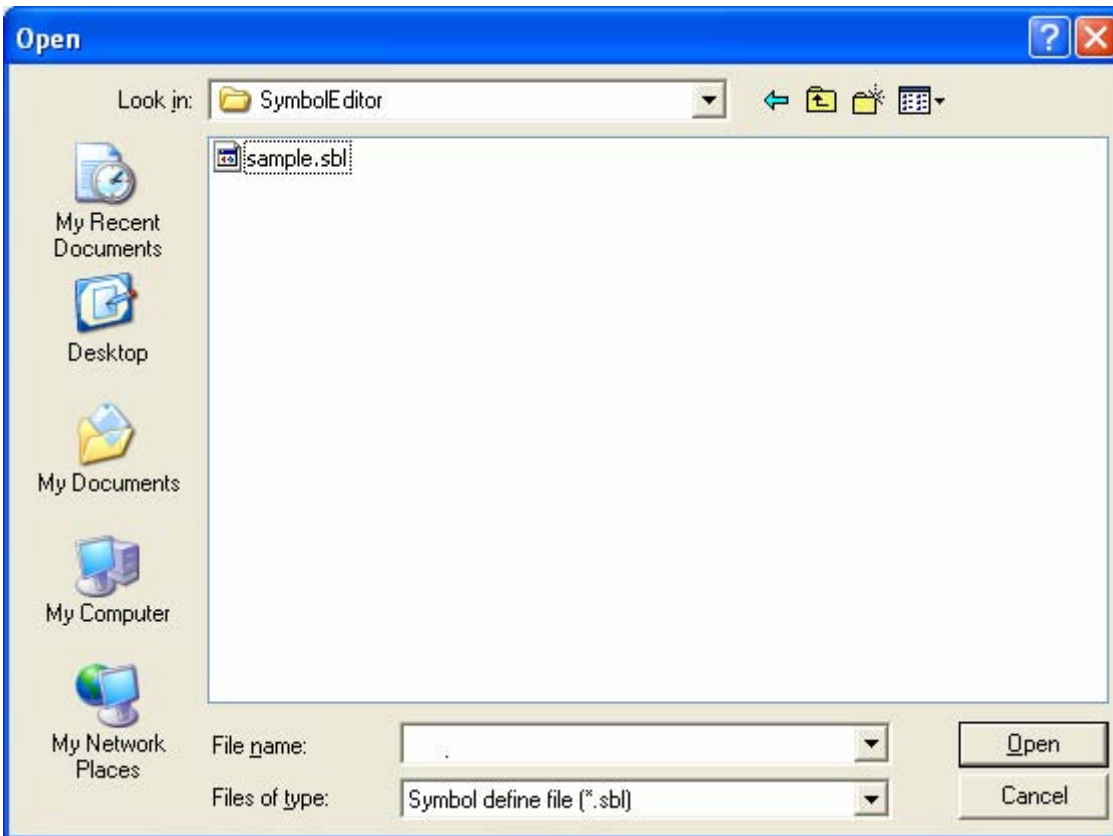
---

### 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.
  - CANdb data of value type Float cannot be added to the definition list.
-

## 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.

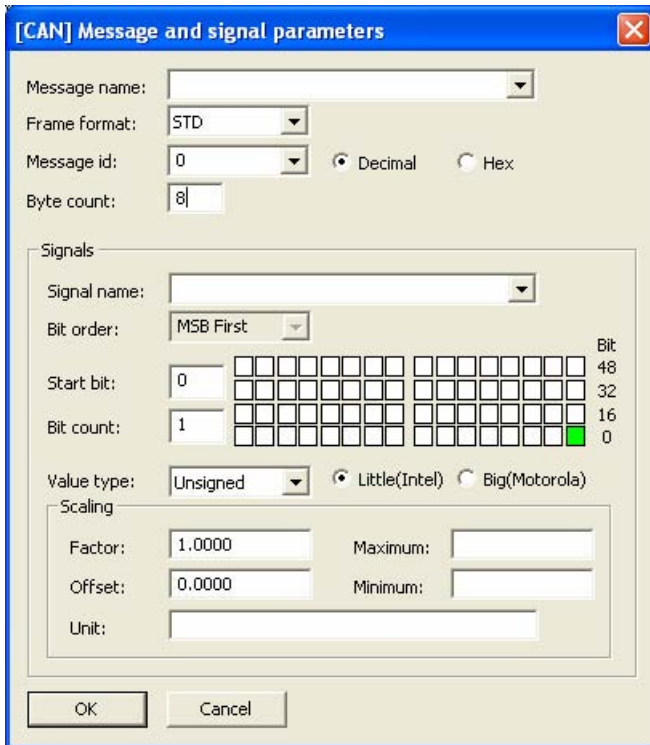
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**Note:**

- Symbol definition files (\*.sbl) are loaded.
-

## 3.2 New Definitions

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



CAN



LOGIC

### 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

- 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)
- 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 × 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)

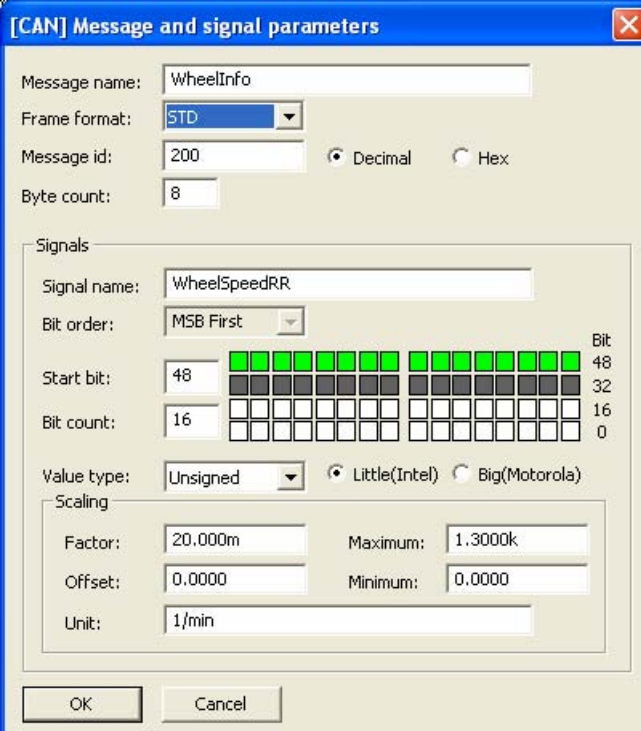
You can click or drag to select.

#### 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

1. In the definition list, select a message and click , or click **Edit** > **Edit** to display the dialog box for editing definitions.

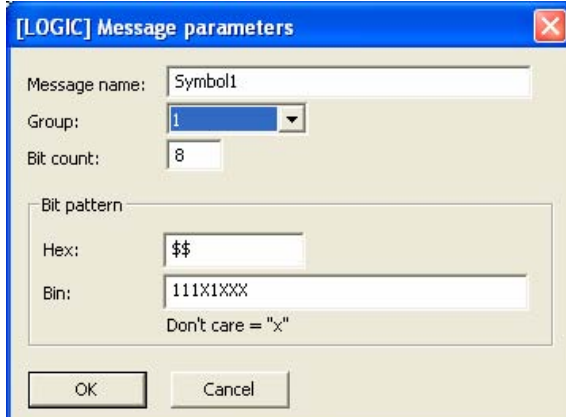


The dialog box is titled "[CAN] Message and signal parameters". It contains the following fields and options:

- Message name: WheelInfo
- Frame format: STD
- Message id: 200, with radio buttons for Decimal (selected) and Hex.
- Byte count: 8
- Signals section:
  - Signal name: WheelSpeedRR
  - Bit order: MSB First
  - Start bit: 48
  - Bit count: 16
  - Value type: Unsigned, with radio buttons for Little(Intel) (selected) and Big(Motorola).
  - Scaling section:
    - Factor: 20.000m, Maximum: 1.3000k
    - Offset: 0.0000, Minimum: 0.0000
    - Unit: 1/min

At the bottom are OK and Cancel buttons.

CAN



The dialog box is titled "[LOGIC] Message parameters". It contains the following fields and options:


- Message name: Symbol1
- Group: 1
- Bit count: 8
- Bit pattern section:
  - Hex: \$\$
  - Bin: 111X1XXX
  - Don't care = "x"

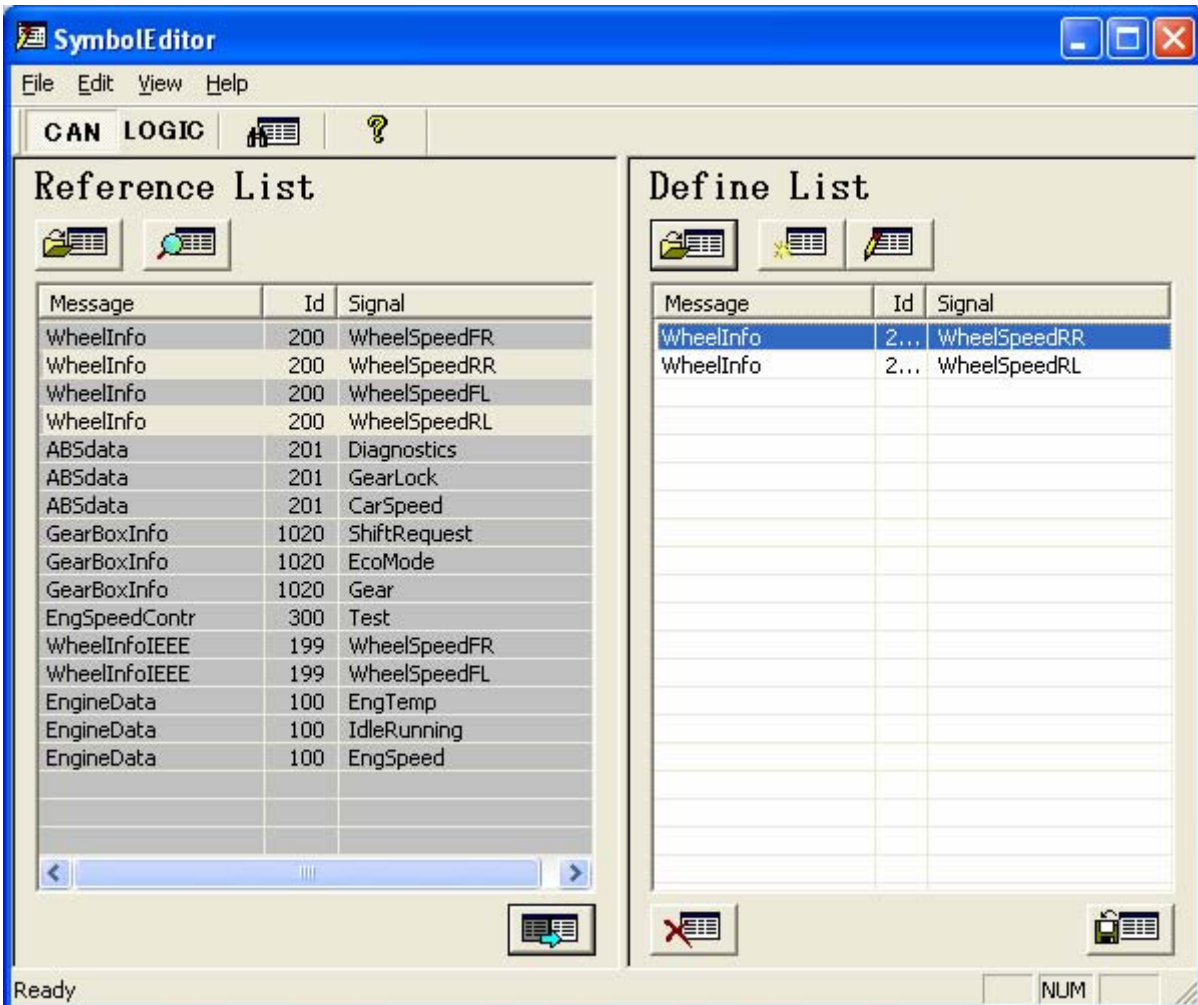
At the bottom are OK and Cancel buttons.

LOGIC

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

## 3.4 Deleting Definitions

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



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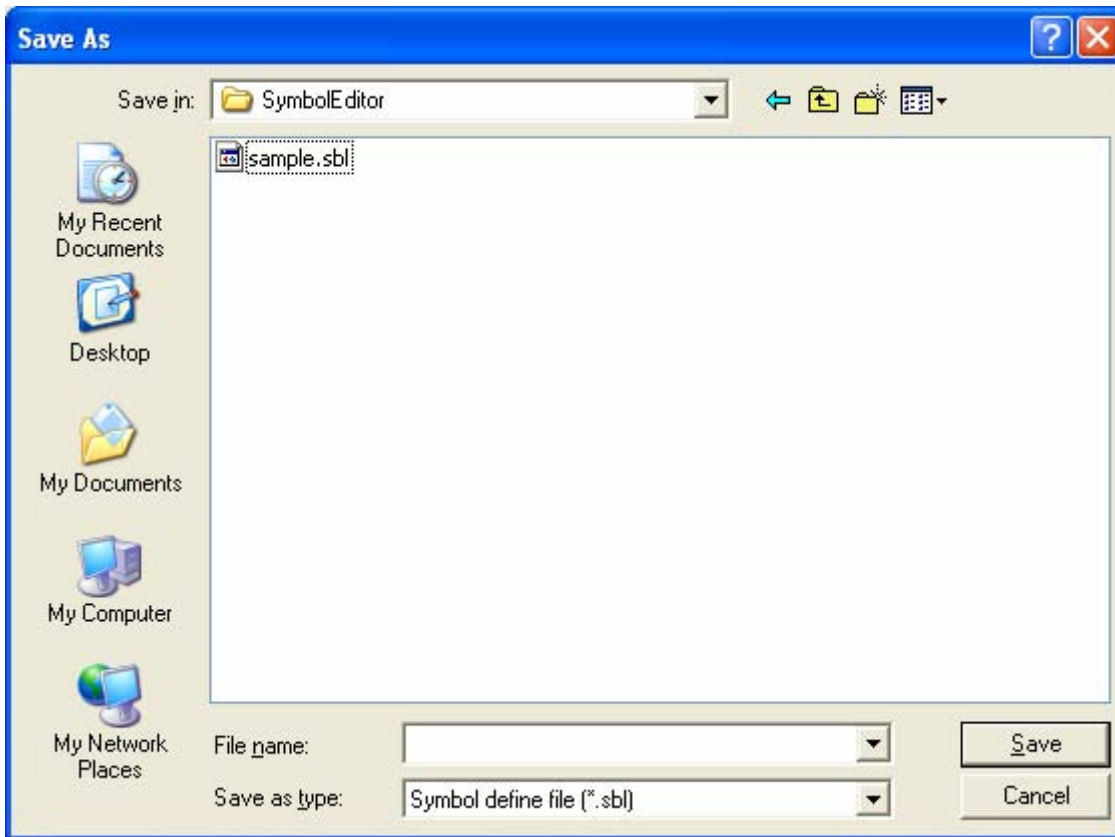
### Note:

- 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.

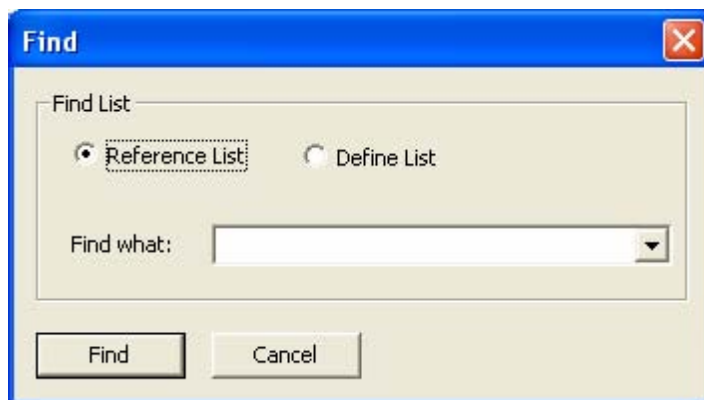
---

**Note:**

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

## 4.1 Searching 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.

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**Note:**

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

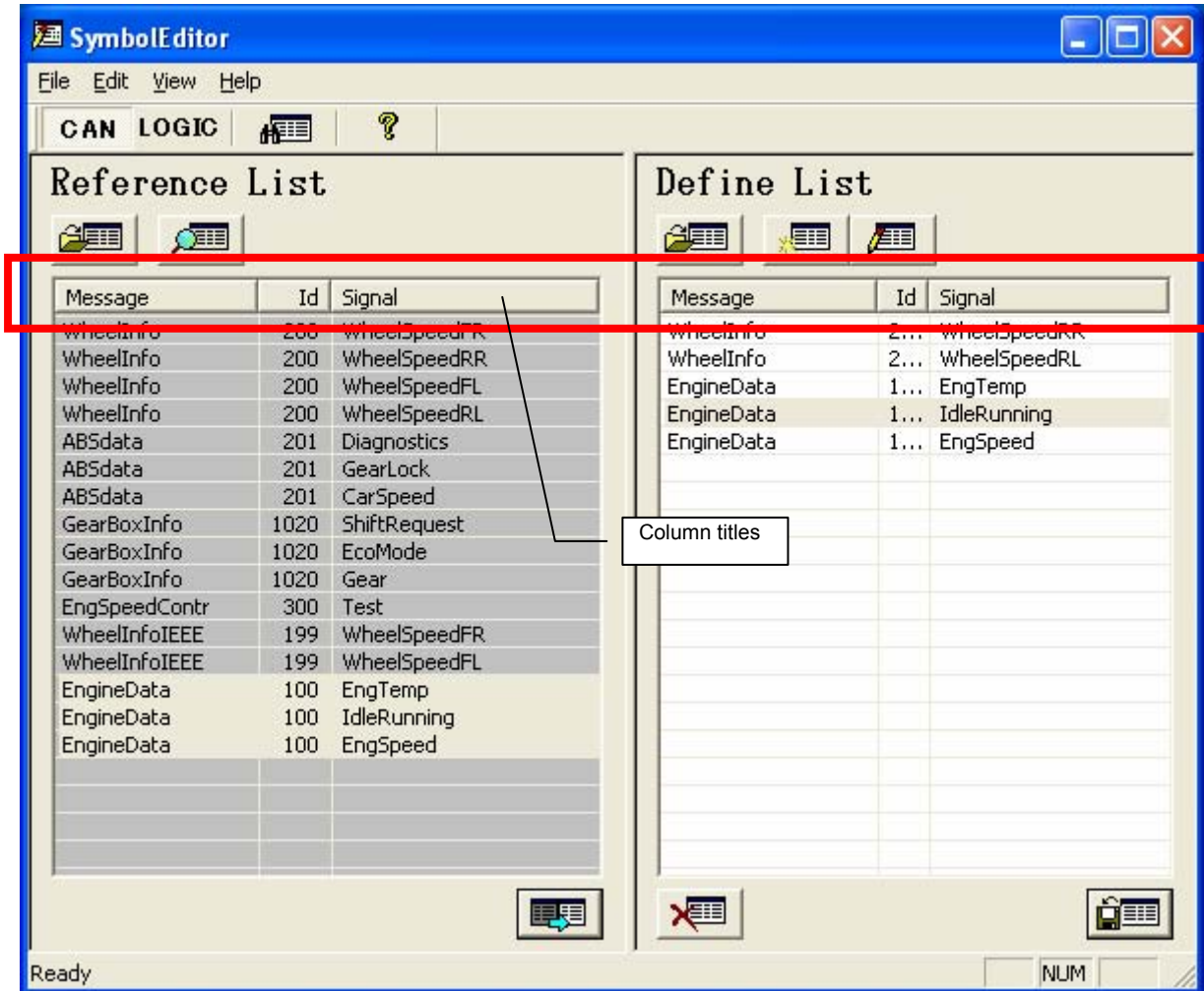
## 4.2 Selecting or Sorting All Items in the List

### • Selecting All Items in the List

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

### • Sorting All Items in the List

1. Click a column title to sort. Toggles between ascending and descending sort order.



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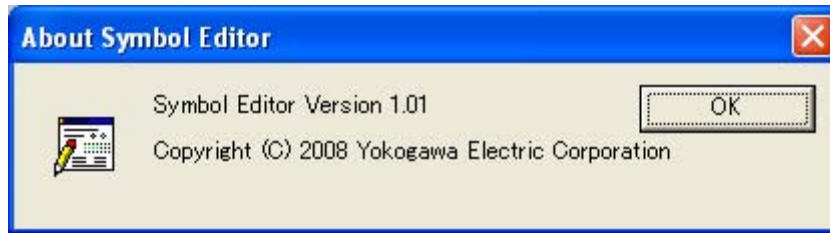
**Note:**

- When sorted, ▲ (ascending) or ▼ (descending) is indicated in the title.
-

## 5 Other Functions

### • Version Information

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



### • User's Manual

1. Click , or click **Help > User's Manual** to display the **user's manual**.

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**Note:**

- Adobe Reader by Adobe Systems is required to open PDF files. You can download Adobe Reader from the following Web page.  
<http://www.adobe.com/jp/>
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### • Viewing the Yokogawa Electric Web Site

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

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**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.
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