

CAN/LIN Monitoring Tool

CanLine-1

User Manual

Edition	Date	Revision History
1st edition	October 2026	Initial English release



Hitomi Software Development

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1 Important Information

1 - 1 Safety Precautions

WARNING

Failure to follow these precautions may result in death or serious injury.

- Do not disassemble or modify this product.
- Stop using the product immediately if it emits smoke, unusual odors, or unusual sounds.
- Keep the product away from water and other liquids.
- Suspend use whenever lightning is occurring or there is a risk of lightning.

CAUTION

Failure to follow these precautions may result in injury or property damage.

- Do not use or store the product in direct sunlight.
- Do not use or store the product where it is exposed to vibration.
- Do not use or store the product in strong magnetic fields.
- Do not use or store the product where static electricity is generated.
- Do not use or store the product in humid or dusty locations.
- Do not use or store the product near open flames or where heat accumulates.
- Do not use or store the product where there is a risk of electrical leakage or water leakage.

1 - 2 Warranty

If the product fails under normal use in accordance with this manual, we will repair or replace it free of charge within six months of the purchase date.

Warranty Coverage

The warranty covers only the main unit. The application and other accessories are not covered.

Warranty Exclusions

- The six-month warranty period has expired.
- The product was purchased secondhand.
- Failure caused by earthquakes, fire, storms, floods, lightning, other natural disasters, abnormal voltage, or other external factors.
- Failure or damage caused by improper handling after purchase, including dropping or impact during transport or relocation.
- Failure or damage caused by other connected equipment.
- Failure caused by modification, disassembly, or repair by anyone other than our company or an authorized service provider.

1 - 3 Disclaimer

- We accept no liability for any direct or indirect damage resulting from failure or use of this product.
- We accept no liability for loss or corruption of data stored on this product or connected equipment.
Always take precautions such as backing up important data.

1 - 4 Other Information

- Product specifications, design, and the contents of this manual are subject to change without notice.
- Copyright in this product and this manual belongs to our company. Unauthorized use, reproduction, modification, or similar activities without our permission are prohibited.

2 Overview

2 - 1 Product Features

This affordable, easy-to-use tool captures automotive CAN or LIN communication on a PC or tablet via USB for monitoring and logging with the supplied application. Configure signals to monitor, graph, and log physical values. Transmission functions also allow individual nodes to be simulated.



2 - 2 Specifications

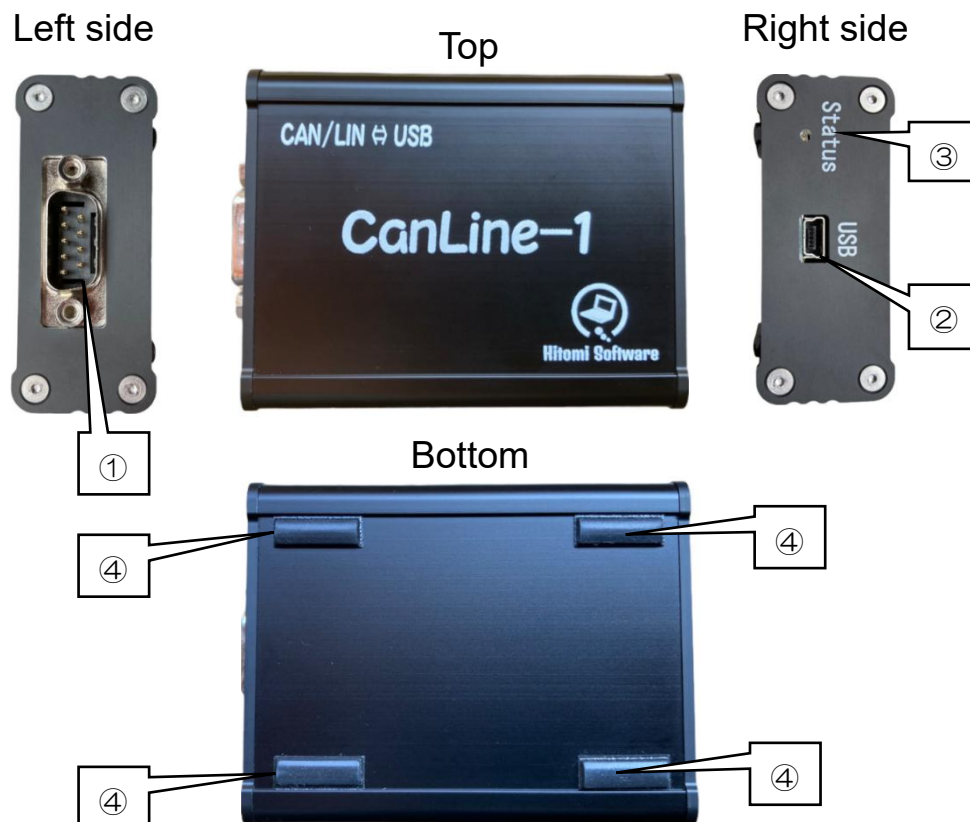
Item	Specifications
Product name	CanLine-1
Model	HSD-CL1
Dimensions	77(W)×60.6(D)×25.6(H)mm
Weight	116g
Enclosure material	Aluminum
Power supply	USB bus power
Connectors	Target side: 9-pin male D-sub, imperial screws PC side: Mini-USB
USB	USB2.0
CAN	Channels: 2
	Transceiver: SN65HVD232D [Texas Instruments]
	Termination: 120 ohms (enabled/disabled in the application)
	Protocol: compliant with CAN 2.0A and CAN 2.0B
	Bit rate (bps): 125k, 250k, 500k, 1000k
LIN	Channels: 1
	Transceiver: SN65HVDA100 [Texas Instruments]
	Master pull-up: 1 kohm (enabled/disabled in the application)
	Protocol: compliant with LIN 1.3 and LIN 2.1
	Bit rate (bps): 2400, 4800, 9600, 19200
Operating temperature	0~50℃
Supported OS	Windows7/8/10/11

2 - 3 Accessories

Accessories	Quantity	Description
CanLine-1 unit	1	
USB cable	1	USB 2.0 cable, 1 meter PC side: USB Type-A Unit side: USB Mini-B
Quick Setup Guide	1	

3 Hardware

3 - 1 Parts and Functions



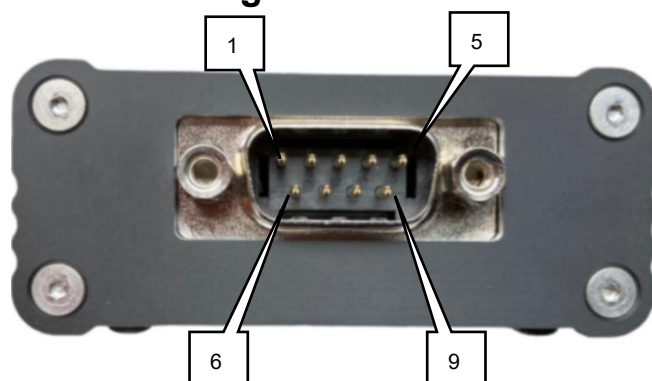
No	Name	Description
①	D-sub connector	9-pin male D-sub Mounting screws: #4-40 UNC (imperial) Model: XM2C-0942-132L [OMRON] Connects to the target-side cable. The target-side cable must be supplied separately.
②	USB connector	USB Mini-B Model: UX60SC-MB-5ST [Hirose] Connects to a PC or tablet using the supplied USB cable.
③	Status LED	Indicates the CAN bus or LIN bus status.
④	Rubber feet	Four rubber feet, 2 mm high

3 - 2 Status LED



LED state	Description
Steady green	Off bus
Slow green flashing On (1s), off (1 s), repeating	On bus
Fast red flashing On (0.1 s), off (0.1 s), repeating	Error detected CAN mode: error passive or bus off due to an error LIN mode: transmission error
Power on, green (1 s), red (1 s), off (1 s)	At power-on, the LED follows the sequence shown on the left so that its operation can be checked.

3 - 3 D-sub Connector Pin Assignment



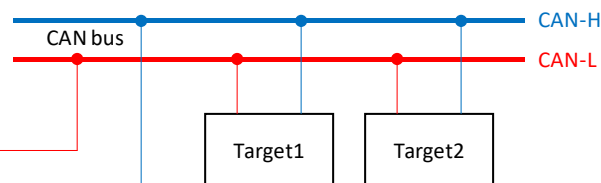
Pin No.	Signal name
1	CAN2-L
2	CAN1-L
3	GND
4	LIN
5	NC (not connected)
6	GND
7	CAN1-H
8	CAN2-H
9	LIN VBAT (LIN bus voltage input) Recommended operating range: 5 to 27 V (LIN specification: 7 to 18 V)

3 - 4 Wiring Example

[Single-channel CAN]

D-sub connector

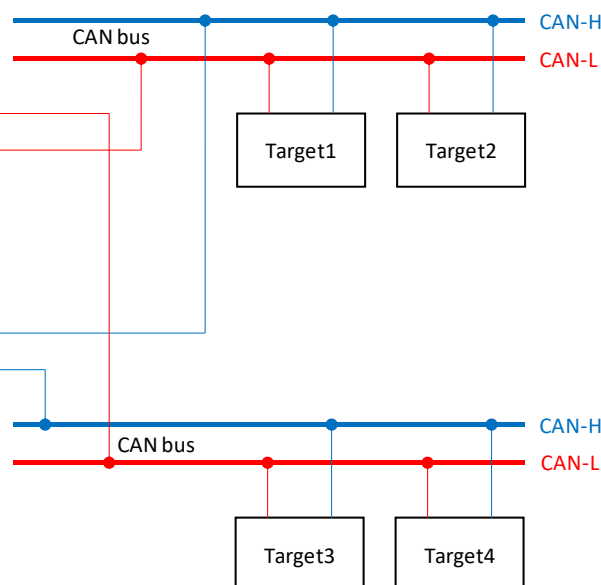
Pin No.	Signal name
1	CAN2-L
2	CAN1-L
3	GND
4	LIN
5	NC
6	GND
7	CAN1-H
8	CAN2-H
9	LIN VBAT



[Two-channel CAN]

D-sub connector

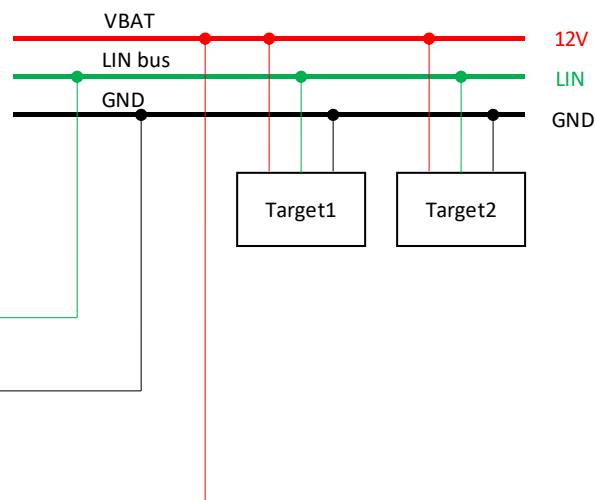
Pin No.	Signal name
1	CAN2-L
2	CAN1-L
3	GND
4	LIN
5	NC
6	GND
7	CAN1-H
8	CAN2-H
9	LIN VBAT



[LIN]

D-sub connector

Pin No.	Signal name
1	CAN2-L
2	CAN1-L
3	GND
4	LIN
5	NC
6	GND
7	CAN1-H
8	CAN2-H
9	LIN VBAT



4 Installation

4 - 1 Download

- Prepare a PC with Internet access.
- Open the following URL (our website) in a browser.
<https://hsdev.co.jp/canline-1-en/>
- Save the ZIP file using the [Application v*.*.] button on the page.

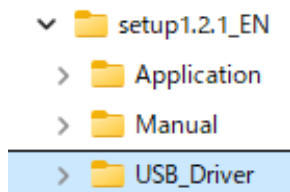


Version numbers in the screenshots may differ. As of October 1, 2026, the latest version is v1.2.1.

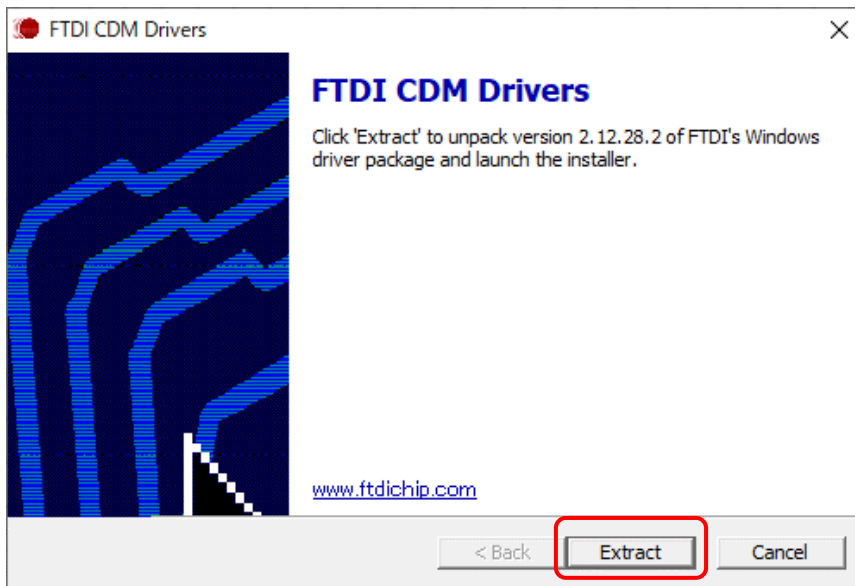
- Right-click the downloaded ZIP file and select Extract All.

4 - 2 Installing the USB Driver

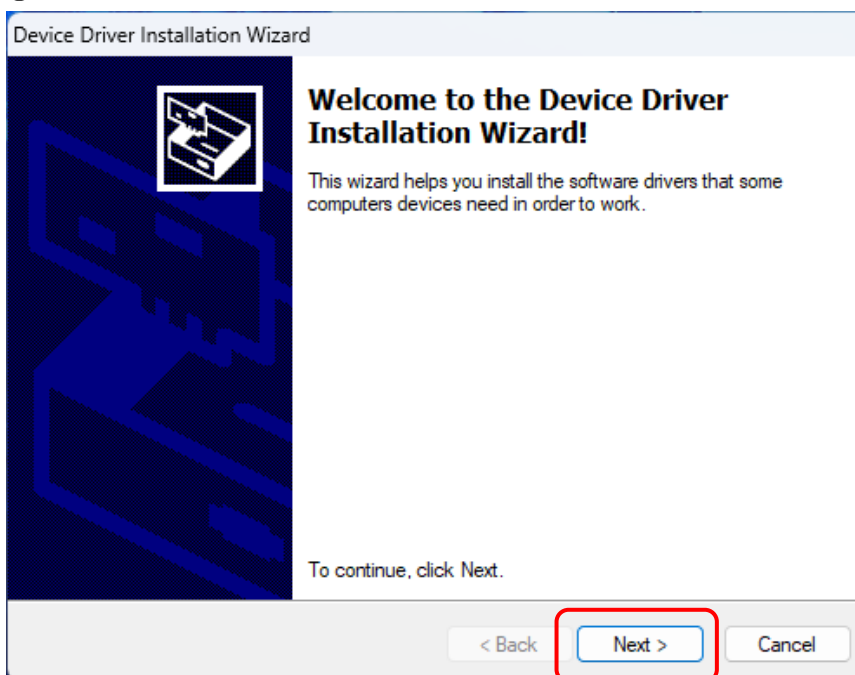
- ① Open the USB_driver folder in the extracted folder.



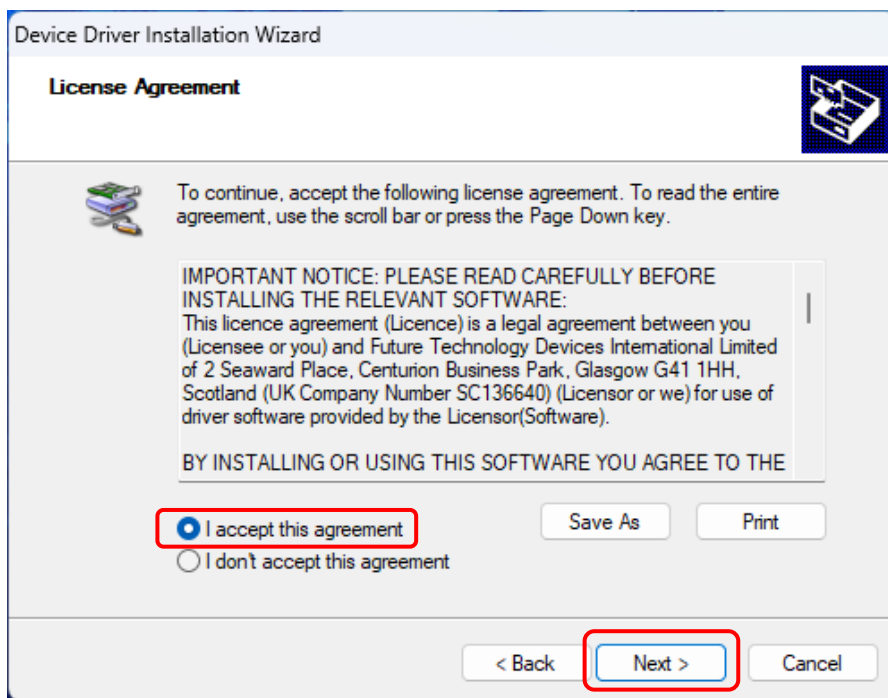
- ② Right-click CDM212364_Setup.exe and select Run as administrator.
- ③ Click Extract.



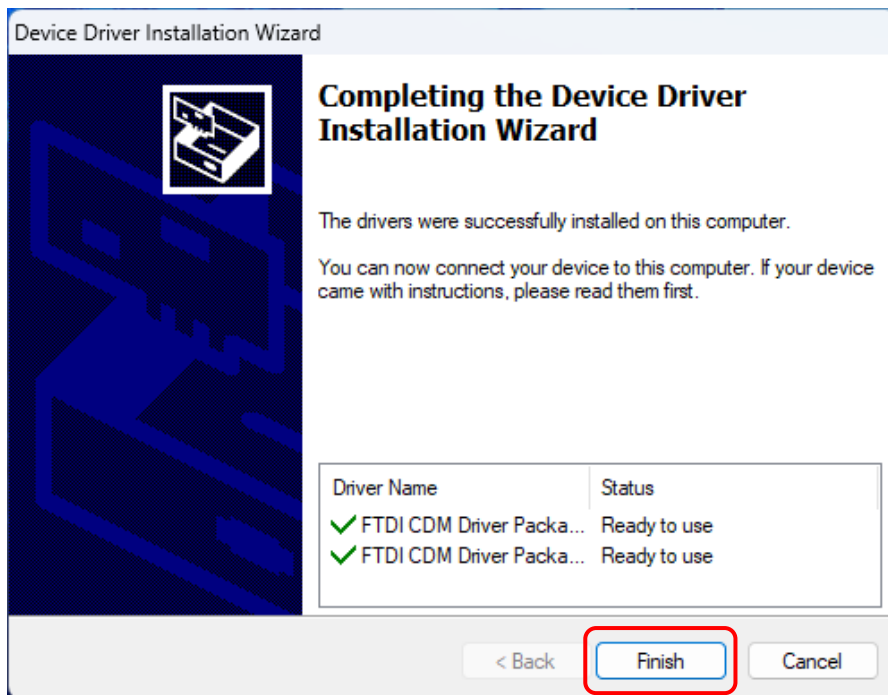
④ Click Next.



- ⑤ Select I accept this agreement, then click Next.

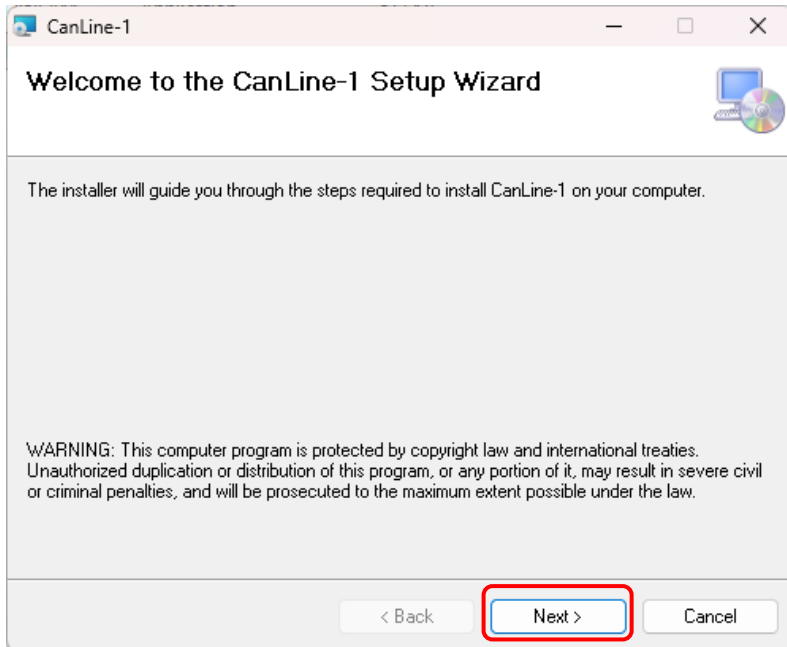


- ⑥ Click Finish.



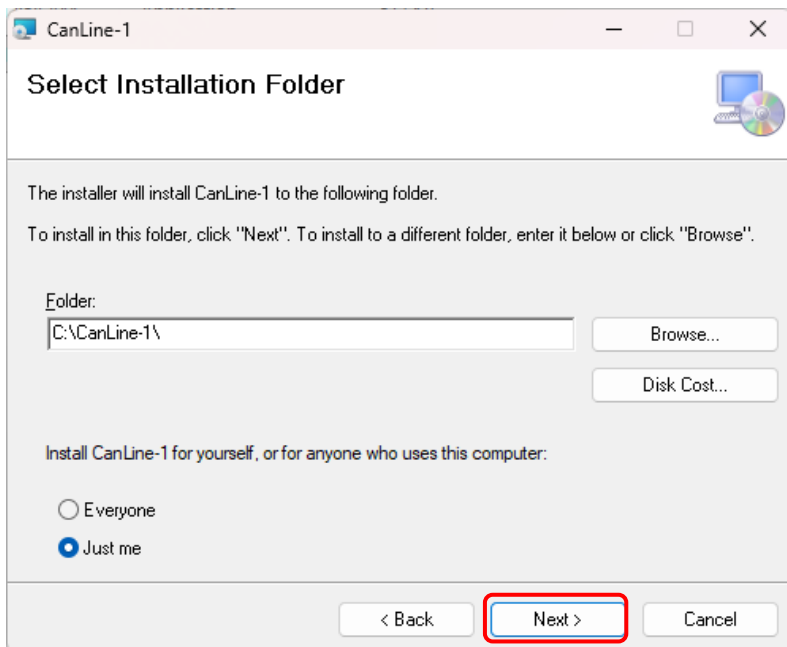
4 - 3 Installing the Application

- ① Open the application folder in the extracted folder.
- ② Right-click setup.exe and select Run as administrator.
- ③ Click Next.

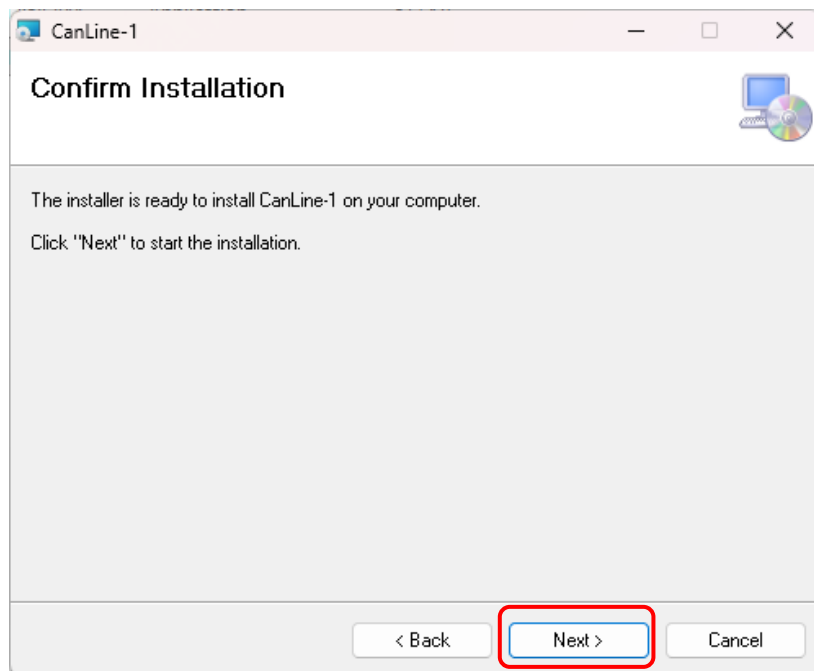


- ④ Select the installation folder, then click Next.

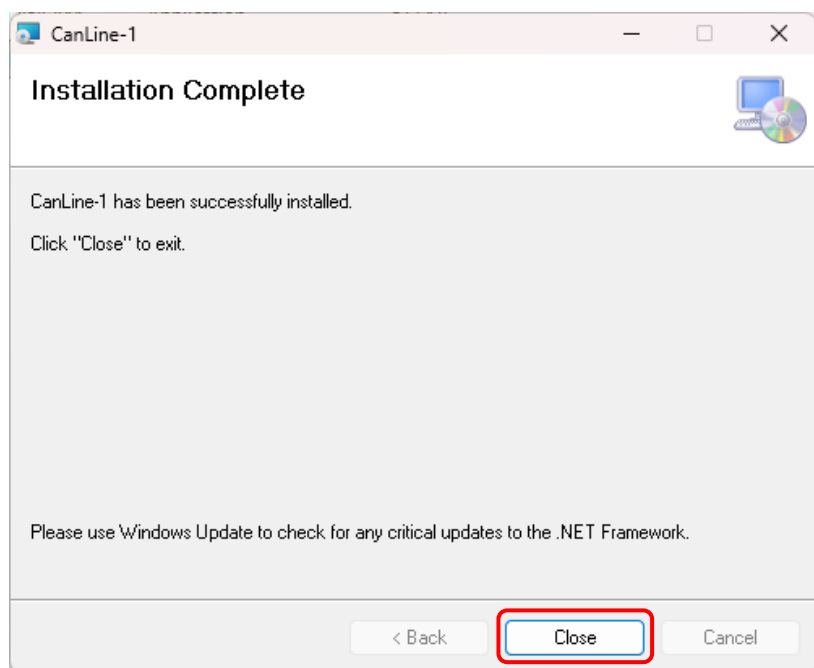
⚠ Caution: Do not install in Program Files or Program Files (x86).
(Example: C:\CanLine-1).



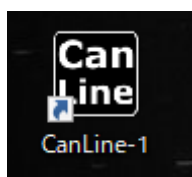
⑤ Click Next.



⑥ Click Close.



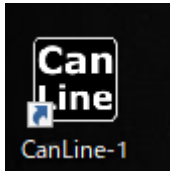
⑦ A desktop shortcut is created when installation is complete.



5 Using the Application

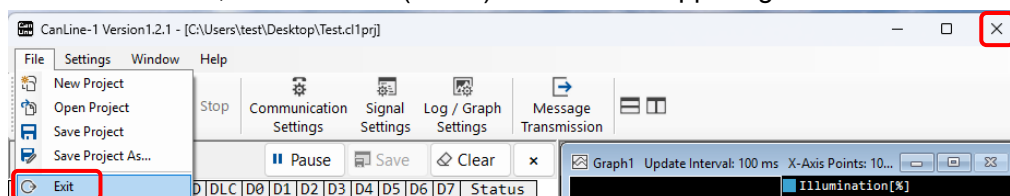
5 - 1 Starting the Application

- Double-click the desktop shortcut to start the application.



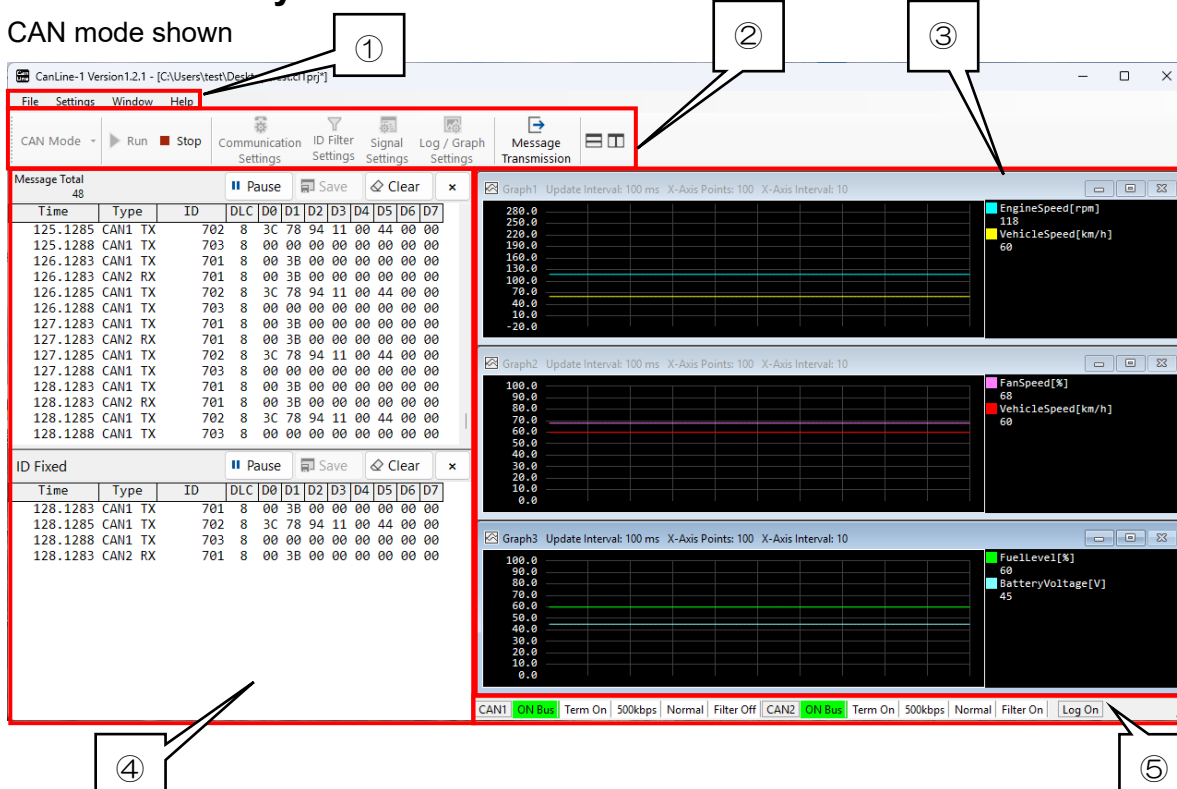
5 - 2 Exiting the Application

Select File > Exit, or click the X (Close) button at the upper right of the window.



5 - 3 Screen Layout

CAN mode shown

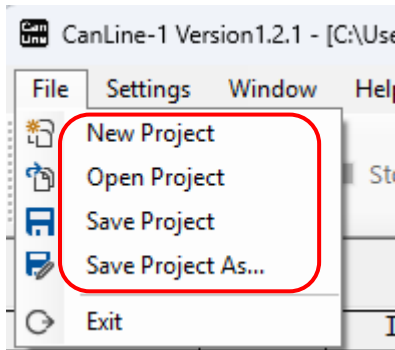


No	Item	Description
①	Menu	File: Load and save project files. Settings: Configure the application. Window: Show or hide message windows and arrange graph windows. Help: View version information and update the firmware.
②	Toolbar	CAN Mode / LIN Mode: Switch modes using the drop-down list. Run: Start monitoring. Stop: Stop monitoring. Communication Settings: Open the communication settings window. ID Filter Settings: Open the ID filter settings window (CAN mode only). Signal Settings: Open the signal settings window. Log/Graph Settings: Open the log/graph settings window. Message Transmission: Open the message transmission window. Tile Graphs Vertically: Arrange graphs one above another. Tile Graphs Horizontally: Arrange graphs side by side.
③	Graph window	Displays signal values as graphs. Up to three graphs can be displayed.
④	Message window	The window is split into two panes. The upper pane shows messages in chronological order; the lower pane shows the latest message for each ID.
⑤	Status bar	Displays CAN or LIN bus status and current settings.

5 - 4 Project Files

Settings can be saved to and loaded from project files. The file extension is .cl1prj.

Project file commands are available in the File menu.

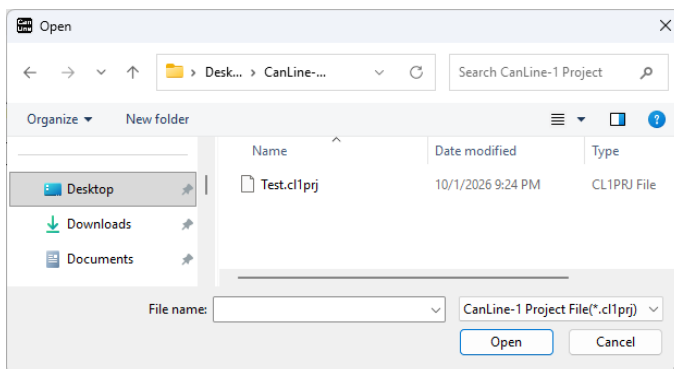


5 - 4 - 1 New Project

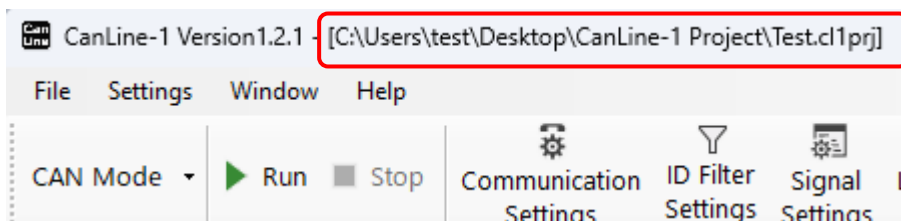
Creates a new project with all settings reset to their defaults.

5 - 4 - 2 Open Project

In the Open dialog, select the project file to load.



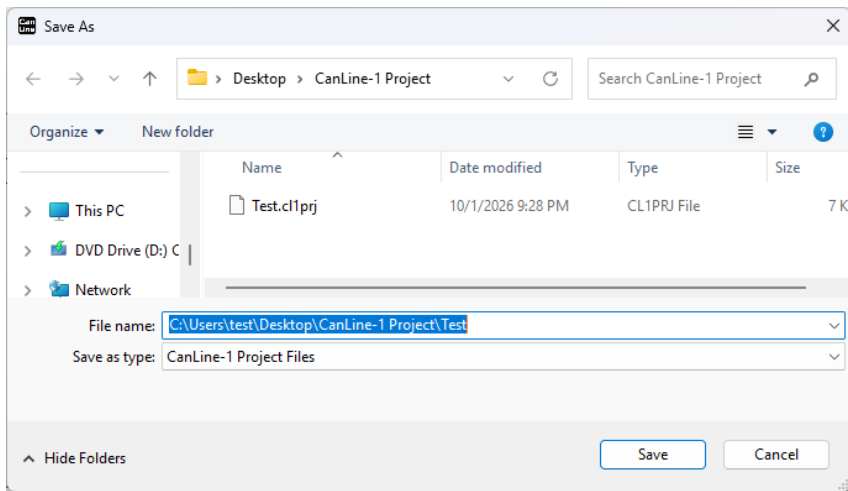
Once loaded, the selected file path appears to the right of the title and version information.



5-4-3 Save Project

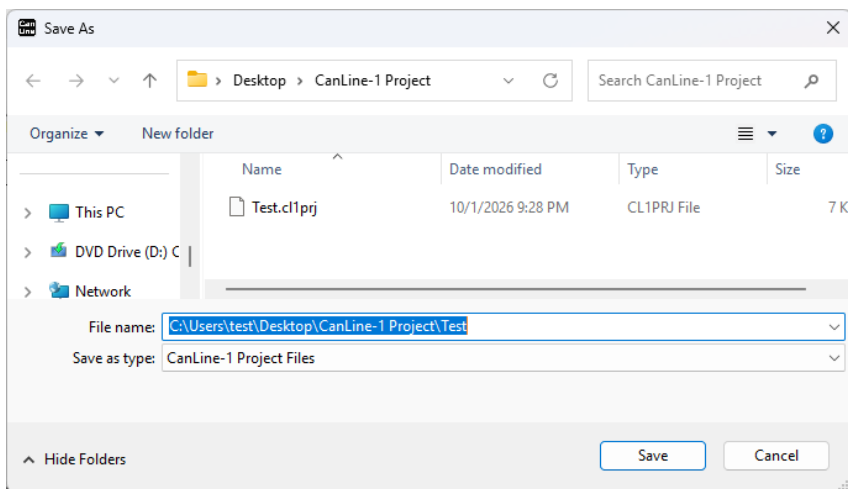
If a project file is already loaded, it is overwritten.

If no project file is loaded, the Save As dialog opens. Enter a name and save the file.



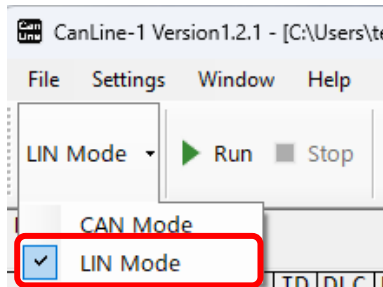
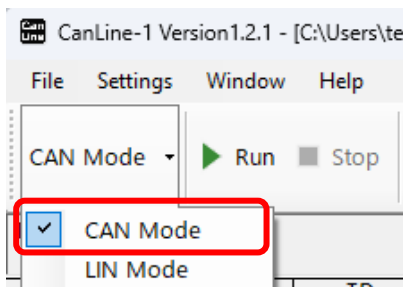
5-4-4 Save Project As

In the Save As dialog, enter a name and save the file.



5 - 5 Switching CAN/LIN Modes

Use the Mode drop-down list at the far left of the toolbar. Select CAN Mode to monitor CAN communication, or LIN Mode to monitor LIN communication.



5 - 6 CAN Mode

5 - 6 - 1 CAN Communication Settings

Select Settings > Communication Settings, or click Communication Settings on the toolbar. CAN has two channels: CAN1 settings are at the top and CAN2 settings are at the bottom.

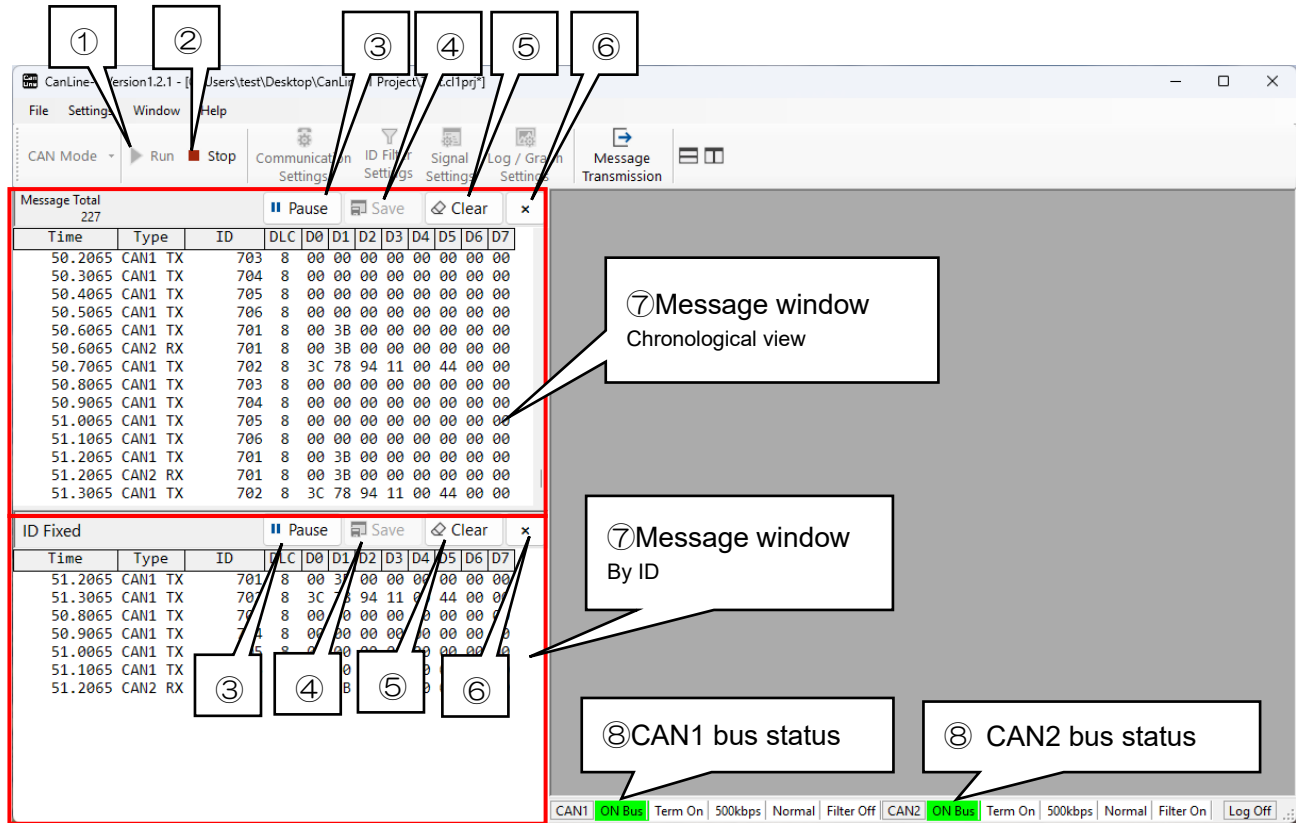
[Communication Settings]

	Termination (120 Ω)	Baud Rate (bps)	Sample Point	Mode
CAN1	☐	500k	80%	Normal
CAN2	☒	125k	80%	Silent

Item	Description
Termination (120Ω)	Unchecked: Disable the 120-ohm termination between CAN-H and CAN-L. Checked: Enable the 120-ohm termination between CAN-H and CAN-L.
Baud Rate	Select a baud rate from the following options. 125Kbps, 250Kbps, 500Kbps, 1000Kbps
Sample Point	Select a sample point from the following options. 60%, 70%, 80%
Mode	Select a CAN mode from the following options. Normal: Sends error flags and ACK signals. Select this mode to transmit messages or communicate directly with a single target node. Silent: Does not send error flags or ACK signals. Select this mode to monitor without affecting the CAN bus.

5-6-2 Monitoring

Click Run on the toolbar to start monitoring and Stop to stop. In the message window on the left, the upper pane shows messages chronologically and the lower pane shows the latest message for each ID. Check CAN bus status in the status bar at the bottom.



No.	Item	Description
①	Run button	Starts monitoring.
②	Stop button	Stops monitoring.
③	Pause button	Pauses message display updates. (Messages continue to be buffered while paused.) Changes to the Resume button while paused.
	Resume button	Resumes message display updates. Changes back to the Pause button after resuming.
④	Save button	Saves buffered messages to a file. Disabled during monitoring.
⑤	Clear button	Clears buffered messages.
⑥	X button	Hides the message window. To show it again, use the Window menu.

⑦	Message window	Time: Timestamp relative to the start of monitoring. 0.0000~999999.9999[sec] Minimum resolution: 100 microseconds Type: Message type. CAN1 RX: Received on CAN1 CAN1 TX: Transmitted on CAN1 CAN2 RX: Received on CAN2 CAN2 TX: Transmitted on CAN2 ID: CAN ID in hexadecimal Standard ID (11 bits): 000 to 7FF Extended ID (29 bits): 00000000 to 1FFFFFFF DLC: Data length, 0 to 8 D0 to D7: Data in hexadecimal, 0 to FF
⑧	CAN bus status	On Bus: Monitoring active Off Bus: Monitoring stopped Error Passive: The error counter has exceeded a threshold, indicating an error-prone state. Error: The error counter has increased further from the error-passive state, preventing participation in communication. Click Stop, correct the cause of the error, then click Run again.

5-6-3 ID Filter Settings

Select Settings > ID Filter Settings, or click ID Filter Settings on the toolbar to open the settings window. Specify the ID ranges to monitor. Up to 10 ranges can be configured.

[ID Filter Settings]

The screenshot shows the 'ID Filter Settings' dialog box. It has two tabs: 'CAN1' and 'CAN2'. Below the tabs is a table with four columns: 'Enable' (1), 'ID Type' (2), 'From ID' (3), and 'To ID' (4). The 'Enable' column has checkboxes. The 'ID Type' column has a dropdown menu set to 'STD(11bit)'. The 'From ID' and 'To ID' columns have text input fields. There are callout boxes explaining the filter logic:

- Only To ID specified: Receives IDs of 0x100 and below (receives 0x000 to 0x100)
- Same ID in From ID and To ID: Receives only 0x500
- Only From ID specified: Receives IDs of 0x700 and above (receives 0x700 to 0x7FF)

No.	Item	Description
①	Enable	Unchecked: Filter disabled Checked: Filter enabled If all 10 rows are unchecked, all IDs are received.
②	ID Type	Select an ID type from the following options. STD (11bit): 11-bit standard ID EXT (29bit): 29-bit extended ID
③	From ID	Enter IDs in hexadecimal. Receives IDs from From ID through To ID, inclusive. If only From ID is specified, receives that ID and all higher IDs.
④	To ID	If only To ID is specified, receives that ID and all lower IDs. If From ID and To ID are the same, receives only that ID.

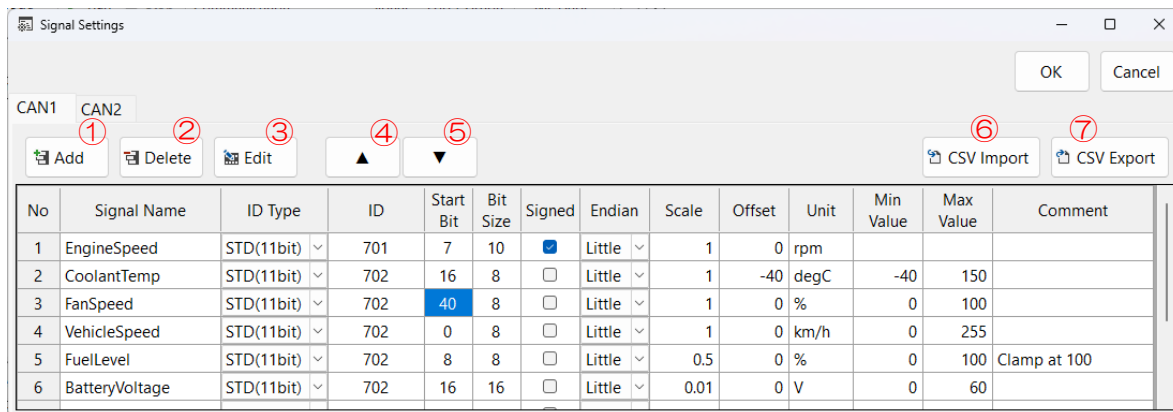
5 - 6 - 4 Signal Settings

Select Settings > Signal Settings, or click Signal Settings on the toolbar. Configure signals before logging or displaying graphs. Specify the ID, data position, and other signal parameters for messages on the CAN bus.

CAN1 and CAN2 have separate tabs. Select a row and click Edit to edit it in a dialog. You can also edit the data grid directly.

Input fields support Ctrl+C (copy) and Ctrl+V (paste), including pasting clipboard data from Excel or similar applications.

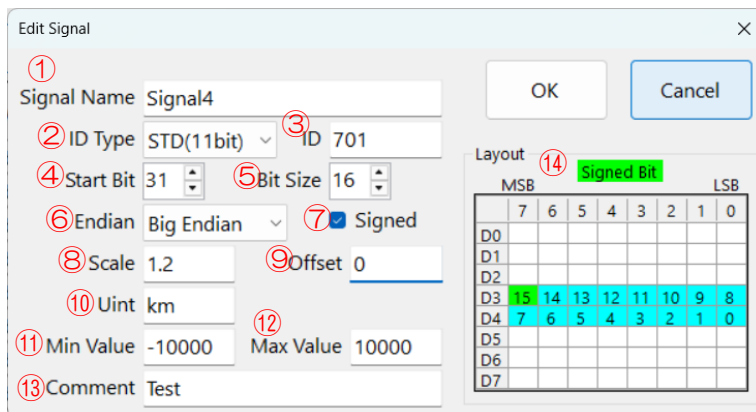
[Signal Settings]



Symbol	Item	Description
①	Add button	Inserts a row below the selected row.
②	Delete button	Deletes selected rows. Multiple rows can be deleted at once.
③	Edit button	Opens a dialog to edit the selected row.
④	▲ button	Moves the selected row up.
⑤	▼ button	Moves the selected row down.
⑥	CSV Import button	Loads an exported CSV file.
⑦	CSV Export button	Exports a comma-separated CSV file.

5 - 6 - 4 - 1 Signal Editing

Select a row in Signal Settings and click Edit to open this dialog.



Symbol	Item	Description
①	Signal Name	Enter the signal name.
②	ID Type	Select the ID type. STD (11bit): 11-bit standard ID EXT (29bit): 29-bit extended ID
③	ID	Enter the ID in hexadecimal. If ID Type is STD (11bit): 0 to 7FF If ID Type is EXT (29bit): 0 to 1FFFFFFF
④	Start Bit	Enter the start bit (0 to 63). See the calculation examples on the next page.
⑤	Bit Size	Enter the bit length (1 to 64). See the calculation examples on the next page.
⑥	Endian	Select the byte order (endianness). See the calculation examples on the next page. Big: Big-endian (most significant byte first) Little: Little-endian (least significant byte first)
⑦	Signed	Select whether a sign bit is used. See the calculation examples on the next page. Unchecked: No sign bit Checked: The most significant bit is the sign bit
⑧	Scale	Enter the scaling factor. $\text{Physical value} = \text{Raw value} \times \text{Scale} + \text{Offset}$ See the calculation examples on the next page.
⑨	Offset	Enter the offset. $\text{Physical value} = \text{Raw value} \times \text{Scale} + \text{Offset}$ See the calculation examples on the next page.
⑩	Unit	Enter the unit.
⑪	Min Value	Enter the minimum value. Calculated signal values below this limit are clamped to this value.
⑫	Max Value	Enter the maximum value. Calculated signal values above this limit are clamped to this value.
⑬	Comment	Enter a comment.
⑭	Layout	The signal's bit positions in the CAN data are highlighted in light blue. Bit 0 is the least significant bit (LSB); the highest number is the most significant bit (MSB). When Signed is checked, the MSB is the sign bit and is shown in green.

5 - 6 - 4 - 2 Signal Value Calculation Examples

Settings:

Start Bit=4, Bit Size=16, Scale=0.1, Offset=0.5

Received message data:

D0	D1	D2	D3	D4	D5	D6	D7
01	23	45	67	89	AB	CD	EF

Endian=Little (least significant byte first)

	Hex	Binary							
		7	6	5	4	3	2	1	0
D0	01	0	0	0	0	0	0	0	1
D1	23	0	0	1	0	0	0	1	1
D2	45	0	1	0	0	0	1	0	1
D3	67	0	1	1	0	0	1	1	1
D4	89	1	0	0	0	1	0	0	1
D5	AB	1	0	1	0	1	0	1	1
D6	CD	1	1	0	0	1	1	0	1
D7	EF	1	1	1	0	1	1	1	1

$$21040 \times 0.1 (\text{Scale}) + 0.5 (\text{Offset}) = 2104.5$$

Signal value (physical value) = 2104.5.

Endian=Big (most significant byte first)

	Hex	Binary							
		7	6	5	4	3	2	1	0
D0	01	0	0	0	0	0	0	0	1
D1	23	0	0	1	0	0	0	1	1
D2	45	0	1	0	0	0	1	0	1
D3	67	0	1	1	0	0	1	1	1
D4	89	1	0	0	0	1	0	0	1
D5	AB	1	0	1	0	1	0	1	1
D6	CD	1	1	0	0	1	1	0	1
D7	EF	1	1	1	0	1	1	1	1

Binary

0000100100011010

Hex

091A

Decimal

2330

$$2330 \times 0.1 (\text{Scale}) + 0.5 (\text{Offset}) = 233.5$$

Signal value (physical value) = 233.5.

[Signed value calculation]

Settings:

Start Bit=8, Bit Size=11, Scale=1, Offset=0

Endian=Little, Signed (sign bit)=checked

	Hex	Binary							
		7	6	5	4	3	2	1	0
D0	01	0	0	0	0	0	0	0	1
D1	23	0	0	1	0	0	0	1	1
D2	45	0	1	0	0	0	1	0	1
D3	67	0	1	1	0	0	1	1	1
D4	89	1	0	0	0	1	0	0	1
D5	AB	1	0	1	0	1	0	1	1
D6	CD	1	1	0	0	1	1	0	1
D7	EF	1	1	1	0	1	1	1	1

MSB is the sign bit
0=positive 1=negative

<

$$-733 \times 1 (\text{Scale}) + 0 (\text{Offset}) = -733$$

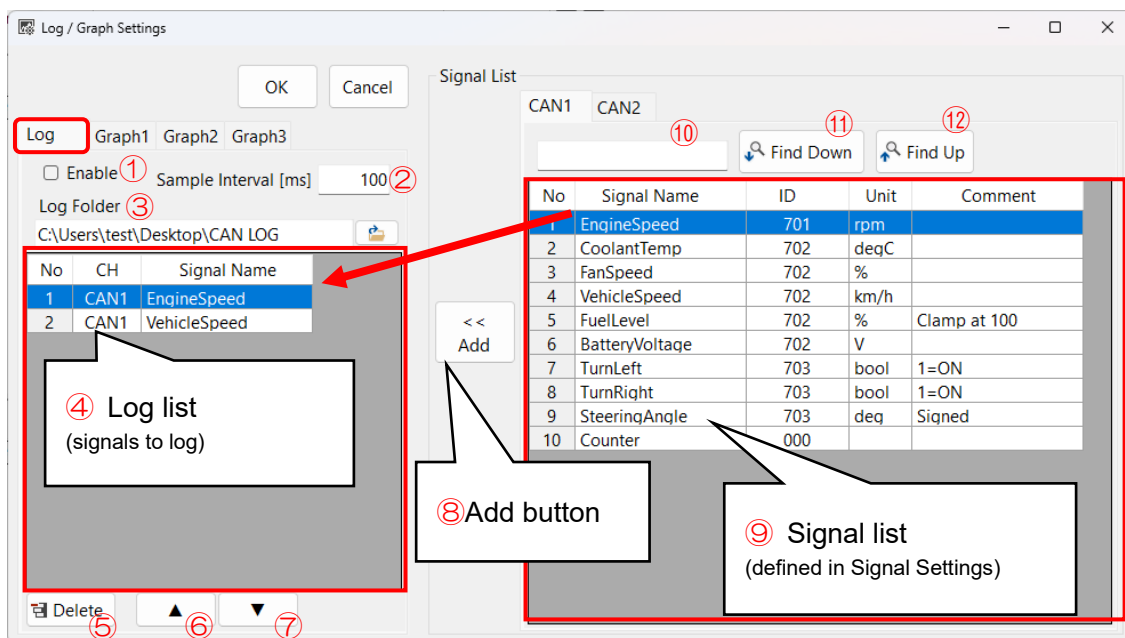
Signal value (physical value) = -733.

5-6-5 Logging

5-6-5-1 Logging Settings

Select Settings > Log/Graph Settings, or click Log/Graph Settings on the toolbar. Open the Log tab on the left, select a signal from the signal list on the right, and click Add in the center to add it to the Log list.

[Log/Graph Settings]

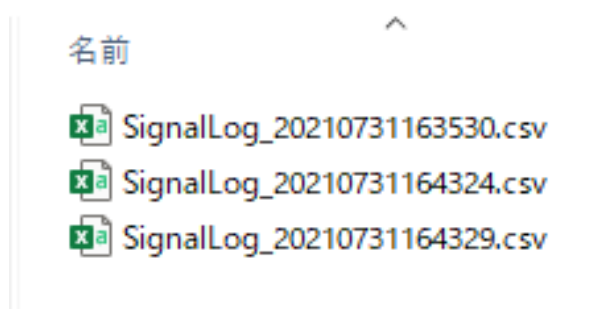


No.	Item	Description
①	Enable	Unchecked: Disable logging. Checked: Enable logging.
②	Sampling interval	Specify the sampling interval in milliseconds.
③	Log folder	Specify the folder in which to save log files.
④	Log list	List of signals to log CH: Channel name (CAN1 or CAN2) Signal Name: Signal name
⑤	Delete button	Deletes selected rows from the Log list. Multiple rows can be deleted at once.
⑥	▲ button	Moves the selected Log list row up.
⑦	▼ button	Moves the selected Log list row down.
⑧	Add button	Select signals in the signal list and click Add to add them to the Log list. Multiple signals can be added at once.
⑨	Signal list	Displays the signals defined in Signal Settings. Click the Signal Name or ID column heading to sort the list. Signal Name: Name defined in Signal Settings ID: ID defined in Signal Settings Unit: Unit defined in Signal Settings Comment: Comment defined in Signal Settings
⑩	Text box	Enter search text, then click Find Down or Find Up to find signal names containing that text.
⑪	Find Down button	Searches downward for signal names containing the text in the text box.
⑫	Find Up button	Searches upward for signal names containing the text in the text box.

5 - 6 - 5 - 2 Recording a Log

After configuring logging, click Run on the toolbar to start logging.

Click Stop on the toolbar to stop logging. A CSV log file is saved in the specified folder as shown below.



File name: SignalLog_YYYYMMddHHmmss.csv

YYYY: Year when measurement started (4 digits)

MM: Month when measurement started (01 to 12)

dd: Day when measurement started (01 to 31)

HH: Hour when measurement started (00 to 23)

mm: Minute when measurement started (00 to 59)

ss: Second when measurement started (00 to 59)

[Log File Contents]

	A	B	C	D	E
1	Time[ms]	aaa	bbb	ccc	
2	0	2104.5	233.5	-733	
3	100	2104.5	233.5	-733	
4	200	2104.5	233.5	-733	
5	300	2104.5	233.5	-733	
6	400	2104.5	233.5	-733	
7	500	2104.5	233.5	-733	
8	600	2104.5	233.5	-733	
9	700	2104.5	233.5	-733	
10	800	2104.5	233.5	-733	
11	900	2104.5	233.5	-733	
12	1000	2104.5	233.5	-733	
13	1100	2104.5	233.5	-733	
14	1200	2104.5	233.5	-733	

SignalLog_20210731163530

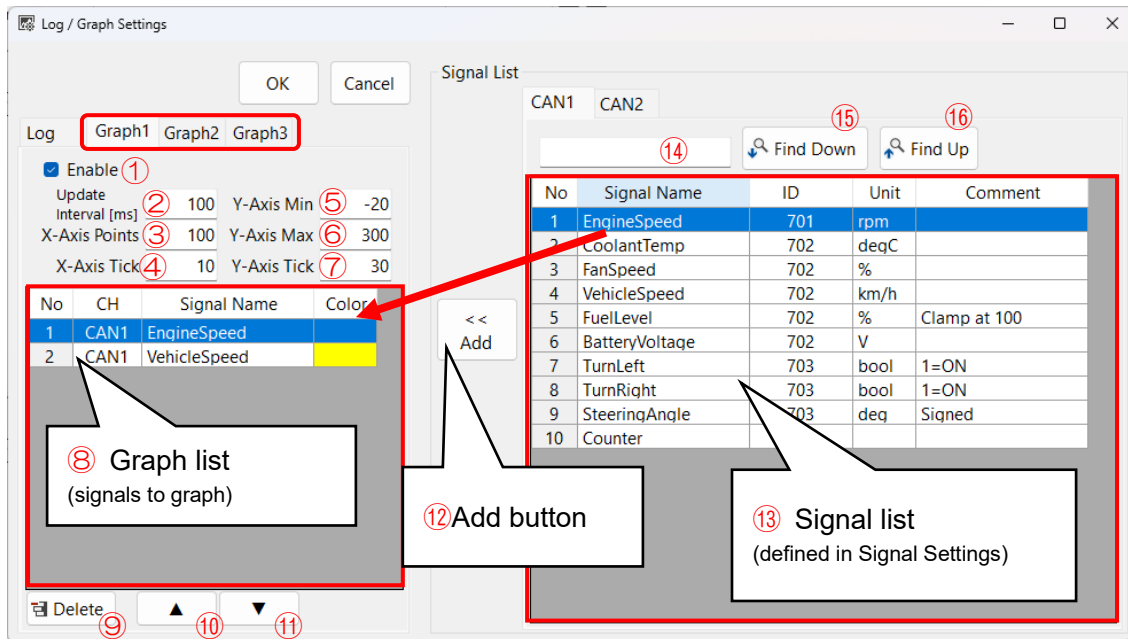
5-6-6 Graph Display

5-6-6-1 Graph Settings

Select Settings > Log/Graph Settings, or click Log/Graph Settings on the toolbar to open the settings window.

Open Graph1, Graph2, or Graph3 on the left. Select signals from the signal list on the right, then click Add in the center to add them to the graph list.

[Log/Graph Settings]



No.	Item	Description
①	Enable	Unchecked: Disable graph display. Checked: Enable graph display.
②	Update interval [ms]	Specify the graph update interval in milliseconds. Specify at least 100 ms.
③	X-axis points	Specify the number of points on the X-axis.
④	X-axis scale	Specify the X-axis tick interval.
⑤	Y-axis minimum	Specify the minimum Y-axis value.
⑥	Y-axis maximum	Specify the maximum Y-axis value.
⑦	Y-axis scale	Specify the Y-axis tick interval.
⑧	Graph list	List of signals to graph CH: Channel name (CAN1 or CAN2) Signal Name: Signal to graph Color: Graph color Click the cell to open the color dialog and change the graph color.
⑨	Delete button	Deletes selected rows from the Graph list. Multiple rows can be deleted at once.
⑩	▲ button	Moves the selected Graph list row up.
⑪	▼ button	Moves the selected Graph list row down.
⑫	Add button	Select signals in the signal list and click Add to add them to the Graph list. Multiple signals can be added at once.

⑬	Signal list	Displays the signals defined in Signal Settings. Click the Signal Name or ID column heading to sort the list. Signal Name: Name defined in Signal Settings ID: ID defined in Signal Settings Unit: Unit defined in Signal Settings Comment: Comment defined in Signal Settings
⑭	Text box	Enter search text, then click Find Down or Find Up to find signal names containing that text.
⑮	Find Down	Searches downward for signal names containing the text in the text box.
⑯	Find Up	Searches upward for signal names containing the text in the text box.

5 - 6 - 6 - 2 Displaying Graphs

After configuring graphs, click Run on the toolbar to start graph display.

Click Stop on the toolbar to stop graph display.



5-6-7 CAN Message Transmission

Select Window > Message Transmission, or click Message Transmission on the toolbar to open the transmission window.

Frame tab: Send each row once, periodically (Interval), or on a schedule.

Signal tab: Enter physical values directly and apply them to frames being transmitted periodically or on a schedule.

Input fields in both the Frame and Signal tabs support Ctrl+C (copy) and Ctrl+V (paste), including pasting clipboard data from Excel or similar applications.

[Frame]

There are 20 transmission boxes. Click Send in a row to send it once at any time.

Select Interval Send and click Start to transmit periodically at the specified interval.

Select Schedule Send and click Start to transmit at the specified scheduled times.

During periodic or scheduled transmission, Send changes to Update.

Click Update to apply edited values to the data being transmitted.

[Frame Tab]

Message Transmission

Frame Signal

CAN1 CAN2

Interval Send Repeat Count 0 ※0=Endless

Schedule Send

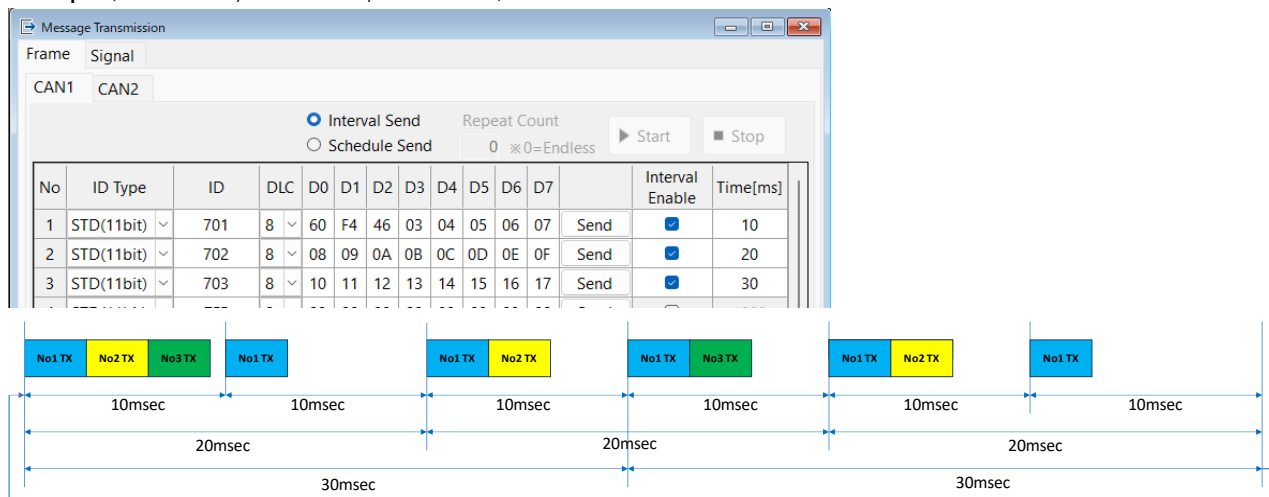
Start Stop

No	ID Type	ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7	Send	Schedule Enable	Time[ms]
1	STD(11bit)	701	8	80	17	00	00	00	00	00	00	Send	☒	100
2	STD(11bit)	702	8	00	00	28	11	00	00	00	00	Send	☒	200
3	STD(11bit)	703	8	00	00	00	00	00	00	00	00	Send	☒	300
4	STD(11bit)	704	8	00	00	00	00	00	00	00	00	Send	☐	400
5	STD(11bit)	705	8	00	00	00	00	00	00	00	00	Send	☐	500
6	STD(11bit)	706	8	00	00	00	00	00	00	00	00	Send	☒	600
7	STD(11bit)	707	8	00	00	00	00	00	00	00	00	Send	☐	1000
8	STD(11bit)	708	8	00	00	00	00	00	00	00	00	Send	☐	1000
9	STD(11bit)	709	8	00	00	00	00	00	00	00	00	Send	☐	1000
10	STD(11bit)	70A	8	00	00	00	00	00	00	00	00	Send	☐	1000
11	STD(11bit)	70B	8	00	00	00	00	00	00	00	00	Send	☐	1000
12	STD(11bit)	70C	8	00	00	00	00	00	00	00	00	Send	☐	1000
13	STD(11bit)	70D	8	00	00	00	00	00	00	00	00	Send	☐	1000

No.	Item	Description
①	Start button	With Interval Send selected, periodically transmits rows with Interval Enable checked. With Schedule Send selected, transmits rows with Schedule Enable checked according to the schedule. Specify the interval or scheduled transmission time in Time [ms].
②	Stop button	Stops periodic or scheduled transmission.
③	ID Type	Select an ID type from the following options. STD (11bit): 11-bit standard ID EXT (29bit): 29-bit extended ID
④	ID	Enter the ID in hexadecimal. If ID Type is STD (11bit): 0 to 7FF If ID Type is EXT (29bit): 0 to 1FFFFFFF
⑤	DLC	Select the data length: 0 to 8 bytes.
⑥	D0~D7	Enter data in hexadecimal: 0 to FF.
⑦	Send button	Sends the frame once.
	Update button (during transmission)	Applies edited column values to the data being transmitted during periodic or scheduled transmission.
⑧	Interval Enable / Schedule Enable	Unchecked: Disable periodic or scheduled transmission. Checked: Enable periodic or scheduled transmission. Press Enter to toggle on/off.
⑨	Time[ms]	For periodic transmission, specify the interval in milliseconds. For scheduled transmission, specify the transmission time in milliseconds.
⑩	Transmission type Radio buttons	Interval Send: Periodic transmission Schedule Send: Scheduled transmission
⑪	Repeat Count	Number of schedule repetitions 0 = repeat indefinitely; 1 to 999 repetitions

[Interval Send]

Example (No1=10 ms, No2=20 ms, No3=30 ms)

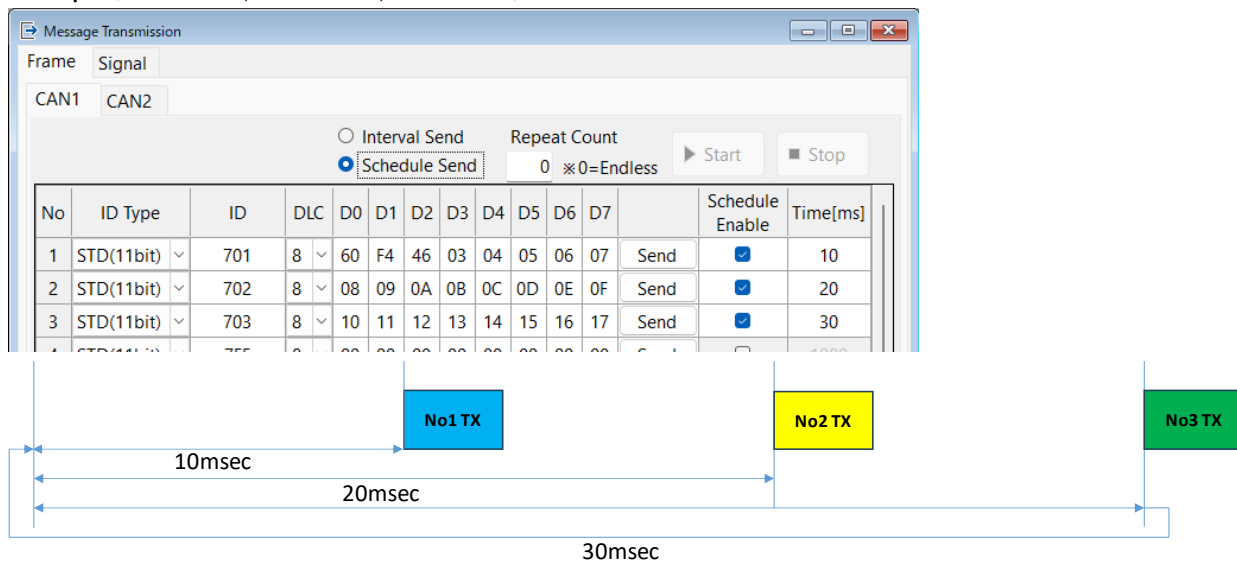


At $t = 0$, No. 1, No. 2, and No. 3 start transmitting simultaneously.

Thereafter, No. 1 transmits every 10 ms, No. 2 every 20 ms, and No. 3 every 30 ms.

[Schedule Send]

Example (No1=10 ms, No2=20 ms, No3=30 ms)



Cycle 1: No. 1 at 10 ms, No. 2 at 20 ms, and No. 3 at 30 ms.

Cycle 2: Repeat the sequence, starting again with No. 1 at 10 ms.

[Signal]

The Signal tab automatically displays signals corresponding to the IDs set in rows No. 1 to 20 of the Frame tab. Define the signals in Signal Settings beforehand.

Enter a physical value in Value and click Update, or set Step Value and click Up/Down to apply an increment/decrement immediately (no Update required). The value is applied to the frame with the same row number.

Signal rows included in periodic or scheduled transmission are yellow while transmitting and return to white when stopped.

For yellow rows, updated values take effect automatically from the next cycle. For white rows, values are applied to the Frame tab but are not transmitted. To send once, click Send on the Frame tab.

[Signal Tab]

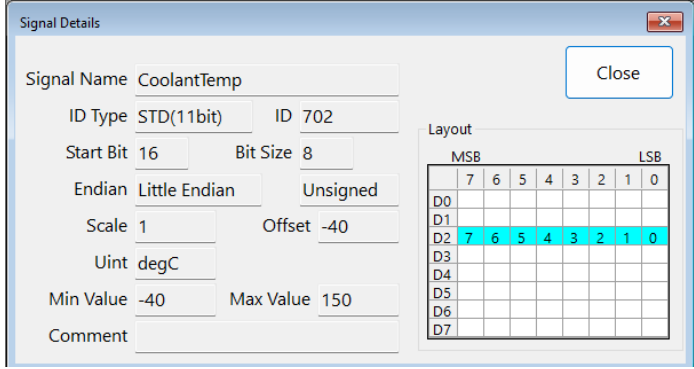
Message Transmission

FrameSignal

Signal Details

CH	No	ID	Signal Name	Value	Unit				Step Value	Min Value	Max Value
1	1	701	EngineSpeed	47.0	rpm	Update	Down	Up	20	-512	511
	2	702	CoolantTemp	0	degC	Update	Down	Up	10	-40	150
			FanSpeed	0	%	Update	Down	Up	1	0	100
			VehicleSpeed	0	km/h	Update	Down	Up	20	0	255
			FuelLevel	0.0	%	Update	Down	Up	1	0.0	100
			BatteryVoltage	0	V	Update	Down	Up	1	0.00	60
	3	703	TurnLeft	0	bool	Update	Down	Up	1	0	1
			TurnRight	0	bool	Update	Down	Up	1	0	1
			SteeringAngle	0	deg	Update	Down	Up	1	-780	780
	2	1	711	MIL	0	bool	Update	Down	Up	1	0
IntakeAirTemp				0	degC	Update	Down	Up	1	-40	125
AltStatus				0	bool	Update	Down	Up	1	0	1
2		712	HeadLamp	0	bool	Update	Down	Up	1	0	1
			BrakePedal	0	%	Update	Down	Up	1	0.0	100
			WiperStatus	0	bool	Update	Down	Up	1	0	1
3		713	DoorFL	0	bool	Update	Down	Up	1	0	1
			DoorFR	0	bool	Update	Down	Up	1	0	1
			DoorRL	0	bool	Update	Down	Up	1	0	1

No.	Item	Description
①	CH	CAN channel number 1 : CAN1 2 : CAN2
②	No	No. 1 to 20 on the Frame tab
③	ID	Target frame ID
④	Signal Name	Signal name
⑤	Value	Physical value field. Enter a numeric value directly.

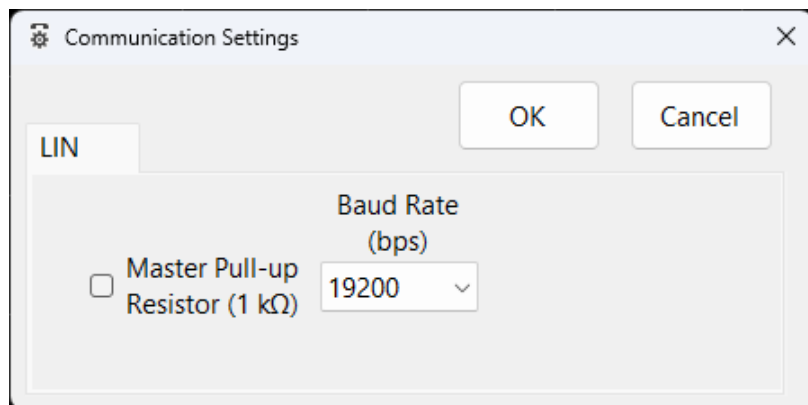
⑥	Unit	Displays the unit
⑦	Update button	Applies this row's Value to the frame. If transmission is active on the Frame tab, it takes effect from the next cycle.
⑧	Down/Up buttons	Decreases/increases Value by Step Value and applies it immediately (no Update required).
⑨	Step Value	Increment/decrement for Up/Down
⑩	Min/Max Value	Allowed range. Values below the minimum or above the maximum are automatically clamped to the corresponding limit.
⑪	Signal Details	Displays details of the selected signal 

5 - 7 LIN Mode

5 - 7 - 1 LIN Communication Settings

Select Settings > Communication Settings, or click Communication Settings on the toolbar to open the settings window.

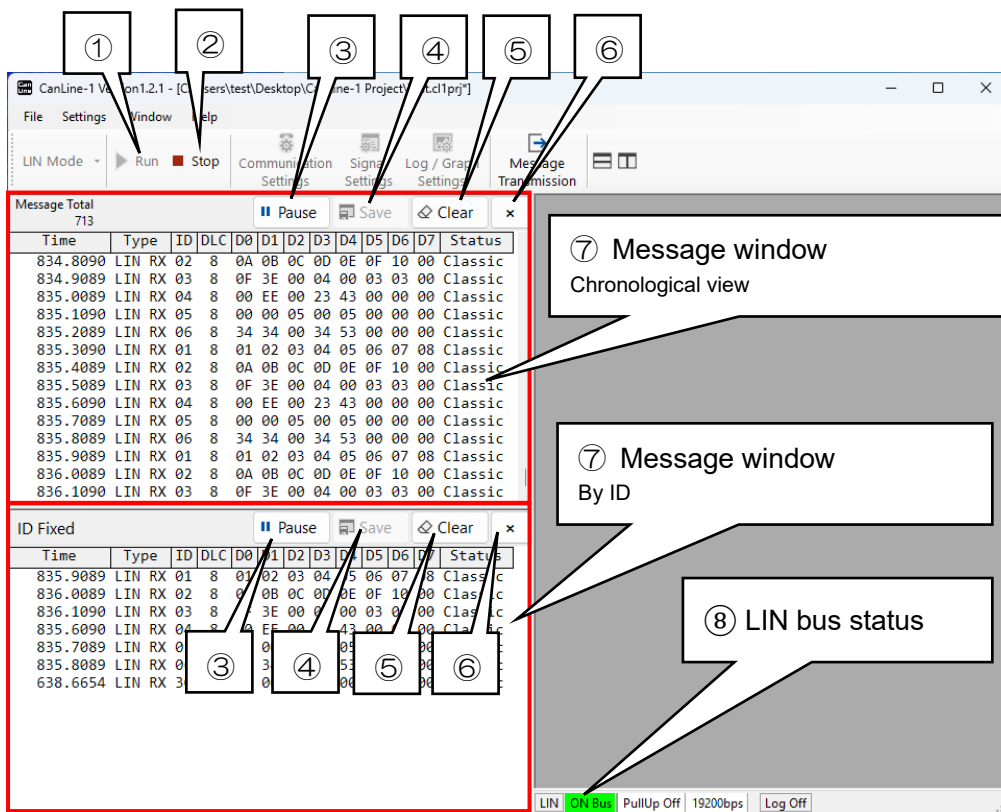
[Communication Settings]



Item	Description
Master pull-up (1 kohm)	Unchecked: Disable the 1-kohm LIN bus pull-up. Checked: Enable the 1-kohm LIN bus pull-up. Enable the 1-kohm pull-up when simulating a master node.
Baud Rate (bps)	Select a LIN baud Rate from the following options. 2400bps, 4800bps, 9600bps, 19200bps

5-7-2 Monitoring

Click Run on the toolbar to start monitoring and Stop to stop. In the message window on the left, the upper pane shows messages chronologically and the lower pane shows the latest message for each ID. Check LIN bus status in the status bar at the bottom.



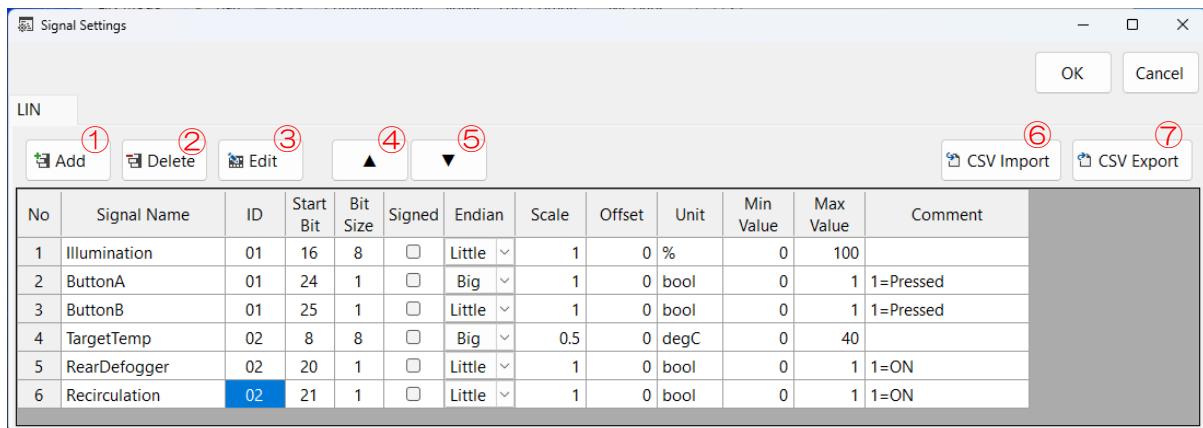
No.	Item	Description
①	Run button	Starts monitoring.
②	Stop button	Stops monitoring.
③	Pause button	Pauses message display updates. (Messages continue to be buffered while paused.) Changes to Resume while paused.
	Resume button	Resumes message display updates. Changes back to the Pause button after resuming.
④	Save button	Saves buffered messages to a file. Disabled during monitoring.
⑤	Clear button	Clears buffered messages.
⑥	X button	Hides the message window. To show it again, use the Window menu.

⑦	Message window	Time: Timestamp relative to the start of monitoring. 0.0000~999999.9999[sec] Minimum resolution: 100 microseconds Type: Message type. LIN RX: Received on the LIN channel LIN TX: Transmitted on the LIN channel ID: LIN ID in hexadecimal, 00 to 3F DLC: Data length, 0 to 8 D0 to D7: Data in hexadecimal, 0 to FF Status: Checksum type and error information Classic: Classic checksum (received normally) Enhanced: Enhanced checksum (received normally) NoResp: No response from slave (receive error) SumError: Checksum error (receive error) PariErr: Parity error (receive error)
⑧	LIN bus status	On Bus: Monitoring active Off Bus: Monitoring stopped Send Error: Transmission error

5 - 7 - 3 Signal Settings

Select Settings > Signal Settings, or click Signal Settings on the toolbar to open the settings window. Configure signals before logging or displaying graphs. Specify the ID, data position, and other parameters for messages on the LIN bus. Select a row and click Edit to edit it in a dialog, or edit the data grid directly. Input fields support Ctrl+C (copy) and Ctrl+V (paste), including pasting clipboard data from Excel or similar applications.

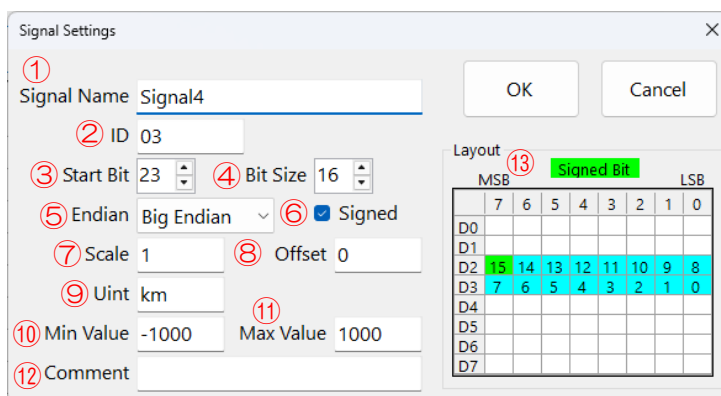
[Signal Settings]



No.	Item	Description
①	Add button	Inserts a row below the selected row.
②	Delete button	Deletes the selected row. Multiple rows can be deleted at once.
③	Edit button	Opens a dialog to edit the selected row.
④	▲ button	Moves the selected row up.
⑤	▼ button	Moves the selected row down.
⑥	CSV Import button	Loads an exported CSV file.
⑦	CSV Export button	Exports a comma-separated CSV file.

5 - 7 - 3 - 1 Signal Editing

Select a row in Signal Settings and click Edit to open this dialog.



No.	Item	Description
①	Signal Name	Enter the signal name.
②	ID	Enter the ID in hexadecimal: 0 to 3F.
③	Start Bit	Enter the start bit (0 to 63). See the calculation examples on the next page.
④	Bit Size	Enter the bit length (1 to 64). See the calculation examples on the next page.
⑤	Endian	Select the byte order (endianness). See the calculation examples on the next page. Big: Big-endian (most significant byte first) Little: Little-endian (least significant byte first)
⑥	Signed	Select whether a sign bit is used. See the calculation examples on the next page. Unchecked: No sign bit Checked: The most significant bit is the sign bit
⑦	Scale	Enter the scaling factor. $\text{Physical value} = \text{Raw value} \times \text{Scale} + \text{Offset}$ See the calculation examples on the next page.
⑧	Offset	Enter the offset. $\text{Physical value} = \text{Raw value} \times \text{Scale} + \text{Offset}$ See the calculation examples on the next page.
⑨	Unit	Enter the unit.
⑩	Min Value	Enter the minimum value. Calculated signal values below this limit are clamped to this value.
⑪	Max Value	Enter the maximum value. Calculated signal values above this limit are clamped to this value.
⑫	Comment	Enter a comment.
⑬	Layout	The signal's bit positions in the LIN data are highlighted in light blue. Bit 0 is the least significant bit (LSB); the highest number is the most significant bit (MSB). When Signed is checked, the MSB is the sign bit and is shown in green.

5 - 7 - 3 - 2 Signal Value Calculation Examples

Settings:

Start Bit=4, Bit Size=16, Scale=0.1, Offset=0.5

Received message data:

D0	D1	D2	D3	D4	D5	D6	D7
01	23	45	67	89	AB	CD	EF

Endian=Little (least significant byte first)

	Hex	Binary							
		7	6	5	4	3	2	1	0
D0	01	0	0	0	0	0	0	0	1
D1	23	0	0	1	0	0	0	1	1
D2	45	0	1	0	0	0	1	0	1
D3	67	0	1	1	0	0	1	1	1
D4	89	1	0	0	0	1	0	0	1
D5	AB	1	0	1	0	1	0	1	1
D6	CD	1	1	0	0	1	1	0	1
D7	EF	1	1	1	0	1	1	1	1

$$21040 \times 0.1 (\text{Scale}) + 0.5 (\text{Offset}) = 2104.5$$

Signal value (physical value) = 2104.5.

Endian=Big (most significant byte first)

	Hex	Binary							
		7	6	5	4	3	2	1	0
D0	01	0	0	0	0	0	0	0	1
D1	23	0	0	1	0	0	0	1	1
D2	45	0	1	0	0	0	1	0	1
D3	67	0	1	1	0	0	1	1	1
D4	89	1	0	0	0	1	0	0	1
D5	AB	1	0	1	0	1	0	1	1
D6	CD	1	1	0	0	1	1	0	1
D7	FF	1	1	1	0	1	1	1	1

Binary

00000100100011010

Hex

091A

Decimal

2330

$$2330 \times 0.1 (\text{Scale}) + 0.5 (\text{Offset}) = 233.5$$

Signal value (physical value) = 233.5.

[Signed value calculation]

Settings:

Start Bit=8, Bit Size=11, Scale=1, Offset=0

Endian=Little, Signed (sign bit)=checked

	Hex	Binary							
		7	6	5	4	3	2	1	0
D0	01	0	0	0	0	0	0	0	1
D1	23	0	0	1	0	0	0	1	1
D2	45	0	1	0	0	0	1	0	1
D3	67	0	1	1	0	0	1	1	1
D4	89	1	0	0	0	1	0	0	1
D5	AB	1	0	1	0	1	0	1	1
D6	CD	1	1	0	0	1	1	0	1
D7	EF	1	1	1	0	1	1	1	1

MSB is the sign bit
0=positive 1=negative

Binary	1	0	1	0	0	1	0	0	0	1	1	
Hex	5			2				3				
Decimal	-733											

$$-733 \times 1 (\text{Scale}) + 0 (\text{Offset}) = -733$$

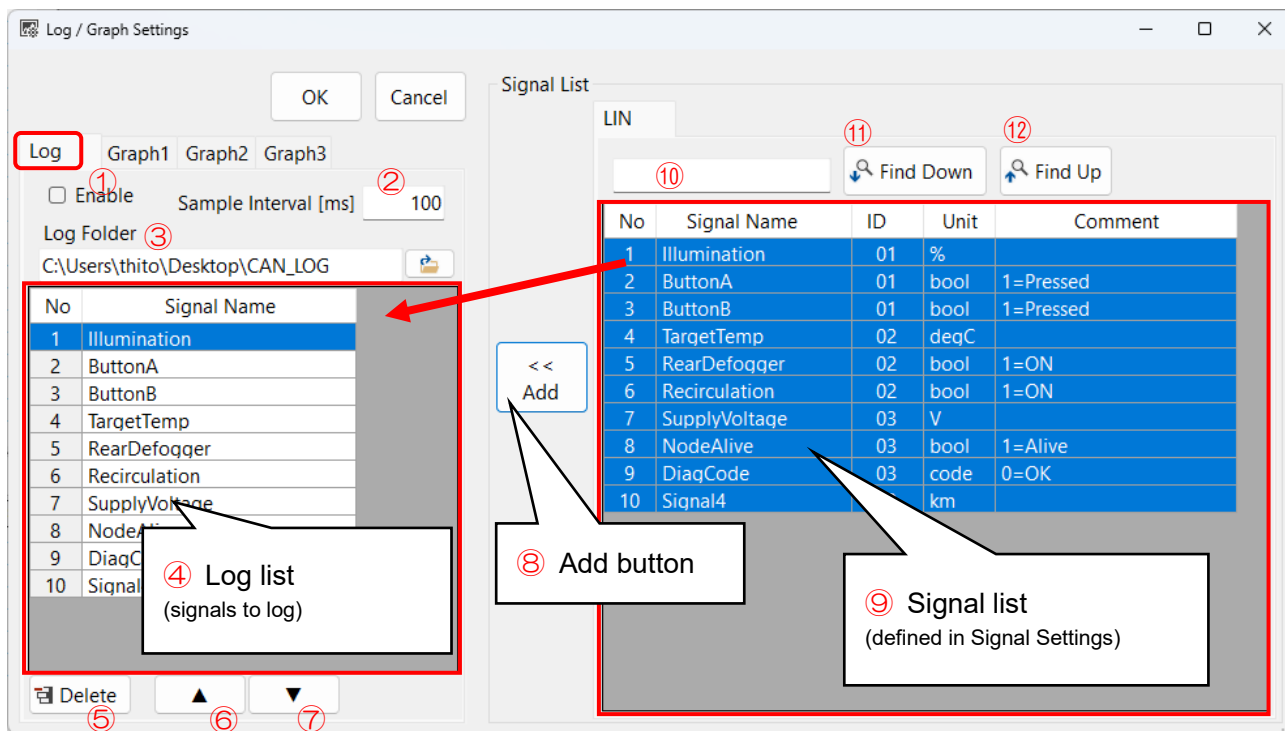
Signal value (physical value) = -733.

5 - 7 - 4 Logging

5 - 7 - 4 - 1 Logging Settings

Select Settings > Log/Graph Settings, or click Log/Graph Settings on the toolbar to open the settings window.

Open the Log tab on the left, select a signal from the signal list on the right, then click Add in the center to add it to the Log list.



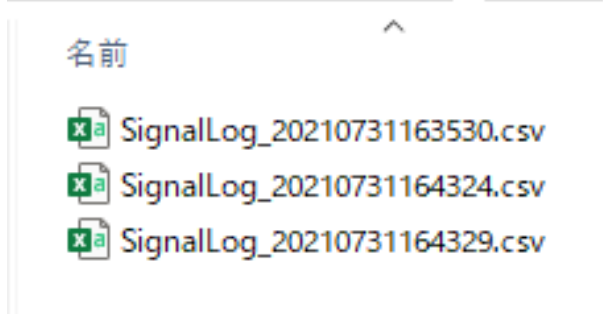
No.	Item	Description
①	Enable	Unchecked: Disable logging. Checked: Enable logging.
②	Sampling Interval [ms]	Specify the sampling interval in milliseconds.
③	Log folder	Specify the folder in which to save log files.
④	Log list	Displays the names of signals to log.
⑤	Delete button	Deletes selected rows from the Log list. Multiple rows can be deleted at once.
⑥	▲ button	Moves the selected Log list row up.
⑦	▼ button	Moves the selected Log list row down.
⑧	Add button	Select signals in Signal List and click Add to add them to the Log list. Multiple signals can be added at once.
⑨	Signal list	Displays the signals defined in Signal Settings. Click the Signal Name or ID column heading to sort the list. Signal Name: Name defined in Signal Settings ID: ID defined in Signal Settings Unit: Unit defined in Signal Settings Comment: Comment defined in Signal Settings

⑩	Text box	Enter search text, then click Find Down or Find Up to find signal names containing that text.
⑪	Find Down button	Searches downward for signal names containing the text in the text box.
⑫	Find Up button	Searches upward for signal names containing the text in the text box.

5 - 7 - 4 - 2 Recording a Log

After configuring logging, click Run on the toolbar to start logging.

Click Stop on the toolbar to stop logging. A CSV log file is saved in the specified folder as shown below.



File name: SignalLog_YYYYMMddHHmmss.csv

YYYY: Year when measurement started (4 digits)

MM: Month when measurement started (01 to 12)

dd: Day when measurement started (01 to 31)

HH: Hour when measurement started (00 to 23)

mm: Minute when measurement started (00 to 59)

ss: Second when measurement started (00 to 59)

[Log File Contents]

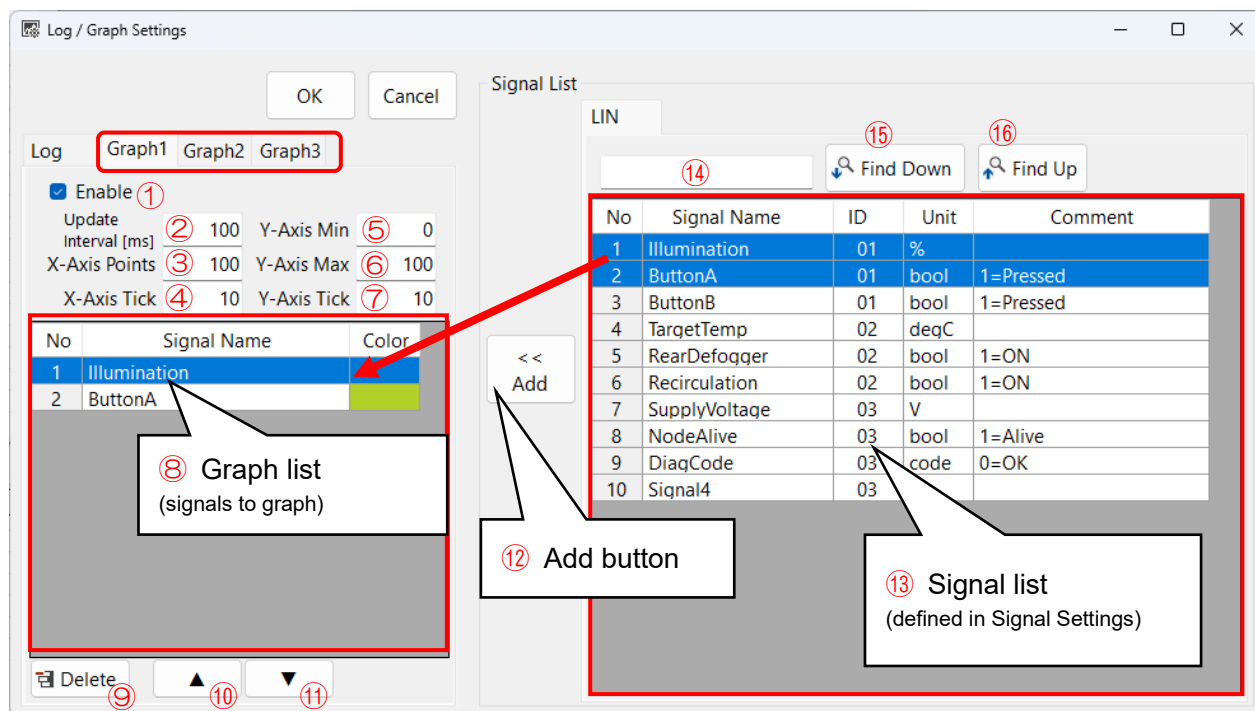
	A	B	C	D	E
1	Time[ms]	aaa	bbb	ccc	
2	0	2104.5	233.5	-733	
3	100	2104.5	233.5	-733	
4	200	2104.5	233.5	-733	
5	300	2104.5	233.5	-733	
6	400	2104.5	233.5	-733	
7	500	2104.5	233.5	-733	
8	600	2104.5	233.5	-733	
9	700	2104.5	233.5	-733	
10	800	2104.5	233.5	-733	
11	900	2104.5	233.5	-733	
12	1000	2104.5	233.5	-733	
13	1100	2104.5	233.5	-733	
14	1200	2104.5	233.5	-733	

5 - 7 - 5 Graph Display

5 - 7 - 5 - 1 Graph Settings

Select Settings > Log/Graph Settings, or click Log/Graph Settings on the toolbar to open the settings window.

Open Graph1, Graph2, or Graph3 on the left. Select signals from the signal list on the right, then click Add in the center to add them to the graph list.



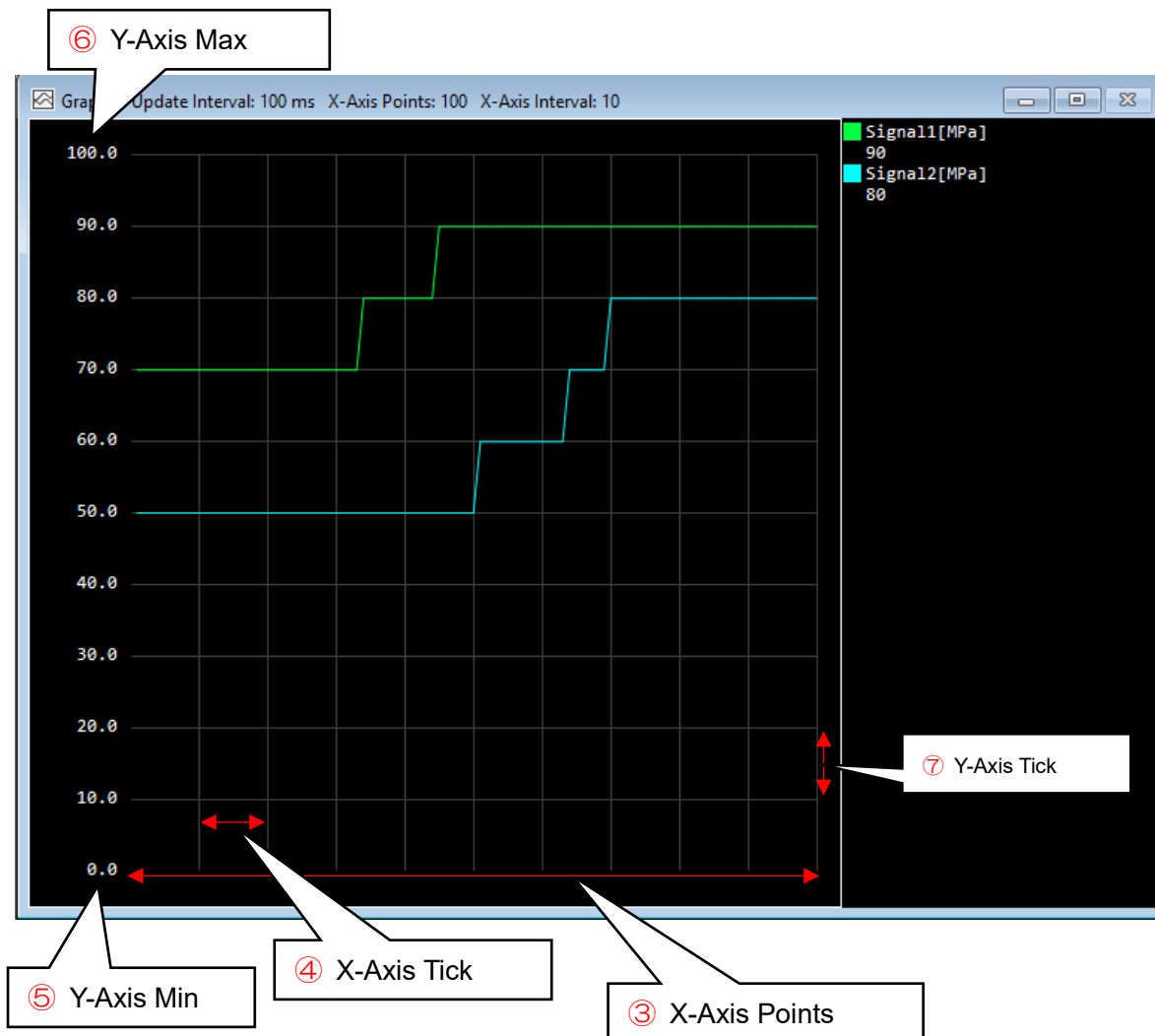
Symbol	Item	Description
①	Enable	Unchecked: Disable graph display. Checked: Enable graph display.
②	Update interval [ms]	Specify the graph update interval. Specify at least 100 ms.
③	X-axis points	Specify the number of points on the X-axis.
④	X-axis scale	Specify the X-axis tick interval.
⑤	Y-axis minimum	Specify the minimum Y-axis value.
⑥	Y-axis maximum	Specify the maximum Y-axis value.
⑦	Y-axis scale	Specify the Y-axis tick interval.
⑧	Graph list	Displays the list of signals to graph. Signal Name: Signal to graph Color: Graph color Click the cell to open the color dialog and change the graph color.
⑨	Delete button	Deletes selected rows from the Graph list. Multiple rows can be deleted at once.
⑩	▲ button	Moves the selected Graph list row up.
⑪	▼ button	Moves the selected Graph list row down.
⑫	Add button	Select signals in Signal List and click Add to add them to the Graph list. Multiple signals can be added at once.

⑬	Signal list	Displays the signals defined in Signal Settings. Click the Signal Name or ID column heading to sort the list. Signal Name: Name defined in Signal Settings ID: ID defined in Signal Settings Unit: Unit defined in Signal Settings Comment: Comment defined in Signal Settings
⑭	Text box	Enter search text, then click Find Down or Find Up to find signal names containing that text.
⑮	Find Down	Searches downward for signal names containing the text in the text box.
⑯	Find Up	Searches upward for signal names containing the text in the text box.

5 - 7 - 5 - 2 Displaying Graphs

After configuring graphs, click Run on the toolbar to start graph display.

Click Stop on the toolbar to stop graph display.



5-7-6 LIN Message Transmission

Select Window > Message Transmission, or click Message Transmission on the toolbar to open the transmission window.

Frame tab: Send each row once, periodically (Interval), or on a schedule.

Signal tab: Enter physical values directly and apply them to frames being transmitted periodically or on a schedule.

Input fields in both the Frame and Signal tabs support Ctrl+C (copy) and Ctrl+V (paste), including pasting clipboard data from Excel or similar applications.

[Frame Tab]

Select the transmission mode using the radio buttons at the upper left.

- Master Mode: Operates the unit as a LIN master (sends headers and advances the schedule).
- Slave Mode: Operates the unit as a LIN slave (responds to requests from an external master).

In Communication Settings, enable the 1-kohm master pull-up for master mode and disable it for slave mode. If an external master with a pull-up is already present, disable this unit's pull-up.

No	ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7	Checksum Type	Send	Schedule Enable	Time[ms]
1	01	8	00	00	03	00	00	00	00	00	Classic	Send	☒	100

◆ Master Mode

There are 20 transmission boxes. Click Send in a row to send once at any time. With DLC set to 0, only the ID is sent and a response (data) is received from the corresponding slave. Select Interval Send and click Start for periodic transmission, or Schedule Send and Start for scheduled transmission. During transmission, Send changes to Update; click it to apply edits to the transmitted data.

[Frame Tab - Master Mode]

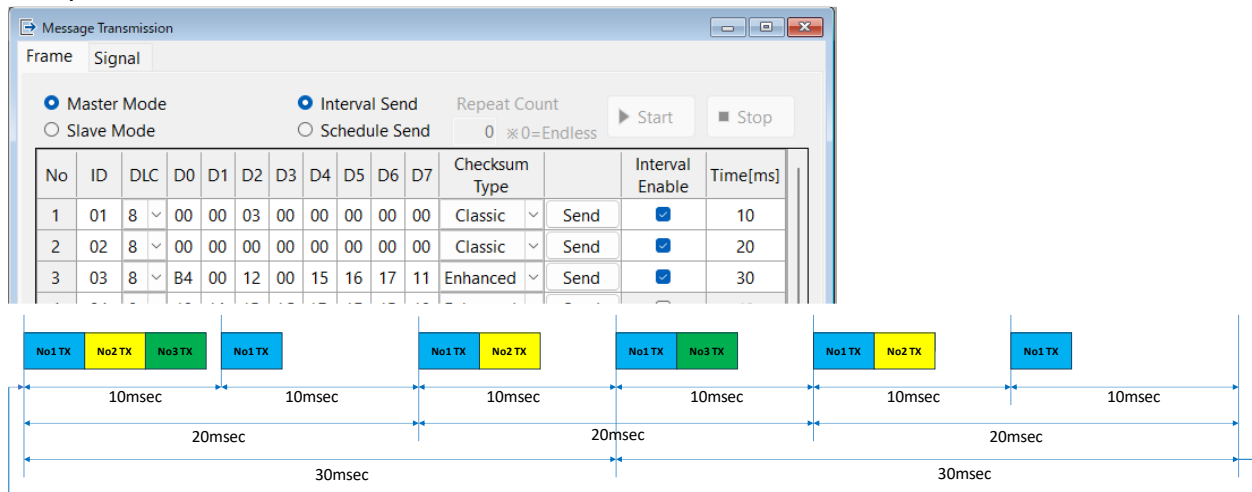
No.	ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7	Checksum Type	Send/Update	Schedule Enable	Time[ms]
1	01	8	01	02	03	00	00	02	12	00	Classic	Send	☒	100
2	02	8	00	00	12	04	00	03	12	00	Classic	Send	☒	200
3	03	8	B4	00	12	00	15	16	17	11	Enhanced	Send	☒	300
4	04	8	19	1A	1B	1C	1D	1E	1F	19	Enhanced	Send	☐	40
5	05	8	21	22	23	24	25	26	27	21	Enhanced	Send	☐	50
6	06	8	29	2A	2B	2C	2D	2E	2F	29	Classic	Send	☐	60
7	07	8	31	32	33	34	35	36	37	31	Classic	Send	☐	70
8	08	8	39	3A	3B	3C	3D	3E	3F	39	Classic	Send	☐	80
9	09	8	41	42	43	44	45	46	47	41	Classic	Send	☐	90
10	0A	8	49	4A	4B	4C	4D	4E	4F	49	Classic	Send	☐	100
11	0B	8	FC	FF	FF	FF	FF	FF	FF	FF	Classic	Send	☐	110
12	0C	8	59	5A	5B	5C	5D	5E	5F	59	Classic	Send	☐	120
13	0D	8	61	62	63	64	65	66	67	61	Classic	Send	☐	130

No.	Item	Description
①	Start button	With Interval Send selected, periodically transmits rows with Interval Enable checked. With Schedule Send selected, transmits rows with Schedule Enable checked according to the schedule. Specify the interval or scheduled transmission time in Time [ms].
②	Stop button	Stops periodic or scheduled transmission.
③	ID	Enter the ID in hexadecimal: 0 to 3F.
④	DLC	Select the data length: 0 to 8 bytes. Select 0 to receive a response from the slave.
⑤	D0~D7	Enter data in hexadecimal: 0 to FF.
⑥	Checksum Type	Select the checksum type. Classic: Classic checksum Enhanced: Enhanced checksum
⑦	Send button	Sends the frame once.
	Update button (during transmission)	Applies edited column values during periodic or scheduled transmission.

⑧	Interval Enable Schedule Enable	Unchecked: Disable periodic or scheduled transmission. Checked: Enable periodic or scheduled transmission. Press Enter to toggle on/off.
⑨	Time[ms]	For periodic transmission, specify the interval in milliseconds. For scheduled transmission, specify the transmission time in milliseconds.
⑩	Transmission type Radio buttons	Interval Send: Periodic transmission Schedule Send: Scheduled transmission
⑪	Repeat Count	Number of schedule repetitions 0 = repeat indefinitely; 1 to 999 repetitions

[Interval Send]

Example (No1=10 ms, No2=20 ms, No3=30 ms)

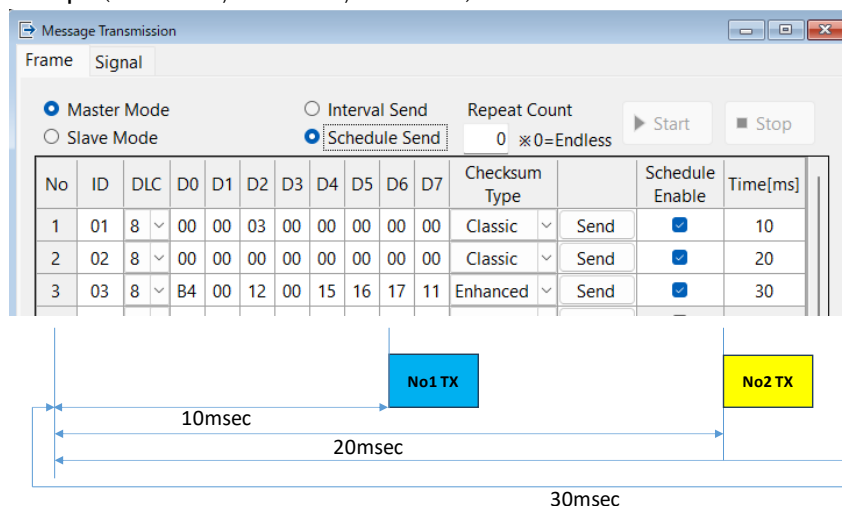


At t = 0, No. 1, No. 2, and No. 3 start transmitting simultaneously.

Thereafter, No. 1 transmits every 10 ms, No. 2 every 20 ms, and No. 3 every 30 ms.

[Schedule Send]

Example (No1=10 ms, No2=20 ms, No3=30 ms)



Cycle 1: No. 1 at 10 ms, No. 2 at 20 ms, and No. 3 at 30 ms.

Cycle 2: Repeat the sequence, starting again with No. 1 at 10 ms.

◆ Slave Mode

In slave mode, the unit sends responses (data) to IDs transmitted by the master. There are 20 transmission boxes, allowing responses to up to 20 different IDs.

[Frame Tab - Slave Mode]

No.	Enable	ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7	Checksum Type	Update
1	☒	01	8	01	02	03	00	00	02	12	00	Classic	Update
2	☒	02	8	00	00	12	04	00	03	12	00	Classic	Update
3	☒	03	8	B4	00	12	00	15	16	17	11	Enhanced	Update
4	☒	04	8	19	1A	1B	1C	1D	1E	1F	19	Enhanced	Update
5	☒	05	8	21	22	23	24	25	26	27	21	Enhanced	Update
6	☐	06	8	29	2A	2B	2C	2D	2E	2F	29	Classic	Update
7	☐	07	8	31	32	33	34	35	36	37	31	Classic	Update
8	☐	08	8	39	3A	3B	3C	3D	3E	3F	39	Classic	Update
9	☐	09	8	41	42	43	44	45	46	47	41	Classic	Update
10	☐	0A	8	49	4A	4B	4C	4D	4E	4F	49	Classic	Update
11	☐	0B	8	FC	FF	FF	FF	FF	FF	FF	FF	Classic	Update
12	☐	0C	8	59	5A	5B	5C	5D	5E	5F	59	Classic	Update
13	☐	0D	8	61	62	63	64	65	66	67	61	Classic	Update

No.	Item	Description
①	Start button	Starts slave mode.
②	Stop button	Stops slave mode.
③	Enable	Unchecked: Slave mode disabled Checked: Slave mode enabled Press Enter to toggle on/off.
④	ID	Enter the ID in hexadecimal: 0 to 3F.
⑤	DLC	Select the data length: 1 to 8 bytes.
⑥	D0~D7	Enter data in hexadecimal: 0 to FF.
⑦	Checksum Type	Select the checksum type. Classic: Classic checksum Enhanced: Enhanced checksum
⑧	Update button	Applies edited column values while slave mode is running.

[Signal]

The Signal tab automatically displays signals corresponding to the IDs set in rows No. 1 to 20 of the Frame tab. Define the signals in Signal Settings beforehand.

Enter a physical value in Value and click Update, or set Step Value and click Up/Down to apply an increment/decrement immediately (no Update required). The value is applied to the frame with the same row number.

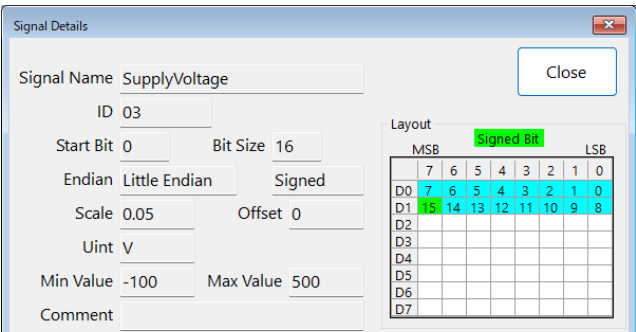
Signal rows included in periodic or scheduled transmission are yellow while transmitting and return to white when stopped.

For yellow rows, updated values take effect automatically from the next cycle. For white rows, values are applied to the Frame tab but are not transmitted. To send once, click Send on the Frame tab.

[Signal Tab]

No	ID	Signal Name	Value	Unit	Update	Down	Up	Step Value	Min Value	Max Value
1	01	Illumination	0	%	Update	Down	Up	1	0	100
		ButtonA	0	bool	Update	Down	Up	1	0	1
		ButtonB	0	bool	Update	Down	Up	1	0	1
		Signal1	0	MPa	Update	Down	Up	1	0	65535
2	02	TargetTemp	0	degC	Update	Down	Up	1	0.0	40
		RearDefogger	0	bool	Update	Down	Up	1	0	1
		Recirculation	0	bool	Update	Down	Up	1	0	1
		Signal2	0	MPa	Update	Down	Up	1	0	65535
3	03	SupplyVoltage	0	V	Update	Down	Up	1	0.00	16
		NodeAlive	0	bool	Update	Down	Up	1	0	1
		DiagCode	0	code	Update	Down	Up	1	0	255

No.	Item	Description
①	No	No. 1 to 20 on the Frame tab
②	ID	Target frame ID
③	Signal Name	Signal name
④	Value	Physical value field. Enter a numeric value directly.
⑤	Unit	Displays the unit
⑥	Update button	Applies this row's Value to the frame. If transmission is active on the Frame tab, it takes effect from the next cycle.

⑦	Down/Up buttons	Decreases/increases Value by Step Value and applies it immediately (no Update required).
⑧	Step Value	Increment/decrement for Up/Down
⑨	Min/Max Value	Allowed range. Values below the minimum or above the maximum are automatically clamped to the corresponding limit.
⑩	Signal Details	Displays details of the selected signal 

6 Updates

6 - 1 Updating the Application

The PC application may be updated to provide improvements. Visit the following URL. If a newer version than the installed application is available, we recommend updating.

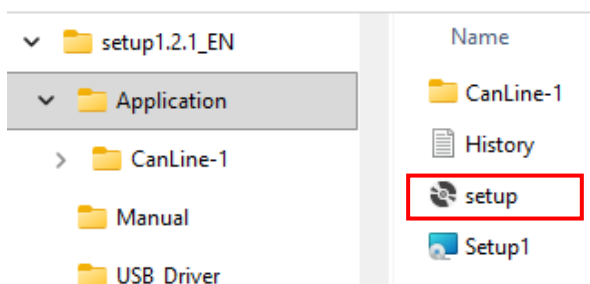
<https://hsdev.co.jp/canline-1-en/>



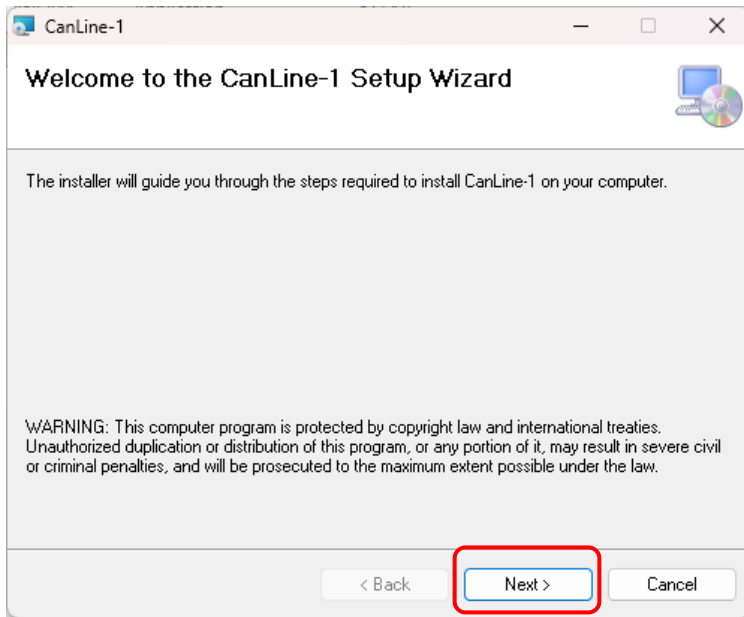
The installed application version appears at the upper left of the main window.



- ① Extract the ZIP file downloaded from our website.
- ② In the extracted folder, right-click setup.exe in the application folder and select Run as administrator.



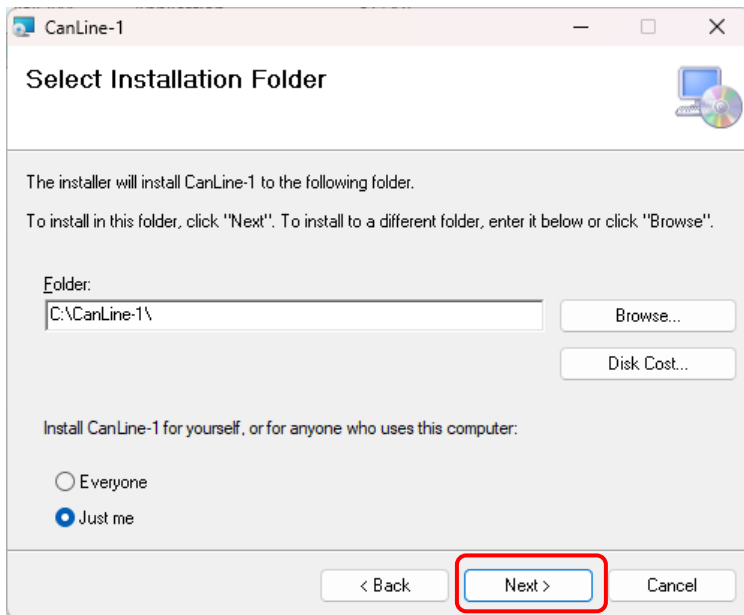
③ Click Next.



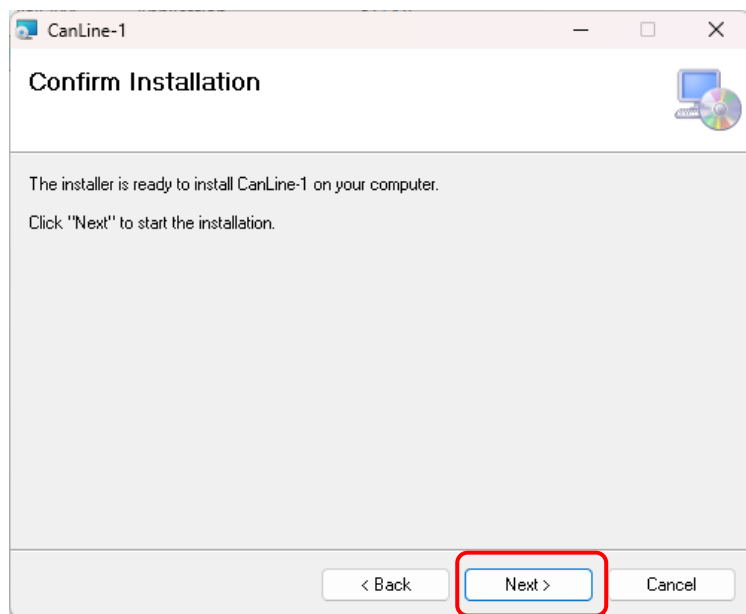
④ Select the installation folder and click Next. The previously installed version is removed automatically.

Caution: Do not install in Program Files or Program Files (x86).

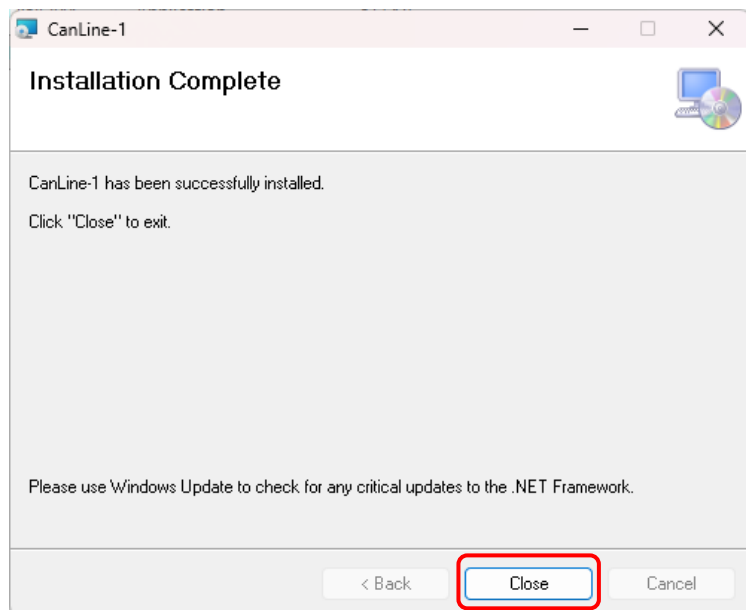
! (Example: C:\CanLine-1)



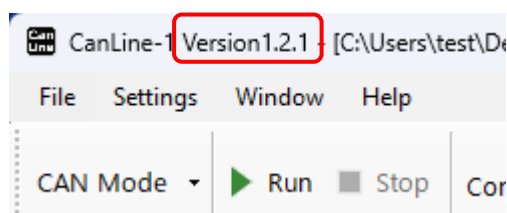
⑤ Click Next.



⑥ Click Close.



⑦ Start the application and check the version at the upper left to confirm the update.



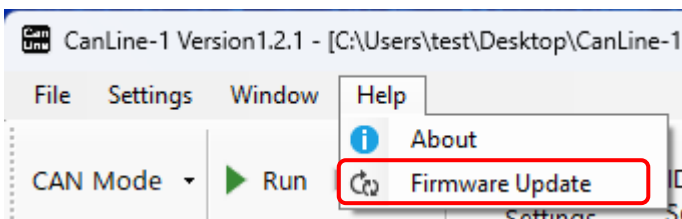
6 - 2 Updating the Firmware

The unit's firmware may be updated to provide improvements. Visit the following URL. If a newer version than the unit's current firmware is available, we recommend updating.

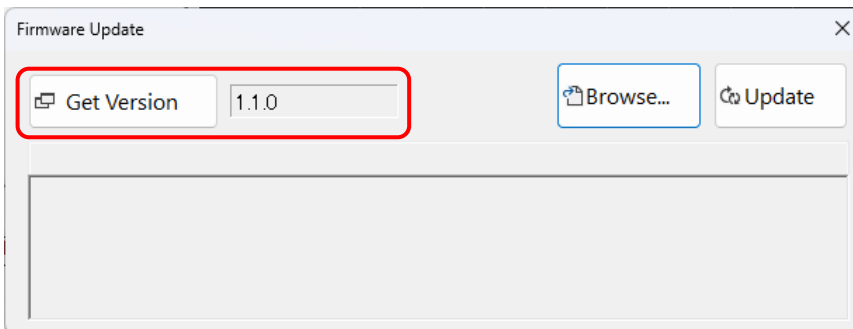
<https://hsdev.co.jp/canline-1-en/>

To check the firmware version, connect the unit, start the application, and select Help > Firmware Update.

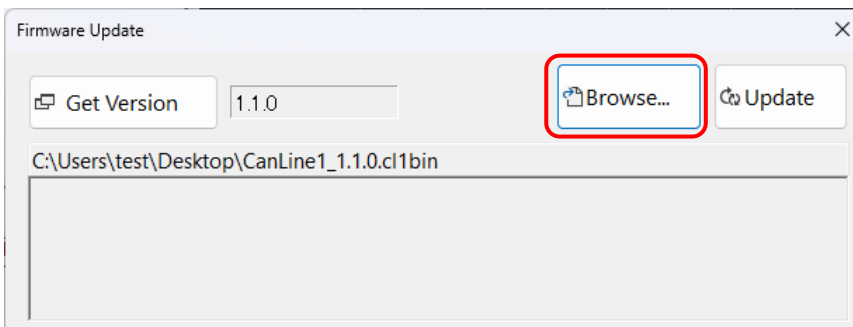
- ① Extract the ZIP file downloaded from our website.
- ② Connect the unit to the PC with the USB cable, then start the application.
- ③ Select Help > Firmware Update.



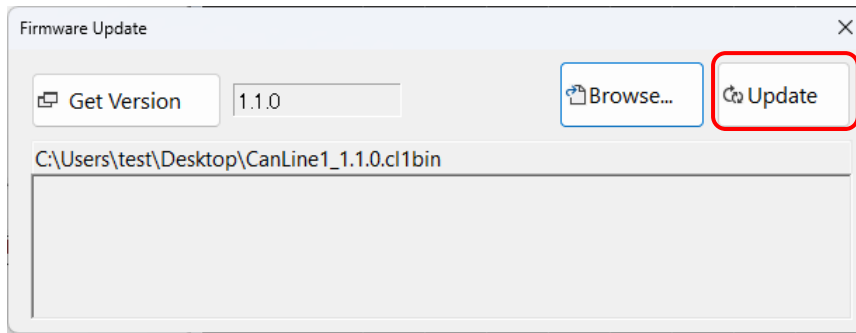
- ④ Check the current version in the Firmware Update window.



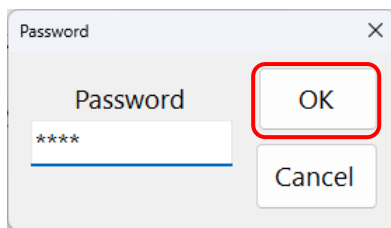
- ⑤ Click Browse... and choose the file downloaded from our website.



⑥ Click Update.

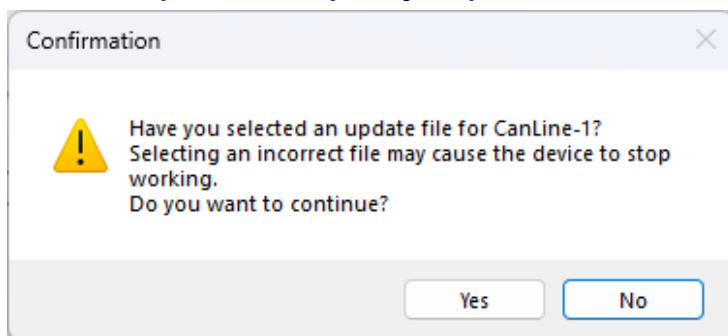


⑦ When prompted for a password, enter 1103 and click OK.

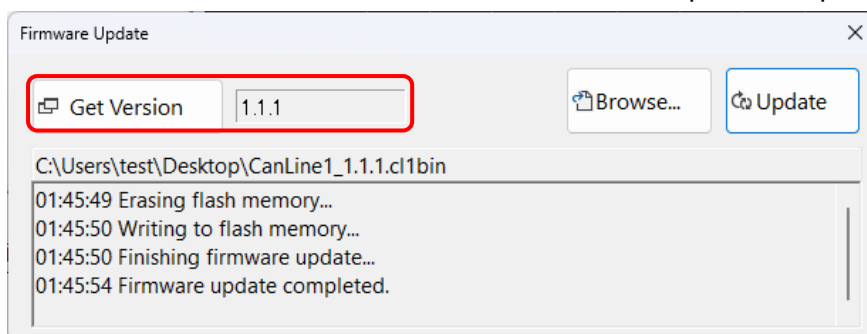


⑧ Click Yes in the confirmation dialog.

⚠ Caution: Never update using a file other than one specified by our company. Doing so will render this product completely inoperable.



⑨ Check the version information to confirm that the update completed successfully.



7 Other Information

7 - 1 Connecting Multiple Units

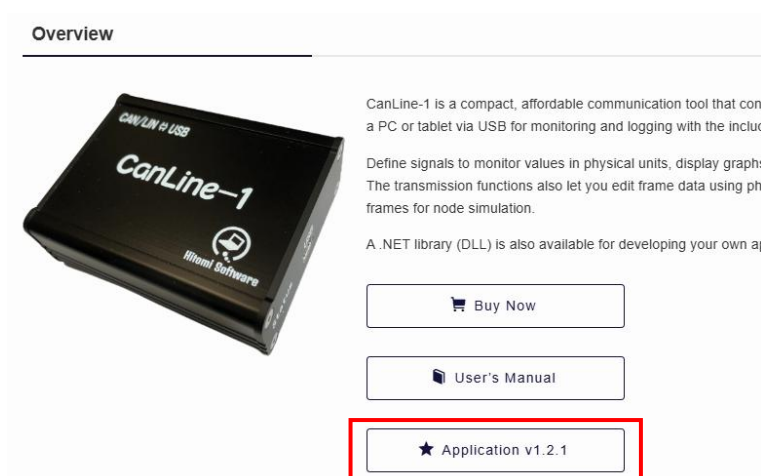
Multiple CanLine-1 units can be connected to and operated from a single PC at the same time.

Each application instance controls only one unit. To control multiple units, make separate copies of the application, run them simultaneously, and specify the target unit's product ID in each instance.

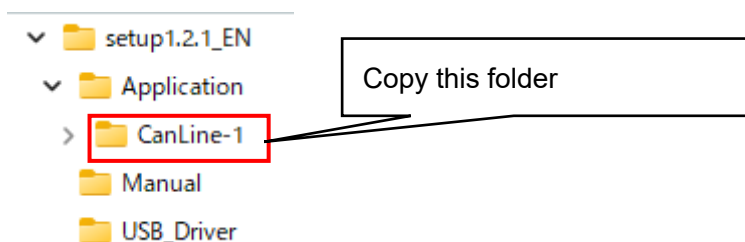
[Copying the Application]

- ① Visit the URL below and click Application Version *.*.* to download.

<https://hsdev.co.jp/canline-1-en/>



- ② Extract the ZIP file and copy the entire CanLine-1 folder inside the application folder to a location on the PC. The folder can be renamed. Use the normally installed application for the first unit. Make a separate copy for each additional unit and run them simultaneously, specifying the corresponding product ID in each instance.



Examples (choose any destination folder names):

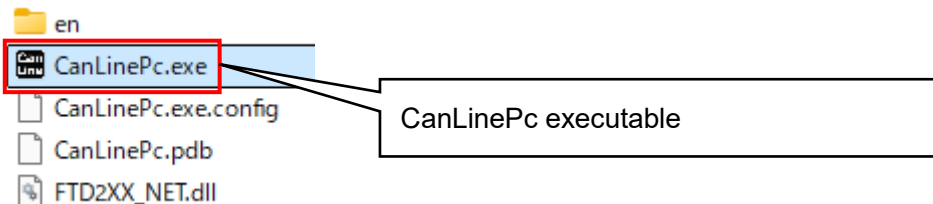
- C:\Tools\CanLine-1_2nd
- C:\Tools\CanLine-1_3rd

Notes:

- Place each copy in a separate folder. Running multiple instances from the same folder is not recommended.

- Use a separate log output folder for each application instance to avoid log file conflicts.
- We recommend a user-accessible folder, such as C:\Tools, because write permissions under Program Files may cause problems.

- ③ Open the copied folder and double-click the CanLinePc executable. We recommend creating a desktop shortcut for easier access in the future.

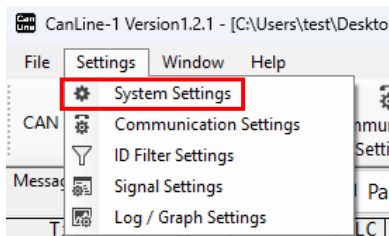


Creating a shortcut in Windows:

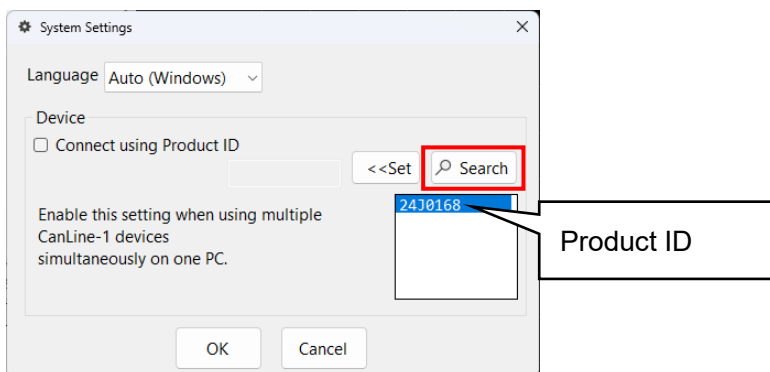
1. Right-click the CanLinePc executable and select Send to > Desktop (create shortcut).
In Windows 11, if Send to is not visible, select Show more options from the right-click menu.
2. Rename the shortcut for easy identification (for example, CanLine-1_Unit2 or CanLine-1_Unit3).

[Specifying the Product ID]

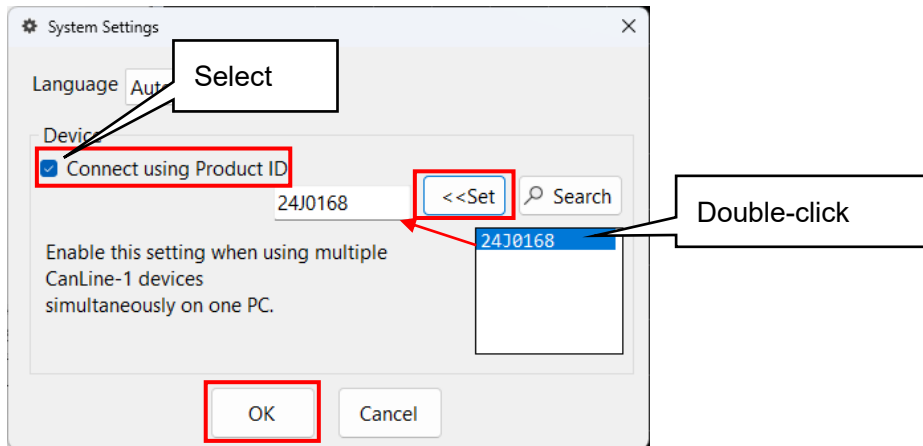
- ① Connect only the first CanLine-1 unit to the PC.
- ② Start the normally installed application.
- ③ Select Settings > System Settings.



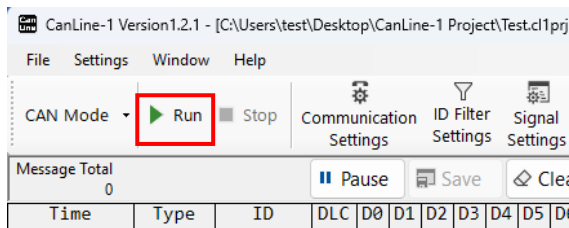
- ④ Click Search to display the product ID of the connected unit.
If the unit is not found, click Search again.



- ⑤ Select the product ID in the search results and click Set (or double-click it) to populate the text box. Then select Connect using specified product ID and click OK.



- ⑥ Click Run to check the connection. The LED on the connected unit changes from steady green to slow green flashing.



- ⑦ Connect only the second CanLine-1 unit to the PC.
- ⑧ Start the copied application and perform steps ③ to ⑥ above. Repeat for each application copy.

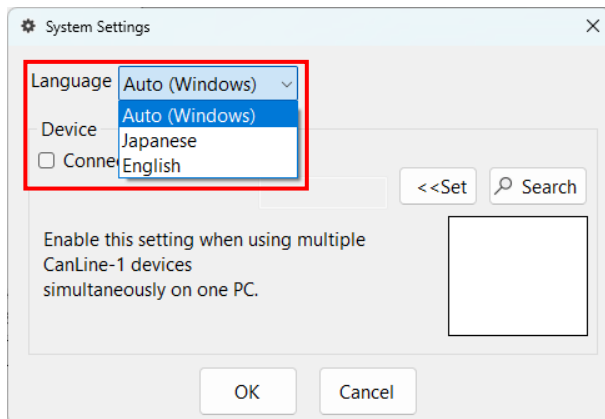
This setup is required only once, before first use.

7 - 2 Language Settings

Set the language displayed on the screen.

Click Settings > System Settings in the menu.

Select the desired language from the Language drop-down menu.



Option	Description
Auto(Windows)	Automatically selects the display language based on the Windows language settings.
Japanese	Displays the application in Japanese.
English	Displays the application in English.

Feedback and Bug Reports

Please send suggestions for improving this manual or CanLine-1, and any bug reports, to the contact below.

Your feedback will help us make future improvements.

- Developer: Hitomi Software Development Co., Ltd.
- E-mail : info@hsdev.co.jp
- URL : <https://hsdev.co.jp>