Orientalmotor

Data setting software MEXE02
BLE Series

OPERATING MANUAL

Thank you for purchasing an Oriental Motor product.

This operating manual describes product handling procedures and safety precautions.

• Please read it thoroughly to ensure safe operation.

• Always keep the manual where it is readily available.

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1 Synchronization with the driver

In order to verify the status of a driver using the monitor function or test function, the **MEXE02** data and the driver data must be synchronized. A window to select a synchronization method will be displayed when the monitor function or test function is selected without synchronizing the data. Once synchronization is completed, the synchronization will be valid until communication with the **MEXE02** is severed or the data on the **MEXE02** is changed.

Also, when the **MEXE02** data is edited after synchronization, "Download Modified Data Only" is enabled to be selected, which allows downloading only the data that has been edited to the driver.

Note
- Administrator privilege is required to use **MEXE02**.
- Once synchronization is complete, the **MEXE02** or driver data will be changed. Which data is changed depends on the synchronization method.

1. Select monitor function or test function from the window selection area.
   The figure below is an example when the status monitor is selected. Please select "Start Status Monitor" in this case.
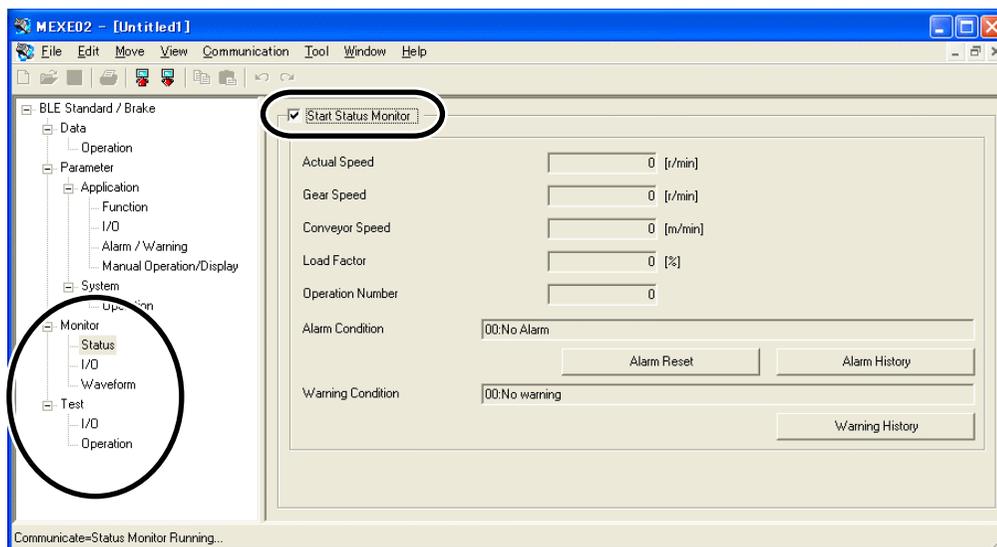
2. Select the synchronization method.

3. Click [OK].
   The **MEXE02** data and the driver data will be synchronized.
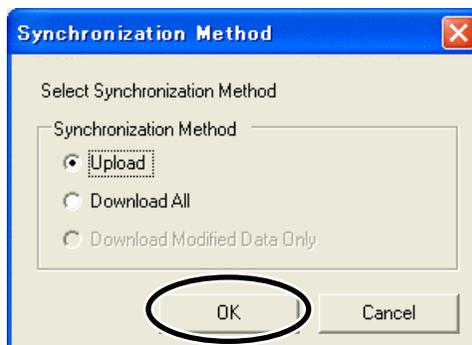
2   Monitor function

You can monitor the motor operating status, alarm condition and I/O signals.
In the waveform monitor function, the motor operating speed and I/O signal switching status can be checked in a timing chart format.

Note │ Administrator privilege is required to use **MEXE02**.

2.1   Status monitor

You can monitor the operation status and alarm condition.

1. In the window selection area, click [Status] under [Monitor].
   The status monitor window appears.

2. Select "Start Status Monitor".
   Status monitor starts.
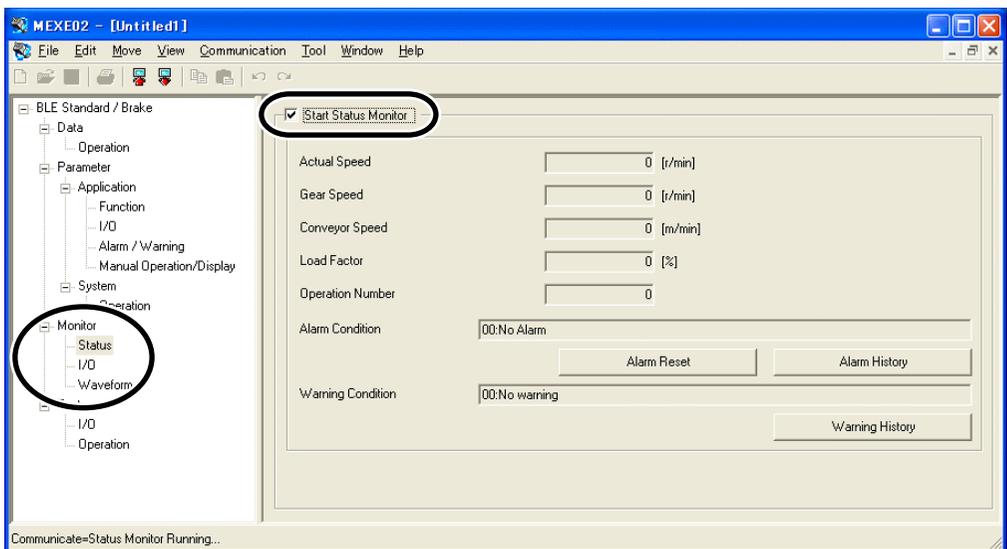
3. To end status monitor, unselect "Start Status Monitor".

2.2 I/O monitor

You can monitor the I/O status for the driver.

1. In the window selection area, click [I/O] under [Monitor].
   The I/O monitor window appears.

2. Select "Start I/O Monitor".
   I/O monitor starts.

Driver terminals status
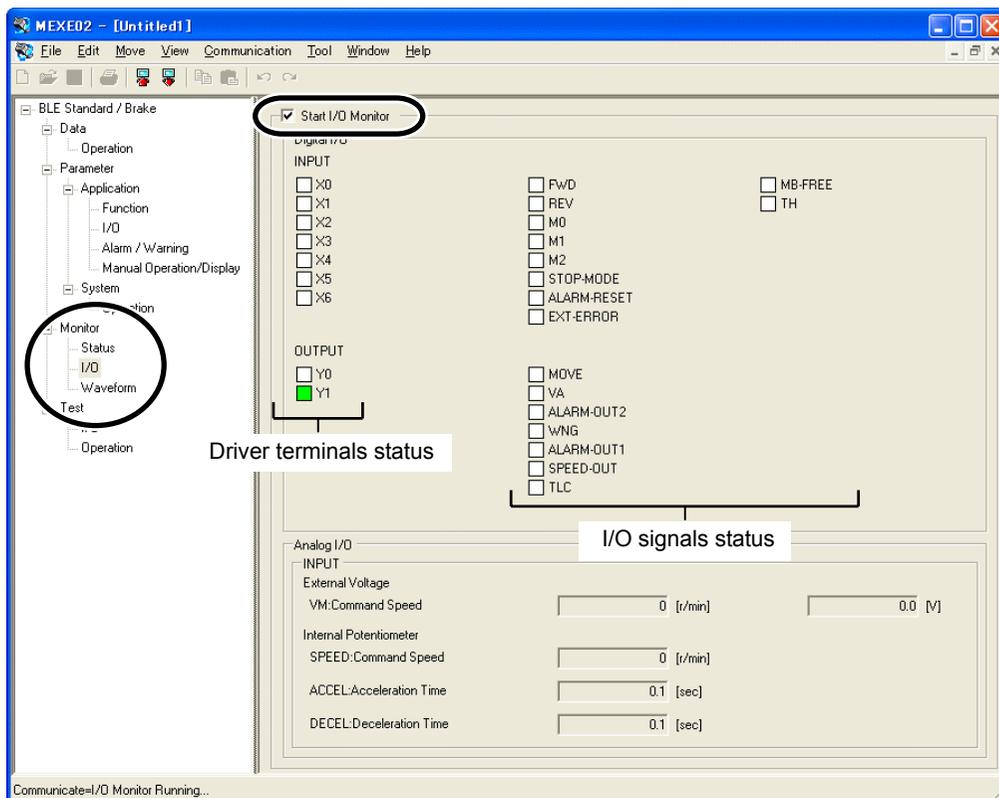
I/O signals status

- Digital I/O:
  Each signal is shown in green if ON, and in white if OFF.

Display	Driver terminals status	I/O signals status
ON (green)	The photocoupler in the driver is carrying current.	Status for the signals recognized inside the driver is active.
OFF (white)	The photocoupler in the driver is not carrying current.	Status for the signals recognized inside the driver is non-active.

- Analog I/O:

Item	Description
External voltage	The command speed (or torque limit) and the input voltage value set by the external speed potentiometer or external DC voltage are displayed. When the external voltage select switch on the driver front panel is set to 10 VDC, half the input voltage value is displayed.
Internal potentiometer	The command speed (or torque limit value), acceleration time and deceleration time set by the internal speed potentiometer are displayed.

3. To end I/O monitor, unselect "Start I/O Monitor".

2.3 Waveform monitor

The motor operating speed and I/O signal switching status can be checked in a timing chart format.
Four sets of waveforms (four channels) can be shown in the window simultaneously.

1. In the window selection area, click [Waveform] under [Monitor].
   The waveform monitor window appears.

2. Select "Start Waveform Monitor".
   Waveform monitor starts.
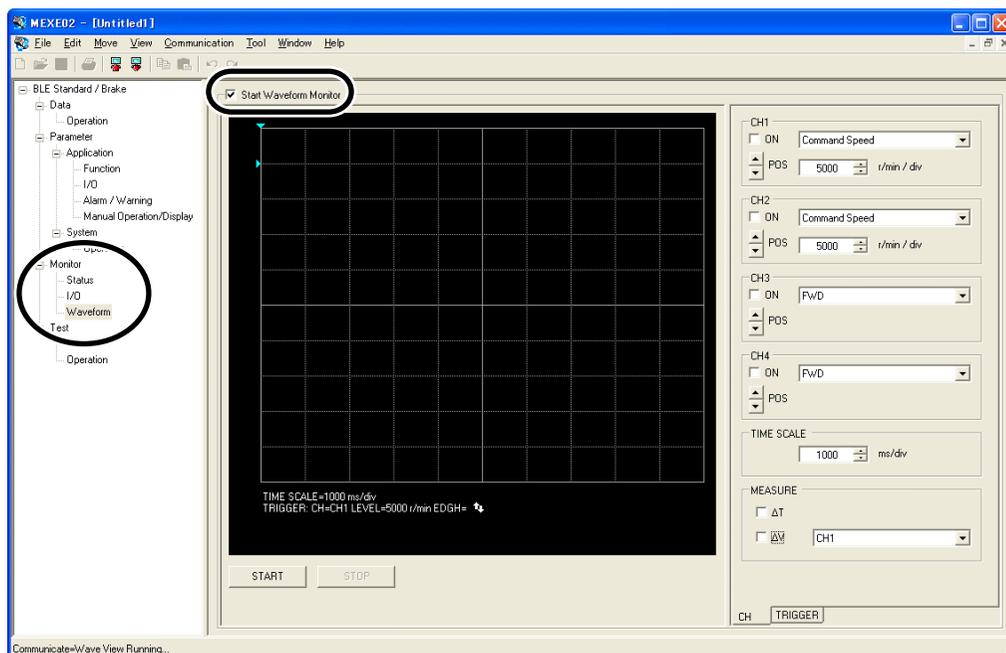
3. Set the required items for each channel.

No.	Item	Description
1	ON	Selecting this check box specifies that the applicable channel will be displayed.
2	POS	Sets the position in the window where you want to show the channel. ▲ : moves the channel position up ▼ : moves the channel position down.
3	Measurement item	Selects the speed or signal you want to measure. CH1, CH2: You can select either the command speed or output rotation speed for each channel. CH3, CH4: You can select any one of the following input/output signals for each channel. · Input signals; FWD, REV, M0, M1, M2, STOP-MODE, ALARM-RESET, EXT-ERROR, MB-FREE, TH. · Output signals; MOVE, VA, ALARM-OUT2, WNG, ALARM-OUT1, TLC.
4	Measurement range	Sets the scale for each tick mark on the vertical axis. (This item can be set only for CH1 and CH2). Selects any one of the following: 100, 200, 500, 1000, 2000, 5000 (r/min/div)

4. Set the time scale.

The time for each tick mark on the horizontal scale will be set.
Select any one of the following:
100, 200, 500, 1000, 2000 (ms/div)
▲ : Time will become longer.
▼ : Time will become shorter.

TIME SCALE

1000 ⬍ ms/div

5. Click on the [TRIGGER] tab on the lower right of the screen and set the triggers.

Trigger is a function for automatically measuring waveform when the motor speed or I/O signal ON/OFF status satisfies a specific condition.

CH	Selects the channel you want to set a trigger for.
LEVEL	This item is shown when you have selected CH1 or CH2 under "CH". Click the up/down arrows to set the trigger level of speed.
EDGE	Sets the trigger detection condition. ↑ : For CH1 and CH2, when the value changes from a value below what is set for "LEVEL" to a value at or above what is set for "LEVEL." For CH3 and CH4, measurement will be triggered when the I/O signal status changes from OFF to ON. ↓ : For CH1 or CH2, when the value changes from a value at or above what is set for "LEVEL" to a value below what is set for "LEVEL." For CH3 and CH4, measurement will be triggered when the I/O signal status changes from ON to OFF. ↑↓ : This item sets both ↑ and ↓ as conditions.
POSITION	Sets the trigger position in the screen. ◀ : Moves the trigger position to left. ▶ : Moves the trigger position to right.
MODE	Selects when to display waveforms. AUTO: Waveforms are constantly updated until waveform measurement is stopped. NORMAL: Waveforms are updated every time a trigger is detected. SINGLE: Waveforms are updated when a trigger is detected, after which waveform monitor will end automatically.

6. Click [START].
   Waveform measurement starts.

7. Click [STOP] to stop the measurement.

■ **Measurement function**

You can measure the time delta and measurement delta in the window based on measurement results.
The time delta indicates the difference between T1 and T2, while the measurement delta indicates the difference between V1 and V2.

This function is useful when you wish to verify the time or space in between signals when the I/O time is ON or to verify the difference between the measured value of the items selected for CH1 and CH2.

1. Under "MEASURE" on the right side of the window, select the channel you want to measure.
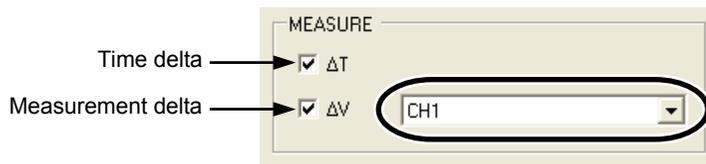
2. To measure the time delta, select "ΔT." To measure the measurement delta, select "ΔV".
   If ΔT has been selected, two vertical lines appear. If ΔV has been selected, two horizontal lines appear. The red line shows the T1 time or V1 measurement. The blue line shows the T2 time or V2 measurement.
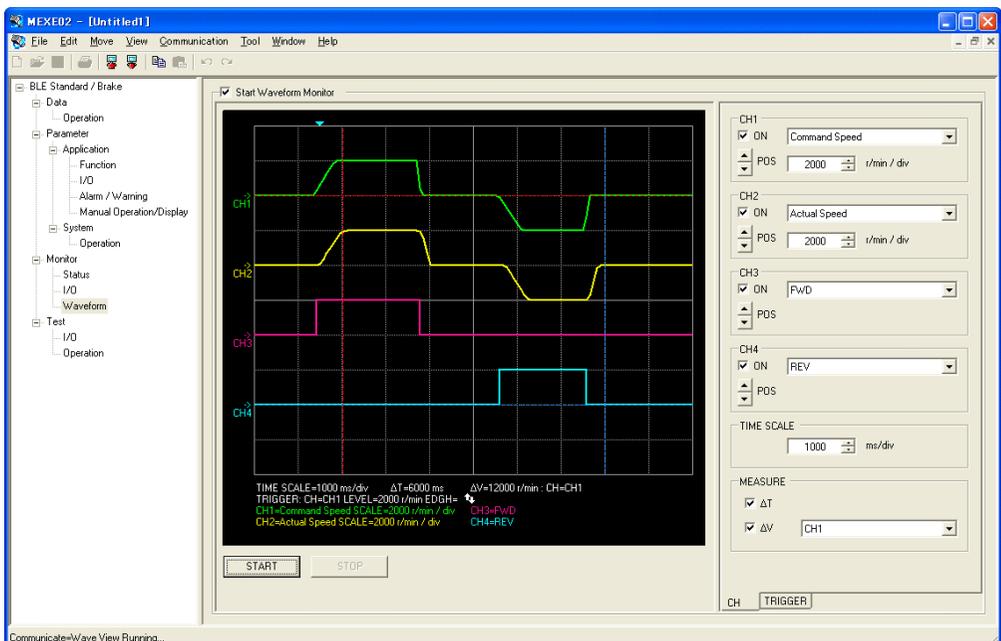
3. Drag the vertical or horizontal lines with the mouse to desired measurement positions.
   The time delta or measurement delta is shown below the graph.

TIME SCALE=1000 ms/div   ΔT=1800 ms   ΔV=3000 r/min : CH=CH1
TRIGGER: CH=CH1 LEVEL=2200 r/min EDGH= ↑
CH1=Command Speed SCALE=2000 r/min / div   CH3=FWD
CH2=Actual Speed SCALE=2000 r/min / div   CH4=REV
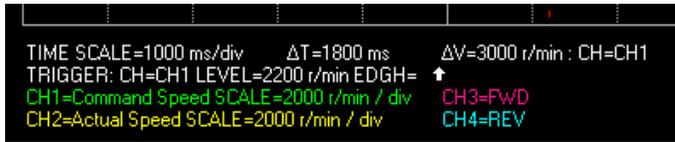
← Display the time delta or measurement delta

2.4 Saving a waveform

Saves the waveform on the waveform monitor screen as a BMP file.

1. Unselect "Start Waveform Monitor"

2. Click [Save Waveform] from the [File] menu.
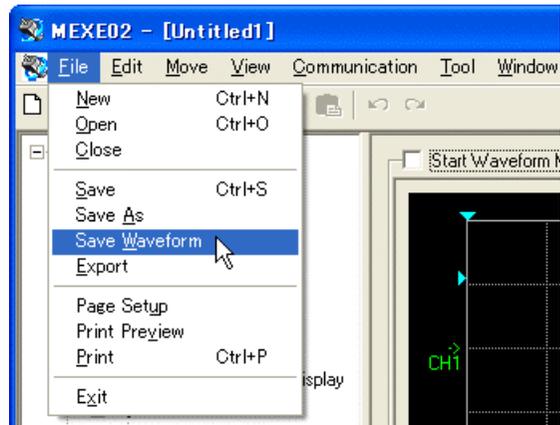
3. Enter a file name, and click [Save].
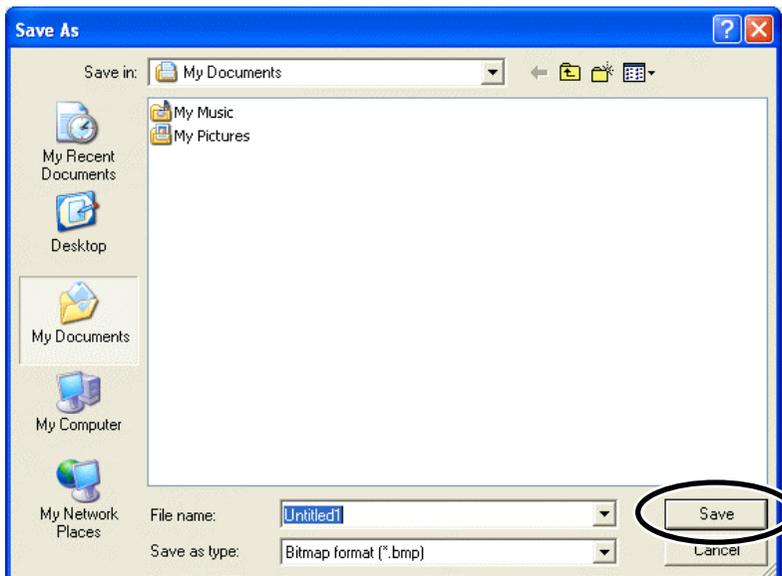
3   Test function

You can execute the I/O signal test and test operation.

Note   Administrator privilege is required to use **MEXE02**.

3.1   I/O test

You can monitor the input signals and switch the ON/OFF for the output signals. This function is convenient if you want to check the wiring condition.

Note   • I/O signals will maintain the status they had before the I/O test.
   • Assigned function will be disabled even if operating the input signals externally while the I/O test executes.

1. In the window selection area, click [I/O] under [Test].
   The I/O test window appears.

2. Select "Start I/O Test".
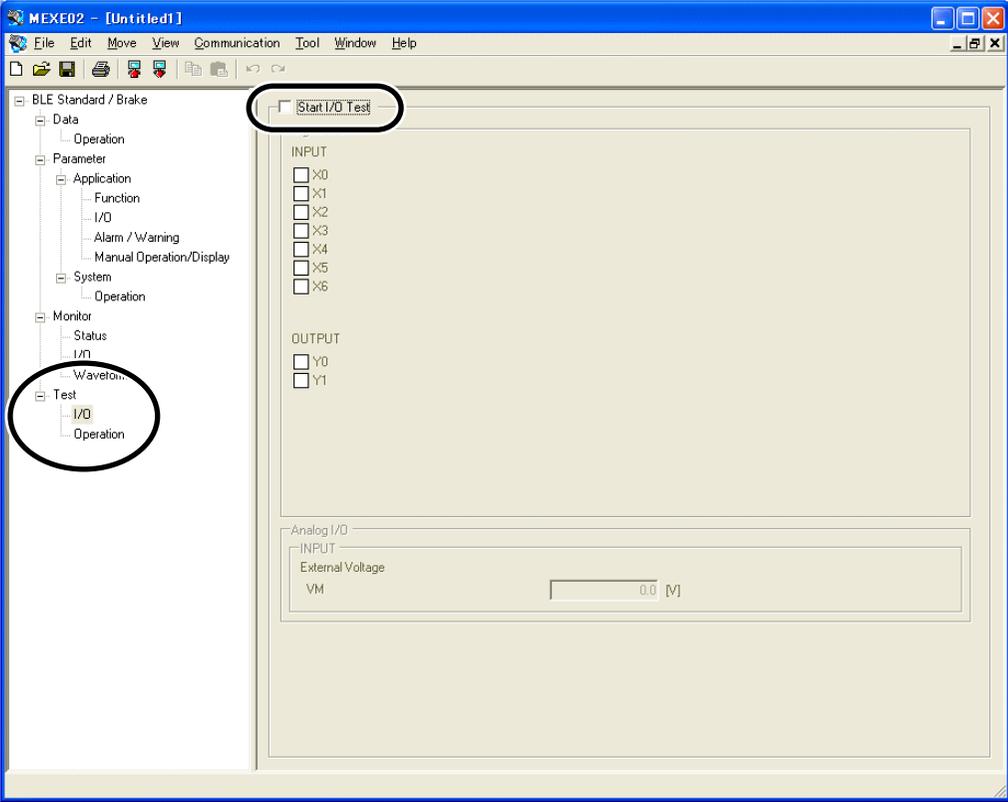
3. Click [Yes].
You can now execute the I/O test.
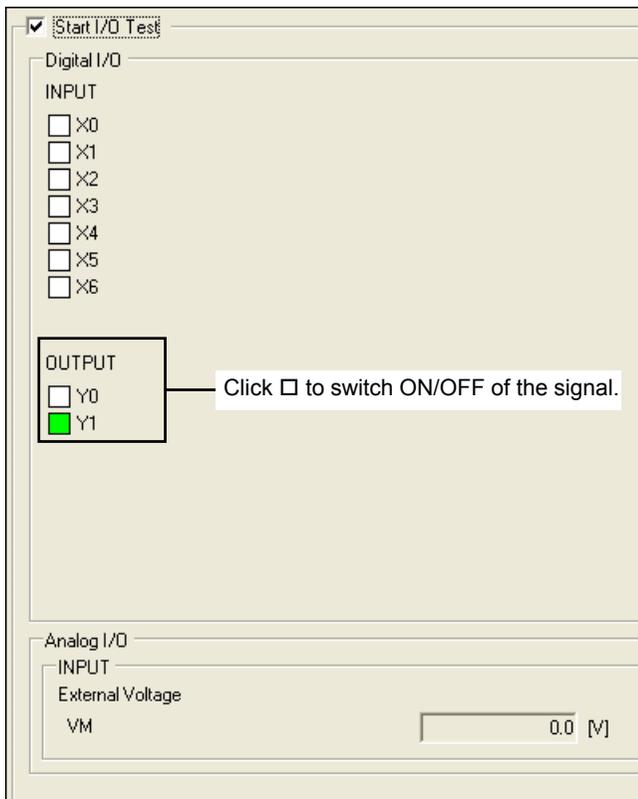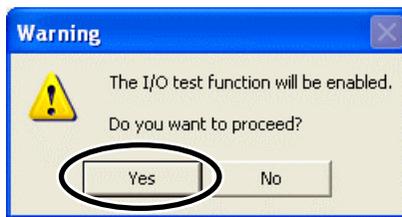
You can monitor the ON/OFF status for each signal under "INPUT".

ON (green)	The photocoupler in the driver is carrying current.
OFF (white)	The photocoupler in the driver is not carrying current.

For the signals under "OUTPUT", the ON/OFF status switches every time □ is clicked.
Each signal is shown in green if ON, and in white if OFF.

The voltage value that is input by the external speed potentiometer or external DC voltage will be shown in the "External voltage".
When the external voltage select switch on the driver front panel is set to 10 VDC, half the input voltage value is displayed.

4. To end the I/O test, unselect "Start I/O Test."
The signals under "OUTPUT" (output signals) return to the status they had before the I/O test.

3.2 Test operation

You can operate a motor using **MEXE02**. This function lets you check how a motor will operate before actually connecting it to a host controller.

Note	The motor will rotate at the JOG operation speed or the lowest speed when executing the test operation while the operation button is pressed. Execute the test operation after confirming that there is no risk to rotate a motor.

1. In the window selection area, click [Operation] under [Test].
   The test operation window appears.

2. Select "Start Test Operation".
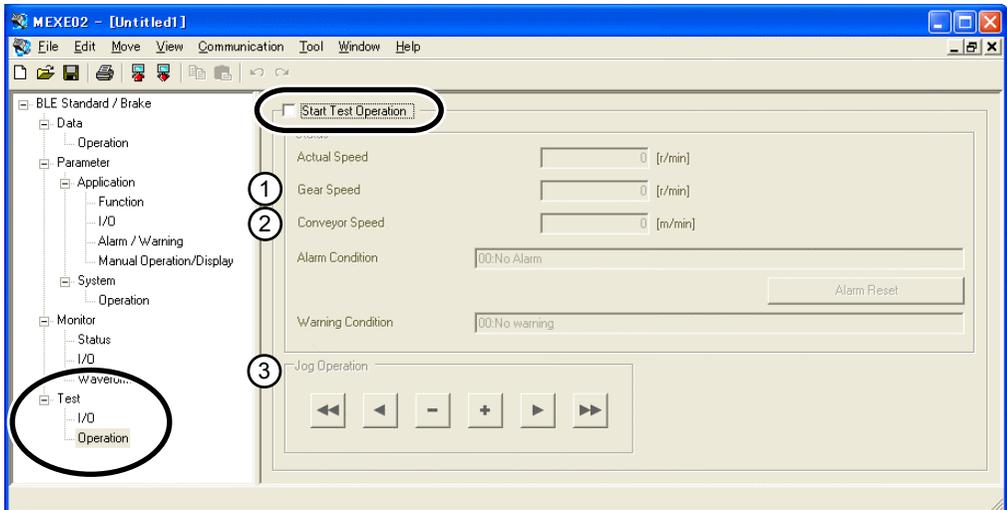
3. Click [Yes].
   You can now execute the test operation.

No.	Item	Description
1	Operating speed	Using a gear ratio or speed increasing ratio, the operating speed that is calculated based on the actual speed of the motor will be displayed.
2	Conveyor transfer speed	Using a conveyor gear ratio or conveyor speed increasing ratio, the conveyor transfer speed that is calculated based on the actual speed of the motor will be displayed.
3	JOG Operation Button	Operates a motor. The torque at the JOG operation is the value set by the "JOG operation torque" parameter. ◀◀ : Operates continuously in −direction at the JOG operation speed. ◀ : Operates continuously in −direction at the lowest speed. ▶ : Operates continuously in +direction at the lowest speed. ▶▶ : Operates continuously in +direction at the JOG operation speed. − + : Not used.

4. To end the test operation, unselect "Start Test Operation".

4 Error message list

If **MEXE02** has encountered a problem while running, a corresponding error message is shown in the window.

Note | Administrator privilege is required to use **MEXE02**.

■ Error message at data editing screen

• File operation

Error message	Cause	Action
Can not open the file. The file type is not supported.	The file format of the file specified from the file open dialog was not supported.	Select a dedicated file format for **MEXE02**. If a file error occurs using a dedicated file format for **MEXE02**, the file is corrupted.
Can not open the file. The file can not be opened. The file is being used.	The file was being used by another application.	Check if the file is being used in another application.
Can not open the file. The file can not be read.	A disk error occurred in the drive with the file to be read.	Open the file again. If the same error occurs again, there is a possibility that the PC has a problem. Provide a countermeasure to ensure the PC is in normal operation.

• File saving

Error message	Cause	Action
The file can not be saved. The file type is not supported.	The specified file format was not supported.	Select a dedicated file format for **MEXE02**. If a file error occurs using a dedicated file format for **MEXE02**, the file is corrupted.
Failed to export the file. The file type is not supported.		Select a file with CSV format. If a file error occurs using a CSV-format file, the file is corrupted.
The file can not be saved. The file can not be opened. The file is being used.	The file was being used by another application.	Check if the file is being used in another application.
Failed to export the file. The file can not be opened. The file is being used.		
The file can not be saved. The data can not be written on the file.	A disk error occurred in the destination drive.	Use a different drive or format the disk.
Failed to export the file. The data can not be written on the file.		

• Print

Error message	Cause	Action
Failed to print. Failed to create the printing data.	Failed to create the printing data.	Use a different printer. If the same error occurs again, reinstall **MEXE02**.
Failed to open the print preview dialog. Failed to create the print data.		
Failed to open the print dialog box. No printer is installed.	There was no printer installed.	Install a printer.
Failed to open the print preview dialog. No printer is installed.		
Failed to open the page settings dialog. No printer is installed.		

• Screen operation

Error message	Cause	Action
The screen can not be switched.	An attempt was made to switch the screen during the execution of the following function: Waveform monitor, I/O monitor, I/O test, status monitor, test operation	Stop the function, and then switch the screen.
Failed to paste. The selected range to be pasted is invalid.	Data could not be pasted because the copy range is different from the paste range.	Check the shape of the area to be copied. Select an appropriate range and paste again.
Failed to paste. Invalid data.	The data to be pasted contains invalid values.	Paste data that can be set. Select an appropriate cell and paste.

■ Error messages related to communication

• Upload

Error message	Cause	Action
The upload failed.	An attempt was made to upload the data during the execution of the following function: Waveform monitor, I/O monitor, I/O test, status monitor, test operation	Stop the function, and then upload.
The upload failed. The error occurred on communication device.	There was an error in the communication device.	Check if the communication program (dll) for Windows isn't damaged.
The upload failed. The communication data is invalid.	There was an error in the communication data.	Check the connection with the driver. If no problem was found for the connection, check if any effect due to noise exists.

• Download

Error message	Cause	Action
The download failed.	An attempt was made to download the data during the execution of the following function: Waveform monitor, I/O monitor, I/O test, status monitor, test operation	Stop the function, and then download.
The download failed. The error occurred on communication device.	There was an error in the communication device.	Check if the communication program (dll) for Windows isn't damaged.
The download failed. The communication data is invalid.	There was an error in the communication data.	Check the connection with the driver. If no problem was found for the connection, check if any effect due to noise exists.
The download failed. The model did not match.	The series name selected in **MEXE02** and the series name of the driver didn't match.	Make sure it matches with the series name selected in **MEXE02** and download.
The download failed. Downloading of the modified data can not be executed because the data is not synchronized with the driver.	The data in the PC and the data in the driver were not synchronized.	Select "All" for the download range and perform download.
The download failed. The differences were found from the verification result. Do you want to display the result?	There was a data mismatch during the verification after downloading.	Perform the download again. If the same error occurs again, there is a possibility that the NV memory on the driver is damaged.
An error occurred during the cancellation of the download. Restore the driver.	There was a communication error.	Cycle the power of the driver.

• Verification

Error message	Cause	Action
The verification failed.	An attempt was made to verify the data during the execution of the following function: Waveform monitor, I/O monitor, I/O test, status monitor, test operation	Stop the function, and then verify.
The verification failed. The model did not match.	The series name selected in **MEXE02** and the series name of the driver didn't match.	Make sure it matches with the series name selected in **MEXE02** and verify.
The verification failed. Application error has occurred. Reinstall the application.	There was an error during verification.	Perform the verification again. If the same error occurs again, uninstall **MEXE02** and reinstall.
The verification failed. The error occurred on communication device.	There was an error in the communication device.	Check if the communication program (dll) for Windows isn't damaged.
The verification failed. The communication data is invalid.	There was an error in the communication data.	Check the connection with the driver. If no problem was found for the connection, check if any effect due to noise exists.

• Initialization

Error message	Cause	Action
The initialization failed.	The series name selected in **MEXE02** and the series name of the driver didn't match.	Make sure it matches with the series name selected in **MEXE02** and initialize.
The initialization failed.	An attempt was made to initialize the data during the execution of the following function: Waveform monitor, I/O monitor, I/O test, status monitor, test operation	Stop the function, and then initialize.
The initialization failed. Application error has occurred. Reinstall the application.	There was an error during initialization.	Perform the initialization again. If the same error occurs again, uninstall **MEXE02** and reinstall.
The initialization failed. The error occurred on communication device.	There was an error in the communication device.	Check if the communication program (dll) for Windows isn't damaged.
The initialization failed. The communication data is invalid.	There was an error in the communication data.	Check the connection with the driver. If no problem was found for the connection, check if any effect due to noise exists.

• Identify the product

Error message	Cause	Action
Failed to identify the product.	The information of the connected product was checked during the execution of the following function: Waveform monitor, I/O monitor, I/O test, status monitor, test operation	Stop the function, and then check.
Failed to identify the product. The error occurred on communication device.	There was an error in the communication device.	Check if the communication program (dll) for Windows isn't damaged.
Failed to identify the product. The communication data is invalid.	There was an error in the communication data.	Check the connection with the driver. If no problem was found for the connection, check if any effect due to noise exists.

■ Error messages related to status monitor

• Status monitor

Error message	Cause	Action
Can not enable the status monitor. The model did not match.	The series name selected in **MEXE02** and the series name of the driver didn't match.	Make sure it matches with the series name selected in **MEXE02** and monitor the status.
Can not enable the status monitor. The error occurred on communication device.	There was an error in the communication device.	Check if the communication program (dll) for Windows isn't damaged.
Status monitor is disabled. The error occurred on communication device.		
An error occurred while disabling the status monitor. The error occurred on communication device.		
Can not enable the status monitor. The communication data is invalid.	There was an error in the communication data.	Check the connection with the driver. If no problem was found for the connection, check if any effect due to noise exists.
Status monitor is disabled. The communication data is invalid.		
An error occurred while disabling the status monitor. The communication data is invalid.		

• Alarm

Error message	Cause	Action
The alarm history can not be updated. The error occurred on communication device.	There was an error in the communication device.	Check if the communication program (dll) for Windows isn't damaged.
The alarm history can not be cleared. The error occurred on communication device.		
Failed to reset the alarm. The error occurred on communication device.		
The alarm history can not be updated. The communication data is invalid.	There was an error in the communication data.	Check the connection with the driver. If no problem was found for the connection, check if any effect due to noise exists.
The alarm history can not be cleared. The communication data is invalid.		
Failed to reset the alarm. The communication data is invalid.		

• Warning

Error message	Cause	Action
Failed to update the warning history. The error occurred on communication device.	There was an error in the communication device.	Check if the communication program (dll) for Windows isn't damaged.
Failed to clear the warning history. The error occurred on communication device.		
Failed to update the warning history. The communication data is invalid.	There was an error in the communication data.	Check the connection with the driver. If no problem was found for the connection, check if any effect due to noise exists.
Failed to clear the warning history. The communication data is invalid.		

■ Error messages related to I/O monitor

Error message	Cause	Action
Can not enable the I/O monitor.	The series name selected in **MEXE02** and the series name of the driver didn't match.	Make sure it matches with the series name selected in **MEXE02** and monitor the I/O.
Can not enable the I/O monitor. The error occurred on communication device.	There was an error in the communication device.	Check if the communication program (dll) for Windows isn't damaged.
I/O monitor is disabled. The error occurred on communication device.		
An error occurred while disabling the I/O monitor. The error occurred on communication device.		
Can not enable the I/O monitor. The communication data is invalid.	There was an error in the communication data.	Check the connection with the driver. If no problem was found for the connection, check if any effect due to noise exists.
I/O monitor is disabled. The communication data is invalid.		
An error occurred while disabling the I/O monitor. The communication data is invalid.		

■ Error messages related to waveform monitor

• Waveform monitor

Error message	Cause	Action
Failed to save the waveform. The file type is not supported.	The specified file format was not supported.	Select a file with BMP format. If a file error occurs using a BMP-format file, the file is corrupted.
Failed to save the waveform. The file can not be opened. The file is being used.	The file was being used by another application.	Check if the file is being used in another application.
Failed to save the waveform. The data can not be written on the file.	A disk error occurred in the destination drive.	Use a different drive or format the disk.
Can not enable the wave monitor.	The series name selected in **MEXE02** and the series name of the driver didn't match.	Make sure it matches with the series name selected in **MEXE02** and monitor the waveform.
Can not enable the wave monitor. The error occurred on communication device.	There was an error in the communication device.	Check if the communication program (dll) for Windows isn't damaged.
Wave monitor was disabled. The error occurred on communication device		
An error occurred while disabling the wave monitor. The error occurred on communication device.		
Can not enable the wave monitor. The communication data is invalid.	There was an error in the communication data.	Check the connection with the driver. If no problem was found for the connection, check if any effect due to noise exists.
Wave monitor was disabled. The communication data is invalid.		
An error occurred while disabling the wave monitor. The communication data is invalid.		

• Waveform measurement

Error message	Cause	Action
The waveform measurement can not be started. Invalid trigger channel.	The selected channel in the trigger CH was set to "not displayed."	Display the CH before performing waveform measurement.
The waveform measurement can not be started. The error occurred on communication device.	There was an error in the communication device.	Check if the communication program (dll) for Windows isn't damaged.
Failure of wave measurement. The error occurred on communication device.		
The waveform measurement can not be started. The communication data is invalid.	There was an error in the communication data.	Check the connection with the driver. If no problem was found for the connection, check if any effect due to noise exists.
Failure of wave measurement. The communication data is invalid.		

■ Error messages related to I/O test

Error message	Cause	Action
Can not enable the I/O test.	The series name selected in **MEXE02** and the series name of the driver didn't match.	Make sure it matches with the series name selected in **MEXE02** and test the I/O.
Can not enable the I/O test. The error occurred on communication device.	There was an error in the communication device.	Check if the communication program (dll) for Windows isn't damaged.
The I/O test function was disabled. The error occurred on communication device.		
An error occurred while disabling the I/O test. The error occurred on communication device.		
Failure of test output. The error occurred on communication device.		
Can not enable the I/O test. The communication data is invalid.	There was an error in the communication data.	Check the connection with the driver. If no problem was found for the connection, check if any effect due to noise exists.
The I/O test function was disabled. The communication data is invalid.		
An error occurred while disabling the I/O test. The communication data is invalid.		
Failure of test output. The communication data is invalid.		

■ Error messages related to test operation

• Start test operation

Error message	Cause	Action
Can not enable the test operation.	The series name selected in **MEXE02** and the series name of the driver didn't match.	Make sure it matches with the series name selected in **MEXE02** and perform test operation.
Can not enable the test operation. The error occurred on communication device.	There was an error in the communication device.	Check if the communication program (dll) for Windows isn't damaged.
The test operation function was disabled. The error occurred on communication device.		
An error occurred while disabling the test operation. The error occurred on communication device.		
Can not enable the test operation. The communication data is invalid.	There was an error in the communication data.	Check the connection with the driver. If no problem was found for the connection, check if any effect due to noise exists.
The test operation function was disabled. The communication data is invalid.		
An error occurred while disabling the test operation. The communication data is invalid.		

• JOG operation

Error message	Cause	Action
Failure of jog operation in +direction. The error occurred on communication device.	There was an error in the communication device.	Check if the communication program (dll) for Windows isn't damaged.
Failure of jog operation in −direction. The error occurred on communication device.		
Failure of jog operation in +direction. The communication data is invalid.	There was an error in the communication data.	Check the connection with the driver. If no problem was found for the connection, check if any effect due to noise exists.
Failure of jog operation in −direction. The communication data is invalid.		

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