

Small Gear Motor IoT Specifications
"Parameter Setting and Monitoring Tool"
Instruction Manual

Tsubakimoto Chain Co.

[GAX1141.00TSEB]

Issued on November 1, 2021

Tables of content

1	Introduction note	1
1.1	Operating environment	1
1.2	Connection	1
2	Various screens	2
2.1	Start screen	2
2.2	Main screen	3
2.3	Parameter set-up screen	4
2.4	Multiple Monitoring screen (IoT specification dedicated function)	5
3	Operational instructions (monitoring one unit)	6
3.1	Starting Parameter Setting and Monitoring Tool	6
3.2	Connection	7
3.3	Real-time data monitoring	8
3.4	Gear motor warning	9
3.5	Save real-time data as CSV file	10
3.6	Image storage of real-time data	11
3.7	Monitoring log data	12
3.8	Saving log data	13
3.9	Change of connecting gear motor	14
3.10	Disconnect	15
3.11	Login	16
3.12	Warning reset (IoT specification dedicated function)	17
3.13	Clear number of warnings (IoT specification dedicated function)	18
3.14	Starting the gear motor (Dedicated function with IoT specification self-cutoff)	19
3.15	Stop of gear motor (Dedicated function with IoT specification self-cutoff)	20
3.16	Gear motor parameter setting	21
3.17	Change login password	25
3.18	Registration of MFG name	26
3.19	Communication error	27
4	Operational instructions (multiple monitoring)	28
4.1	Display of Multiple Monitoring Screen	28
4.2	Monitoring system (MAX16 table monitoring)	29
4.3	Generation of gear motor warning (MAX16 table monitoring)	30
4.4	Monitoring system (MAX4 table monitoring)	31
4.5	Data storage (MAX16 stand monitoring, MAX4 stand monitoring)	32
1	Kyoto 617- 0833, Japan	1

1 Introduction note

Use this instruction manual together with the instruction manual supplied with the product.

*Within this instruction manual, the contents common to "IoT specification (specification symbol: SM)" and "IoT specification with self-cutoff (specification symbol: SC)" are explained on the screen of "IoT specification".

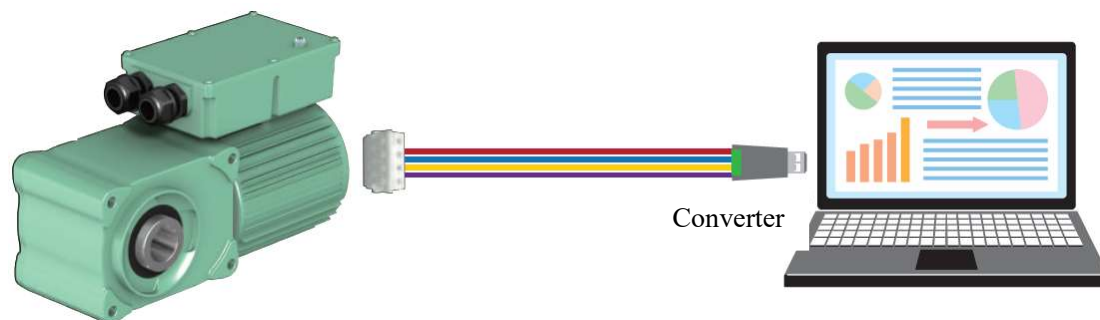
1.1 Operating environment

This software version	Ver.2.1.0.0 or more
OS	After Windows 7 SP1
CPU/ memories	Depend on the recommended operating system environment
Hard disk space	1 GB or more free space
Memory	2 GB or more
Mandatory software	• NET Framework4 5.2 or later

*NET Framework can be installed from <https://docs.microsoft.com/ja-jp/dotnet/framework/install/>.

1.2 Connection

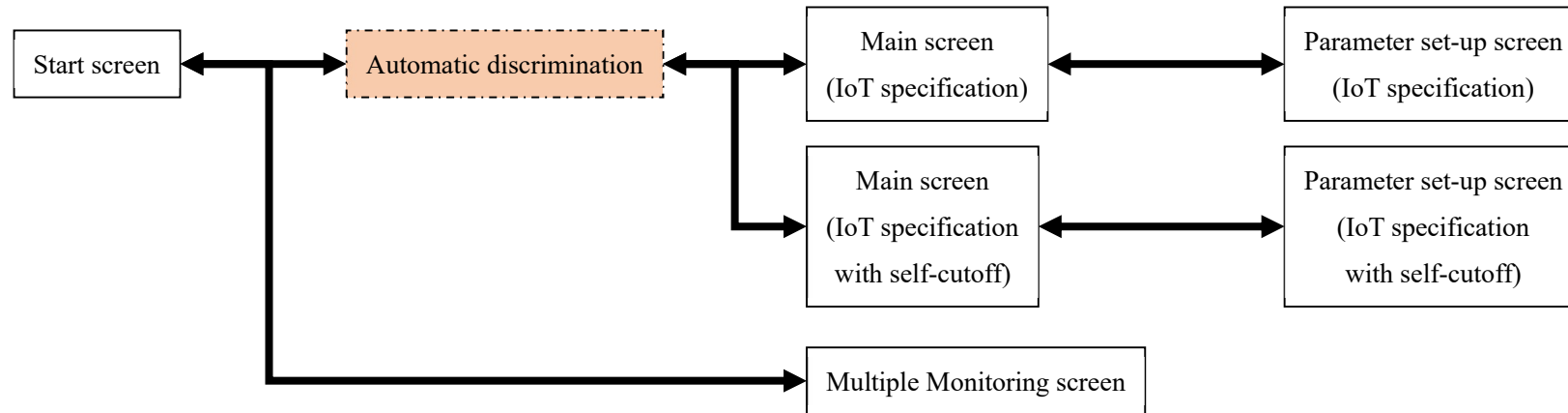
A converter of USB and communication cable is required.



*For the communication cable of RS-485, use the optional product "Model No.: M-S05". Prepare commercially available USB-RS-485 converter.

2 Various screens

The Parameter Setting and Monitoring Tool has six screens, and the transition to each screen is as follows.



2.1 Start screen

This is the start screen that is displayed when the Parameter Setting and Monitoring Tool is started.

The screenshot shows the 'Start' screen of the software, titled '[Ver 2.3.0.0]Parameter setting / status mon...'. It features a light blue background with the following controls:

- COM port:** A dropdown menu with a blue highlight.
- Product code:** A text input field.
- Slave No:** A dropdown menu showing '0x01'.
- Start:** A large rectangular button.
- Multiple monitoring modes:** A checkbox that is currently unchecked.

Common
(Specification symbol: SM & SC)

2.2 Main screen

This screen displays the information of the gear motor.

Sensor data can be monitored and stored, and various parameters can be displayed.

※"IoT specification with self-cutoff (specification symbol: SC)" differs partially in item name and arrangement, etc.

2.3 Parameter set-up screen

This screen is used to change various parameters.

This is displayed by pressing the [Parameter setting] button on the main screen while the unit is connected to the gear motor.

Parameter setting IV

Model name HMTA040 Reduction ratio 40

☐ Torque setting 1

Start time		1.0	[s]
Up limit A	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Up limit B	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Down limit A	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Down limit B	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Shock time(up limit A)		1.0	[s]
Shock time(up limit B)		10.0	[s]
Shock time(down limit A)		1.0	[s]
Shock time(down limit B)		10.0	[s]

☐ Torque setting 2

Start time		1.0	[s]
Up limit A	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Up limit B	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Down limit A	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Down limit B	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Shock time(up limit A)		1.0	[s]
Shock time(up limit B)		10.0	[s]
Shock time(down limit A)		1.0	[s]
Shock time(down limit B)		10.0	[s]

☐ Torque setting 3

Start time		1.0	[s]
Up limit A	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Up limit B	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Down limit A	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Down limit B	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Shock time(up limit A)		1.0	[s]
Shock time(up limit B)		10.0	[s]
Shock time(down limit A)		1.0	[s]
Shock time(down limit B)		10.0	[s]

☐ Torque setting 4

Start time		1.0	[s]
Up limit A	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Up limit B	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Down limit A	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Down limit B	Set load	OFF ▾ [%]	Output torque OFF [N·m]
Shock time(up limit A)		1.0	[s]
Shock time(up limit B)		10.0	[s]
Shock time(down limit A)		1.0	[s]
Shock time(down limit B)		10.0	[s]

☐ Common

Overheat limit		OFF ▾ [°C]
Excessive shock limit		OFF ▾ [m/s²]
Log acquisition interval		0.5 [s]
Automatic restoration		OFF ▾ [s]

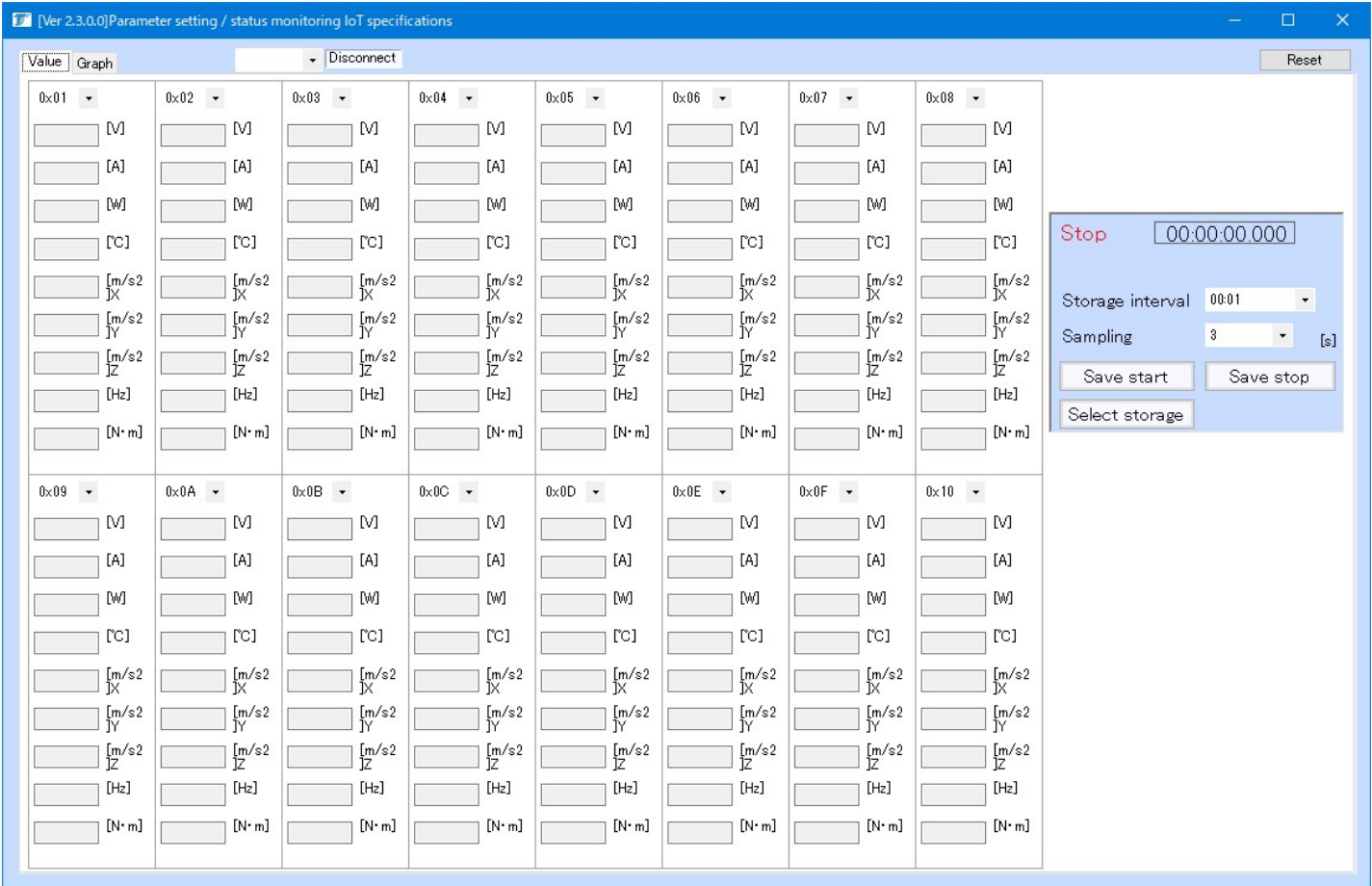
Read initial settings

Write

*"IoT specification with self-cutoff (specification symbol: SC)" differs partially in item name and arrangement, etc.

2.4 Multiple Monitoring screen (IoT specification dedicated function)

This screen allows batch monitoring of the sensor data and status of the connected gear motor.



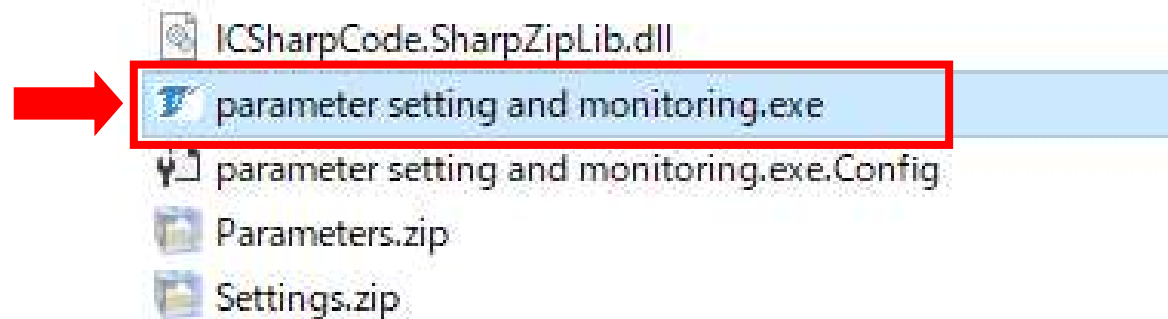
*Dedicated function of "IoT specification (specification symbol: SM)".

3 Operational instructions (monitoring one unit)

3.1 Starting Parameter Setting and Monitoring Tool

OPERATION PROCEDURE

- 1 Execute "Parameter setting and monitoring.exe". The start screen starts.



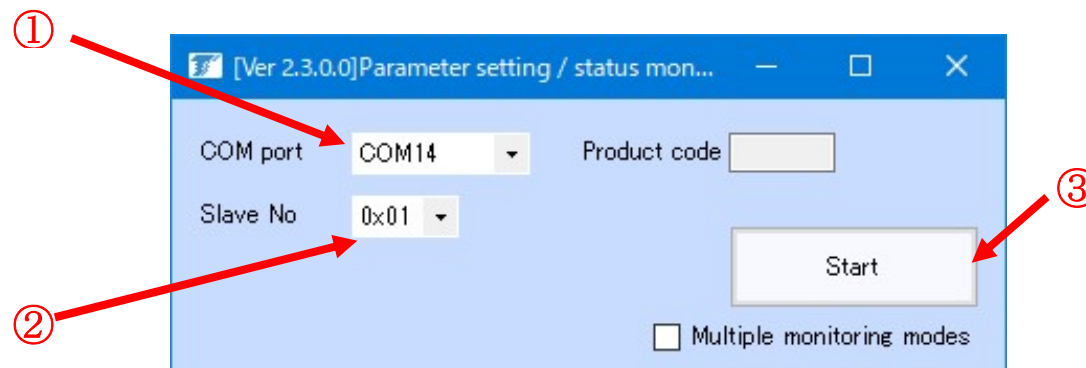
*Other files are configuration files, so do not change or delete them.

3.2 Connection

Connect the gear motor and PC.

OPERATION PROCEDURE

- 1 Select the [COM port] to be used.
- 2 Select [Slave No] of the gear motor to be connected.
- 3 [Start] Please press the button. When the connection is successful, the main screen is displayed.



*Either "IoT specification (specification symbol: SM)" or "IoT specification with self-shutoff (specification symbol: SC)" will be displayed depending on the specification of the connected gear motor.

3.3 Real-time data monitoring

The sensor data of the gear motor can be monitored.

OPERATION PROCEDURE

- 1 [Real time] Select the tab.
- 2 [Display time] Specify the length of the horizontal axis in the graph.
- 3 [Sampling] Please specify the period to acquire data from.
- 4 [Voltage] ~[Torque] Select the item to be monitored. ([Voltage] to [Acceleration Z axis] for IoT specification with self-cutoff.)

COM port: COM14 Connection OK Model name: HMTA040 Reduction ratio: 40 Power frequency: 0 [Hz] Unit: Ver01.0.1

Slave No: 0x01 Disconnect Product code: 158M MFG No: 0000000000 MFG name: testA Write: ***** Login: Show password Logout: Change password

Warning count: clear Warning reset

Parameter setting

Start time	1.0 [s]
Up limit A Output torque	OFF [N·m]
Set load	OFF [%]
Up limit B Output torque	OFF [N·m]
Set load	OFF [%]
Down limit A Output torque	OFF [N·m]
Set load	OFF [%]
Down limit B Output torque	OFF [N·m]
Set load	OFF [%]
Shock time(up limit A)	1.0 [s]
Shock time(up limit B)	10.0 [s]

Real time: Stop 00:00:00.000 Display time: 00:01 Storage interval: 00:01 Sampling: 100 [ms] Save start Save stop Select storage Save image

Show all Hide all

Voltage	30	[V/div]
Elec current	0.1	[A/div]
Elec power	10	[W/div]
Temperature	5	[°C/div]
Acc X axis	5	[m/s²/div]
Acc Y axis	5	[m/s²/div]
Acc Z axis	5	[m/s²/div]
Frequency	10	[Hz/div]
Torque	0.5	[N·m/div]

You can display or hide the item by pressing the item name.
[Show all] , [Hide all] , You can also switch all items at once by selecting.
The number next to the item represents the scale unit on the vertical axis.
It can be changed by pull-down.

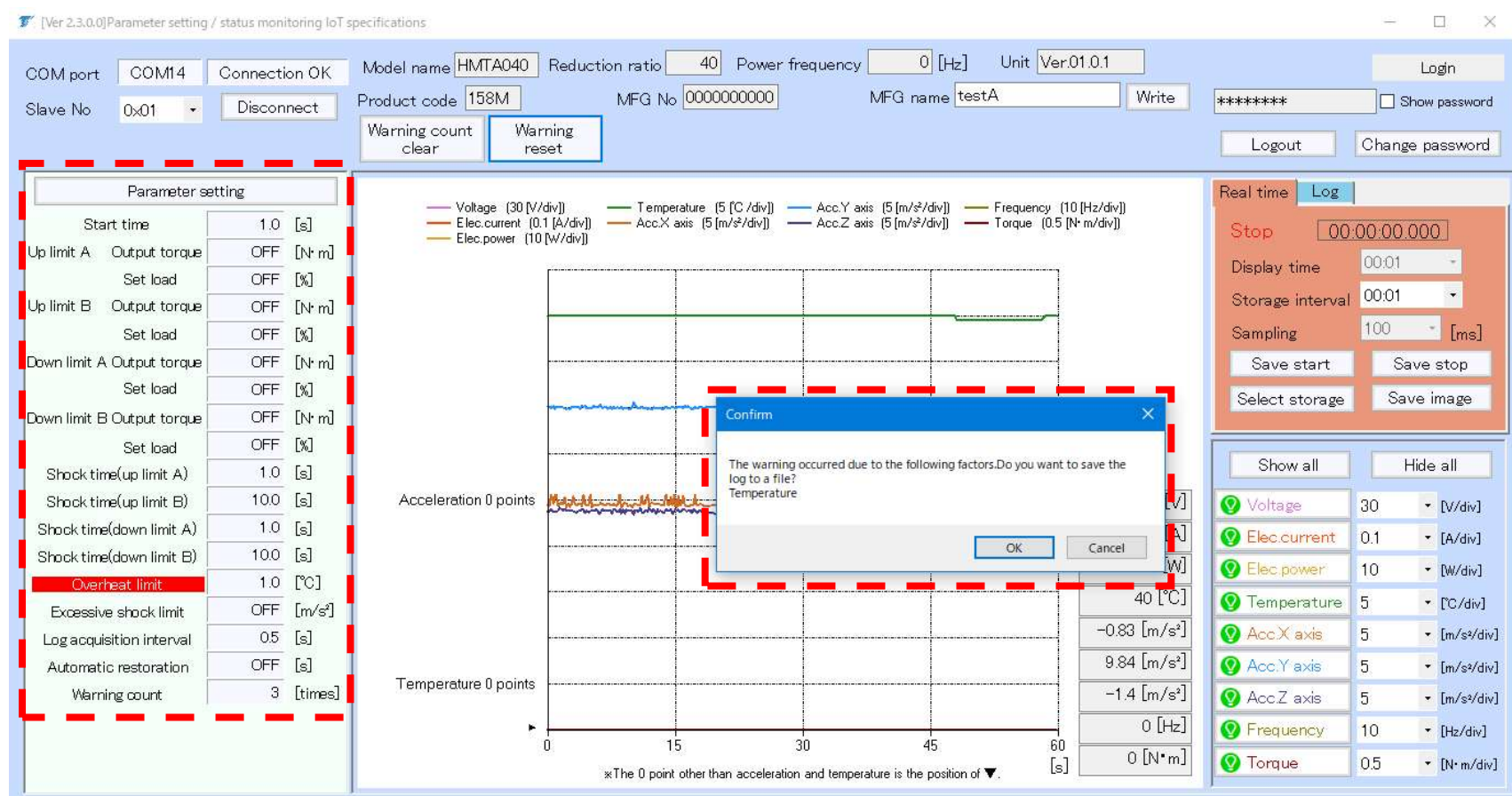
*The 0 point other than acceleration and temperature is the position of ▼.

*[Display time] [Sampling] To change the setting, touch [Hide all] once and then change the setting.

3.4 Gear motor warning

- The item corresponding to the warning factor on the left side of the screen is displayed in red.
- A message appears asking whether to save the log file when a warning occurs.

[OK] By clicking the button to select the save destination, the log data when a warning occurs is saved in a file.

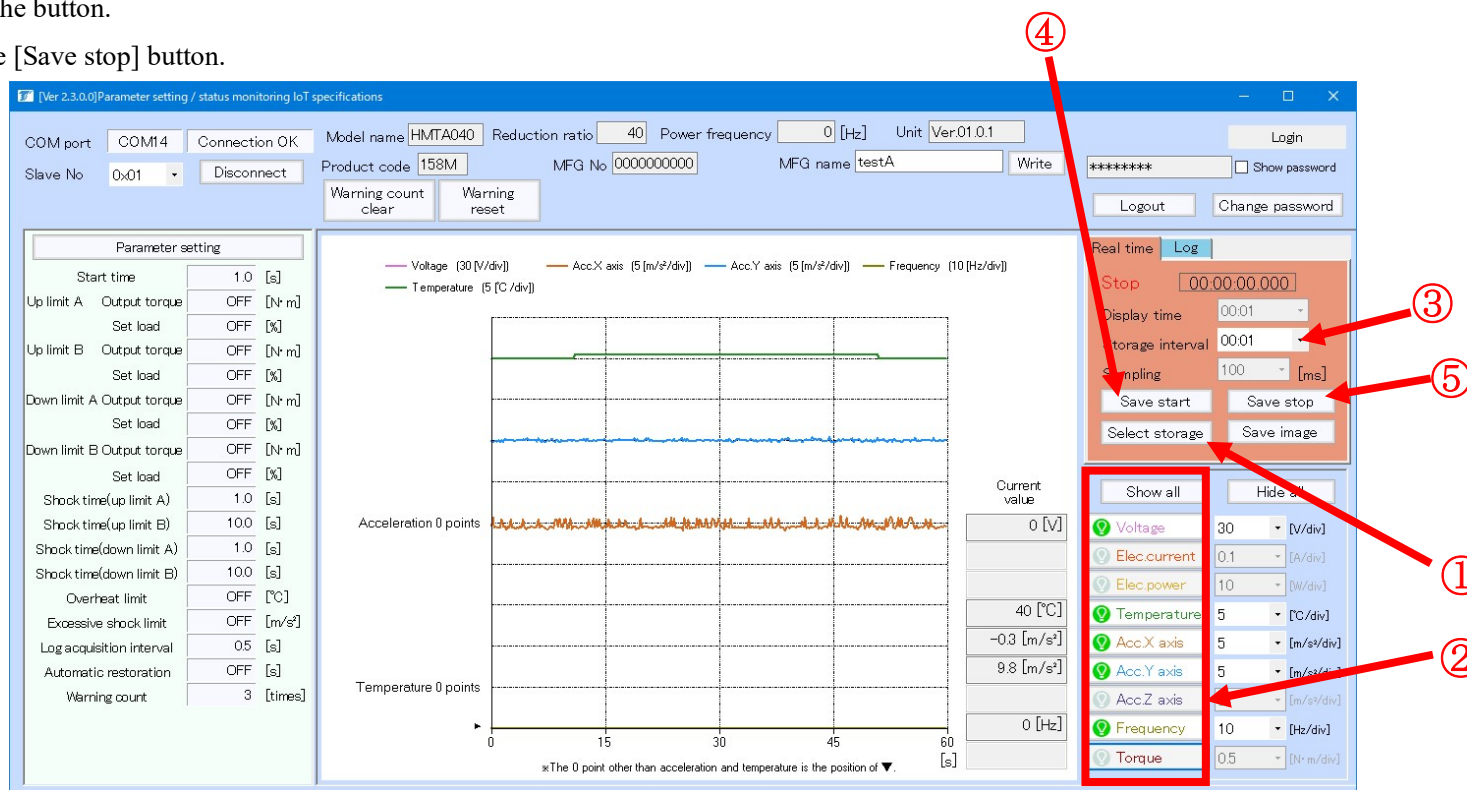


3.5 Save real-time data as CSV file

The sensor data of the gear motor can be saved in a CSV file.

OPERATION PROCEDURE

- 1 [Select storage] Press the button to select the file saving destination.
- 2 Select one or more of [Voltage] ~[Torque]. ([Voltage] to [Acceleration Z axis] for IoT specification with self-cutoff.)
- 3 [Storage interval] A new file is generated each time the specified time elapses.
*Data is acquired every time set in [Sampling].
- 4 [Save start] Please press the button.
- 5 To finish saving, press the [Save stop] button.



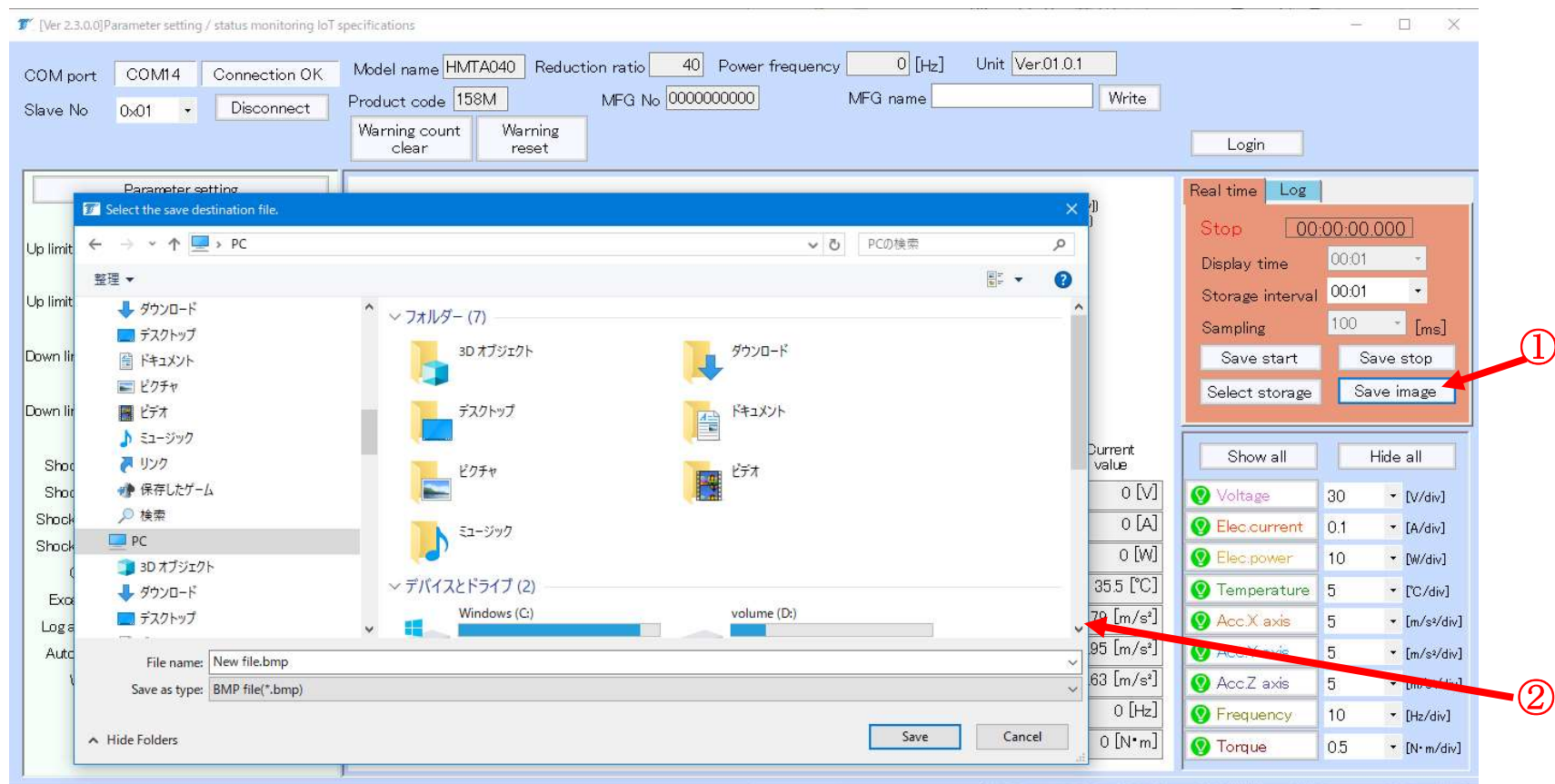
*If a warning occurs, saving the monitoring contents to a file is automatically stopped.

3.6 Image storage of real-time data

You can save the displayed graph as an image.

OPERATION PROCEDURE

- 1 [Save image] Please press the button.
- 2 A dialog box will appear. Specify the save destination and file name to save the image.

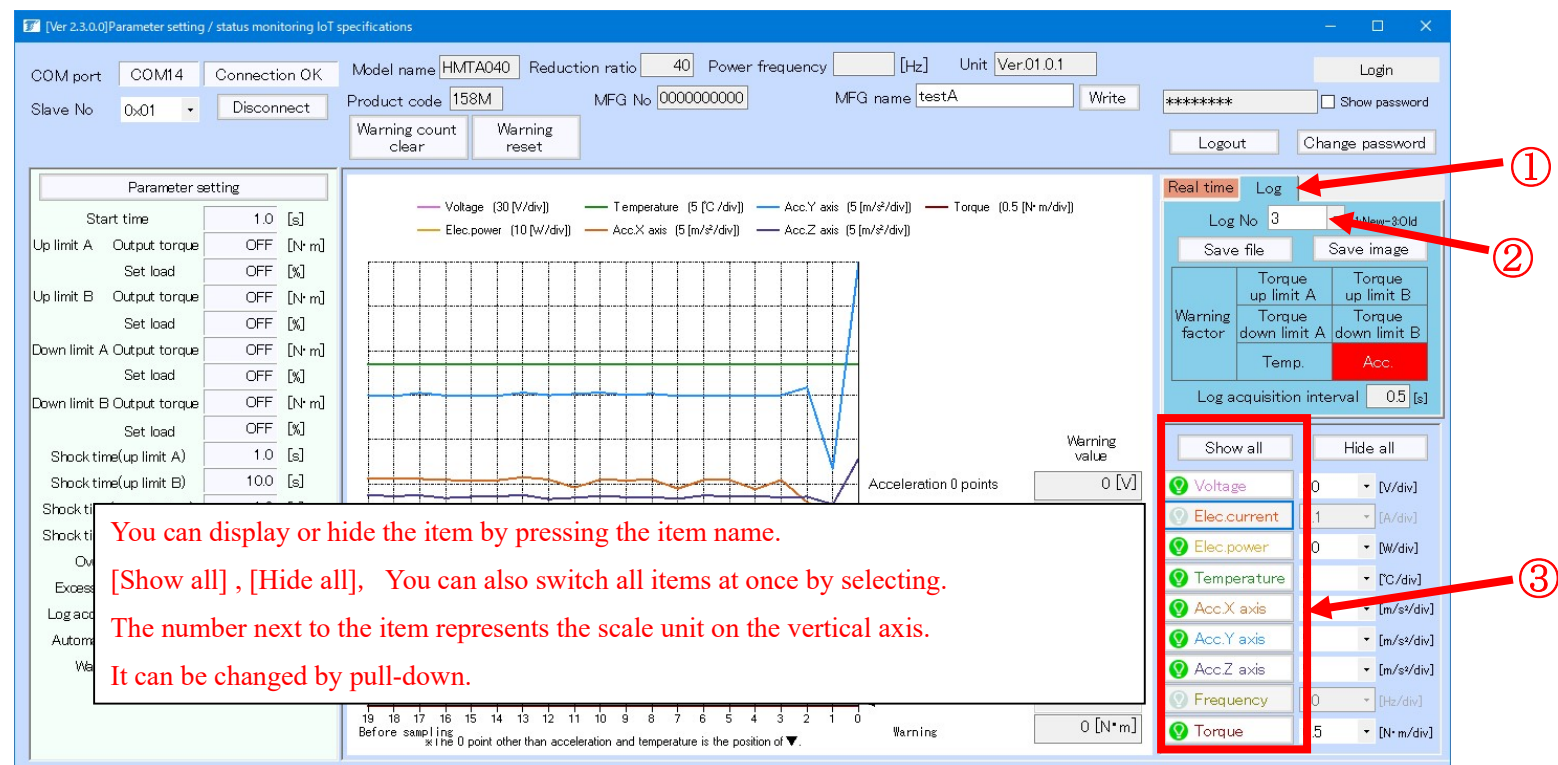


3.7 Monitoring log data

Sensor data recorded in the gear motor when a warning occurs can be monitored.

OPERATION PROCEDURE

- 1 [Log] Select the tab.
- 2 [Log No] Select the log data to be displayed. "1" is the new log data and "3" is the old log data.
- 3 [Voltage] ~[Torque] Select the item to be monitored. ([Voltage] to [Acceleration Z axis] for IoT specification with self-cutoff.)



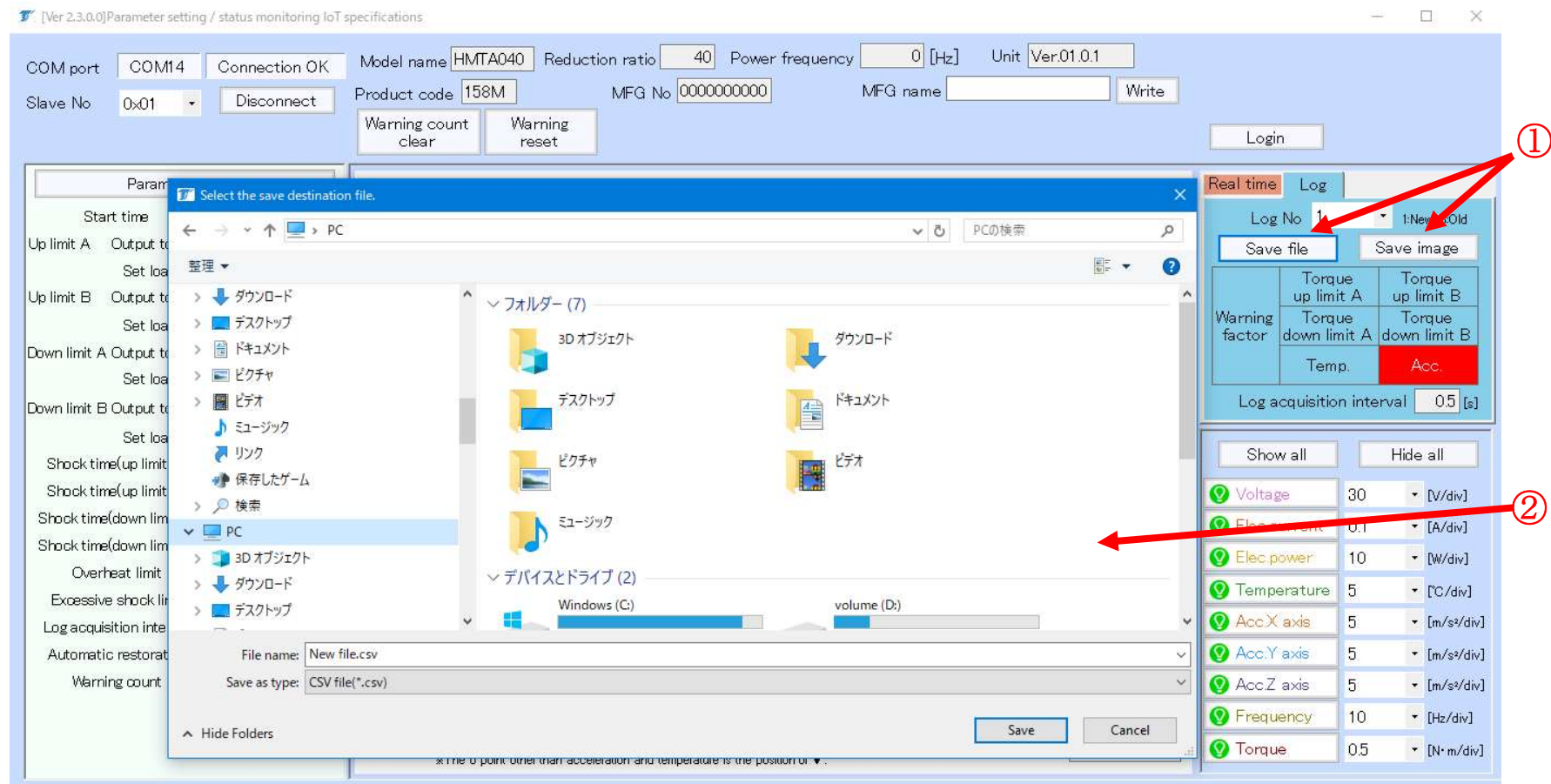
*The latest three log data are automatically recorded inside the gear motor when a warning occurs.

3.8 Saving log data

You can save the displayed graph as an image or save it to a CSV file.

OPERATION PROCEDURE

- 1 [Save file] or, press the [Save image] button.
- 2 A dialog box is displayed. Specify the save destination and file name, and then save the file.



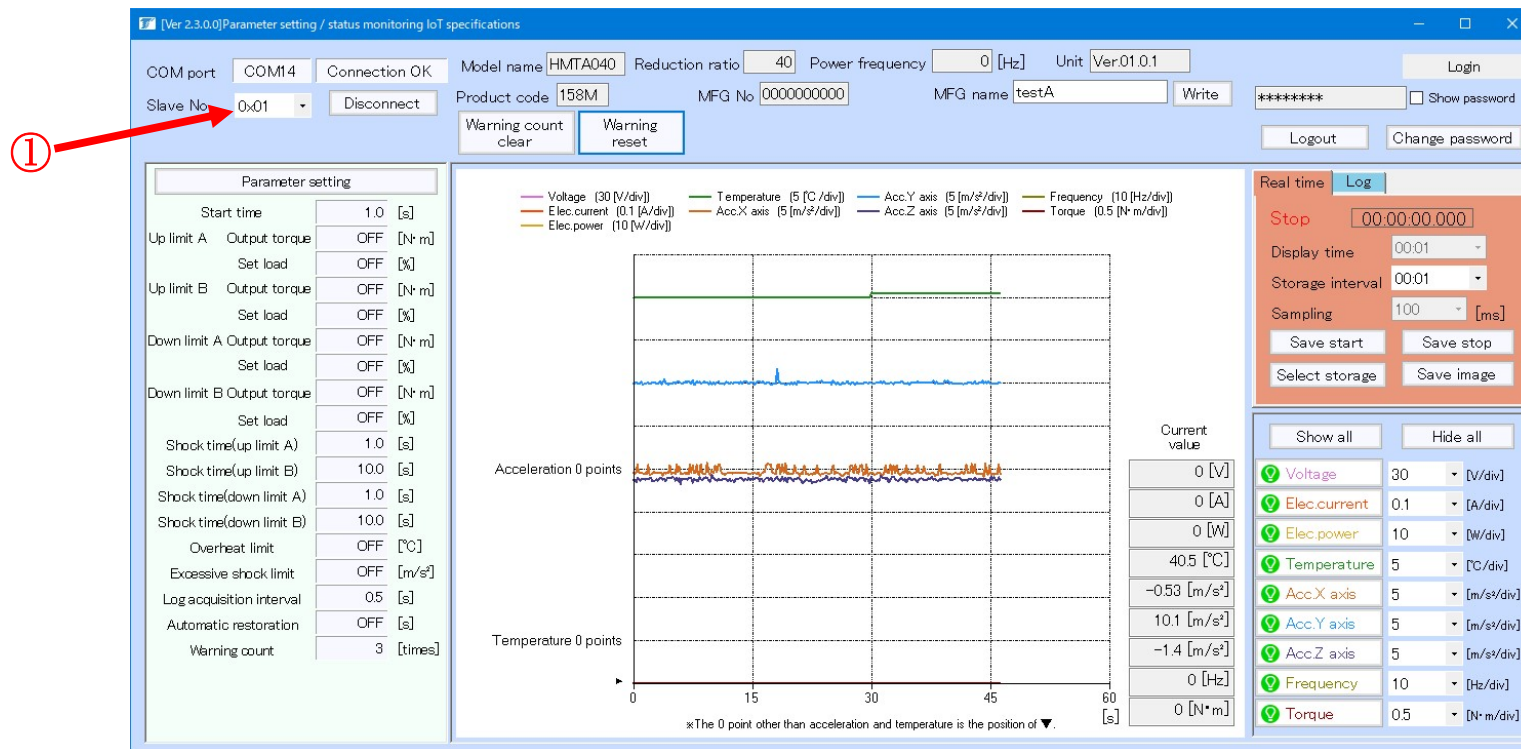
3.9 Change of connecting gear motor

Connect a gear motor with a different slave number to the PC.

OPERATION PROCEDURE

1 Select [Slave No] of the gear motor to be connected.

*If the connection fails, the display on the upper left switches to "Connection NG". Re-select [Slave No] and press the [Connect] button.



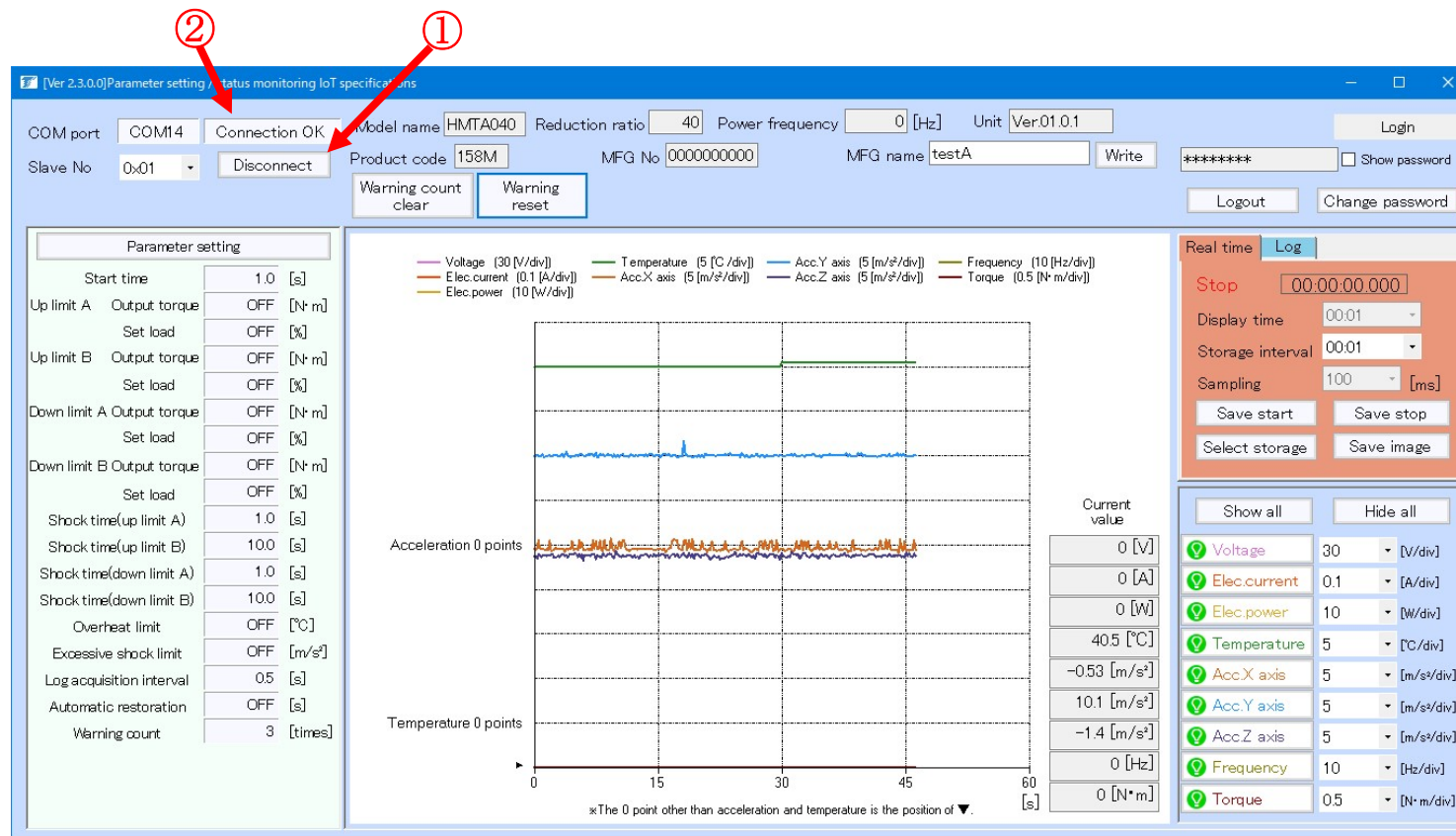
*When switching between "IoT specification (specification symbol: SM)" and "IoT specification with self-cutoff (specification symbol: SC)", close the main screen once and connect from the start screen.

3.10 Disconnect

Disconnect the connected gear motor and PC.

OPERATION PROCEDURE

- 1 [Disconnect] Please press the button.
- 2 The upper left display changes from "Connection OK" to "Disconnected" and the [Disconnect] button changes to the [Connect] button, and the display on the screen is cleared.



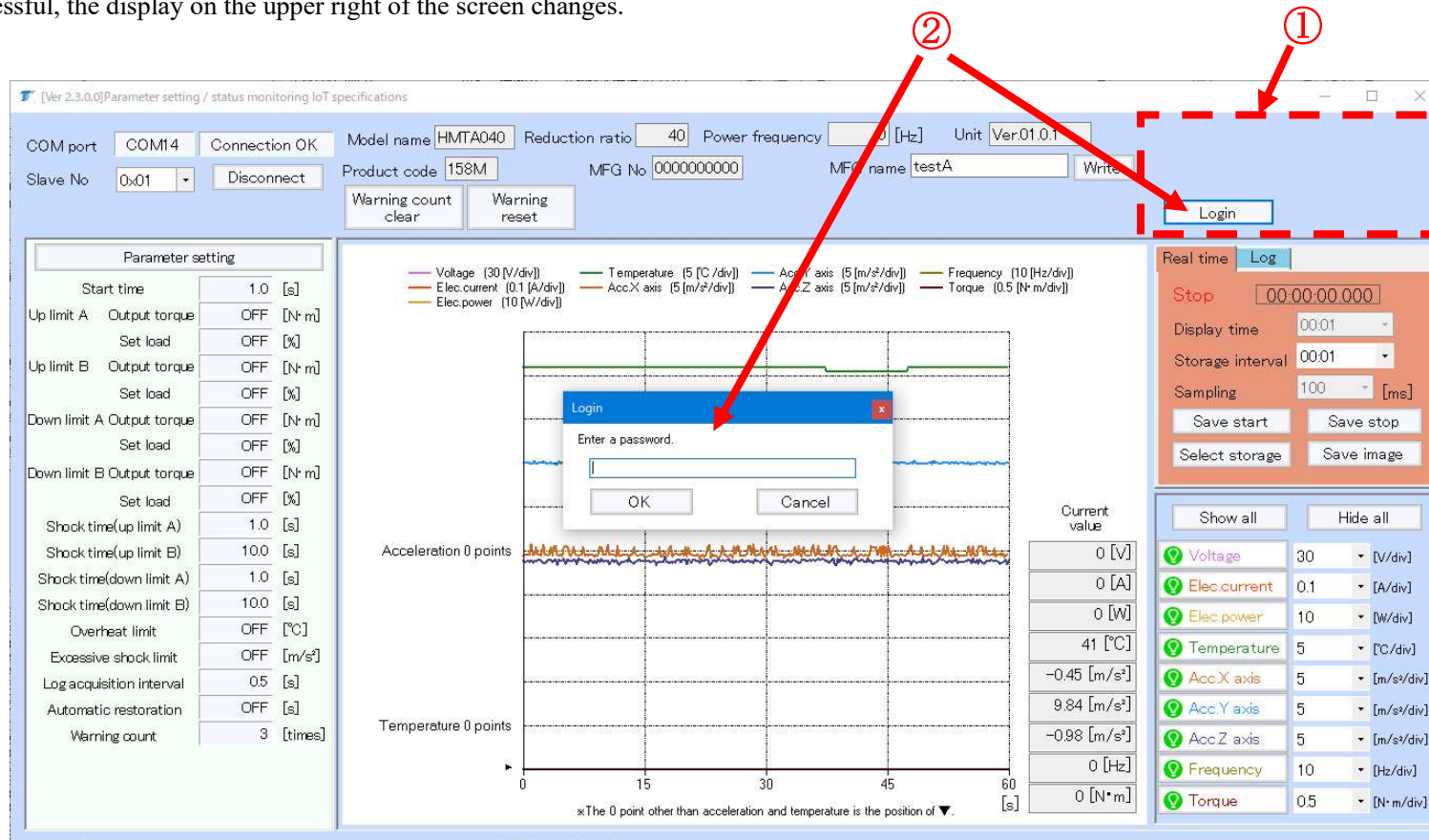
3.11 Login

After login, it is possible to change the gear motor parameters and status.

OPERATION PROCEDURE

- 1 [Login] Please press the button.
- 2 The password entry screen is displayed. Enter the password and click the [OK] button.

If the login is successful, the display on the upper right of the screen changes.



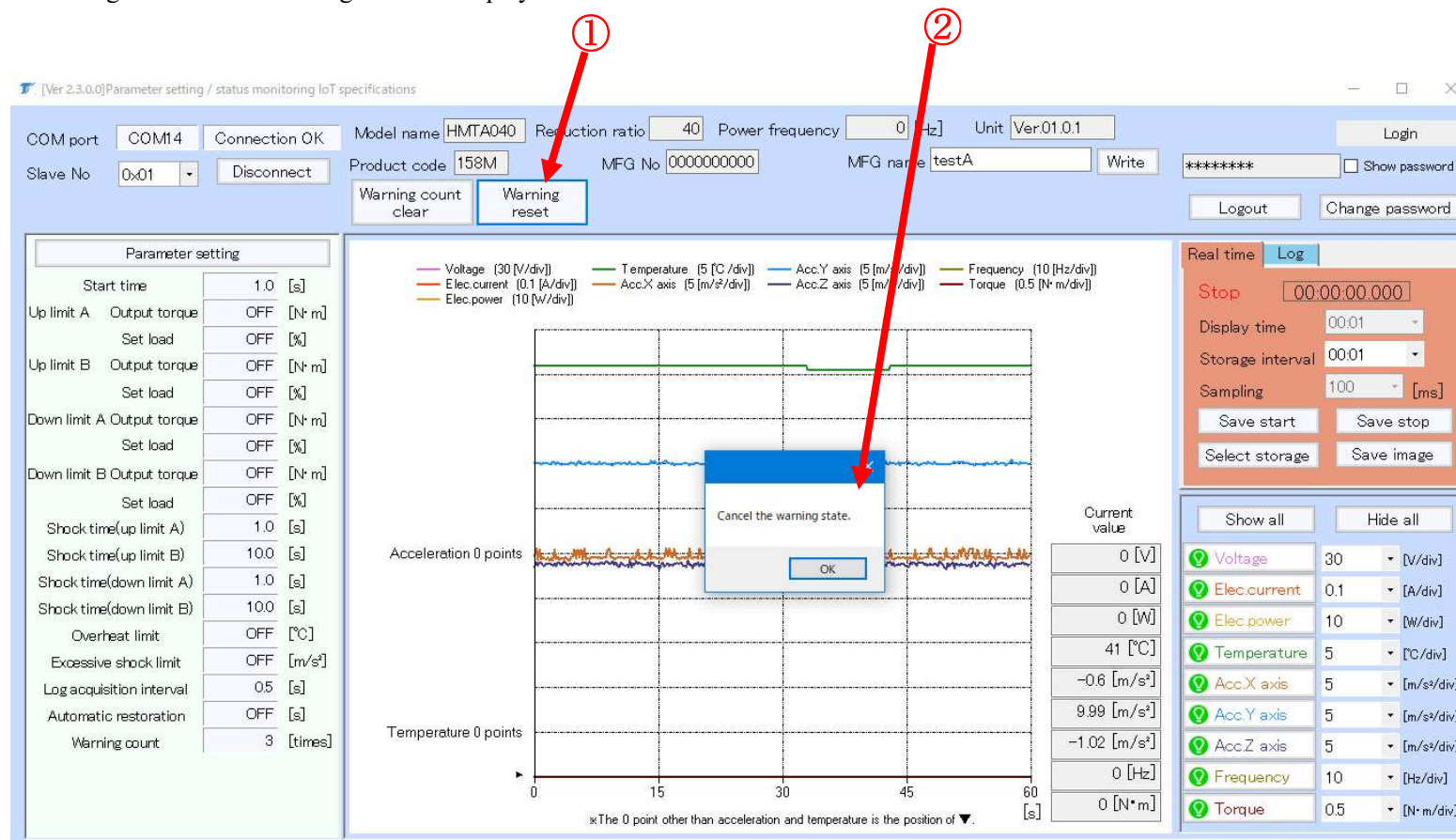
*After entering the password, you can also log in by pressing Enter.

3.12 Warning reset (IoT specification dedicated function)

The warning status of the gear motor can be canceled.

OPERATION PROCEDURE

- 1 [Warning reset] Please press the button.
- 2 If successful, the message "Cancel the warning state." is displayed.

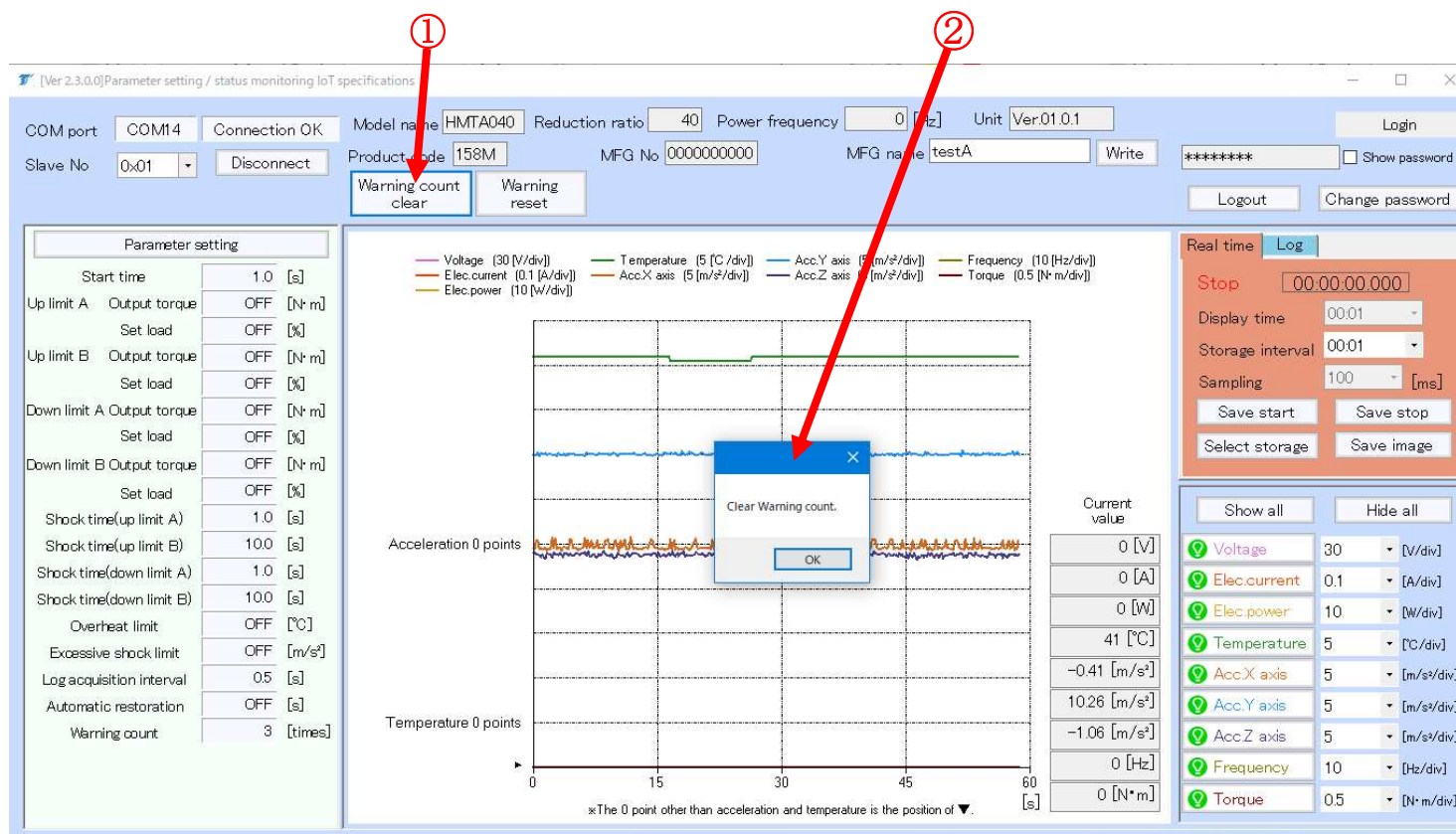


3.13 Clear number of warnings (IoT specification dedicated function)

The number of warnings for the gear motor can be cleared and set to 0.

OPERATION PROCEDURE

- 1 [Warning count clear] Please press the button.
- 2 If successful, the message "Clear warning count." is displayed.



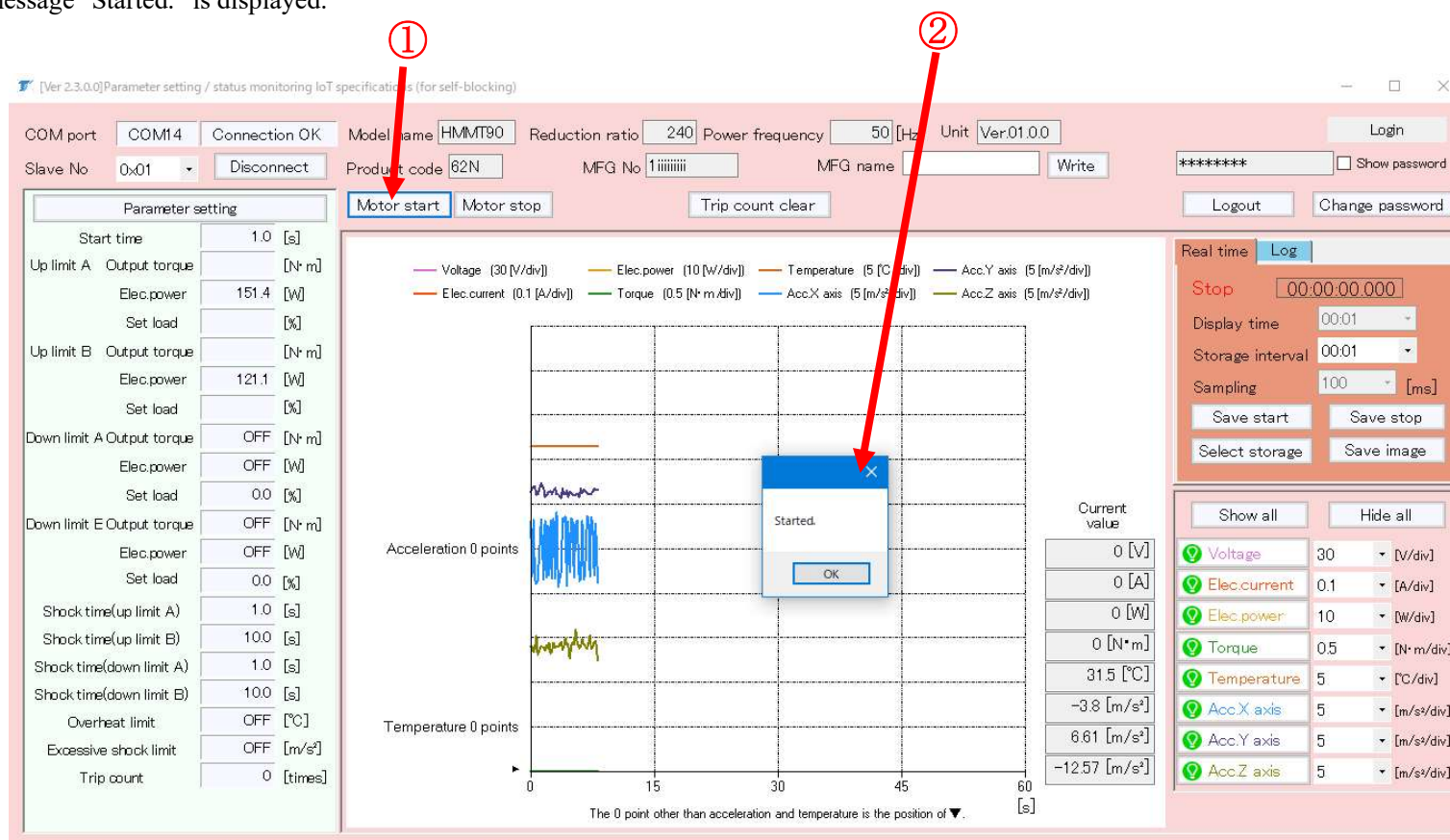
3.14 Starting the gear motor (Dedicated function with IoT specification self-cutoff)

The gear motor starts.

⚠ WARNING The gear motor starts moving. Be careful. Otherwise an injury can result.

OPERATION PROCEDURE

- 1 [Start] Please press the button.
- 2 If successful, the message "Started." is displayed.



*If the gear motor is already running, no message is displayed.

3.15 Stop of gear motor (Dedicated function with IoT specification self-cutoff)

The gear motor stops.

OPERATION PROCEDURE

- 1 [Motor stop] Please press the button.
- 2 If successful, the message "Stopped." is displayed.



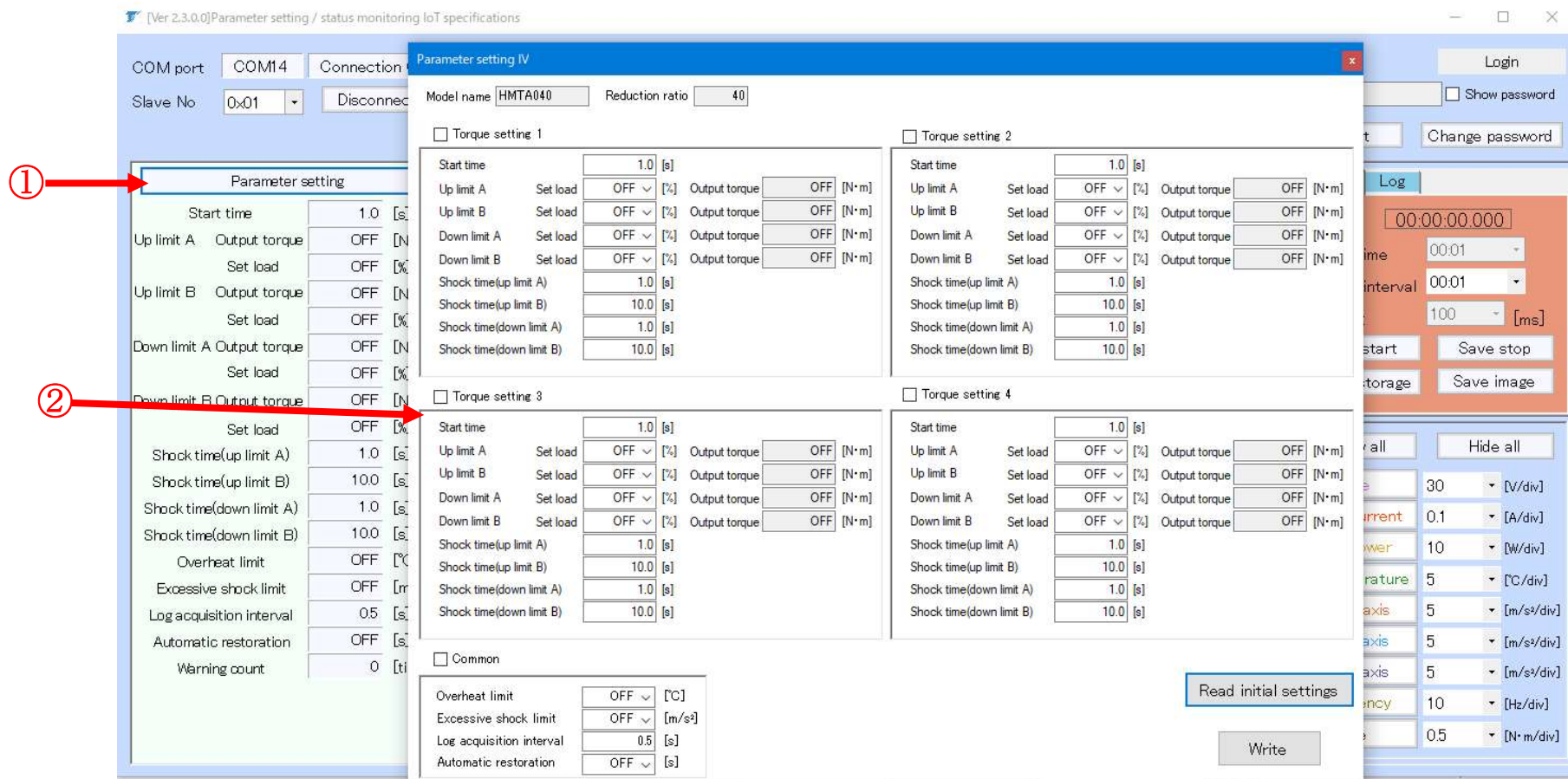
*If the gear motor is already stopped, no message is displayed.

3.16 Gear motor parameter setting

Parameters of the connected gear motor can be checked and changed.

OPERATION PROCEDURE

- 1 [Parameter setting] Please press the button.
- 2 Enter the parameter to be set on the displayed "Parameter set-up screen" and write it.



■Parameter set-up screen (common)

Write

Writing is performed in units of "Torque setting 1", "Torque setting 2", "Torque setting 3", "Torque setting 4" and "Common item".

(For IoT specification with self-cutoff, "Electric power setting 1", "Electric power setting 2", "Electric power setting 3", "Electric power setting 4", "Common item")

Only the items that are checked in each item are written. In addition, blank items are not written.

Initial setting read

[Read initial settings] The default value is displayed on the screen by pressing the button.

To reflect it to the gear motor, press the [Write] button as it is.

Parameter setting IV

Model name

HMTA040

Reduction ratio

40

Torque setting 1

Start time

1.0

[s]

Up limit A

Set load

OFF

[%]

Output torque

OFF

[N·m]

Up limit B

Set load

OFF

[%]

Output torque

OFF

[N·m]

Down limit A

Set load

OFF

[%]

Output torque

OFF

[N·m]

Down limit B

Set load

OFF

[%]

Output torque

OFF

[N·m]

Shock time(up limit A)

1.0

[s]

Shock time(up limit B)

10.0

[s]

Shock time(down limit A)

1.0

[s]

Shock time(down limit B)

10.0

[s]

Torque setting 2

Start time

1.0

[s]

Up limit A

Set load

OFF

[%]

Output torque

OFF

[N·m]

Up limit B

Set load

OFF

[%]

Output torque

OFF

[N·m]

Down limit A

Set load

OFF

[%]

Output torque

OFF

[N·m]

Down limit B

Set load

OFF

[%]

Output torque

OFF

[N·m]

Shock time(up limit A)

1.0

[s]

Shock time(up limit B)

10.0

[s]

Shock time(down limit A)

1.0

[s]

Shock time(down limit B)

10.0

[s]

Torque setting 3

Start time

1.0

[s]

Up limit A

Set load

OFF

[%]

Output torque

OFF

[N·m]

Up limit B

Set load

OFF

[%]

Output torque

OFF

[N·m]

Down limit A

Set load

OFF

[%]

Output torque

OFF

[N·m]

Down limit B

Set load

OFF

[%]

Output torque

OFF

[N·m]

Shock time(up limit A)

1.0

[s]

Shock time(up limit B)

10.0

[s]

Shock time(down limit A)

1.0

[s]

Shock time(down limit B)

10.0

[s]

Torque setting 4

Start time

1.0

[s]

Up limit A

Set load

OFF

[%]

Output torque

OFF

[N·m]

Up limit B

Set load

OFF

[%]

Output torque

OFF

[N·m]

Down limit A

Set load

OFF

[%]

Output torque

OFF

[N·m]

Down limit B

Set load

OFF

[%]

Output torque

OFF

[N·m]

Shock time(up limit A)

1.0

[s]

Shock time(up limit B)

10.0

[s]

Shock time(down limit A)

1.0

[s]

Shock time(down limit B)

10.0

[s]

Common

Overheat limit

OFF

[°C]

Excessive shock limit

OFF

[m/s²]

Log acquisition interval

0.5

[s]

Automatic restoration

OFF

[s]

Read initial settings

Write

■Parameter set-up screen (IoT specification)

The "output shaft torque" is displayed when the allowable torque of the output shaft of the connected gear motor is 100% based on the input "set load factor".

Parameter setting IV

Model name HMTA040 Reduction ratio 40

Torque setting 1

Start time	1.0	[s]
Up limit A	Set load 100	[%] Output torque 55.9 [N·m]
Up limit B	Set load 80	[%] Output torque 44.7 [N·m]
Down limit A	Set load OFF	[%] Output torque OFF [N·m]
Down limit B	Set load OFF	[%] Output torque OFF [N·m]
Shock time(up limit A)	1.0	[s]
Shock time(up limit B)	10.0	[s]
Shock time(down limit A)	1.0	[s]
Shock time(down limit B)	10.0	[s]

Torque setting 2

Start time	1.0	[s]
Up limit A	Set load 120	[%] Output torque 67.1 [N·m]
Up limit B	Set load 100	[%] Output torque 55.9 [N·m]
Down limit A	Set load OFF	[%] Output torque OFF [N·m]
Down limit B	Set load OFF	[%] Output torque OFF [N·m]
Shock time(up limit A)	1.0	[s]
Shock time(up limit B)	10.0	[s]
Shock time(down limit A)	1.0	[s]
Shock time(down limit B)	10.0	[s]

Torque setting 3

Start time	1.0	[s]
Up limit A	Set load 80	[%] Output torque 44.7 [N·m]
Up limit B	Set load 60	[%] Output torque 33.5 [N·m]
Down limit A	Set load OFF	[%] Output torque OFF [N·m]
Down limit B	Set load OFF	[%] Output torque OFF [N·m]
Shock time(up limit A)	1.0	[s]
Shock time(up limit B)	10.0	[s]
Shock time(down limit A)	1.0	[s]
Shock time(down limit B)	10.0	[s]

Torque setting 4

Start time	1.0	[s]
Up limit A	Set load 150	[%] Output torque 83.9 [N·m]
Up limit B	Set load 130	[%] Output torque 72.7 [N·m]
Down limit A	Set load OFF	[%] Output torque OFF [N·m]
Down limit B	Set load OFF	[%] Output torque OFF [N·m]
Shock time(up limit A)	1.0	[s]
Shock time(up limit B)	10.0	[s]
Shock time(down limit A)	1.0	[s]
Shock time(down limit B)	10.0	[s]

Common

Overheat limit	OFF	[°C]
Excessive shock limit	OFF	[m/s²]
Log acquisition interval	0.5	[s]
Automatic restoration	OFF	[s]

Read initial settings

Write

"Output torque": Output shaft torque of gear motor, "Set load": Ratio of output shaft torque to allowable output shaft torque of gear motor

■Parameter set-up screen (IoT specification with self-cutoff)

From each input "output shaft torque", the "Electric power" considering the efficiency of the gear motor and the "load factor" when the allowable output shaft torque of the connected gear motor is 100% are displayed.

*Since the efficiency of the gear motor differs depending on the power frequency (50Hz / 60Hz), the "Electric power" differs if the power frequency is different even if the "output shaft torque" is the same.

On the screen, only the "Electric power" corresponding to the currently used power frequency is displayed, but when the [Write] button is pressed, two types of "Electric power" with power frequency of 50Hz and 60Hz are written.

Parameter setting

Model name Reduction ratio Power frequency [Hz]

☐ Elec.power setting 1

Start time	1.0 [s]
Up limit A Output torque	84.3 [N·m] Elec.power 595.4 [W] Set load 100.0 [%]
Up limit B Output torque	67.2 [N·m] Elec.power 476.3 [W] Set load 79.8 [%]
Down limit A Output torque	OFF [N·m] Elec.power 0.0 [W] Set load 0.0 [%]
Down limit B Output torque	OFF [N·m] Elec.power 0.0 [W] Set load 0.0 [%]
Shock time(up limit A)	1.0 [s]
Shock time(up limit B)	10.0 [s]
Shock time(down limit A)	1.0 [s]
Shock time(down limit B)	10.0 [s]

☐ Elec.power setting 2

Start time	1.0 [s]
Up limit A Output torque	99.3 [N·m] Elec.power 714.5 [W] Set load 117.8 [%]
Up limit B Output torque	81.1 [N·m] Elec.power 571.6 [W] Set load 96.2 [%]
Down limit A Output torque	OFF [N·m] Elec.power 0.0 [W] Set load 0.0 [%]
Down limit B Output torque	OFF [N·m] Elec.power 0.0 [W] Set load 0.0 [%]
Shock time(up limit A)	1.0 [s]
Shock time(up limit B)	10.0 [s]
Shock time(down limit A)	1.0 [s]
Shock time(down limit B)	10.0 [s]

☐ Elec.power setting 3

Start time	1.0 [s]
Up limit A Output torque	67.2 [N·m] Elec.power 476.3 [W] Set load 79.8 [%]
Up limit B Output torque	52.0 [N·m] Elec.power 381.1 [W] Set load 61.7 [%]
Down limit A Output torque	OFF [N·m] Elec.power 0.0 [W] Set load 0.0 [%]
Down limit B Output torque	OFF [N·m] Elec.power 0.0 [W] Set load 0.0 [%]
Shock time(up limit A)	1.0 [s]
Shock time(up limit B)	10.0 [s]
Shock time(down limit A)	1.0 [s]
Shock time(down limit B)	10.0 [s]

☐ Elec.power setting 4

Start time	1.0 [s]
Up limit A Output torque	117.7 [N·m] Elec.power 893.1 [W] Set load 139.6 [%]
Up limit B Output torque	99.3 [N·m] Elec.power 714.5 [W] Set load 117.8 [%]
Down limit A Output torque	OFF [N·m] Elec.power 0.0 [W] Set load 0.0 [%]
Down limit B Output torque	OFF [N·m] Elec.power 0.0 [W] Set load 0.0 [%]
Shock time(up limit A)	1.0 [s]
Shock time(up limit B)	10.0 [s]
Shock time(down limit A)	1.0 [s]
Shock time(down limit B)	10.0 [s]

☐ Common

Overheat limit	OFF [°C]
Excessive shock limit	OFF [m/s²]
Log acquisition interval	0.5 [s]

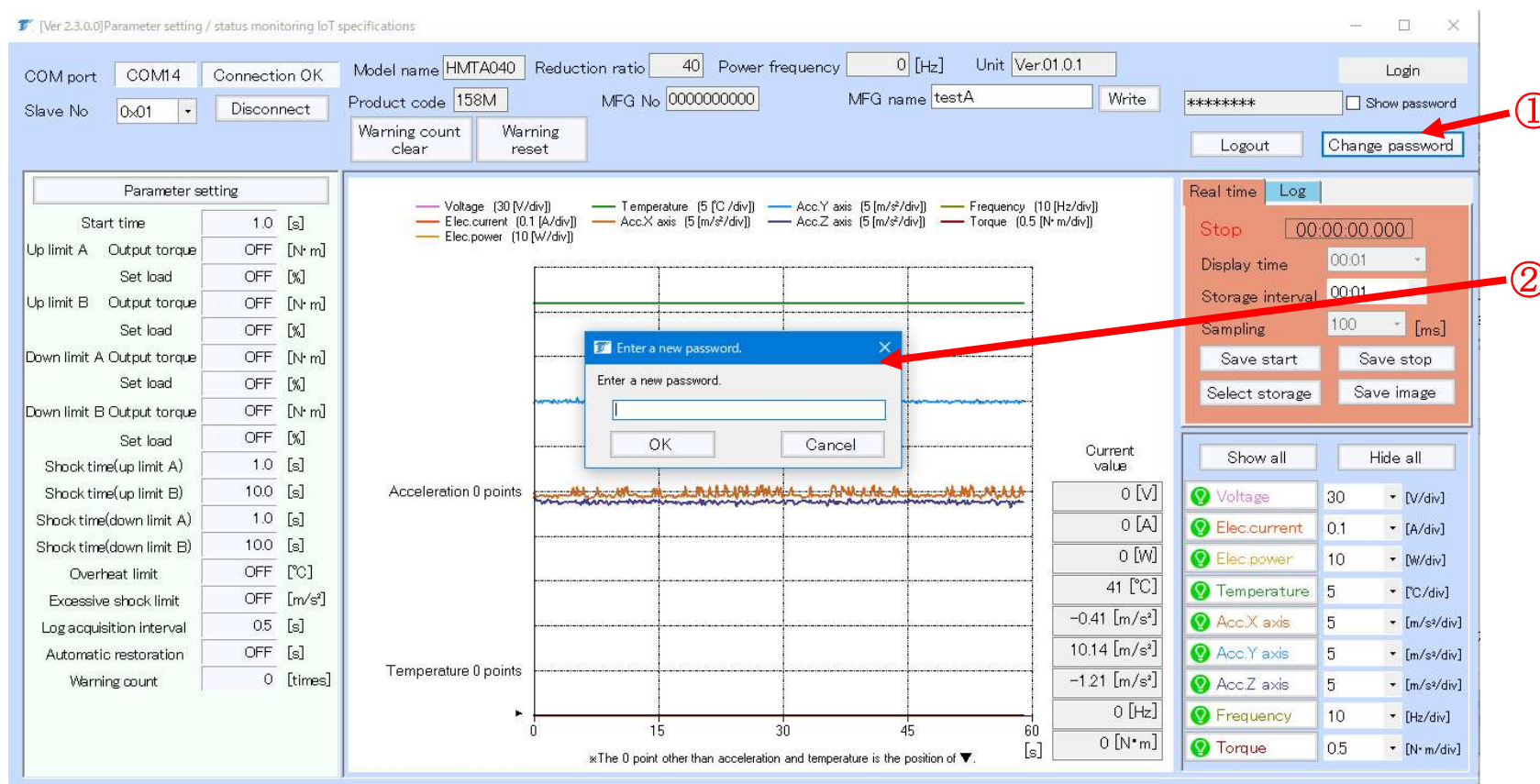
"Output torque": Output shaft torque of gear motor, "Set load ": Ratio of output shaft torque to allowable output shaft torque of gear motor

3.17 Change login password

You can change the login password to the gear motor.

OPERATION PROCEDURE

- 1 [Change password] Please press the button.
- 2 The "Change Password" window will appear. Enter the password you want to change and click the [OK] button.



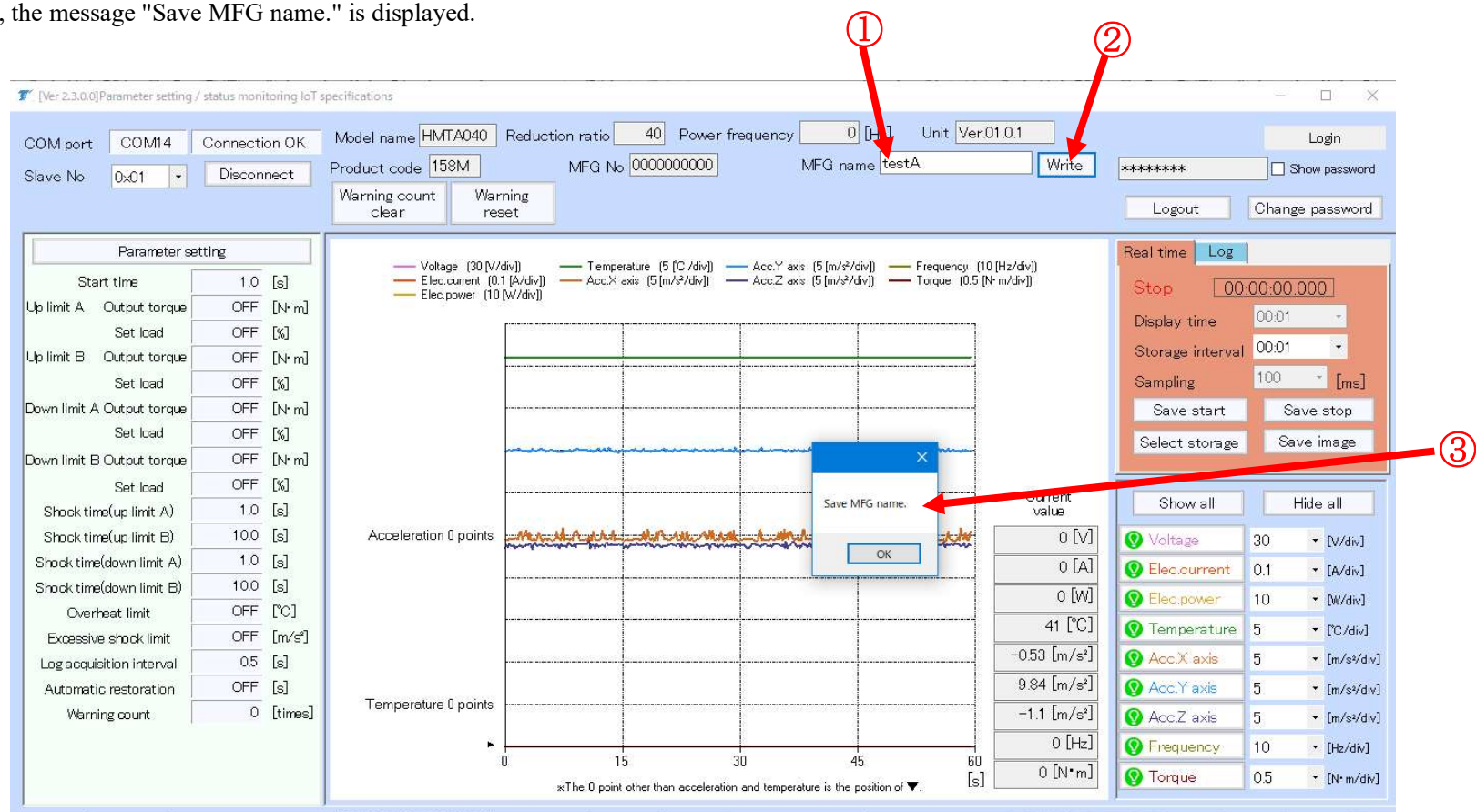
3.18 Registration of MFG name

It is possible to assign a unique name to the gear motor and manage it.

Use this function to distinguish gear motors of the same model number with a single PC.

OPERATION PROCEDURE

- 1 Enter the MFG name.
- 2 [Write] Please press the button.
- 3 If successful, the message "Save MFG name." is displayed.



3.19 Communication error

- The connection status changes from "Connection OK" to "Connection NG", and the screen display is cleared.

[Ver 2.3.0.0]Parameter setting / status monitoring IoT specifications

COM port: COM14 Connection NG Model name: Reduction ratio: Power frequency: [Hz] Unit: Login

Slave No: 0x01 Connect Product code: MFG No: MFG name: Write Show password

Warning count clear Warning reset Logout Change password

Parameter setting

Start time	[s]
Up limit A Output torque	[N·m]
Set load	[%]
Up limit B Output torque	[N·m]
Set load	[%]
Down limit A Output torque	[N·m]
Set load	[%]
Down limit B Output torque	[N·m]
Set load	[%]
Shock time(up limit A)	[s]
Shock time(up limit B)	[s]
Shock time(down limit A)	[s]
Shock time(down limit B)	[s]
Overheat limit	[°C]
Excessive shock limit	[m/s²]
Log acquisition interval	[s]
Automatic restoration	[s]
Warning count	[times]

Acceleration 0 points

Temperature 0 points

0 15 30 45 60 [s]

※The 0 point other than acceleration and temperature is the position of ▼.

Current value

Real time Log

Stop 00:00:00.000

Display time 00:01

Storage interval 00:01

Sampling 100 [ms]

Save start Save stop

Select storage Save image

Show all Hide all

Voltage	30	[V/div]
Elec.current	0.1	[A/div]
Elec.power	10	[W/div]
Temperature	5	[°C/div]
Acc.X axis	5	[m/s²/div]
Acc.Y axis	5	[m/s²/div]
Acc.Z axis	5	[m/s²/div]
Frequency	10	[Hz/div]
Torque	0.5	[N·m/div]

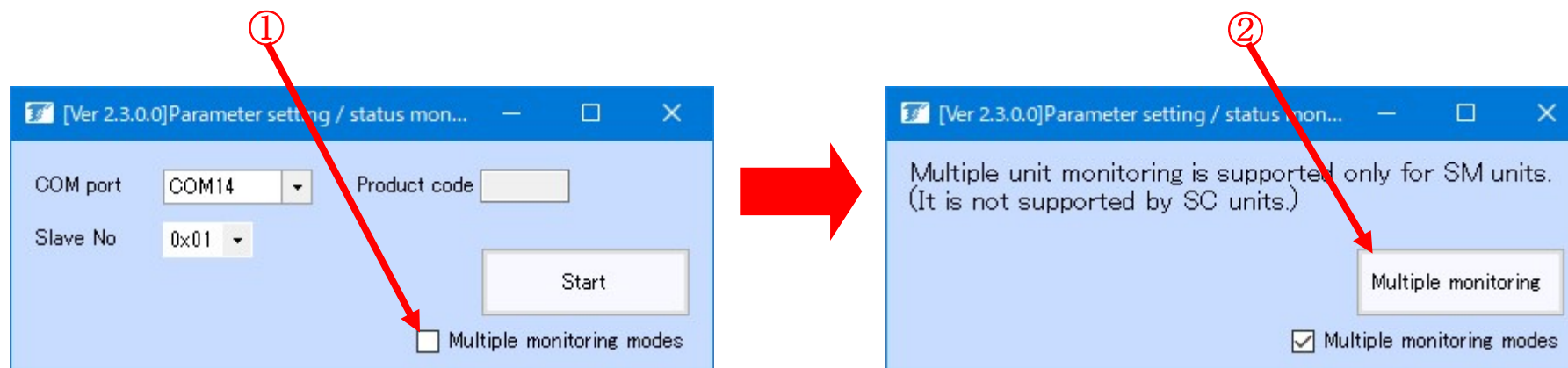
4 Operational instructions (multiple monitoring)

4.1 Display of Multiple Monitoring Screen

You can switch from the start screen to multiple monitor screen.

OPERATION PROCEDURE

- 1 [Multiple monitoring modes] Check the box.
- 2 The display changes. Press the [Multiple monitoring] button. When the connection is successful, the multiple monitor screen is displayed.



*This function is only for IoT specification. Use this product in an environment where no other device is connected to the communication line.

4.2 Monitoring system (MAX16 table monitoring)

Sensor data for up to 16 gear motors can be monitored.

OPERATION PROCEDURE

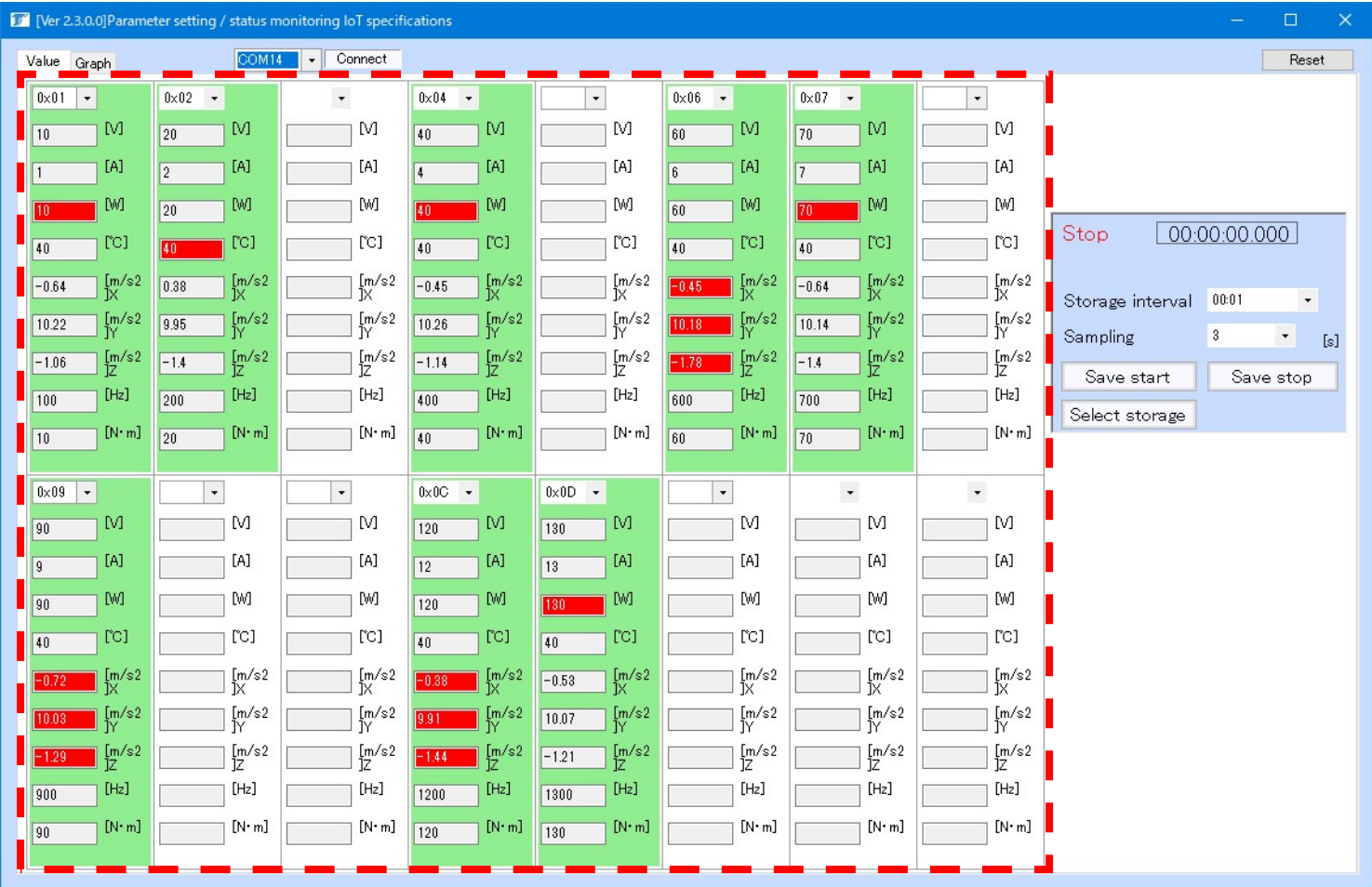
- 1 [Value] Select the tab.
- 2 Select the [COM Port] to be used.
- 3 After waiting for about 5 seconds, the sensor data of the connected gear motor is displayed.
Unconnected [Slave number] is cleared, and the background of the connected [Slave number] is green.
- 4 [Sampling] Please specify the period to acquire data from.



*Click the [Reset] button in the upper right corner to reset the [COM port] and [Slave number] to their default settings.

4.3 Generation of gear motor warning (MAX16 table monitoring)

- The item corresponding to the warning factor of each slave number is displayed in red.

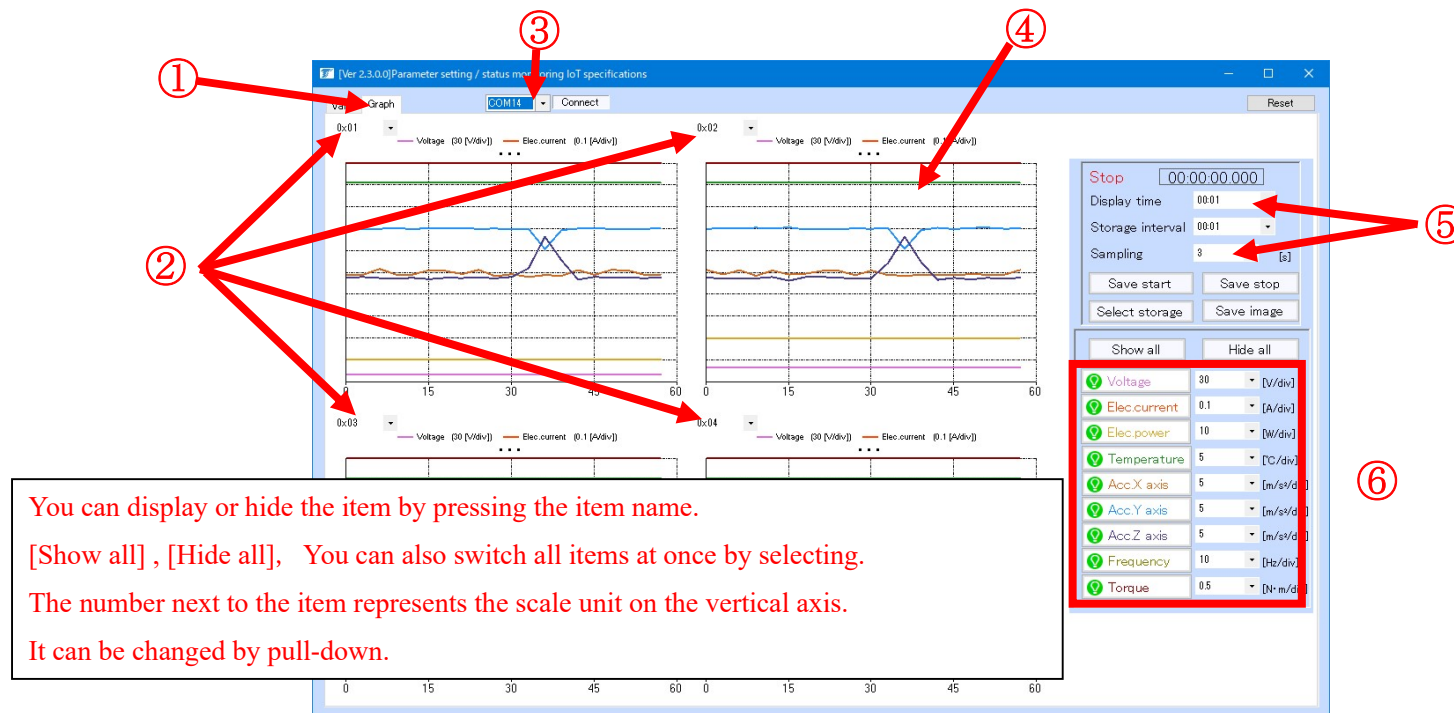


4.4 Monitoring system (MAX4 table monitoring)

Sensor data for up to four gear motors can be monitored.

OPERATION PROCEDURE

- 1 [Graph] Select the tab.
- 2 Select [Slave number] of the connected gear motor. The initial setting is 1/2/3/4.
- 3 Select the [COM port] to be used.
- 4 The graph of the connected gear motor is displayed. Unconnected [Slave Number] is cleared.
- 5 [Display time] Use the graph to specify the length of the horizontal axis and [Sampling] to specify the period at which data will be acquired.
- 6 [Voltage] ~[Torque] Select the item you want to monitor.



*Click the [Reset] button in the upper right corner to reset the [COM port] and [Slave number] to their default settings.

4.5 Data storage (MAX16 stand monitoring, MAX4 stand monitoring)

The sensor data of the gear motor can be saved as CSV file and image.

OPERATION PROCEDURE (MAX16 base monitoring)

3.5 Save real-time data as CSV file

*There is no item selection in 2. Also, there is no image saving function.

OPERATION PROCEDURE (MAX4 base monitoring)

3.5 Save real-time data as CSV file

3.6 Image storage of real-time data

*Even if a warning occurs, saving to the file continues.



TSUBAKIMOTO CHAIN CO.

Global Associated Partners:

U.S. Tsubaki Power Transmission, LLC

<https://www.ustsubaki.com/>

Tsubaki of Canada Limited

<https://tsubaki.ca/>

Tsubaki Australia Pty. Limited

<https://tsubaki.com.au/>

Tsubakimoto Singapore Pte. Ltd.

<https://tsubaki.sg/>

Taiwan Tsubakimoto Co.

<https://tsubakimoto.com.tw/>

Tsubakimoto Chain (Shanghai) Co., Ltd.

<https://tsubaki.cn/>

Tsubakimoto Europe B.V.

<https://tsubaki.eu/>

Tsubakimoto U.K. Ltd.

<https://tsubaki.eu/>

Tsubakimoto Korea Co., Ltd.

<https://tsubakimoto-tck.co.kr/>

1-1, Kohtari-Kuresumi, Nagaokakyo

Kyoto 617- 0833, Japan

Website : <https://tsubakimoto.com/>