

Operation and user setting manual

[Name of each operation / display unit](#)

[Basic operation method](#)

Power switch

Forward / backward switch

Power / economy switch

Throttle volume

Regenerative brake volume

[Protection function](#)

High temperature protection (with LED warning)

Drive voltage protection

Voltage protection during regeneration

[Switch terminal terminal allocation table](#)

[Switch installation](#)

Setting method

[Setting summary](#)

[Setting items](#)

[Setting method](#)

[Setting Example](#)

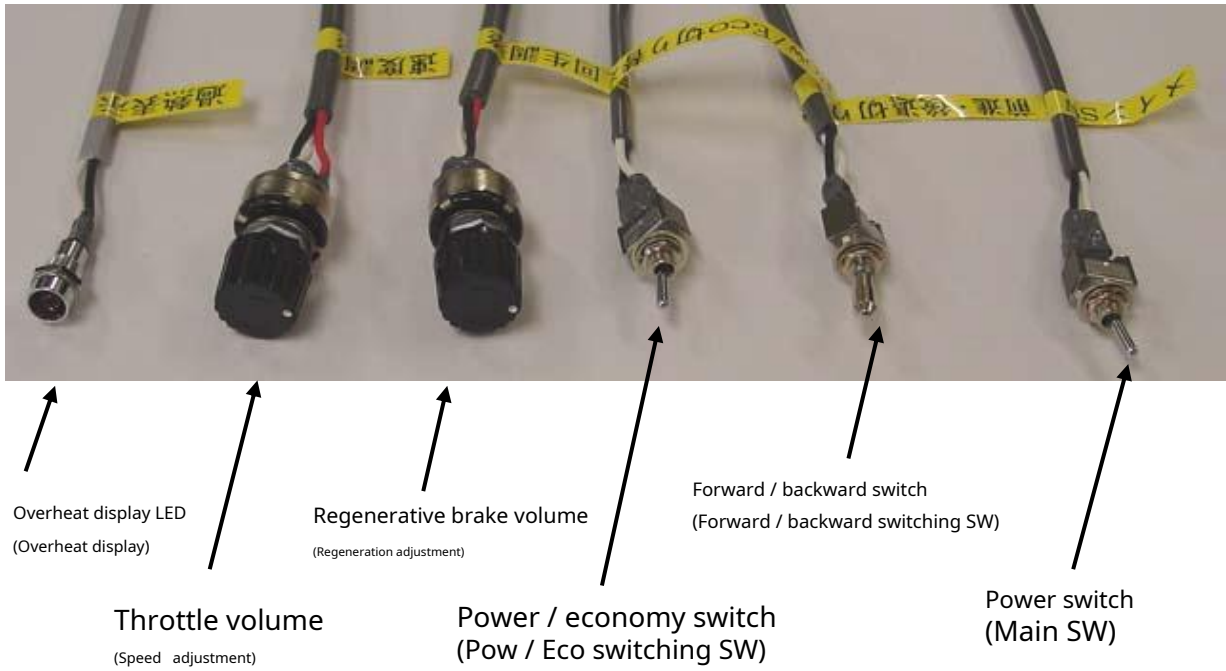
[How to use the application software for data setting in the controller \(MITSUBA Configuration Tool\)](#)

Installation of application software

Connection method (including power supply)

Soft operation method

Name of each operation / display unit



■ Power switch ■

It is a switch for the power supply of the controller.

ON: Power on

OFF: Power off

This switch turns on / off the power of the signal system. If the operation of the controller becomes unstable, you can reset the controller by turning it OFF / ON.

■ Forward / backward switch ■

A switch for forward / backward operation.

Advance : Perform forward output

Recession : Performs backward output

The switch that comes standard is equipped with a lock mechanism to prevent erroneous operation while driving. When operating, pull the knob of the switch once to unlock it, and then switch.



Note

Be sure to operate this switch when the vehicle body is stopped.

While driving, in order to prevent accidents and protect the motor, reverse output (forward output when moving backward) is not performed when moving forward.

■ Power / Economy Switch ■

It is a switch for switching the output current. (Valid only when the drive mode is current mode) PowerThe current value set for power (user setting) is valid. The Economy: current value set for economy (user setting) is valid.

The power mode is intended for qualifying or for sudden acceleration / overtaking during a race. Economy mode is intended for use in all final races.
(If motor efficiency is important, we recommend using it in economy mode.)

■ Throttle volume ■

It is a volume for manipulating the amount of drive and the amount of regeneration.

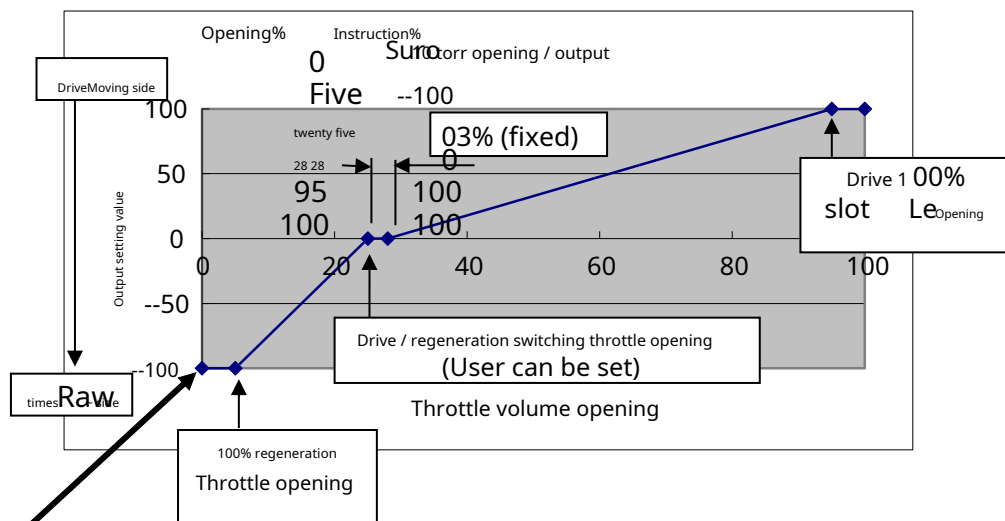
After turning on the power switch, hold the left full position for 3 seconds. (Safety measures to prevent runaway)

Turning the attached volume to the right is the opening direction.

There is a mode in which the throttle volume opening indicates the amount of power supply current (current instruction mode) and a mode in which the throttle volume opening directly indicates the PWM duty (PWM instruction mode), which can be used properly by changing the setting.

Unless otherwise specified, the current setting mode is set at the time of shipment. The current mode is suitable for courses with many ups and downs. While measuring the power supply current, the program automatically adjusts the duty to the throttle volume indicated current value. The PWM instruction mode is suitable for driving on flat roads. The current changes sensitively to the operation of the throttle volume **Be careful not to perform sudden operations**Is required.

(* Duty: A value for setting what percentage the voltage output from the controller to the motor should be)



When the vehicle is stopped, regeneration is not performed even if the throttle opening is regeneration.
Please refer to the section of setting method for details on the output setting values.

■ Regenerative brake volume ■

This volume indicates the maximum phase current value during regeneration. Turning the attached volume clockwise is in the direction of large phase current (large braking force). There is a mode in which the opening of the regenerative brake volume indicates the amount of phase current (current instruction mode) and a mode in which the opening of the regenerative brake volume directly indicates the duty (PWM instruction mode). Unless otherwise specified, the current setting mode is set at the time of shipment.

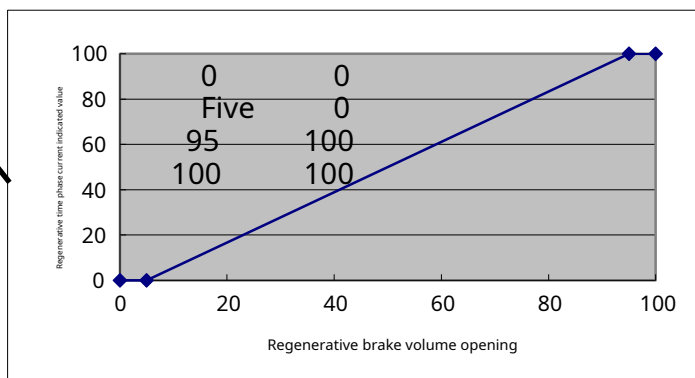
In the current indication mode, while measuring the phase current, the controller automatically adjusts the duty so that the current value indicated by the regenerative brake volume is reached, and limits the operation to a highly efficient range. I am.

*** Normally, use in the current indication mode.**



**Regenerative braking is mainly for energy recovery and does not guarantee braking force.
Install a reliable mechanical brake.**

Please refer to the section of setting method for details on the output setting values.



Note 1) The following two methods are available for adjusting the regenerative braking amount. 1. 1. Operate the regenerative braking amount with the throttle volume. At this time, the regenerative brake volume is rough.

Set it to the optimum value that has been decided.

2. 2. The amount of regenerative braking is controlled by the regenerative braking volume. When regenerating, adjust the throttle volume Operate to the full left position.

Note 2) When the regenerative phase current indicated value = 0, regeneration is performed even if the throttle volume is operated to the regeneration side.

I will not.

Protection function

■ High temperature protection (with overheat display LED warning) ■

- If the controller temperature is judged to be an abnormal temperature, the following LED warning and output limit will be performed.

	Overheat display LED	Drive and regenerative output
Less than 85 ° C	Off	As indicated
85 ° C or higher	Turns on for 0.5 seconds and turns off repeatedly for 1.5 seconds	1/2 of the indicated value
95 ° C or higher	Turns on for 0.5 seconds and turns off repeatedly for 0.5 seconds	1/4 of the indicated value
105 ° C or higher	Continuous lighting	Output stop * 1

* 1 The conditions for restarting (driving) are temperature drop and throttle OFF. In addition, the LED will light for about 3 seconds after the power is turned on.

■ Drive voltage protection ■

To protect the controller, if a voltage exceeding the operable power range of the controller is applied, the drive output will not be performed.

■ Voltage protection during regeneration ■

At the time of regeneration, the amount of regeneration is limited by voltage monitoring for the purpose of protecting the battery and controller.

This function eliminates the need to worry about the battery voltage when performing regeneration when the battery level is almost full.

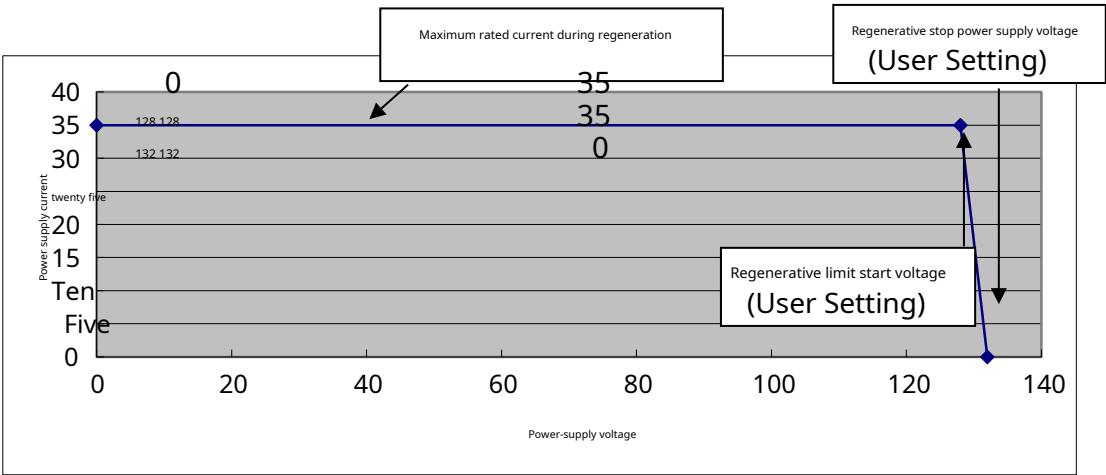
In addition, there is no damage to the battery due to overvoltage application.

If the set "regeneration limit start voltage" is exceeded in the user settings, the regeneration will start to be limited, and if the "regenerative stop power supply voltage" is exceeded, regeneration will stop.



caveat

When regeneration is restricted, braking force also decreases.



Switch terminal terminal allocation table

Operation parts	Parts terminal	wiring	Terminal side	
	Connecting terminal	Line color	ID	
Power switch	Central	White	01 01	
	end	black	20	
throttle volume	2	White	02 02	
	1	black	twenty one	
	3	Red	03 03	
Regenerative brake volume	2	White	twenty two	
	1	black	04 04	
	3	Red	twenty three	
Power / Economy switch	Central	White	05 05	
		-	twenty	(Cannot connect)
	end	black	06 06	
Forward / backward switch	Central	White	twenty five	
	end	black	07 07	
			26	(Cannot connect)
			08 08	(Cannot connect)
			27	Rotational pulse (0-5V)
			09 09	(Cannot connect)
			28 28	GND
			Ter	(Cannot connect)
			29	(Cannot connect)
			11 11	(Cannot connect)
			30	(Cannot connect)
			12	Map_Bit0
Digital switch			31	Map_Bit1
			13	Map_Bit2
			32	Map_Bit3
LED	Cathode (3)	black	14	LED_GND
	On signal	White	33 33	(Cannot connect)
LED	Anode (1)	White	15	LED_drive
			34	(Cannot connect)
			16 16	(Cannot connect)
			35	(Cannot connect)
			17 17	(Cannot connect)
			36	(Cannot connect)
			18 18	(Cannot connect)
			37 37	(Cannot connect)
			19 19	(Cannot connect)

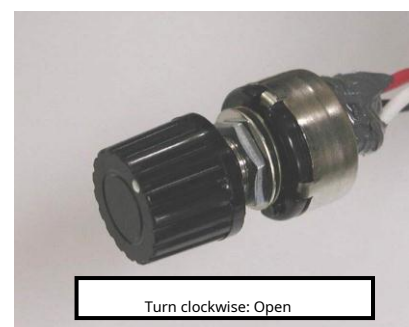
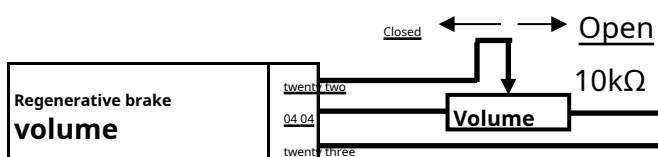
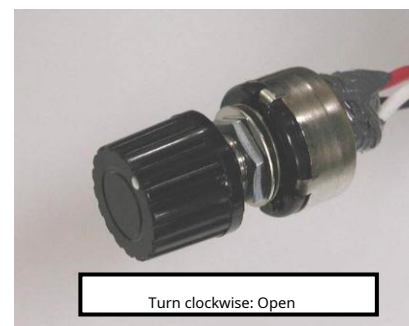
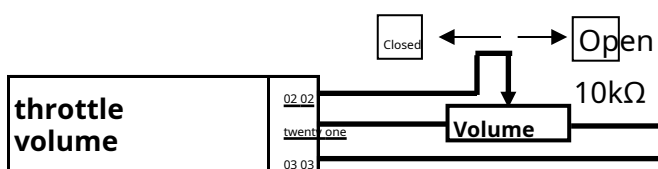
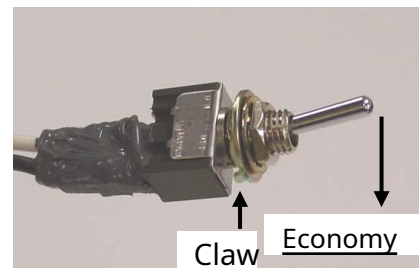
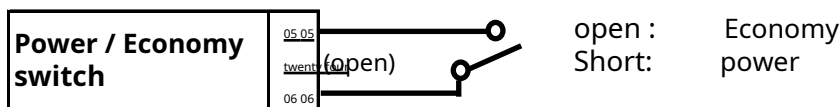
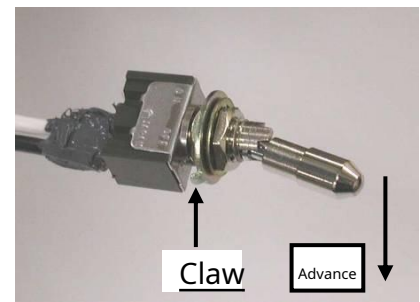
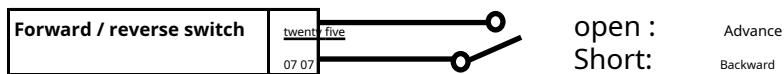
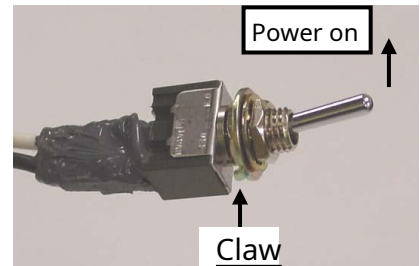
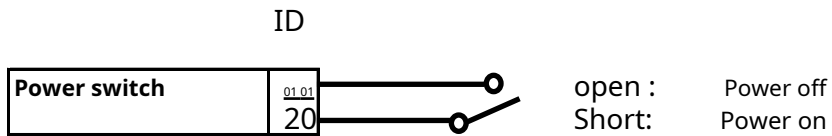
Switch installation

The attached switches are for checking the operation, so we do not guarantee the use in the race. Please replace it with a switch that is easy for you to operate. (Refer to the following when connecting)



Note

Check carefully as there are many problems with disconnection in the soldered parts of switches and volumes.



[to lottery](#)

Setting method

■ Outline of settings ■

This motor system provides a system for changing the settings of various setting items.

(For the items delivered to the customer, the settings have already been made based on the information received.)

To change the settings, connect the computer and the controller with a communication cable and operate the computer.

For PC operation, use the application program recorded on the attached CD-R.

Please purchase the communication cable (see below) separately.



USB cable (A-mini B)

Setting method

■ Setting items ■

[response] (Responsiveness of setting program / operation mode setting screen)

Drive response level

Responsiveness setting that follows throttle volume operation (during driving)

1 ← fast Slow → 5

Regenerative response level

Responsiveness setting that follows throttle volume operation (during regeneration)

1 ← fast Slow → 5

[Operation mode setting](Responsiveness of setting program / operation mode setting screen)

Drive operation mode

Current control mode / manual PWM mode selection

Normally, set the current mode.

note)During manual PWM, the maximum rotation speed is lower than in the current mode. Equivalent to current mode

If you want to rotate to the number of rotations, you need to add a switch separately. (Please contact us for details)

Regenerative operation mode

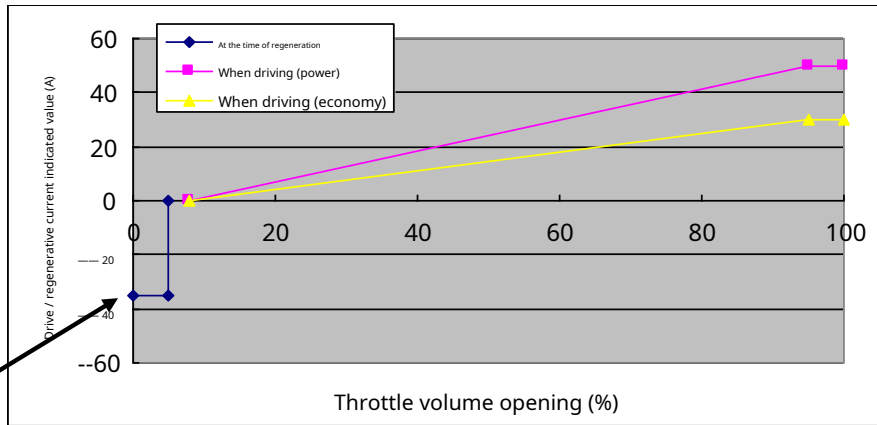
Current control mode / manual PWM mode selection

Normally, set the current mode.

*** What is current control mode / manual PWM mode?**

Current control mode	:	Operation mode in which the indicated value by the throttle opening (during driving) is the current value
Manual PWM mode	:	Operation mode in which the indicated value by the throttle opening (during driving) is the duty value

[Throttle volume related settings](Drive / regeneration setting screen top of setting program)



When the throttle is fully open (power mode), the current indicated amount

Setting the current indicated value for the throttle opening of "100% drive throttle opening" in the power mode Set in consideration of the maximum input power, operability, etc.

Setting range (5 to 100A)

When the throttle is fully open (economy mode), the current indicated amount

Setting the current indicated value for the throttle opening of "100% drive throttle opening" in economy mode Set in consideration of input power, operability, etc.

Setting range (5 to 100A)

Regenerative 100% throttle opening

Setting the throttle opening that maximizes the amount of regeneration

Set to 3% at the time of shipment.

Drive / regeneration switching throttle opening

Set the throttle opening for switching between drive and regeneration. Set to 3% at the time of shipment.

[For the setting value, refer to the setting example.](#)

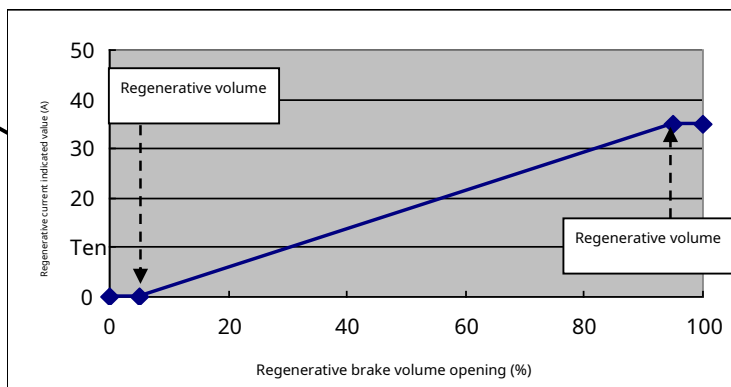
Regeneration with a throttle opening of 3% or less
Regeneration specified by volume works

Drive 100% throttle opening

Setting the throttle opening that maximizes the drive amount

Normally, set it to 95%.

[Regenerative volume setting related](Drive / regeneration setting screen center of setting program)



Maximum regenerative current indication

Regenerative mode = Set the maximum regenerative current value in the current mode. Set in consideration of the maximum recovery power amount.

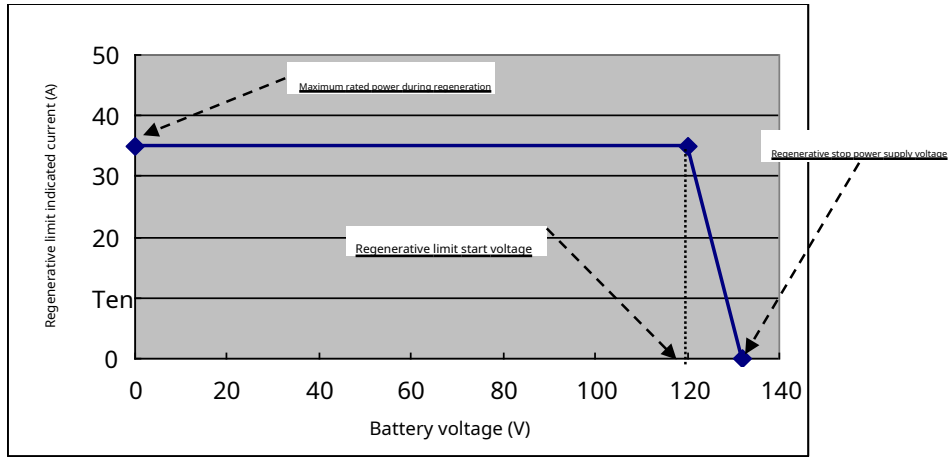
Setting range (10 to 100A)

Regenerative volume MIN opening

Regenerative brake volume opening when the regenerative current indicated value is 0A Normally, set it to 5%.

Regenerative volume MAX opening

Regenerative brake volume opening with maximum regenerative current indication Normally, set to 95%.



Maximum rated current during regeneration

Setting the current limit for battery protection during regeneration

It is recommended to set the same value as the current indicated amount at the maximum regeneration or a slightly larger value.

Regenerative limit start voltage

Set the voltage to start the regeneration limit.

Make the settings according to the battery configuration to be used.

Regenerative stop power supply voltage

Set the voltage to stop regeneration.

Make the settings according to the battery configuration to be used.

[to lottery](#)

Setting method

■ Setting method ■

Refer to How to use the application software for data setting in the controller (MITSUBA Configuration Tool).

Setting method

■ Setting example ■

[Setting example 1]

I want to use the throttle volume for the drive operation and the regenerative brake volume for the regenerative operation clearly (initial setting).

As with commercial engine cars, if you want to use the accelerator and brake clearly, this setting is recommended.

vinegar.

When the throttle is fully open (power mode), the current indicated amount	50A	Can be operated up to about 5KW input
When the throttle is fully open (economy mode), the current indicated amount	30A	Can be operated up to about 3KW input
Regenerative 100% throttle opening	3%	Fixed
Drive / regeneration switching throttle opening	3%	Fixed
Drive 100% throttle opening	95%	Fixed
Maximum regenerative current indication	35A	Considering the amount of charge to the battery
Regenerative volume MIN opening	Fixed	Fixed
Regenerative volume MAX opening	95%	Fixed

Operation example

• Throttle volume

If you want to drive it, adjust the drive amount.

Fully closed when you want to stop the drive output.

• Regenerative brake volume

(This volume is effective when the throttle volume is fully closed.) When fully closed, coasting without regenerative output, and when opening, regenerative braking operation according to the opening.

[Setting example 2]

When you want to drive and regenerative brake with the throttle volume (one hand or one foot) during the race

During the race, the driver has a lot of things to do, such as the movement of rival cars, checking various instruments, steering operation, receiving operational instructions from the pit, etc. I want to operate the brakes easily. The recommended setting example in such a case is described.

When the throttle is fully open (power mode), the current indicated amount	50A	Can be operated up to about 5KW input
When the throttle is fully open (economy mode), the current indicated amount	30A	Can be operated up to about 3KW input
Regenerative 100% throttle opening	3%	Fixed
Drive / regeneration switching throttle opening	30%	Increase or decrease depending on your preference
Drive 100% throttle opening	95%	Fixed
Maximum regenerative current indication	35A	Considering the amount of charge to the battery
Regenerative volume MIN opening	Fixed	Fixed
Regenerative volume MAX opening	95%	Fixed

Operation example

• Throttle volume

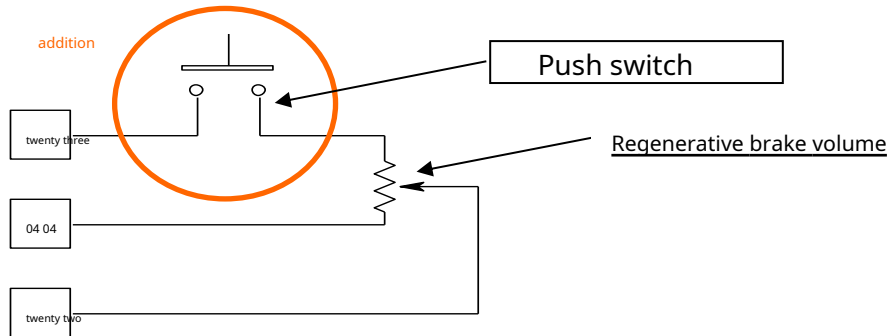
In acceleration / steady driving, open the throttle and adjust the drive amount. When decelerating, close the throttle and adjust the amount of regeneration by closing the throttle further when you want to apply the regenerative brake. • Regenerative brake volume

The regenerative brake volume opening is adjusted by adjusting the effectiveness of the regenerative brake at the throttle volume. If the effect is not enough, adjust it to a slight opening. Adjust to close the effect if it is too effective.

I want to simplify the operation of coasting and operate the regenerative brake only when necessary with the push switch.

Inertial driving is an effective means for a body with excellent aerodynamics. Therefore, a simple operation causes inertia, and the push switch is pressed only when deceleration is required to apply the regenerative brake. Setting the regenerative amount affects the amount of energy recovery, so it is recommended when you want to set the regenerative brake volume firmly.

The settings are the same as in "Setting Example 2", but a push switch needs to be added. (See the figure below)



Operation example

- **Throttle volume**

If you want to drive it, adjust the drive amount.

Fully closed when you want to stop the drive output.

- **Push switch**

Regenerative braking by pressing during coasting with the throttle volume fully closed •

Regenerative braking volume

Adjust the amount of regeneration while pressing the push switch.

If the effect is not enough, adjust it to a slight opening. Adjust to close the effect if it is too effective.

[to lottery](#)

How to use the application software for data setting in the controller (MITSUBA Configuration Tool)

■ Outline of settings ■

This motor system provides a system for changing the settings of various setting items.

(For the items delivered to the customer, the settings have already been made based on the information received.) To change the settings, connect the computer and the controller with a communication cable and operate the computer.

For PC operation, use the application program recorded on the attached CD-R.

■ Installation of application software ■

(1) Download and install the Virtual COM Port Driver from the site of Future Technology Devices International.

<http://www.ftdichip.com/Drivers/VCP.htm>

(2) Executable file in the attached CD-R "**MITSUBA Configuration Tool_ver xxx .exe**" Copy the standard setting file with the extension spf (example: 9696std.spf) to any folder on the hard disk and complete.

■ Connection method (including power supply) ■

(1) Make connections when the motor system is operating (communication is possible even if the motor ABC and Sensor are not connected)

(2) Connect the personal computer to the controller with a commercially available serial communication cable.

③ Turn on the main switch of the controller

Please purchase the communication cable (see below) separately.



USB cable (A-mini B)

*** The USB driver will be installed when the PC and controller are connected for the first time. Installing the USB driver can be time consuming and may require you to restart your PC. After confirming that the installation was successful, perform the following operations.**

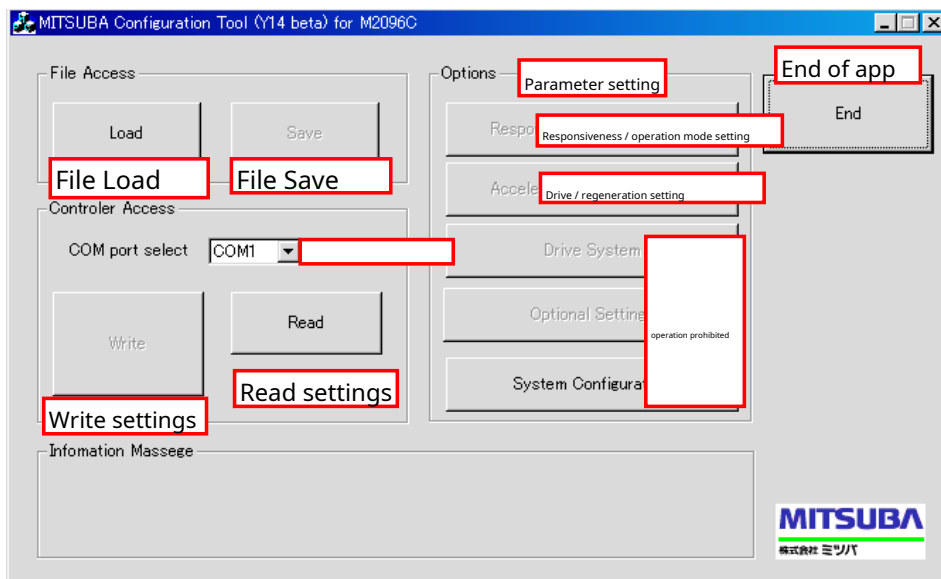
■ Software operation method ■

(The operation of the software has been confirmed on Windows 7)

1. Start up

HDDIn the folder "**MitsubaConfigurationTool_VerXXX.exe**" Double-click on.

When the software starts, the following main screen will be displayed.



The buttons that are grayed out at startup can be used by loading the configuration file or reading the configuration data from the controller.

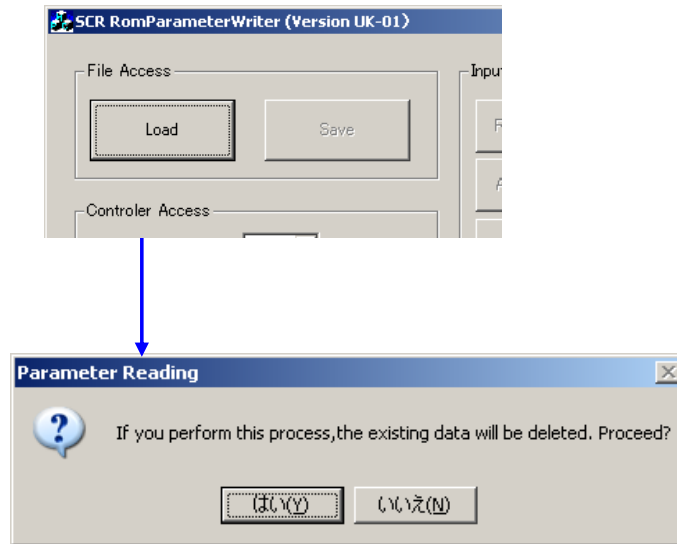
The following describes how to use each button.

2. 2. Function description of each button

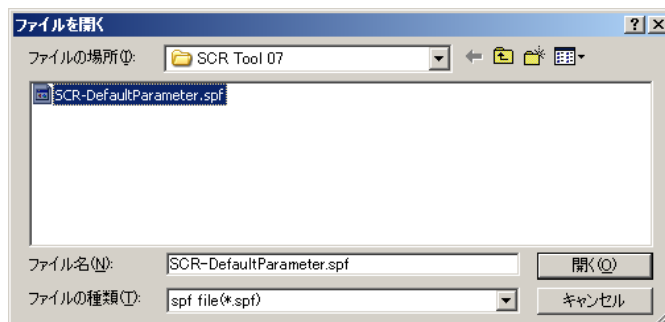
2-1. File Load button

Function: Open the setting parameter file saved in the personal computer.

- ① When you press the Load button on the main screen, the following message screen will be displayed. "Yes (Y)" Click the button
("no(N)" Click the "button to return to the main screen without opening the file)



- ② Click the "Yes (Y)" button to display the following file selection screen. Select the file you want to open and "Open" (O) "

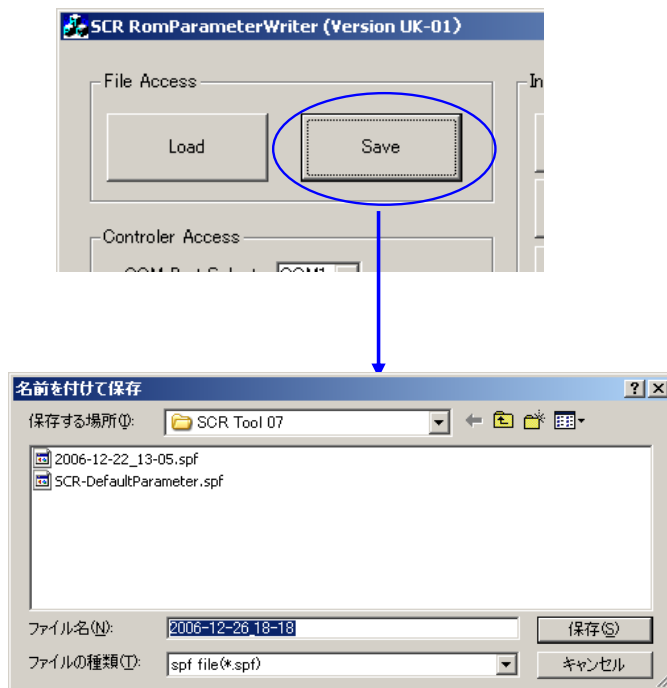


- ③ If you open the file normally, you will return to the main screen.

2-2. File Save button

Function: Saves the data of the currently open setting parameters to the personal computer.

- ① Press the Save button on the main screen to open the screen for specifying the file save destination.



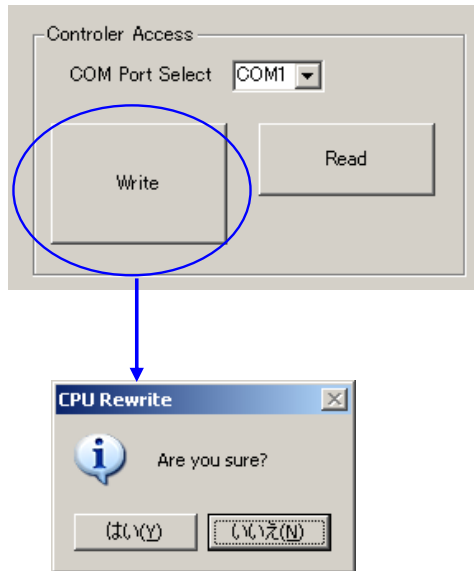
- (2) Set the save destination, enter an arbitrary file name, and "Save" (S) "Press the button. (The file name field is pre-filled with the current date and time set on your computer.)

2-3. Setting write button

Function: Writes the data of the currently open configuration parameter to the controller

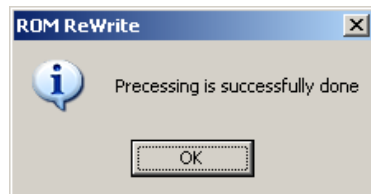
- (1) When you press the Write button on the main screen, the following confirmation message will be displayed. Turn the controller power off and then on, and then click the "Yes" button.

(Click the "No" button to interrupt the process and return to the main screen)

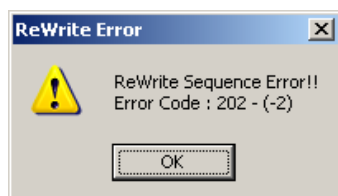


- (2) When writing is completed normally, the following message screen will be displayed. Click the "OK" button.

This completes the controller setting change.



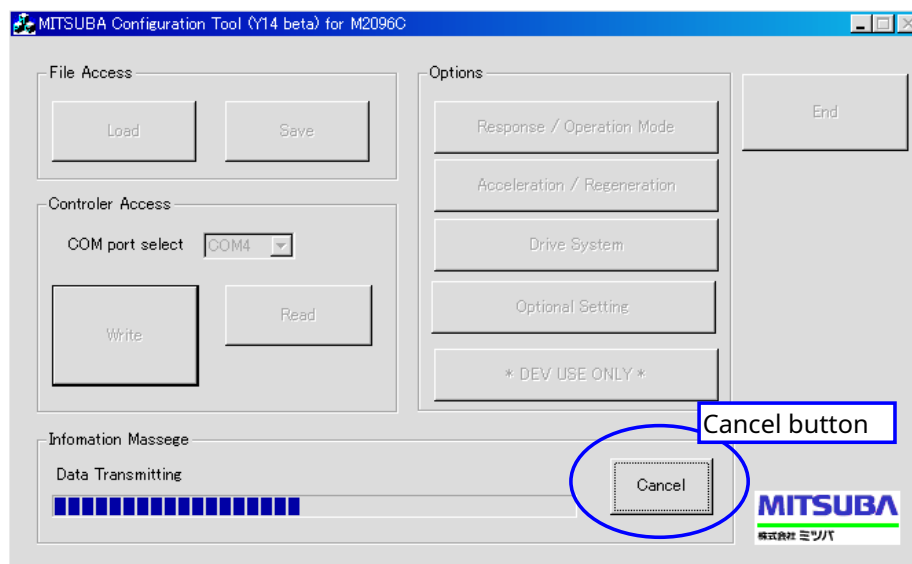
- ③ If you get the following error message, communication is not possible. Check that the cable connection is correct, turn the controller power off and then on, and check that the temperature warning LED lights up (for about 3 seconds), and then try again from the beginning.



If you cannot write even after trying many times, or if you get other error messages, please contact us.

- (4) While rewriting the settings, a progress bar and a cancel button indicating the progress will be displayed at the Information Message at the bottom of the main screen.
You can interrupt the rewriting process by clicking the cancel button.

however, A controller that has not been rewritten normally will behave unexpectedly. Go If it is interrupted by pressing the cancel button or by an error, rewrite the settings again and finish writing normally (use a controller that has not finished rewriting normally). Operation is not guaranteed)

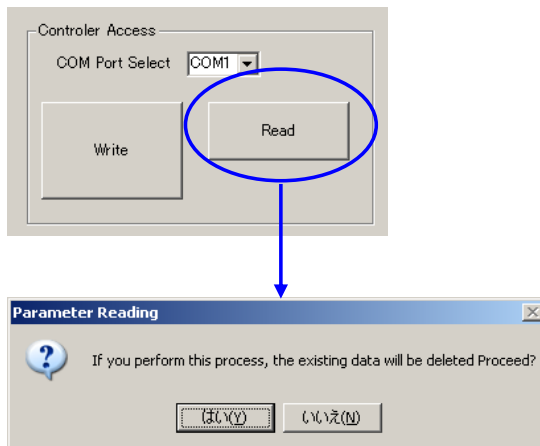


2-4. Settings read button

Function: Reads the setting parameter data stored in the controller.

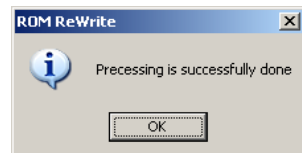
- ① When you press the Read button on the main screen, the following message screen will be displayed. Click the "Yes (Y)" button.

(If you press the "No" button, the process will be interrupted and you will return to the main screen.)



(* When reading the setting data, the unsaved setting data is discarded.
Please note that.)

- (2) If the reading is completed normally, the following message screen will be displayed. Click the "OK" button.



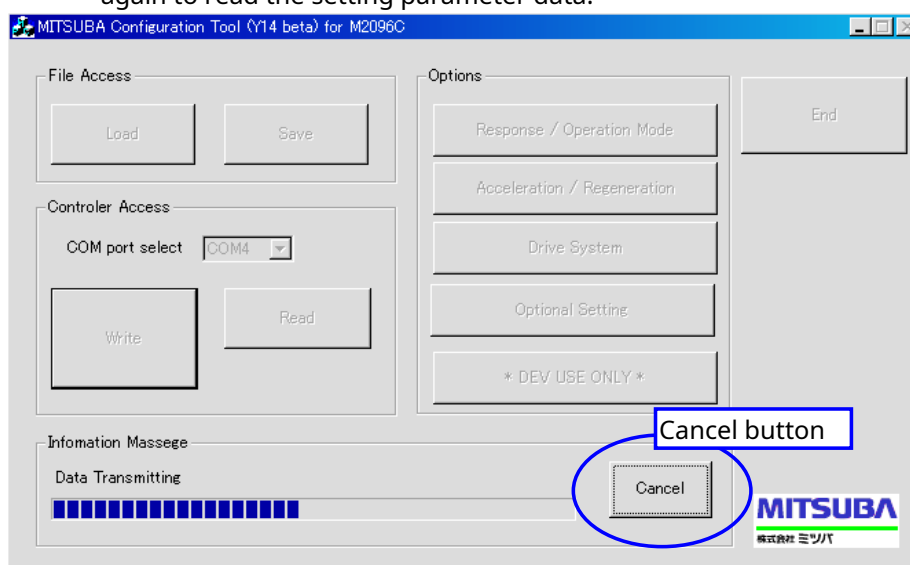
- ③ If you get the following error message, communication is not possible. Check that the cable connection is correct, turn the controller power off and then on, and check that the temperature warning LED lights up (for about 3 seconds), and then try again from the beginning.



If you cannot read it even after trying many times, or if you get other error messages, please contact us.

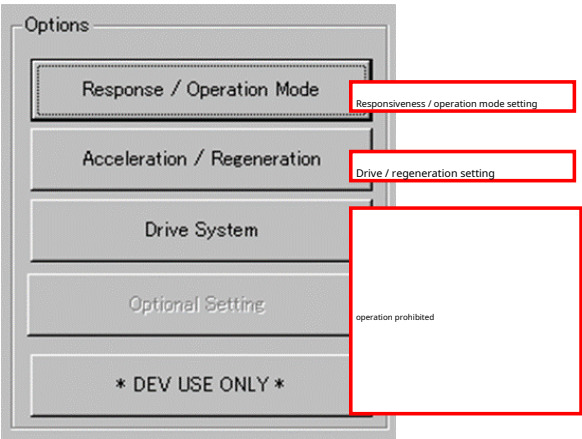
- (4) While the settings are being read, a progress bar and a cancel button indicating the progress are displayed at the Information Message at the bottom of the main screen. You can interrupt the process with the cancel button.

In this case, there will be no setting data, so use the Load button to read the file saved in the HDD, or the Read button to read the controller data again to read the setting parameter data.



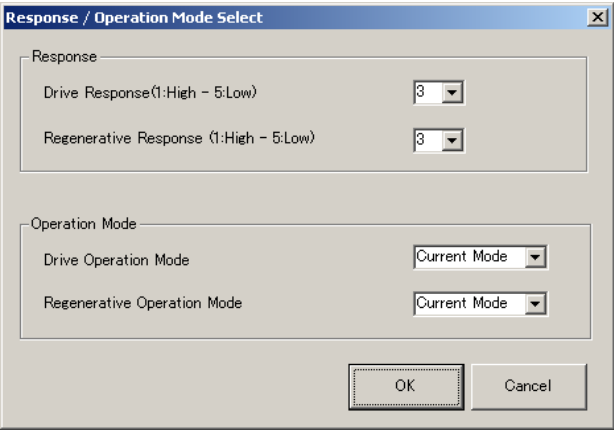
2-5. Setting parameters Setup

Function: Change the data of the setting parameter



The screen displayed by clicking the above button is as follows (* Please refer to "Setting items" for the explanation of each input value)

Responsiveness / operation mode setting



If you press the OK button, the current settings will be reflected.
Press the Cancel button to cancel the current settings

Drive / regeneration setting

Acceleration / Regeneration Setup

Throttle Control

Target Current at full throttle (Power Mode) (5 - 150)	50	A
Target Current at full throttle (Eco Mode) (5 - 150)	30	A
Regen100% throttle position (3 - 10)	3	%
Drive/Regen switch throttle position (3 - 60)	3	%
Drive0% throttle position (10 - 70) *Drive/Regen switch < 3% < Drive0%	10	%
Drive100% throttle position (80 - 90)	90	%

Regeneration Control

Target Current at Regen 100% (10 - 100)	29	A
Regen 0% VR position (3 - 20)	5	%
Regen 100% VR position (80 - 90)	90	%

Battery Protection Setup in regenerative charging

Max Regen Current (10 - 100)	35	A
Regen stoppage battery voltage (5 - 200)	128	V
Regen reduction battery voltage (5 - 200)	120	V

Throttle Settings

* DO NOT set 4.8V(96%) and over.

Regeneration Settings

Battery Protection Settings

⚠ A displayed value might somewhat be shifted by the minimum value.

OK Cancel Graph Update

When you press the Graph Update button, three graphs will be updated based on the entered value.

System setting

Items in the system settings cannot be changed.
It is set individually at the time of shipment and is password protected.

2-6. COM port change button

Function: Select the COM port to connect to the controller

This setting is used during the process of communicating with the controller (Write button, Read button). Before using the Write button and Read button, check the COM port of the serial port currently connected to the controller. Please specify

If the specified COM port is available, each process will be executed when the Write button and Read button are pressed.

However, if the specified COM port cannot be used, the following message will be displayed. In that case, reconfirm the COM port or specify another COM port for processing.



[to lottery](#)

How to use the application software for data setting in the controller (MITSUBA Configuration Tool)

■ Outline of settings ■

This motor system provides a system for changing the settings of various setting items.

(For the items delivered to the customer, the settings have already been made based on the information received.) To change the settings, connect the computer and the controller with a communication cable and operate the computer.

For PC operation, use the application program recorded on the attached CD-R.

■ Installation of application software ■

(1) Download and install the Virtual COM Port Driver from the site of Future Technology Devices International.

<http://www.ftdichip.com/Drivers/VCP.htm>

(2) Executable file in the attached CD-R "**MITSUBA Configuration Tool_ver xxx .exe**" Copy the standard setting file with the extension spf (example: 9696std.spf) to any folder on the hard disk and complete.

■ Connection method (including power supply) ■

(1) Make connections when the motor system is operating (communication is possible even if the motor ABC and Sensor are not connected)

(2) Connect the personal computer to the controller with a commercially available serial communication cable.

③ Turn on the main switch of the controller

Please purchase the communication cable (see below) separately.



USB cable (A-mini B)

*** The USB driver will be installed when the PC and controller are connected for the first time. Installing the USB driver can be time consuming and may require you to restart your PC. After confirming that the installation was successful, perform the following operations.**

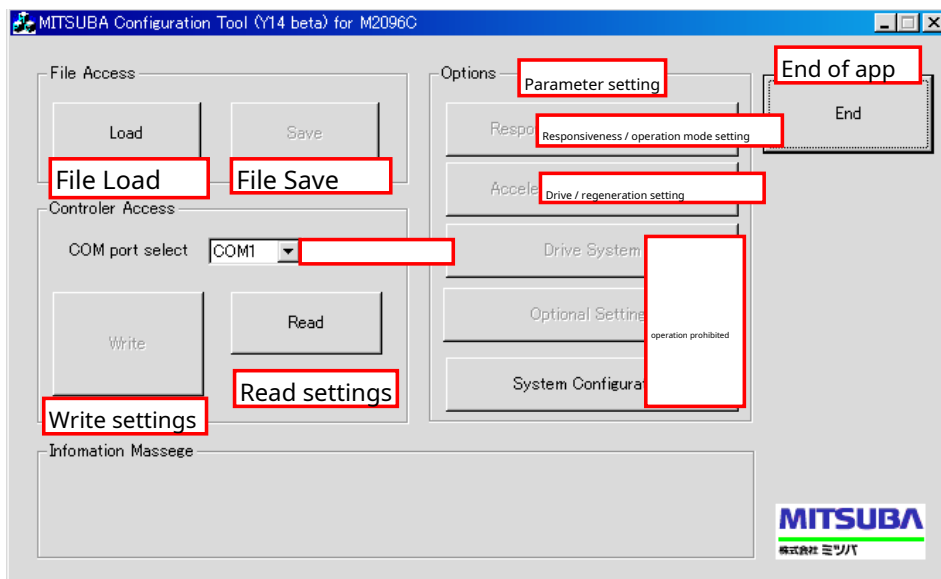
■ Software operation method ■

(The operation of the software has been confirmed on Windows 7)

1. Start up

HDDIn the folder "**MitsubaConfigurationTool_VerXXX.exe**" Double-click on.

When the software starts, the following main screen will be displayed.



The buttons that are grayed out at startup can be used by loading the configuration file or reading the configuration data from the controller.

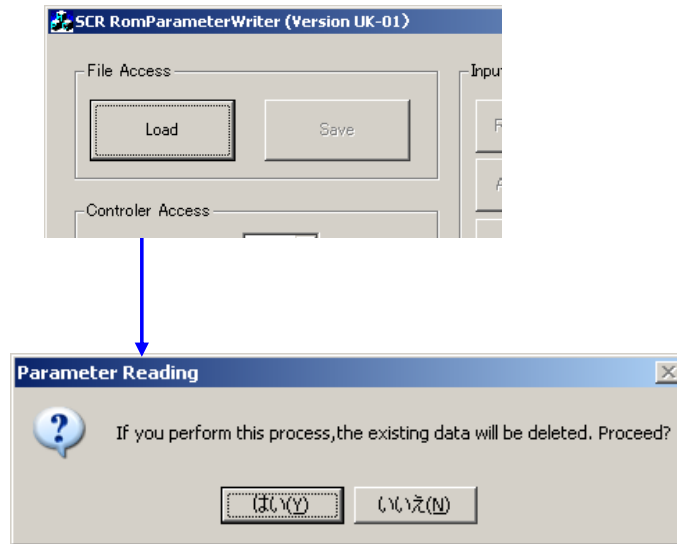
The following describes how to use each button.

2. 2. Function description of each button

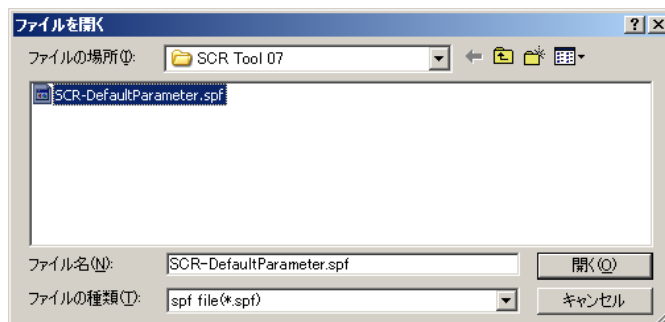
2-1. File Load button

Function: Open the setting parameter file saved in the personal computer.

- ① When you press the Load button on the main screen, the following message screen will be displayed. "Yes (Y)" Click the button
("no(N)" Click the "button to return to the main screen without opening the file)



- ② Click the "Yes (Y)" button to display the following file selection screen. Select the file you want to open and "Open" (O) "

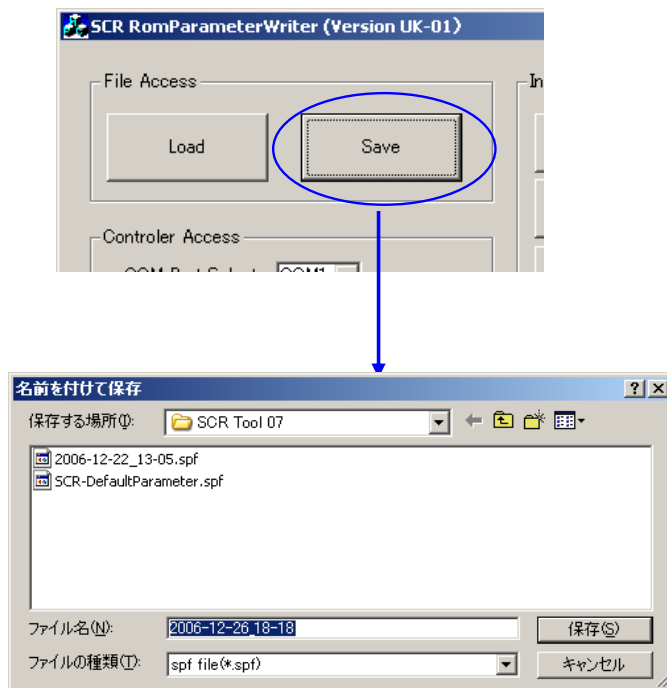


- ③ If you open the file normally, you will return to the main screen.

2-2. File Save button

Function: Saves the data of the currently open setting parameters to the personal computer.

- ① Press the Save button on the main screen to open the screen for specifying the file save destination.



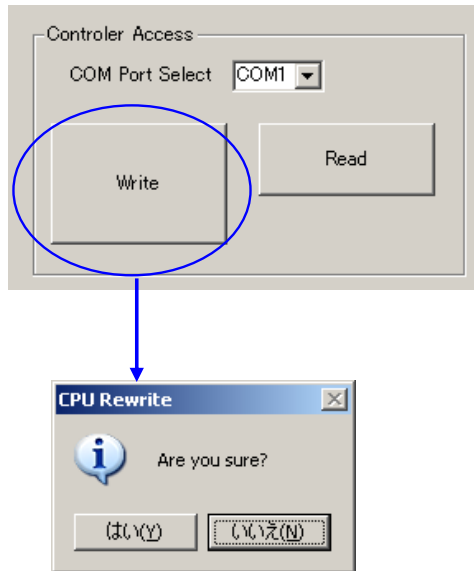
- (2) Set the save destination, enter an arbitrary file name, and "Save" (S) "Press the button. (The file name field is pre-filled with the current date and time set on your computer.)

2-3. Setting write button

Function: Writes the data of the currently open configuration parameter to the controller

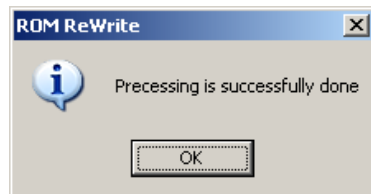
(1) When you press the Write button on the main screen, the following confirmation message will be displayed. Turn the controller power off and then on, and then click the "Yes" button.

(Click the "No" button to interrupt the process and return to the main screen)

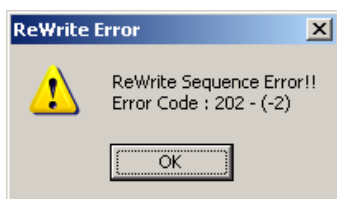


(2) When writing is completed normally, the following message screen will be displayed. Click the "OK" button.

This completes the controller setting change.



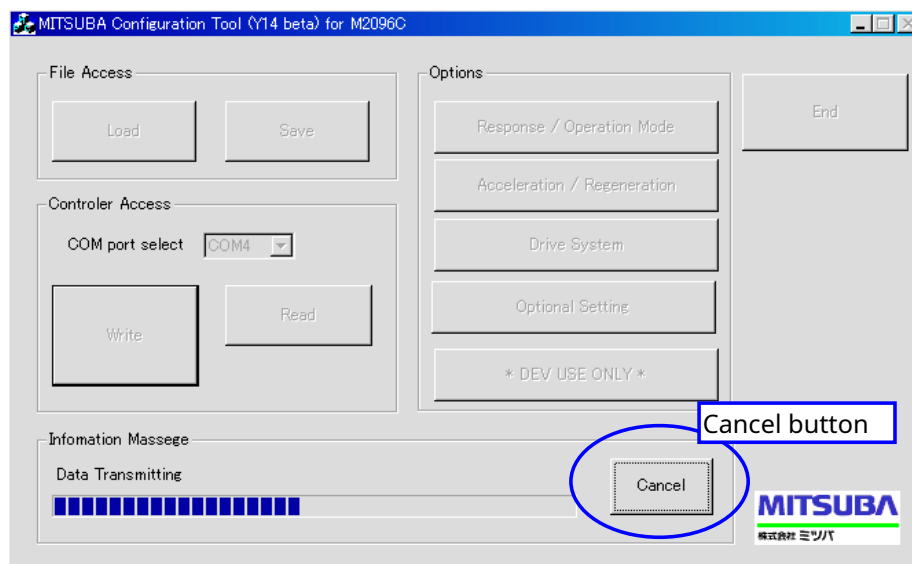
- ③ If you get the following error message, communication is not possible. Check that the cable connection is correct, turn the controller power off and then on, and check that the temperature warning LED lights up (for about 3 seconds), and then try again from the beginning.



If you cannot write even after trying many times, or if you get other error messages, please contact us.

- (4) While rewriting the settings, a progress bar and a cancel button indicating the progress will be displayed at the Information Message at the bottom of the main screen.
You can interrupt the rewriting process by clicking the cancel button.

however, A controller that has not been rewritten normally will behave unexpectedly. Go If it is interrupted by pressing the cancel button or by an error, rewrite the settings again and finish writing normally (use a controller that has not finished rewriting normally). Operation is not guaranteed)

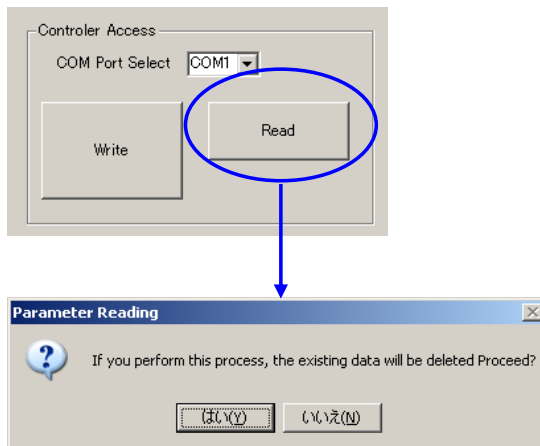


2-4. Settings read button

Function: Reads the setting parameter data stored in the controller.

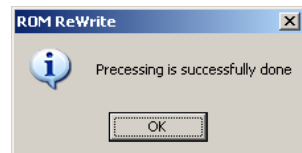
- ① When you press the Read button on the main screen, the following message screen will be displayed. Click the "Yes (Y)" button.

(If you press the "No" button, the process will be interrupted and you will return to the main screen.)

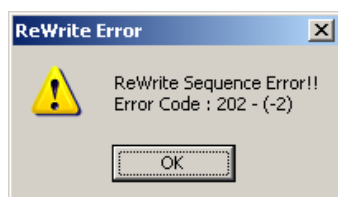


(* When reading the setting data, the unsaved setting data is discarded.
Please note that.)

- (2) If the reading is completed normally, the following message screen will be displayed. Click the "OK" button.



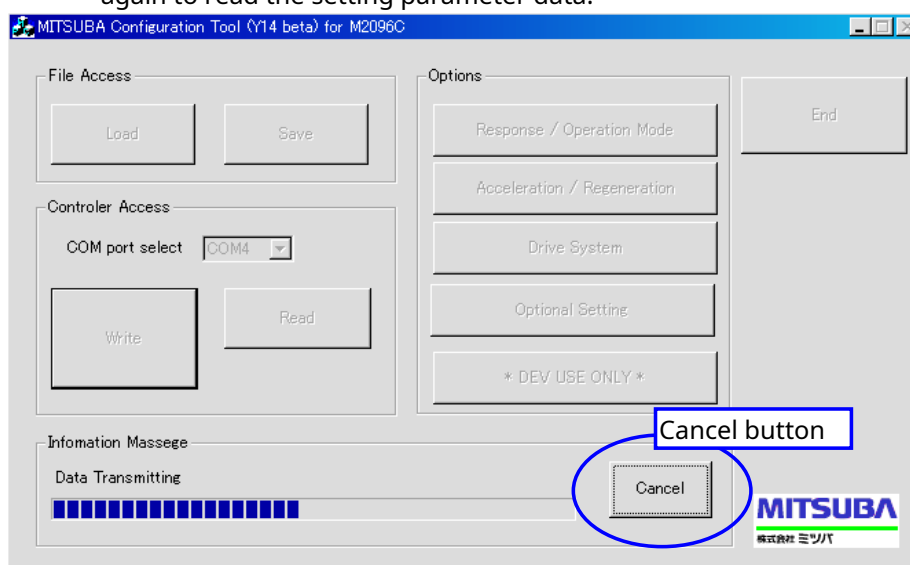
- ③ If you get the following error message, communication is not possible. Check that the cable connection is correct, turn the controller power off and then on, and check that the temperature warning LED lights up (for about 3 seconds), and then try again from the beginning.



If you cannot read it even after trying many times, or if you get other error messages, please contact us.

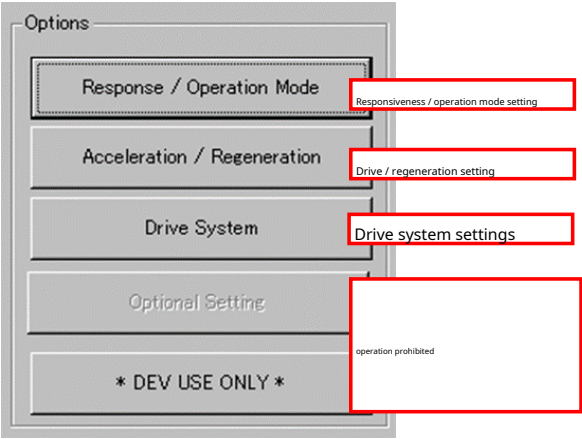
- (4) While the settings are being read, a progress bar and a cancel button indicating the progress are displayed at the Information Message at the bottom of the main screen. You can interrupt the process with the cancel button.

In this case, there will be no setting data, so use the Load button to read the file saved in the HDD, or the Read button to read the controller data again to read the setting parameter data.



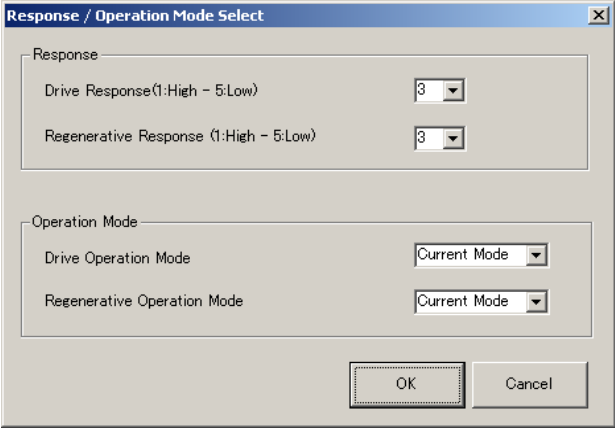
2-5. Setting parameters Setup

Function: Change the data of the setting parameter



The screen displayed by clicking the above button is as follows (* Please refer to "Setting items" for the explanation of each input value)

Responsiveness / operation mode setting



If you press the OK button, the current settings will be reflected.
Press the Cancel button to cancel the current settings

Acceleration / Regeneration Setup

Throttle Control

Target Current at full throttle (Power Mode) (5 - 150)

50

A

Target Current at full throttle (Eco Mode) (5 - 150)

30

A

Regen100% throttle position (3 - 10)

3

%

Drive/Regen switch throttle position (3 - 60)

3

%

Drive0% throttle position (10 - 70)

10

%

*Drive/Regen switch < 3% < Drive0%

Drive100% throttle position (80 - 90)

90

%

Regeneration Control

Target MOTOR Current at Regen 100% (10 - 100)

80

A

Regen 0% VR position (3 - 20)

5

%

Regen 100% VR position (80 - 90)

90

%

Battery Protection Setup in regenerative charging

Max Battery Current at Regen (10 - 100)

35

A

Regen stoppage battery voltage (5 - 200)

105

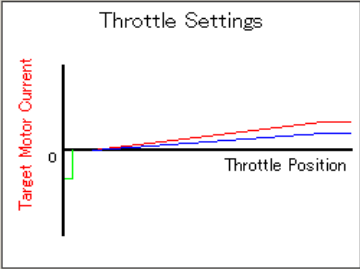
V

Regen reduction battery voltage (5 - 200)

98

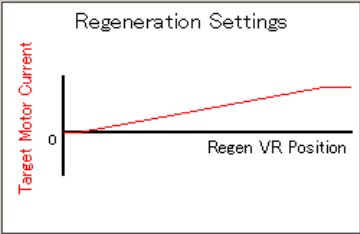
V

Throttle Settings

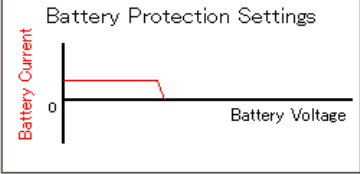


* DO NOT set 4.8V(96%) and over.

Regeneration Settings



Battery Protection Settings



⚠

A displayed value might somewhat be shifted by the minimum value.

OK

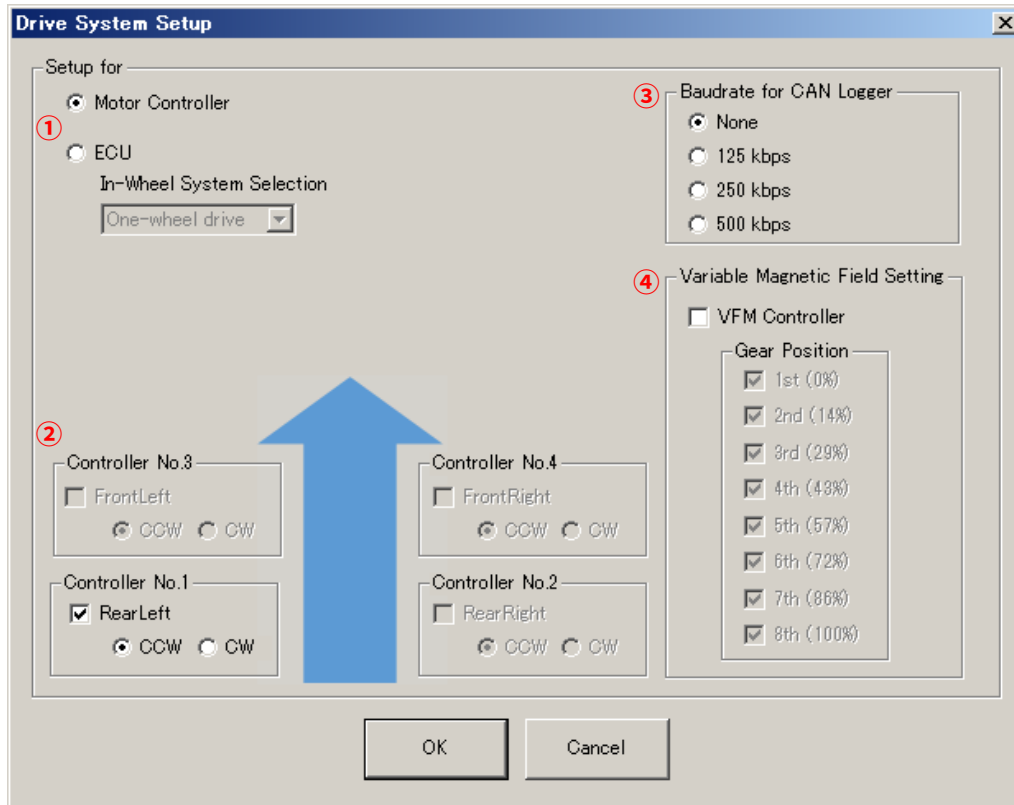
Cancel

Graph Update

When you press the Graph Update button, three graphs will be updated based on the entered value.

twenty four

Drive system settings



(1) Switch whether the setting target is the motor controller or ECU. This is usually the motor controller setting.

(2) Set the controller ID to be set and the motor rotation direction.

The direction of rotation of the motor may be determined by the winding specifications of the motor. In that case, please note that it may rotate in the opposite direction to the display of the setting tool.

(3) Determine the communication speed when outputting data to the CAN logger.

Since the CAN ID is determined based on the own machine ID, set it so that the controller ID of ② does not overlap when driving two units.

Select "None" if you do not want to output data to the CAN logger.

(4) If a variable field system is installed, set the gear position. Normally, uncheck it.

System setting

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2-6. COM port change button

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