

Mitsubishi Electric Energy Saving Support Software EcoAdviser

Energy Saving Data Analysis Software Energy Saving Data Analysis and Diagnosis Software

# MES3-EAP1-DA MES3-EAP1-AI

User's Manual

• Before operating the instrument, you should first read thoroughly this operation manual for safe operation and optimized performance of the product. Deliver this user's manual to the end user.

# Introduction

Thank you for purchasing our Energy Saving Data Analysis Software or Energy Saving Data Analysis and Diagnosis Software, EcoAdviser, in Mitsubishi Electric Energy Saving Support Software.

This instruction manual provides essential information to install, set up, and operate EcoAdviser. Before use, be sure to thoroughly read the manual to properly use the software.

We recommend that you keep the manual in a safe place for future reference and read it whenever necessary. The manual should be forwarded to the end user.

This manual is designed with the assumption that the user can basically operate a computer, whose operating system (OS)is Windows, where EcoAdviser is to be installed. If you need to know basic operation of Windows, refer to the manual of your OS.

#### Features

EcoAdviser is an application software and can be used by installing on a computer, which is in the same network with EcoWebServerIII or which is equipped with the Edgecross software platform. EcoAdviser has functions such as analysis using various types of graphs, dashboard creation, and energy-loss diagnosis.

The detailed features are as follows:

• Easy setup

The setup is easy to use each function of EcoAdviser.

- Data extraction of one product from multiple types of products When you use the equipment where multiple types of products are manufactured, you can extract data of one product from multiple types of products.
- Dashboard creation
   You can customize the dashboard to display items, such as graphs, images, and measuring values.
- Input of off-line data
   By setting the manual input measuring point, you can input data of off-line, such as production volume.
- Daily/Monthly/Annual report creation
   The daily/monthly/annual report is created based on the measuring data.
- An application compatible with Edgecross
   By installing EcoAdviser on a computer which is equipped with the Edgecross software, it is possible to use the data of various companies' measuring instruments that Edgecross collects.

The following features are for Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI).

- Extraction of energy-loss from production equipment EcoAdviser can extract energy-loss from five viewpoints for each equipment.
- Diagnosis of energy-loss factors The highly correlated items as energy-loss factors are identified as results of this software's diagnosis function, and those items are displayed in a ranking table form.
- Result check of energy saving improvement activities
   You can check the two values before and after energy saving improvement activities, such as energy consumption or electricity rate.

## Cautions for use

EcoAdviser (Model: MES3-EAP1-AI) converts energy consumption into the corresponding amount of energy costs using the electricity rate setting.

Energy-loss factor diagnosis indicates the result calculated by the specified program. The correct result may not be obtained due to diagnosis period or data bias. Please use it for your energy saving activities as a reference.

# Package contents

Contents	Quantity	Details
CD-ROM	1	The install program of EcoAdviser *This instruction manual, which lists the Software end user license agreement, is included.
Hardware key	1	Necessary to run the software *The hardware key of Energy Saving Data Analysis Software (Model: MES3-EAP1-DA) is different from the key of Energy Saving Data Analysis and Diagnosis Software (Model: MES3- EAP1-AI). Since the two hardware keys are incompatible with each other, use the supplied hardware key. For details, refer to [2.5 Hardware Key].
Instruction for package contents	1	The instruction document on the package contents of EcoAdviser
The Software end user license agreement	1	The Software end user license agreement of EcoAdviser *It is also described in this manual.

When unpacking your package, check all the contents.

# Note

To start EcoAdviser, the hardware key is required.

### Network construction and connection

- Please note that we do not provide technical support for network construction and connection.
- When protecting the system from illegal access by external parties, incorporate safety measures against it by the user itself. Our company shall not be liable for any problems arising from illegal access.
   We recommend that you observe the following precautions:
  - 1) Use LAN to prevent illegal access from outside.
  - 2) When connecting to Internet, incorporate security measures such as Firewall or VPN.
- Make sure that a computer, where EcoAdviser is installed, can communicate with the device on the network to collect data from EcoWebServerIII via HTTP communication or to collect/output data on the network drive.
- When you remotely operate a computer, where EcoAdviser is installed, by using tools such as remote desktop connection, EcoAdviser does not start under such a condition.
   Set up the connection of remote control while EcoAdviser is running.

#### Storage

To store the hardware key and CD-ROM, avoid the following places:

- The ambient temperature exceeds the range +5 to +45°C.
- The daily average temperature exceeds +35℃.
- The ambient humidity exceeds the range 10 to 90% RH or condensing places.
- Exposure to rain, water droplets, or direct sunlight, or near heating apparatus
- Exposure to excessive vibration or impact
- Exposure to much dust, corrosive gas, salty environment, or oil mist
- Pieces of metal or similar substances are scattered.
- Exposure to strong magnetic fields or large exogenous noise.

#### After-sales service

If, within one year from the day of purchase or 18 months after manufacturing, whichever comes earlier, a defect in quality is acknowledged and the cause of the defect lies in our company, we will provide a free replacement.

However, even within one year from the purchase day, you will be charged in the following cases:

- The defect is caused by incorrect operation.
- The defect is caused by misuse.

After one year from the purchase day, the charge will be made.

# Disposal

Dispose of the product in compliance with the laws and regulations determined by the local government.

# Prohibition

No copying or reproduction of this manual, in part or in whole, is permitted without the consent of our company.

# Expressions used in this manual

Basically, this manual explains the operation or function of Energy Saving Data Analysis Software (Model: MES3-EAP1-DA) as an example, excluding the functions of Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI).

#### Glossary

The following terms are used in this manual.

Term	Explanation		
Common terms			
EcoAdviser	Indicate this software program.		
Edgecross	An open edge computing software platform, which is built by Edgecross		
	Consortium members going beyond the bounds of companies and		
	industries, and enables FA and IT cooperation		
Computer	A client computer or an industrial computer such as MELIPC, which is		
	produced by Mitsubishi Electric Corporation, where EcoAdviser is to be		
	installed		
Collection source	Indicate EcoWebServerII or Edgecross.		
Measuring value	Indicate measuring data of each measuring point.		
	The data that EcoAdviser collects from each collection source and the		
	calculated results are managed as measured values.		
Product type time	A measuring point to extract data of one product from multiple types of		
period measuring point	products		
Calculation measuring	A measuring point to perform four arithmetic operations on measuring points		
point			
Specific consumption	A measuring point to calculate specific consumption		
measuring point			
Manual input measuring	A measuring point to register data other than collection sources, such as		
point	measuring points of off-line		
Dashboard	A window (board) where various panels, such as graphs and images can be		
	displayed together.		
Pulse	A measuring type of the measuring point that measures a difference value,		
	which is a difference between the previous indication value and the present		
	indication value		
Analog value	A measuring type of the measuring point that measures a value at the time		
	of collection		
Power factor	A measuring type of the measuring point that measures power factor		
Operating status	A measuring type of the measuring point that measures the ON/OFF state of		
	contact or digital signal		
IIS	Microsoft Internet Information Services, a web server produced by		
	Microsoft Corporation		

Term	Explanation		
Terms only for Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI)			
Five focusing	Indicate the following items. For details, refer to [7.1 Outline].		
viewpoints for energy	(1) Equipment time-loss (start-up)		
saving	(2) Equipment time-loss (shut-down)		
	(3-1) Utility time-loss (start-up)		
	(3-2) Utility time-loss (shut-down)		
	(4) Specific consumption		
	(5) Production loss time rate		
Energy-loss during the	Indicate the following items. For details, refer to [7.1 Outline].		
standby/break time	(1) Energy-loss during the standby time (equipment)		
	(2) Energy loss during the standby time (utility)		
	(3) Energy-loss during the break time (equipment)		
	(4) Energy-loss during the break time (utility)		
Energy saving	Indicate five focusing viewpoints for energy saving and energy-loss during		
viewpoints	the standby/break time.		
Energy-loss diagnosis	Diagnose energy-loss in the equipment.		
	Two methods: Energy-loss extraction and Energy-loss factor diagnosis.		
Energy-loss extraction	Calculate each value of the energy saving viewpoint of the equipment using		
	diagnosis data from collection sources.		
	The calculation result is saved as diagnosis data.		
Energy-loss factor	Diagnose the relationship between the values calculated by energy-loss		
diagnosis	extraction and the pre-set factors.		
Diagnosis data	15/30/60-minute data of five focusing viewpoints for energy saving and		
	energy-loss during the standby/break time of the registered equipment		
Diagnosis data from	Data collected from each collection source every minute.		
collection sources	This data is used to perform diagnosis.		
Improvement result	Compare the two data between before and after improvement when you		
check	take action to improve.		
	Specify the two periods before and after improvement to display the		
	diagnosis data in a single chart.		

#### Related materials

		Ref. No.			
Edge	cross Basic	*1			
ECP-	BS1-W (Ed	gecross Basic Software for Windows)	.1		
EcoV	VebServerⅢ	User's Manual, Setting edition			
	Japanese	三菱省エネデータ収集サーバ EcoServerIII 取扱説明書:設定編	IB63915		
	Englich	Energy Saving Data Collecting Server EcoWebServerII	IR62010		
	English	User's Manual (Setting)	1003919		
	Chinese	三菱节能数据收集服务器 使用说明书 设定篇	IB63917		
EcoV	EcoWebServerII User's Manual, Operating edition				
	Japanese	三菱省エネデータ収集サーバ EcoServerIII 取扱説明書:運用編	IB63914		
	English	Energy Saving Data Collecting Server EcoWebServerII	IP62019		
	English	User's Manual (Operating)	1003910		
	Chinese 三菱节能数据收集服务器 使用说明书 运用篇		IB63916		

\*1: Download from the web site of Edgecross Marketplace.

#### Trademarks

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- Ethernet is a trademark of FUJIFILM Business Innovation Corp.
- Edgecross is a registered trademark of General Incorporated Association Edgecross Consortium.
- EcoAdviser is a registered trademark of Mitsubishi Electric Corporation.
- Other company and product names herein are trademarks or registered trademarks of their respective owners.
- In the text, trademark symbols such as "TM" and "®" may not be written.

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# 1. System Information

# **1.1 System Architecture**

The following illustrates some examples of system architecture using EcoAdviser.

■ When using EcoWebServer III for data collection



- \*1: EcoAdviser collects measuring data from the zoom (1 min.) data file or demand (daily) data file of EcoWebServerⅢ.
- \*2: To browse the dashboard HTML file on the computer in the network, activate the web server function, such as IIS, on the computer.

For details about IIS, refer to [12.2 IIS Settings].

■ When using Edgecross for data collection



Measuring instrument

- \*1: EcoAdviser collects measuring data from the historical data file of Edgecross.
- \*2: To browse the dashboard HTML file on the computer in the network, activate the web server function, such as IIS, on the computer.

For details about IIS, refer to [12.2 IIS Settings].

\*3: If the industrial computer (MELIPC) can communicate with EcoWebServer III via Ethernet, not only Edgecross but also EcoWebServer III can be registered as a collection source.

#### ■ When using the network storage



Collection source (Max. 20 units)

- \*1: If you output/save the dashboards HTML file to/in the network storage, you can browse the file by accessing to the network storage from the computer on the network without setting up the web server function such as IIS.
- \*2: You can configure the system using the network storage even when using the industrial computer (MELIPC).

# **1.2 Specifications**

#### 1.2.1 Specifications of the software

#### ★: The function of Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI)

Item			Specifications
	Regis	ter collection source	Register a collection source and its measuring points.
	Collection source Number of collection sources		EcoWebServerIII, Edgecross
			20 units *1
		Number of measuring points	5680 points
		EcoWebServerⅢ	255 points per unit
		EcoWebServerIII	Demand period (15 minutes): 284 points per unit
		with the demand	Demand period (30 minutes): 282 points per unit
		monitoring function	Demand period (60 minutes): 280 points per unit
		Edgogross	256 points per unit (the number of data logging flows *2)
			Data type: BOOL, INT, UINT, DINT, UDINT, REAL, LREAL
	Reais	ter manual input measuring point	Register a measuring point other than collection sources, such as
	Regis		off-line meters.
		Number of registrations	256 points
7	Regis	ter product type time period	Register a measuring point to extract data of one product from
1ea	meas	uring point	multiple types of products.
sur	Number of registrations Measuring value point		256 points
ing			Select from collection sources' measuring points or manual input
poi		Time period measuring point	measuring points.
nt :	Time period type		0 to 65535
settii	Register calculation measuring point		Register a measuring point to perform four arithmetic operations
sɓเ			
		Number of registrations	256 points
			select from collection sources measuring points, manual input
		Available measuring point	200 points, or product type time period measuring points.
			4000 letters can be used per calculation formula.
	Pogie	tor specific consumption	
	meas	auring point	Register a measuring point to calculate specific consumption.
	Number of registrations		256 points
		Energy measuring point	Select from collection sources' measuring points, manual input
		Production number	measuring points, product type time period measuring points, or
		measuring point	calculation measuring points.
		· .	Folder tree: 4 hierarchy levels
			Number of groups : 256 groups
	Measuring point group		Number of measuring points: 256 points per group
			*7000 measuring points for all groups

\*1: In the case that the collection source is Edgecross, the number of registrations depends on the number of data logging flows of Edgecross. The number of data logging flows is up to 12 on Edgecross Ver. 1.22.
 For more information about the data logging flow, refer to the Edgecross Basic Software for Windows User's Manual.

\*2: In the case that only Edgecross is registered for every collection source, you can register measuring points up to 3072, which means 256 measuring points times 12 collectoin sources.

Item			Specificatio	ons
Grap	Analysis method (Graph type)		Select from time series chart, box plo	t, pie chart, scatter plot,
			histogram, or pareto chart.	
bh fi	Display in	terval	Select from Hour, Day, Month, or Year.	
Inct			*For box plot, this is set to Hour.	
lion	Number o	f saving	300 panels	
	Dachhaar	derection	Create a dashboard where various ty	pes of panels can be
	Dashbuah		displayed.	
		Sheet setting	10 sheets per dashboard	
Dashb			Graph panel, which is created with the graph function ★Diagnosis panel, which is created using the graph/table of diagnosis result	10 panels per sheet in total of the two types*3
			Number panel, which is created using collected measuring point data Image panel, which is created using	15 panels per sheet
ard			image files	5 paneis per sneet
fun	Number of saving		5 files	
ctio	Display mode		Display the created dashboard on EcoAdviser.	
		Auto-update	Set the automatic update of the data	on the dashboard.
	Display	Auto-update timing	1-hour cycle (after automatic collection	on)
	settings	Tab display	Set the display of the tab for sheet sw	vitching.
	Settings	Auto-switch	Set the automatic switching of the sheet at regular intervals.	
		Auto-switch interval	10/20/30/60/120/180/300 (sec.)	
	HTML out	put	Output the created dashboard to the HTML file.	
	Automatic HTML output function		Set the automatic output to the HTM	L file at the time of changing
			the dashboard setting or updating the displayed data.	
	Output timing		1-hour cycle (after automatic collection)	
	Saving destination		Set the saving destination of HTML fil	es to be output.

\*3: Of diagnosis panel, 100 panels for all dashboards can be placed to display the result of energy-loss factor diagnosis.

Item				Specifications
	Format			Set up the report format.
		Number of saving		24 report settings (In one setting, each output item of daily,
				monthly, and annual report is saved.)
			Daily report	320 items
		Numerican		16 items per sheet $\times$ 20 sheets
		Number	Monthly	320 items
		items	report	16 items per sheet $\times$ 20 sheets
			Annual	320 items
			report	16 items per sheet × 20 sheets
-				Select from collection sources' measuring points, manual input
Repo		Output itam		measuring points, product type time period measuring points,
ort		Output item	1	calculation measuring points, or specific consumption measuring
func				points.
tion		Daily report	:	Create the daily report of a specified day and save it in the Excel
				format.
	Report	Monthly rep	oort	Create the monthly report of a specified month and save it in the
	creation			Excel format.
		Annual repo	ort	Create the annual report of a specified year and save it in the
				Excel format.
	Automatic output setting of reports		of reports	Set the automatic output of reports.
		Automatic output time		Set the time of automatic output of reports.
				•Set the destination path of daily report files.
		Saving destination		$\cdot$ Set the destination path of monthly report files.
				$\cdot$ Set the destination path of annual report files.
	File collection	on settings		Collect the logging files stored in the collection source.
	File ture	EcoWebServerⅢ		Zoom (1 min.) data file, demand (daily) data file *4
	File type	Edgecross		Historical data file
	Automatic collection			Set the collection for each file type.
		Automatic o	collection	EcoWebServerIII: Collection time specified by the user
Da		timing		Edgecross: Collection period specified by the user
talo		Aggregation	n period	Set the collection period for each of daily/monthly/annual basis.
Ölle	Retention p	eriod		Set the retention period for each file type.
ctio		15/30/60-n	ninute basis	
n fu		data		
Ind		Day basis d	ata	2 to 10 years
lion		Month basis	s data	*Default: 10 years
		Year basis o	lata	
		★Diagnosis	data	
		 ★Diagnosis	data from	
		collection	sources	62 days
	File deletion timing			Sequentially delete the logging files of expired retention period.

\*4: When the collection source is EcoWebServerII with the demand monitoring function, it is possible to collect the demand (daily) data file.

Item			Specifications
Data input			Input 15-min/30-min/60-min data of each measuring point for a
Da			user-specified period.
ta			*Input at one time: 256 measuring points
npu			*Specified period: 31 days
t fu	Export		Output 15-min/30-min/60-min/24-hour data of each measuring
ncti			point for a user-specified period to the Excel file.
no	Import		Input 15-min/30-min/60-min/24-hour data of each measuring
			point to the imported Excel file.
			Select from product type time period measuring points,
0	Available m	oscuring point	calculation measuring points, or specific consumption measuring
alcı		easuring point	points.
ılati			*256 measuring points at one time
on	Automatic c	alculation	Automatically calculate measuring point data.
func			Select from product type time period measuring points,
ctio		Available measuring point	calculation measuring points, or specific consumption measuring
			points.
		Calculation timing	At the execution of automatic collection
	Data output		Output the collected measuring point data, which is saved in the
_			file.
Data	Automatic c	output settings	Set the automatic output of data files.
D D		Output group	Max. 30 groups
Itpu		Output destination	Set the destination path.
ıt fı			Select from collection sources' measuring points, manual input
Inct		Available measuring point	measuring points, product type time period measuring points,
ion			calculation measuring points, or specific consumption measuring
			points.
		Output timing	After automatic collection
Maintenance		Backup	Back up the setting values and data to the folder
funct	ion	Postoro	Restore the setting values and data backed up from the specified
Turici		Restore	folder
Vans		Fee A duiser	MES3-EAP1-DA: 1.0.1
versi	on	ECOAdviser	MES3-EAP1-AI: 1.0.0
*5		Historical data access I/F	1.0

\*5: The latest version is described.

For the version history, refer to [4.5 Version Information].

Item			Specifications
	Equipment setting		Register the equipment information for energy-loss diagnosis
		Number of registrations	50 pieces
	Energy-loss factor setting		Set the energy-loss factor by equipment
*		Number of registrations	20 points per equipment
liag	Calculation	measuring point for	Register the calculation measuring point for energy-loss
nos	diagnosis se	etting	diagnosis.
is si		Number of registrations	150 points
ettir		Ausilable measuring naint	Select from collection sources' measuring points other than
sɓเ		Available measuring point	demand measuring points.
	Electricity r	ato cotting	Set the currency unit and the electricity rate per 1 kWh to
		ate setting	convert energy consumption into the amount.
	Evaluation r	eset	Reset the evaluation for energy-loss factor.
	Energy-loss diagnosis		Diagnose the following two items for equipment.
			Extract the data of five focusing viewpoints for energy saving
		Energy-loss extraction *6	and energy-loss during the standby/break time by equipment to
*			rank the equipment in order of energy-loss.
Dia		Energy-loss factor	Diagnose energy-loss factors using the default and additional
gno		diagnosis	settings of factors.
sis	Improvement result check		Compare the data of two periods to check the improvement
fun			result by energy saving improvement activities.
ctio	Automatic d	liagnocia	Automatically perform energy-loss extraction, energy-loss factor
Ď		liagriosis	diagnosis, and improvement result check.
	Diagnosis n	anal	Save the graph or table of energy-loss extraction, energy-loss
			factor diagnosis, or improvement result check.
	Number of saving		50 panels

\*6: You might not get exact and correct energy-loss extraction because of the energy data with less decimal digits. In that case you should collect the energy with more high-precision and with more low-decimall digits.

#### 1.2.2 Specifications of one-rotation processing of pulse

EcoAdviser executes one-rotation processing for measuring points, whose measuring type is pulse, as the following.

Change the maximum accumulated count value of each collection source to match EcoAdviser.

\*Both when the collection source is EcoWebServerII and when CC-Link terminal devices only are used, no setting change is required.



<How to determine the upper limit measuring value>

The upper limit measuring value is determined depending on the digit number of the last value. The following table shows some examples.

Digit number of the last value	Upper limit measuring value	Example
	999	The last value: 987, the current value: 123
5 digits		→Measuring value=1000+123-987=136
4 digits	9999	The last value: 9876, the current value: 1234
		→Measuring value=10000+1234-9876=1358
5 digits	99999	The last value: 98765, the current value: 12345
		→Measuring value=100000+12345-98765=13580
6 digits	999999	The last value: 987654, the current value: 123456
		→Measuring value=1000000+123456-987654=135802

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# 2. Preparation for Use

# 2.1 Computer's Operation Environment

The following table shows the operation environment of the computer where EcoAdviser is to be installed.

Item	Specification	
OS	Microsoft Windows 10 Pro/Enterprise/IoT Enterprise (64-bit)	
Language version	Japanese, English, Simplified Chinese	e
CPU	Intel <sup>®</sup> Core <sup>™</sup> i3-550 or more recom	mended
Memory	4 GB or more recommended	
	<energy analysis<="" data="" saving="" td=""><td><energy analysis="" and<="" data="" saving="" td=""></energy></td></energy>	<energy analysis="" and<="" data="" saving="" td=""></energy>
	Software (Model: MES3-EAP1-	Diagnosis Software (Model: MES3-
Hard disk drive	DA)>	EAP1-AI)>
	Software: 4 GB or more	Software: 4 GB or more
	Data: 15 GB or more *1	Data: 20 GB or more *1
LAN	10/100/1000BASE-T×1	
USB connector (Type A)	1 connector (for connecting the hardware key)	
CD drive	1 drive (for installing EcoAdviser)	
Spreadsheet *2	Microsoft Excel 2016 (32-bit/64-bit)	
	Microsoft Excel 2019 (32-bit/64-bit)	
Display resolution	1024×768 pixels or more	
Input device	A mouse and keyboard	

\*1: If you set the storage period of each data and the registration number of each measuring point to the maximum, this capacity will be necessary.

\*2: You cannot use the Excel that has been purchased from Microsoft Store. Use the desktop version of Excel.

When using EcoAdviser, note the following points:

- While EcoAdviser is running, do not open the CSV file collected from the collection source or daily/monthly/annual report in the Excel file. Otherwise, you will fail to save the data.
- For the use conditions and installation conditions, such as power supply voltage, frequency, and earth grounding, on the computer where EcoAdviser is installed, observe the terms and conditions described in the manual of the computer.
- Depending on the settings of power options in the used computer, data collection may stop midway. Set the sleep timer to Never on the computer and then save the setting.
- Synchronize the time of each collection source and the computer. For details, refer to [6.2 Automatic Data Collection].
- The data storage period is limited for collection source. Therefore, collect data periodically.
- This software may run slowly on your computer if there are a lot of saved data or if the software has a large number of registered data, such as measuring points and graph settings.

# 2.2 Edgecross's Data File Collection

Set the data period and the number of lines in a file as described below in order that EcoAdviser can collect the data if the collection source is Edgecross.

\*For details on the settings, refer to Edgecross Basic Software for Windows User's Manual.

# 2.2.1 Measuring type: analog value, power factor, operating status, pulse whose type is indicated

Historical data file setting		
Data period	Number of file lines	
60 seconds	60 lines	
30 seconds	120 lines	
10 seconds	360 lines	

Data collection from the historical data file

EcoAdviser collects data of the latest time before the collection time.

<Measuring type: analog value, power factor, operating status>



#### <Measuring type: pulse whose type is indicated>



#### 2.2.2 Measuring type: pulse whose type is difference

Data period	Number of file lines	Details
3600 sec. (60 min.)	1 line	This setting is used in the analysis function.
1800 sec. (30 min.)	2 lines	Match the data period to EcoAdviser.
900 sec. (15 min.)	4 lines	For details, refer to [4.3.4 Collection setting].
60 sec.	60 lines	This setting is used in the diagnosis function.

Historical data file setting

\*The measuring point used in the analysis function and the one in the diagnosis function differ. Each of them must be registered as a separate measuring point.

e.g. when you want to use Measuring point A both in the analysis and diagnosis functions, register Measuring point A and Measuring point A' to EcoAdviser.

The data period of EcoAdviser is 15 minutes.

Moocuring point	Historical data file setting		
measuring point	Data period	Number of file lines	
Measuring point A	900 sec.	4 lines	
Measuring point A'	60 sec.	60 lines	

Data collection from the historical data file

EcoAdviser collects data of the latest time before the collection time.



#### 2.2.3 Collectable data type

The following table shows a list of data types that EcoAdviser can collect.

○: Collectable -: Non-collectable

Notice: If you set the real number, it must have max. 14 decimal places.

\*If there are any incompatible data types in the historical data definition file, those parts will be skipped.

Data type	Collectable
BOOL	0
INT	0
UINT	0
DINT	$\bigcirc$
UDINT	0
LINT	-
ULINT	-
REAL *1	$\bigcirc$
LREAL *1	0
STRING	-
WSTRING	-

## 2.3 Installation/Uninstallation

This section describes how to install and uninstall EcoAdviser.

- \*1: You must log in as a user with administrative rights to install the software.
- \*2: You can install the software on one computer per license.
- \*3: The hardware key is not necessary to install but to start the software.

#### 2.3.1 Installing EcoAdviser

- (1) Insert the CD-ROM of EcoAdviser into the CD drive of the computer.
- (2) Open the CD drive and start the installer.
   \*The following is the file name of the installer:
   ·MES3-EAP1-DA: setup\_MES3-EAP1-DA\_x64.exe
   ·MES3-EAP1-AI: setup\_MES3-EAP1-AI\_x64.exe
- (3) The following window appears.Click the **Next** button.



(4) The following window appears.

If you agree with the Software end user license agreement, click the **Yes** button.



(5) The following window appears.

When installing on the default destination, click the **Next** button to start the installation.

\*The following is the default destination to install:

·MES3-EAP1-DA: C:¥Mitsubishi¥MES3-EAP1¥

·MES3-EAP1-AI: C:¥Mitsubishi¥MES3-EAP1-AI¥

Energy Saving Data Analysis Software		×
Choose Destination Location Select folder where setup will install fi	es.	Z
Setup will install Energy Saving Data A	Analysis Software in the follow	wing folder.
To install to this folder, dick Next. To another folder.	install to a different folder, d	lick Browse and select
Destination Folder		
C:\Mitsubishi\MES3-EAP1\		Browse
InstallShield		
	< Back	Next > Cancel

(6) When the installation is completed, the following window appears.Click the **Finish** button to close the window.

This is the end of the installation.

Energy Saving Data Analysis Software	
S.	InstallShield Wizard Complete The InstallShield Wizard has successfully installed Energy Saving Data Analysis Software. Click Finish to exit the wizard.
	< Back Finish Cancel

#### 2.3.2 Uninstalling EcoAdviser

You must log in as a user with administrative rights to uninstall the software.

\*Even if you uninstall the software, various setting values and the folders created during operation, such as CSV folders and report folders, are not deleted.

- From the Start menu, click Settings and then click Apps.
   Open the Apps & features window.
- (2) From the list, select Energy Saving Data Analysis Software or Energy Saving Data Analysis and Diagnosis Software.



Click the **Uninstall** button.

(3) The following message appears.

Click the **Yes** button to start the uninstallation.



(4) When the uninstallation is completed, the following window appears.

Click the **Finish** button to close the window. This is the end of the uninstallation.



## 2.4 How to Update EcoAdviser

This section describes how to update the software from Energy Saving Data Analysis Software (Model: MES3-EAP1-DA) to Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI) and the precautions.

Operation	Details
4.4.1 Padup	Back up the setting values and data of Energy Saving Data Analysis Software
	(Model: MES3-EAP1-DA).
$\downarrow$	
2.3.2 Uninstalling	Uningtall Energy Saving Data Analysis Software (Medal: MES2 EAD1 DA)
EcoAdviser	Offinistali Energy Saving Data Analysis Software (Model: MESS-EAP1-DA).
$\downarrow$	
2.3.1 Installing	Install Energy Saving Data Analysis and Diagnosis Software (Model: MES3-
EcoAdviser	EAP1-AI).
$\downarrow$	
4.4.2 Restoration	Restore the setting values and data to Energy Saving Data Analysis and
	Diagnosis Software (Model: MES3-EAP1-AI).

### Note

Energy Saving Data Analysis Software (Model: MES3-EAP1-DA) and Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI) cannot coexist.

If you try to install Energy Saving Data Analysis and Diagnosis Software on the computer where Energy Saving Data Analysis Software is installed, the Energy Saving Data Analysis Software will be uninstalled. The data collected on Energy Saving Data Analysis Software (Model: MES3-EAP1-DA) is impossible to use for diagnosis. To perform the diagnosis, data must be collected from collection sources again.

# 2.5 Hardware Key

The hardware keys of Energy Saving Data Analysis Software (Model: MES3-EAP1-DA) and Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI) differ. Use the supplied hardware key because the two keys are incompatible. This section describes how to distinguish the hardware key. The seal shown in the figure below is attached to the hardware key. Judge from the number indicated on the seal.



19D305: Energy Saving Data Analysis Software (Model: MES3-EAP1-DA). 19D306: Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI)

# 3. Basic Operation Guide

## 3.1 Start/Exit

#### 3.1.1 Starting EcoAdviser

- (1) Connect the hardware key to your computer.
- (2) Double-click the shortcut on the desktop.Otherwise, from the Start menu, click MITSUBISHI Energy Management to select EcoAdviser.

#### (3) The software starts.

\*At the first startup, the setting window appears for display language.

Select a language and click the **OK** button.

If you want to change the language setting after the first setup, change it from **System settings**. For details, refer to [4.3.3 Language setting].

Select language ×	
Language	
Select the language to display.	
⊖ Japanese	
• English	
O Simplified Chinese	
OK Cancel	

#### 3.1.2 Exiting EcoAdviser

- (1) Click the  $\times$  button at the upper right of the window.
- (2) The following confirmation window appears.

Click the **Yes** button to exit the software.

EcoAdv	riser	$\times$
<u> </u>	Are you sure you want to close the w Unsaved data will be discarded.	indow?
	Yes <u>N</u> o	

# 3.2 Basic Operation Flow

#### 3.2.1 Initial setup

On the first startup, set the following settings before using each function.



#### 3.2.2 Energy-loss diagnosis execution

This is the function of Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI).

The following is a flow to execute energy-loss diagnosis.

Manual collection	Collect data for the diagnosis period from the collection source. For details, refer to [5.1 Manual Collection] or [7.3.2 Setting the diagnosis
↓	penod].
Diagnosis	Extract energy-loss data or diagnose its factors by equipment. You can save the graph or table of the diagnosis result in the diagnosis panel and place it on the dashboard as necessary. For details, refer to [7 Diagnosis].

#### 3.2.3 Energy saving activities using the diagnosis function

# This is the function of Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI).

The following is a flow of improvement activity using the energy-loss diagnosis.



### 3.2.4 Graph/Data display

The following is a flow to display data/graphs on EcoAdviser or on the web.		
Graph panel creation	Create a new graph panel to display on the dashboard.	
	For details, refer to [8 Graph].	
$\downarrow$		
Dashboard settings	Arrange the created panels on the dashboard.	
	For details, refer to [9.1 Dashboard Creation/Edition].	

#### 3.2.5 Analysis with graphs

The following is a flow to analyze data using graphs.							
Data analysis	Create a new graph panel and then change the setting such as display period						
with graphs	to analyze. For details, refer to [8 Graph].						

#### 3.2.6 Report creation

The following is a flow to manually create the daily/monthly/annual report.					
Report creation	Set up the daily/monthly/annual report to output.				
	For details, refer to [10.2.3 Setting the output].				

### 3.2.7 Manual collection/input of data

The following is a flow to manually collect or input data.					
Data operation	Manually collect, input, or extract measuring point data.				
	For details, refer to [5 Data].				

## 3.2.8 Setting change after the operation starts (Addition/Change of collection source/measuring point)

The following is a flow to add/change the information on the collection source/measuring point.

\*When you use Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI), check whether the measuring point is used in the diagnosis setting. If it used, refer to [12.3 Operation for Setting Change about Diagnosis Function].



# 3.2.9 Setting change after the operation starts (Deletion of collection source/measuring point)

The following is a flow to delete the information on the collection source or measuring point.

\*When you use Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI) check whether the measuring point is used in the diagnosis setting. If used, change the setting value and then delete the measuring point. For details on the setting change, refer to [12.3 Operation for Setting Change about Diagnosis Fucntion].



### 3.2.10 Setting change after the operation starts (Addition of equipment/factor diagnosis /calculation measuring point setting)

This function is for Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI). The following is a flow to add the diagnosis setting, such as equipment, factor diagnosis, or calculation

measuring point.						
	Add the equipment setting, factor diagnosis setting, or calculation measuring					
Addition of	point setting as necessary.					
diagnosis	For details, refer to [4.2.2 Registering/Changing the equipment information],					
setting	[4.2.5 Setting/Editing the energy-loss factor], or [4.2.7 Setting the calculation					
	measuring point for diagnosis].					
$\downarrow$						
Manual	Collect data for the diagnosis period from the collection source.					
	To reflect the changed settings to the past diagnosis data, execute the diagnosis					
	again as necessary.					
conection	For details, refer to [5.1 Manual Collection] or [7.3.2 Setting the diagnosis					
	period].					
$\downarrow$						
	Extract energy-loss or diagnose its factor by equipment.					
<b>.</b>	You can save the graph or table of the diagnosis result in the diagnosis panel and					
Diagnosis	place it on the dashboard as necessary.					
	For details, refer to [7 Diagnosis].					

# 3.2.11 Setting change after the operetion starts

#### (Change of equipment/factor diagnosis /calculation measuring point setting)

This function is for Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI). For details on the operation, refer to [12.3 Operation for Setting Change about Diagnosis Fucntion].

## 3.2.12 Setting change after the operation starts

## (Deletion of equipment/factor diagnosis setting)

**This function is for Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI).** The following is a flow to delete the equipment/factor diagnosis setting.

	<u> </u>
Deletion of	Delete the equipment or factor diagnosis setting as necessary.
diagnosis	For details, refer to [4.2.3 Deleting the equipment information] or [4.2.6 Deleting
setting	the energy-loss factor setting].

## 3.3 Useful Function

EcoAdviser is designed to display data in the table format at various settings. To easily select any data from the table, EcoAdviser has the following functions.

#### 3.3.1 Data sorting (ascending/descending order)

Click the **Title bar** to sort data in ascending or descending order based on the selected column. For ascending sort order, the  $\blacktriangle$  sign appears in the selected item. For descending order, the  $\checkmark$  sign does the same.

coAdviser - Meas	suring Point Settings						-		×	
	🌐 Change collection source 📄 Mea	suri	ng point lis	st output 💿	<b>1</b> 3					
Register collection sou	Ince Delete collection source U Cha	nge	all measu	ring points Measuring point •	Measuring point group +	List of reference error				
	Collection source					Reference error				-
The measurin	ng points will be listed in the right list when yo	Sei	iect the col	lection source of the left lis						
ID	Collect source name		ID	Measuring point name		<ul> <li>Measuring type</li> </ul>	Measu	ring poin.		
1	Office	1	61	ELOWMETER (C18)		Pulse	m3		^	
2	Assembly Line 1st		62	FLOWMETER (C19)		Pulse	m3			
3	Assembly Line 2nd		1	Machine_A(A)		An alog value	A			
4	Assembly Line DOWN	1	2	Machine_A(kW)		Analog value	kW			
5	Assembly Line Passed/Failed		3	Machine_A(kWh)		Pulse	kWh		∕ ┓	sina 🗸
MAN	Manual input measuring point		4	Machine_B(A)		Analog value	A		· ·	onig
TIM	Product type time period measuring point		5	Machine_B(kW)		Analog value	kW			
OPE	Calculation measuring point	1	6	Machine_B(kWh)	· \	Pulse	kWh			
SPC	Specific consumption measuring point	1	7	Machine_C(A)		Analog				
		1	8	Machine_C(kW)		Analog	litle	bar		
			9	Machine_C(kWh)		Pulse				1
			10	Machine_D(A)		Analog value	Α			
		1	11	Machine_D(kW)		Analog value	kW			
			12	Machine_D(kWh)		Pulse	kWh			
			13	Machine_E(A)		Analog value	Α			
			14	Machine_E(kW)		Analog value	kW			
			15	Machine_E(kWh)		Pulse	kWh			
			16	Machine_F-1(A)		Analog value	Α			
			17	Machine_F-1(kW)		Analog value	kW			
			18	Machine_F-1(kWh)		Pulse	kWh			
			69	Machine_F-1_N(Piece)		Pulse	Piece			
			19	Machine_F-2(A)		Analog value	Α			
			20	Machine_F-2(kW)		Analog value	kW			
			21	Machine_F-2(kWh)		Pulse	kWh			
			70	Machine_F-2_N(Piece)		Pulse	Piece			
			22	Machine_F-3(A)		Analog value	Α			
									*	

#### 3.3.2 Filter

Using the filter function, it is possible to display a specific value only or to search for a value that match any of specified conditions.

By hovering your mouse over the title bar, you see the  $\square$  sign at the right end of the item column. Click the  $\square$  sign.

coAdviser - Measuring Point Settings					– 🗆 X	
Change collection source	Meası	ıring point li	st output 🔕 🟥			
Register Delete collection source	Chang	je all measi	rring points Measuring Measuring points point • Point group	g List of reference error		
Collection source				Reference error		
The measuring points will be listed in the right list when	i you a	elect the co	lection source of the left list			
ID Collect source name		ID	Measuring point name	Measuring type	Measuring poin	
1 Office		1	Machine A(A)	Analog value	A A	
2 Assembly Line 1st		2	Machine_A(kW)	Analog value	kW	
3 Assembly Line 2nd		3	Machine_A(kWh)	Pulse	kWh	
4 Assembly Line DOWN		4	Machine_B(A)	Analog value	A	
5 Assembly Line Passed/Failed		5	Machine_B(kW)	Analeg value	KW 📍	cian
MAN Manual input measuring point		6	Machine_B(kWh)	Pulse	kWh	Sign
TIM Product type time period measuring poir	t	7	Machine_C(A)	Analog value	A	
OPE Calculation measuring point		8	Machine_C(kW)	Analog value	kW	
SPC Specific consumption measuring point		9	Machine_C(kWh)	Pulse		
		10	Machine_D(A)	Analog va	Title bar	
		11	Machine_D(kW)	Analog va		
		12	Machine_D(kWh)	Pulse	kWh	
		13	Machine_E(A)	Analog value	A	
		14	Machine E(kW)	Analog value	kW	
		15	Machine E(kWh)	Pulse	kWh	
		16	Machine F-1(A)	Analog value	A	
		17	Machine_F-1(kW)	Analog value	kW	
		18	Machine_F-1(kWh)	Pulse	kWh	
		19	Machine_F-2(A)	Analog value	A	
		20	Machine_F-2(kW)	Analog value	kW	
		21	Machine_F-2(kWh)	Pulse	kWh	
		22	Machine_F-3(A)	Analog value	A	
		23	Machine F-3(kW)	Analog value	kW	
		24	Machine F-3(kWh)	Pulse	kWh	
		25	Machine F-4(A)	Analog value	A	
		26	Machine F-4(kW)	Analog value	kW	
		07			×	

The following window appears.

The actions of the Values and Text Filters tab are as follows.


# (1) The function of the **Values** tab

The filter method varies depending on displayed data.

### For text

Data with checkmark shows. If there is no checkmark in the box, all data will be displayed.

This button resets the filter settings.



This text box is to search for a text string. Entering the string will show a list of data that contains the same string.

# A list of data Searching for a text string will show data that contains the same string.

#### For numeric value



#### For date



### (2) The function of the **Text Filters** tab

The filter method varies depending on displayed data.

■ For text and numeric value

Values Text Filters Begins With	-	Select a filter condition from the pull down menu.
Enter a value		Enter a value. The data shows regarding that matches the filter conditions and value.
		This button resets the filter settings.
Clear Filter Close		

#### For date

Values Date Filters Specific Date Periods	Select a filter condition from the pull down menu.
Yesterday       Last Month         Today       This Month         Tomorrow       Next Month         Last Week       Last Year         This Week       This Year         Next Week       Next Year	Specify the date. *The method to specify the date varies depending on the filter condition.
Clear Filter Close	This button resets the filter settings.

■ Filter conditions

Filter conditions						
Text	Numeric value	Date				
Equals	Equals	Specific Date Periods	This Week			
Does Not Equal	Does Not equal	Is Same Day	Next Week			
Begins With	Is Null	Equals	Last Month			
Does Not Begin With	Is Not Null	Does Not Equal	This Month			
Ends With	Between	Between	Next Month			
Does Not End With	Greater Than	Before	Last Year			
Contains	Greater Than Or Equal To	After	This Year			
Does Not Contain	Less Than	Yesterday	Next Year			
Is Blank	Less Than or Equal To	Today	Year To Date			
Is Not Blank	Тор N	Tomorrow	All Dates In The Period			
Custom Filter	Bottom N	Last Week	Custom Filter			
	Above Average					
	Below Average					
	Custom Filter					

\* For the filter conditions with yellow, you can select also from the custom filter. For the filter conditions with green, you can select at the custom filter only.

Custom filter

When selecting Custom filter at the filter condition, set the following two conditions. It is possible to search for a value that meets either or both of two conditions.

Values T	ext Filters	
Custom F	ilter	-
First	Choose one	-
	Select a value	Ŧ
	And Or	
Second	Choose one	•
	Select a value	•
Clear Filt	er	Close

# 3.3.3 Measuring point group

This is used to separate measuring points into groups regardless of the types of collection source and measuring point.

By setting this measuring point group, you can easily find measuring points when dragging and dropping. For details, refer to [4.1.12 Setting the measuring point group].

# 4. Settings

This chapter describes how to set the settings such as measuring point settings and diagnosis settings.

Click the **Settings** button to display the sub menu as the following.

By selecting each sub menu tab, the window shows the setting window.

\*The following is the window of Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI).

🖺 EcoAdviser - Diagnosis					- 🗆	×
۲	Improvement result check					
Ciagnosis	ocusing points for energy saving gy-loss during standby/break time	Detailed	Start 7/26/2020 - End 9/24/2020 -	Collection	Diagnosis	
Graph	Energy saving points	setting	Diagnosis period	status check Diagnosis source data	panei Panel management	
(S) Dashboard						
Report						
🥃 Data						
Auto Execute Settings						
Settings	Click Settir	nas te	o display	]		
Diagnostic settings						
System Settings						
System Maintenance						
Version Info						
/						

Sub menu	Details	Reference
Measuring point settings	Register, edit, or delete collection sources and measuring	A 1
	points.	4.1
Diagnosis settings	Register the information for diagnosis.	4.2
	*This function is for Energy Saving Data Analysis and	
	Diagnosis Software (Model: MES3-EAP1-AI).	
System settings	Set system settings, such as retention period and data	4.3
	collection.	
System maintenance	Output logs or back up/restore the setting values/data of	4.4
	EcoAdviser.	
Version information	Check the version of EcoAdviser.	4.5

# 4.1 Measuring Point Settings

This section describes how to register the information on collection sources and measuring points or change the information.

For details on how to operate the buttons on the window, refer to the following table.

Adviser - Meas	suring Point Settings							_ □	
	🌐 Change collection source 📄 Mea	asuri	ng point lis	t output	$\bigcirc$	<b>1</b> 3	<b>₽</b>		
Register	Delete collection source	ange	all measu	ring points	Measuring	Measuring	List of		
collection sou	nce				point *	point group +			
	Collection source						Reference error		
The measurin	ng points will be listed in the right list when yo	u se	lect the col	lection sourc	e of the left list	t			
ID	Collect source name		ID	Measuring p	point name		Measuring type	Measuring poin.	
1	Office		1	Machine A(	A)		Analog value	A	
2	Assembly Line 1st		2	Machine_A(	kW)		Analog value	ĸW	
3	Assembly Line 2nd		3	Machine_A(	kWh)		Pulse	kWh	
4	Assembly Line DOWN		4	Machine_B(	A)		Analog value	A	
5	Assembly Line Passed/Failed		5	Machine_B(	kW)		Analog value	kW	
MAN	Manual input measuring point		6	Machine_B(	kWh)		Pulse	kWh	
TIM	Product type time period measuring point		7	Machine_C	(A)		Analog value	Α	
OPE	Calculation measuring point		8	Machine_C	(kW)		Analog value	kW	
SPC	Specific consumption measuring point		9	Machine_C	(kWh)		Pulse	kWh	
			10	Machine_D	(A)		Analog value	Α	
			11	Machine_D	(kW)		Analog value	kW	
			12	Machine_D	(kWh)		Pulse	kWh	
		1	13	Machine_E(	A)		Analog value	Α	
			14	Machine_E(	kW)		Analog value	kW	
			15	Machine_E(	kWh)		Pulse	kWh	
			16	Machine_F-	1(A)		Analog value	A	
			17	Machine_F-	1(kW)		Analog value	kW	
			18	Machine_F-	1(kWh)		Pulse	kWh	
			19	Machine_F-	2(A)		Analog value	A	
			20	Machine_F-	2(kW)		Analog value	kW	
			21	Machine_F-	2(kWh)		Pulse	kWh	
			22	Machine_F-	3(A)		Analog value	A	
			23	Machine_F-	3(kW)		Analog value	kW	
			24	Machine_F-	3(kWh)		Pulse	kWh	
			25	Machine_F-	4(A)		Analog value	Α	
			26	Machine F-	4(kW)		Analog value	kW	

Button	Details	Reference
Register collection	Register the collection source information.	4 1 1
source	Additionally, register its measuring points.	4.1.1
Change collection source	Change the information of the selected collection source.	
	Additionally, add, change, or delete the information of the	4.1.2
	collection source's measuring points.	
Delete collection source	Delete the registered information of the collection source.	4.1.3
Measuring point list	Output the selected collection source's measuring points to the	4 1 4
output	Excel file.	4.1.4
Change all measuring	Change the information of the selected collection source's	
points	measuring points in a batch.	4.1.5
	*No measuring point can be added or deleted.	
Register manual input	Set the manual input measuring point.	416
measuring point		4.1.0
Register calculation	Set the calculation measuring point.	417
measuring point		4.1.7
Register product type	Set the product type time period measuring point.	
time period measuring		4.1.8
point		
Register specific	Set the specific consumption measuring point.	
consumption measuring		4.1.9
point		
Change measuring point	Change the information of the selected measuring point.	4.1.10
Delete measuring point	Delete the information of the selected measuring point.	4.1.11
Measuring point group	Set the grouping of measuring points.	4 1 1 2
setting		4.1.12
List of reference error	Display any measuring points where the reference error is	1 1 1 2
	occurring in the list.	4.1.13

# 4.1.1 Registering the collection source information

You will register the information on the collection source and its measurement points.

\*Refer to [1.2.2 Specifications of one-rotation processing of pulse] to change the settings of the collection source as necessary.

🜃 EcoA	Adviser - Meas	uring Point Settings				- 🗆	$\times$
•	Register collection sou	Change collection source  Meass Collection source Collection source	uring point li ge all measu	st output uring points Measuring point • Point group •	List of reference error Reference error		
$\bigcirc$	The measurin	g points will be listed in the right list when you	select the co	llection source of the left list.			
	ID	Collect source name	ID	Measuring point name	Measuring type	Measuring poin	$\square$
	1	Office	1	Machine_A(A)	Analog value	Α	^
	2	Assembly Line 1st	2	Machine_A(kW)	Analog value	kW	
	3	Assembly Line 2nd	3	Machine_A(kWh)	Pulse	kWh	
	4	Assembly Line DOWN	4	Machine_B(A)	Analog value	Α	
	5	Assembly Line Passed/Failed	5	Machine_B(KW)	Analog value	kW	
	MAN	Manual input measuring point	6	Machine_B(kWh)	Pulse	kWh	
	TIM	Product type time period measuring point	7	Machine_C(A)	Analog value	A	
	OPE	Calculation measuring point	8	Machine_C(kW)	Analog value	kW	
	SPC	Specific consumption measuring point	9	Machine_C(kWh)	Pulse	kWh	
			10	Machine_D(A)	Analog value	A	
- 23			11	Machine_D(KW)	Analog value	kW	
-			12	Machine_D(kWh)	Pulse	kWh	
			13	Machine_E(A)	Analog value	A	
			14	Machine_E(kW)	Analog value	kW	
			15	Machine_E(kWh)	Pulse	kWh	
			16	Machine_F-1(A)	Analog value	A	
			17	Machine_F-1(kW)	Analog value	kW	
			18	Machine_F-1(kWh)	Pulse	kWh	
			19	Machine_F-2(A)	Analog value	A	
			20	Machine_F-2(kW)	Analog value	kW	
			21	Machine_F-2(kWh)	Pulse	kWh	
			22	Machine_F-3(A)	Analog value	Α	
			23	Machine_F-3(kW)	Analog value	kW	
			24	Machine_F-3(kWh)	Pulse	kWh	
			25	Machine_F-4(A)	Analog value	A	
			26	Machine_F-4(kW)	Analog value	kW	
				Le la manage			- Y

(2) The following window appears.

Input or select item from the pull-down menu.

■ For registration of EcoWebServer III with the HTTP (online) setting

Register Collection source		
Register Collection source	Register Measuring point	
1. Set a ID and Name.	3. Set necessary information.	
Collection source ID: (R	ange:1-20) Collection measure data:	
2	Enable	-
Collection source Name: (maximum	130 letters)	
Assembly Line 1st	Collection demand data:	
	Enable	
	Lindbe	
2. Set Collection course Type		
z. Set Collection source type.		
Collection source Type:		
EcowebServenii	Ť	
Data collecting:		
HTTP	Ŧ	
Connection host:		
192.168.10.1		
Collection source Type:		
MES3-255C-DM-EN  Collect model	name	
	Book Novt Derivier	Concel
	Next Register	Cancel
Item		Deta
1 Set an ID and name		
1. Set an 1D and hame		

1. 5	Set an ID and name						
	Collection source ID	Input the number to manage the collection source.					
		Input range: 1 to 20					
		*Do not register the same number repeatedly.					
	Collection source name	Input a name to manage the collection source.					
		*Max. 30 characters					
2. 9	Set collection source type						
	Collection source type	Select EcoWebServerIII from the pulldown menu.					
	Data collecting	Select HTTP from the pulldown menu.					
	Connection host	Input the IP address of the connected EcoWebServerII.					
	Collection source type	Select the model name of the EcoWebServer II from the pulldown					
		menu (listed below).					
		*Otherwise, click the <b>Collect model name</b> button to acquire the					
		model name information.					
		•MES3-255B •MES3-255B-DM					
		•MES3-255C •MES3-255C-DM					
		•MES3-255C-EN •MES3-255C-DM-EN					
		•MES3-255C-CN •MES3-255C-DM-CN					
3. 9	Set necessary information						
	Collection measuring	Select the setting whether to collect the measuring point data at the					
	data *1	same time that the collection source is registered from the pulldown					
		menu.					
		Enable: Collect the data to register.					
		Disable: Not collect the data.					
	Collection demand data	This setting is only for EcoWebServer II with the demand monitoring					
	*1	function.					
		Select the setting whether to collect the demand measuring point data					
		at the same time that the collection source is registered from the					
		pulldown menu.					
		Enable: Collect the data to register.					
		Disable: Not collect the data.					

\*1 : Register the EcoWebServer III that collects measuring data from terminal devices.

If there is any missing data, the number of decimal places will not be read for the measuring point.

 $\blacksquare$  For registration of EcoWebServerIII with the FOLDER (offline) setting

Register Collection source	
Register Collection source	Register Measuring point
1. Set a ID and Name.	3. Set necessary information.
Collection source ID: (Range:1-20)	Collection measure data:
2 Collection source Name: (maximum30 letters) Assembly Line 1st	Enable
2. Set Collection source Type. Collection source Type:	Collection demand data:
Data collecting:	Reference destination data folder path:
FOLDER	Data file for demand measuring point registration:
Collection source Type: MES3-255C-DM-EN	C:\Users\三菱電機\Documents\ES3_Manufacture A-1\DDay
Back	Next Register Cancel

	Item		Details			
1. 9	Set an ID and name					
	Collection source ID	Input the number to m	anage the collection source.			
		Input range: 1 to 20				
		*Do not register the sa	me number repeatedly.			
	Collection source name	Input a name to manag	e the collection source.			
		*Max. 30 characters				
2. 9	2. Set collection source type					
	Collection source type	Select EcoWebServerII	from the pulldown menu.			
	Data collecting	Select FOLDER from the	e pulldown menu.			
	Model name	Select the model nam	e of the EcoWebServer III from the pulldown			
		menu (listed below).				
		*Otherwise, click the Co	bllect model name button to acquire the model			
		name information.				
		•MES3-255B	•MES3-255B-DM			
		•MES3-255C	•MES3-255C-DM			
		•MES3-255C-EN	•MES3-255C-DM-EN			
		•MES3-255C-CN	•MES3-255C-DM-CN			

(Continued to the next page.)

	Item	Detail				
3. 5	Set necessary information					
	Collection measuring	Select the setting whether to collect the measuring point data at the				
	data	same time that the collection source is registered from the pulldown				
		menu.				
		Enable: Collect the data to register.				
		Disable: Not collect the data.				
	Collection data folder	When you select 'Enable' at Collection measuring data, set this setting.				
	path *1	Click the $$ button and then specify the folder to collect the zoom (1				
		min.) data file of the EcoWebServerIII.				
	Data file for measuring	When you select 'Enable' at Collection measuring data, set this setting.				
	point registration *1 *2	Click the 📧 button and then specify the zoom (1 min.) data file of				
		the EcoWebServerIII.				
	Collection demand data	This setting is only for EcoWebServer ${\rm I\!I\!I}$ with the demand monitoring				
		function.				
		Select the setting whether to collect the demand measuring point data				
		at the same time that the collection source is registered from the				
		pulldown menu.				
		Enable: Collect the data to register.				
		Disable: Not collect the data.				
	Reference destination	When you select 'Enable' at Collection demand data, set this setting.				
	data folder path *1	Click the 📂 button and then specify the folder to collect the demand				
		(daily) data file of the EcoWebServerⅢ.				
	Data file for demand	When you select 'Enable' at Collection demand data, set this setting.				
	measuring point	Click the 📧 button and then specify the demand (daily) data file of				
	registration *1 *2	the EcoWebServerIII.				

\*1: For details on how to download data files from EcoWebServer II to the computer, refer to [EcoWebServer II User's Manual: Setting Edition].

\*2: Specify the data file in which measuring data is collected.

If there is any missing data in the file, the number of decimal places cannot be read for the measuring point.

### ■ For registration of Edgecross

Register Collection source		X
Register Collection	source	Register Measuring point
1 Set a ID and Name		3 Set necessary information
Collection source ID:	(Range:1-20)	Capture by Edgecross historical data interface.(csv format)
Collection source Name:	(maximum30 letters)	Collection Data folder path: C:\Users\三菱電機\Documents\W105A\DOWN
Assembly Line 1st		File encoding:
2. Set Collection source Type.		File name prefix:
Collection source Type: Edgecross	•	Time format
		Integration:
		Indicated *
		C:\Users\三菱電襟Documents\W105A\DOWN\W105ADOWN_{
	Back	Next Register Cancel

	Item	Details
1. 9	Set an ID and name	
	Collection source ID	Input the number to manage the collection source. Input range: 1 to 20 *Do not register the same number repeatedly.
	Collection source name	Input a name to manage the collection source. *Max. 30 characters
2. 9	Set collection source type	
	Collection source type	Select Edgecross from the pulldown menu
3. 9	Set necessary information	
	Collection data folder path	Click the 톧 button and then specify the folder to save the historical
		data file of Edgecross (data logging flow).
	File encoding	Select an encoding of the historical data file for collection from the pulldown menu (listed below). Set the same setting as the data storing setting of Edgecross. •Shift_JIS •UTF-8
	File name prefix	Input the prefix of the historical data file.
	Integration	Select a type of the measuring value of the measuring point that measures pulse from the pull-down menu. •Indicated
		The collected data is handled as an indicated value. When the measuring type of the measuring point is set to pulse, the difference between the previous value and the current value is saved as a measuring value. •Difference *1
		The collected data is handled as a difference value. When the measuring type of the measuring point is set to pulse, the collected data itself is saved as a measuring value.
	Data file for measuring point registration	Click the 🔄 button and then specify the historical data definition file of the Edgecross (data logging flow).

\*1: For the difference, set the same data period to Edgecross as EcoAdviser.

If the two data periods differ, incorrect values may be collected.

For details, refer to [2.2.2 Measuring type: pulse whose type is difference].

### (3) Click the **Next** button.

\*When you want to register the collection source only, click the **Register** button.

Ister Collection Source			>
Register Collection source	Register Measuring point		
. Set a ID and Name.	3. Set necessary information.		
collection source ID: (Range:1-20)	Collection measure data:		
2	Enable	×	
ollection source Name: (maximum30 letters)	Litable		
Assembly Line 1st	Collection demand data:		
	Enable	-	
. Set Collection source Type.			
collection source Type:			
EcoWebServerIII			
ata collecting:			
HTTP			
connection host:			
192.168.10.1			
ollection source Type:			

\*The following message appears.

Click the **Yes** button to register the collection source.

EcoAdviser	×
Are you sure you want to regi Measuring points are not reg	ster only collection source? jistered.
Yes	No

(4) Clicking the **Next** button shows the following window.

The measuring point data collected from the collection source is displayed.

#### Click the **Register** button.



(5) The following message appears.

Click the **Yes** button to register the collection source and its measuring points.





#### Note

 The measuring points that meet the following conditions may cause the difference between measuring type that registered on the collection source and measuring type that registered on this software. This software does not work correctly, such as it does not display graphs properly or does not compute precise report results, if measuring types are not registered accurately.

Be sure to change the measuring types by manually if you have registered measuring points that have following conditions.

<In the case the collection source is EcoWebServer II >

- \*For details on the setting, refer to [4.1.10 Changing the measuring point].
- (1) The measuring point whose measuring type is registered as "power factor" on EcoWebServerⅢ (will be registered as an analog value).
- (2) The measuring point whose measuring type is registered as "operating status" on EcoWebServerⅢ (will be registered as an analog value).
- (3) The measuring point whose point type is registered as "PLC" on EcoWebServerIII (may be registered as a different measuring type).

<In the case the collection source is Egdecross>

\*For details on the setting, refer to [4.1.5 Changing the information of measuring points in a batch] or [4.1.10 Changing the measuring point].

(1) Every measuring point (will be registered as an analog value).

## 4.1.2 Changing the collection source information

You will change the selected collection source information.

- \*If you want to change the registered collection source to a new collection source, delete the registered collection source once and register the new collection source. For details on the registration, refer to [4.1.1 Registering the collection source information]. However, the collected data of the currently registered collection source remains and is not deleted.
- \*If you have changed the name of the measuring point of the collection source, re-registering the measuring point will return to the name before the change. If you want to keep the current name also after the re-registration, re-register the measuring point as the following:
  - Execute **Measuring point list output**. For details, refer to [4.1.4].
  - Re-register the measuring point from **Change collecting source**.
  - Execute **Change all measuring points** to change the measuring point name. For details, refer to [4.1.5].
- \*When you use Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI), check whether the measuring point is used in the diagnosis setting. If used, refer to [12.3 Operation for Setting Change about Diagnosis Fucntion].

(1) Select the collection source you want to change and then click the **Change collection source** button.

🜃 EcoA	dviser - Measuring Point Settings				- 🗆	$\times$
۲	Register	ring point lis e all measu	st output  Measuring Measuring	List of		
	collection source		point - point group -	reference error		
	Collection source			Reference error		
$\bigcirc$	The measuring points will be listed in the right list when you s	elect the col	lection source of the left list.			
•••	ID Collect source name	ID	Measuring point name	Measuring type	Measuring poin	
	1 Office	1	Machine_A(A)	Analog value	A	^
	2 Assembly Line 1st	2	Machine_A(kW)	Analog value	kW	
	3 Assembly Line 2nd	3	Machine_A(kWh)	Pulse	kWh	
	4 Assembly Line DOWN	4	Machine_B(A)	Analog value	A	
	5 Assembly Line Passed/Failed	5	Machine_B(kW)	Analog value	kW	
	MAN Manual input measuring point	6	Machine_B(kWh)	Pulse	kWh	
	TIM Product type time period measuring point	7	Machine_C(A)	Analog value	A	
	OPE Calculation measuring point	8	Machine_C(kW)	Analog value	kW	
	SPC Specific consumption measuring point	9	Machine_C(kWh)	Pulse	kWh	
		10	Machine_D(A)	Analog value	Α	
-		11	Machine_D(kW)	Analog value	kW	
-		12	Machine_D(kWh)	Pulse	kWh	
		13	Machine_E(A)	Analog value	Α	
		14	Machine_E(kW)	Analog value	kW	
		15	Machine_E(kWh)	Pulse	kWh	
		16	Machine_F-1(A)	Analog value	Α	
		17	Machine_F-1(kW)	Analog value	kW	
		18	Machine_F-1(kWh)	Pulse	kWh	
		19	Machine_F-2(A)	Analog value	A	
		20	Machine_F-2(kW)	Analog value	kW	
		21	Machine_F-2(kWh)	Pulse	kWh	
		22	Machine_F-3(A)	Analog value	A	
		23	Machine_F-3(kW)	Analog value	kW	
		24	Machine_F-3(kWh)	Pulse	kWh	_
		25	Machine_F-4(A)	Analog value	A	_
		26	Machine_F-4(KW)	Analog value	kW	$\checkmark$
			AN AN EXAMPLE			

(2) Change the information on the collection source and then click the **Next** button.

\*When you want to change the collection source only, click the **Register** button.

nange Collection source		
Change Collection	on source	Change Measuring point
1. Set a ID and Name.		3. Set necessary information.
Collection source ID:	(Range:1-20)	Collection measure data:
2		Enable
Collection source Name:	(maximum30 letters)	
Assembly Line 1st		Collection Data folder path:
		Data file for measuring point registration:
		C:\Users\= 萨雷ພ\Documents\ES3 Manufacture A-1\Zoor
2. Set Collection source Tune		
2. Set Collection source Type.		
Collection source Type:		
EcowebServerIII	Υ	
Data collecting:		
FOLDER	*	
Collection source Type:		
MES3-255C-EN	-	
	Back	Next Register Cancel

\*The following message appears.

Click the  $\ensuremath{\text{Yes}}$  button to register the collection source.

This is the end of the operation.

In this case, no information on any measuring point is changed.



(3) Clicking the **Next** button shows the following window.

The measuring point data is displayed.

Any measuring points whose information has been changed are displayed with colors.

# Click the **Register** button.



Color	Details				
	Change or measuring point name, measuring type,				
Yellow	measuring point unit, or the number of decimal places;				
	change of some items above				
Purple	Deleted measuring point				
Navy	Added measuring point				

(4) The following message appears.

Click the **Yes** button to register the change.



### 4.1.3 Deleting the collection source information

You will delete the collection source and its measurement points.

\*When you use Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI), check whether the measuring point is used in the diagnosis setting. If used, change the setting value and then delete the measuring point. For details, refer to [12.3 Operation for Setting Change about Diagnosis Fucntion].

(1) Select the collection source you want to delete and then click the **Delete collection source** button.

¢	💮 Change collection source 📄 Me	easuri	ing point lis	st output	$\bigcirc$	<b>1</b> 3		
Register	Delete collection source	hange	e all measu	iring points	Measuring	Measuring	List of	
collection sou	rce				point •	point group *	reference error	
	Collection source						Reference error	
The measurin	g points will be listed in the right list when y	ou se	lect the col	lection source	e of the left lis	t.		
ID	Collect source name		ID	Measuring	point name		Measuring type	Measuring p
1	Office		1	Machine_A	(A)		Analog value	Α
2	Assembly Line 1st		2	Machine_A	kW)		Analog value	kW
9	Assembly Line 2nd		3	Machine_A	kWh)		Pulse	kWh
4	Assembly Line DOWN		4	Machine_B	(A)		Analog value	Α
5	Assembly Line Passed/Failed		5	Machine_B	(kW)		Analog value	kW
MAN	Manual input measuring point		6	Machine_B	(kWh)		Pulse	kWh
TIM	Product type time period measuring point		7	Machine_C	(A)		Analog value	Α
OPE	Calculation measuring point		8	Machine_C	(kW)		Analog value	kW
SPC	Specific consumption measuring point		9	Machine_C	(kWh)		Pulse	kWh
			10	Machine_D	(A)		Analog value	A
			11	Machine_D	(kW)		Analog value	kW
			12	Machine_D	(kWh)		Pulse	kWh
		1	13	Machine_E	(A)		Analog value	A
			14	Machine_E	(kW)		Analog value	kW
			15	Machine_E	(kWh)		Pulse	kWh
			16	Machine_F-	1(A)		Analog value	A
			17	Machine_F-	1(kW)		Analog value	kW
			18	Machine_F-	1(kWh)		Pulse	kWh
			19	Machine_F-	2(A)		Analog value	Α
			20	Machine_F-	2(kW)		Analog value	kW
			21	Machine_F-	2(kWh)		Pulse	kWh
			22	Machine_F-	3(A)		Analog value	Α
			23	Machine_F-	3(kW)		Analog value	kW
			24	Machine_F-	3(kWh)		Pulse	kWh
			25	Machine_F	4(A)		Analog value	Α
			26	Machine E-	4(kW)		Analog value	kW

(2) The following message appears.

Click the **Yes** button to delete the collection source.



# 4.1.4 Outputting the measuring point list

You will output the information on measuring points of the selected collection source to the Excel file. For details on the output file format, refer to [12.1 File Format].

\*It is impossible to output the information of multiple collection sources into one file.

\*To output the information of the set measuring point such as the manual input measuring point or product type time period measuring point, select the item.

### (1) Select the collection source and then click the **Measuring point list output** button.

	🕼 Change collection source 📄 Mea	suring point li	st output 🔕 🖾		
Register collection source	E Delete collection source	nge all measu	ring points Measuring Measuring point - point group -	List of reference error	
	Collection source			Reference error	
The measuring	points will be listed in the right list when you	i select the co	lection source of the left list.		
ID (	Collect source name	ID	Measuring point name	Measuring type	Measuring poin
1	Office	1	Machine_A(A)	Analog value	A
2	Assembly Line 1st	2	Machine_A(kW)	Analog value	kW
3 /	Assembly Line 2nd	3	Machine_A(kWh)	Pulse	kWh
4	Assembly Line DOWN	4	Machine_B(A)	Analog value	A
5 /	Assembly Line Passed/Failed	5	Machine_B(KW)	Analog value	kW
MAN	Manual input measuring point	6	Machine_B(kWh)	Pulse	kWh
TIM	Product type time period measuring point	7	Machine_C(A)	Analog value	A
OPE	Calculation measuring point	8	Machine_C(kW)	Analog value	kW
SPC :	Specific consumption measuring point	9	Machine_C(kWh)	Pulse	kWh
		10	Machine_D(A)	Analog value	A
		11	Machine_D(kW)	Analog value	kW
		12	Machine_D(kWh)	Pulse	kWh
		: 13	Machine_E(A)	Analog value	A
		14	Machine_E(KW)	Analog value	kW
		15	Machine_E(kWh)	Pulse	kWh
		16	Machine_F-1(A)	Analog value	A
		17	Machine_F-1(kW)	Analog value	kW
		18	Machine_F-1(kWh)	Pulse	kWh
		19	Machine_F-2(A)	Analog value	Α
		20	Machine_F-2(kW)	Analog value	kW
		21	Machine_F-2(kWh)	Pulse	kWh
		22	Machine_F-3(A)	Analog value	Α
		23	Machine_F-3(kW)	Analog value	kW
		24	Machine_F-3(kWh)	Pulse	kWh
		25	Machine_F-4(A)	Analog value	A
		26	Machine F-4(kW)	Analog value	kW

#### (2) The following message appears.

#### Click the **Yes** button to output the file.



- (3) Save the output file.
- (4) When the saving is completed, the following message appears. Click the **OK** button to close the message.



# 4.1.5 Changing the information of measuring points in a batch

You will change the information of the collection source's measuring points in a batch.

\*When you use Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI), check whether the measuring point is used in the diagnosis setting. If used, refer to [12.3 Operation for Setting Change about Diagnosis Function].

\*The information of the manual input measuring point, calculation measuring point, product type time period measuring point, or specific consumption measuring point cannot be changed in a batch.

\*It is impossible to add or delete any measuring point.

\*This function is executed by reading the edited measuring point list file. For the file format, refer to [12.1 File Format].

The following table shows a list of changeable items.

Measu	ring point	Changeable item *1
EcoWebServerⅢ	Measuring point	Measuring point name
	Demand measuring	Measuring point name
	point	
Edgecross	Measuring point	Measuring point name, measuring type, measuring point
		unit, multiplying factor *2

\*1: Changeable items are different from ones in the **Change measuring point** function.

\*2: The setting range varies depending on the measuring type and data type.

For the setting change, refer to the following table.

Measuring type	Data type	Multiplying factor (setting range)
Pulse, analog value,	INT, UINT	0.00001 to 99999
power factor	DINT, UDINT	0.00001 to 1
	Others	Unavailable
Operating status		Unavailable

#### (1) Select the collection source and then click the **Change all measuring points** button.

	🛗 Change collection source 📄 Meas	suring point li	ist output		
Register collection sour	ce Delete collection source	nge all meas	uring points Measuring Measuring point - point group - re	List of eference error	
	Collection source		R	eference error	
The measurin	g points will be listed in the right list when you	select the co	ellection source of the left list.		
ID	Collect source name	ID	Measuring point name	Measuring type	Measuring po
1	Office	1	Machine_A(A)	Analog value	A
2	Assembly Line 1st	2	Machine A(kW)	Analog value	kW
3	Assembly Line 2nd	- 3	Machine_A(kWh)	Pulse	kWh
4	Assembly Line DOWN	4	Machine_B(A)	Analog value	A
5	Assembly Line Passed/Failed	5	Machine_B(kW)	Analog value	kW
MAN	Manual input measuring point	6	Machine_B(kWh)	Pulse	kWh
TIM	Product type time period measuring point	7	Machine_C(A)	Analog value	A
OPE	Calculation measuring point	8	Machine_C(kW)	Analog value	kW
SPC	Specific consumption measuring point	9	Machine_C(kWh)	Pulse	kWh
		10	Machine_D(A)	Analog value	A
		11	Machine_D(kW)	Analog value	kW
		12	Machine_D(kWh)	Pulse	kWh
		13	Machine_E(A)	Analog value	A
		14	Machine_E(kW)	Analog value	kW
		15	Machine_E(kWh)	Pulse	kWh
		16	Machine_F-1(A)	Analog value	Α
		17	Machine_F-1(kW)	Analog value	kW
		18	Machine_F-1(kWh)	Pulse	kWh
		19	Machine_F-2(A)	Analog value	A
		20	Machine_F-2(kW)	Analog value	kW
		21	Machine_F-2(kWh)	Pulse	kWh
		22	2 Machine_F-3(A)	Analog value	A
		23	Machine_F-3(kW)	Analog value	kW
		24	Machine_F-3(kWh)	Pulse	kWh
		25	Machine_F-4(A)	Analog value	A
		26	Machine_F-4(kW)	Analog value	kW

- (2) Select the measuring point list file to execute the read.
- (3) The following window appears.

It shows that any measuring points whose information has been changed are displayed with yellow. Click the **Update** button.



(4) The following message appears.

Click the Yes button to reflect the change.

EcoAdviser	×
Update mea Are you sure	suring point. ?
Yes	No

# 4.1.6 Registering the manual input measuring point

### What is the manual input measuring point?

The manual input measuring point is the data that neither cannot be collected by automatically nor be collected by metering device can be treated as if it were on-line measuring data by using this function.

#### (1) Click the **Register manual input measuring point** button.

Registe collection s	Change collection source     Measuring point list output     X Delete collection source     Q, Change all measuring points	<ul> <li>Register Ma</li> <li>Register Ca</li> <li>Register Pro</li> </ul>	nual input measuring point alculation measuring point oduct type time period measuring point	<ul> <li>Register Specific consumption me</li> <li>Change measuring point</li> <li>Delete measuring point</li> </ul>	easuring point	Measuring point group setting	List of reference er
	Collection source		Measurin	g point		Measuring po	Reference er
The measu	ring points will be listed in the right list when you select the collection sour	ce of the left list.					
ID	Collect source name	ID	Measuring point name	M	leasuring type	Measuring	g point unit
	1 Office	1	1 Machine_A(A)	A	nalog value	A	
	2 Assembly Line 1st	2	2 Machine_A(kW)	A	nalog value	kW	
	3 Assembly Line 2nd	3	3 Machine_A(kWh)	P	ulse	kWh	
	4 Assembly Line DOWN	4	4 Machine_B(A)	A	nalog value	A	
	5 Assembly Line Passed/Failed	5	5 Machine_B(kW)	A	nalog value	kW	
	MAN Manual input measuring point	6	6 Machine_B(kWh)	P	ulse	kWh	
	TIM Product type time period measuring point	7	7 Machine_C(A)	A	nalog value	A	
	OPE Calculation measuring point	8	Machine_C(kW)	A	nalog value	kW	
	SPC Specific consumption measuring point	9	Machine_C(kWh)	P	ulse	kWh	
		10	Machine_D(A)	A	nalog value	A	
		11	1 Machine_D(kW)	A	nalog value	kW	
		12	2 Machine_D(kWh)	P	ulse	kWh	
		13	3 Machine_E(A)	A	nalog value	A	
		14	4 Machine_E(kW)	A	nalog value	kW	
		15	5 Machine_E(kWh)	P	ulse	kWh	
		16	6 Machine_F-1(A)	A	nalog value	A	
		17	7 Machine_F-1(kW)	A	nalog value	kW	
		18	B Machine_F-1(kWh)	P	ulse	kWh	
		19	9 Machine_F-2(A)	A	nalog value	A	
		20	Machine_F-2(kW)	A	nalog value	kW	
		21	1 Machine_F-2(kWh)	P	ulse	kWh	
		22	2 Machine_F-3(A)	A	nalog value	A	
		23	3 Machine_F-3(kW)	A	nalog value	kW	
		24	4 Machine_F-3(kWh)	P	ulse	kWh	
		25	5 Machine_F-4(A)	A	nalog value	A	
		26	6 Machine_F-4(kW)	A	nalog value	kW	

(2) Input each item or select it from the pull-down menu.

Register Manual input measuring point $\qquad  imes$					
Measuring Point ID:	(Range:1-256)				
1					
Measuring Point Name:	(maximum30 letters)				
Measuring Type:					
Pulse	•				
Measuring Point Unit:	(maximum8 letters)				
	•				
Decimal:	(Range:0-5)				
	-				
Register	Cancel				

Item	Details							
Measuring point	Input the ID c	Input the ID of the measuring point.						
ID	Input range: 1	nput range: 1 to 256						
	*Do not regist	Do not register the same ID repeatedly.						
Measuring point	Input a name	nput a name of the measuring point.						
name	*Max. 30 char	*Max. 30 characters						
Measuring type	Select pulse or analog value from the pulldown menu.							
Measuring point	Input the unit of the measuring point or select it from the pull-down menu (listed							
unit	below).	below).						
	* Max. 8 chara	* Max. 8 characters can be input.						
	∙Wh	∙kWh	۰MWh	۰J	<ul> <li>Piece</li> </ul>			
	∙Set	•m <sup>2</sup>	•m <sup>3</sup>	•	٠kl			
	•Second	Minute	Hour					
Decimal *1	Select the nu	mber of decima	al places for the	measuring va	alue from the pulldown			
	menu.							
	The selectable	range: 0 to 5,	blank					

\*1: If it is set to blank, the rounding off will not be executed.

# (3) Click the **Register** button.

ange:1-256) m30 letters)
m30 letters)
m30 letters)
Ŧ
um8 letters)
-
(Range:0-5)
*
um (Ra

# 4.1.7 Registering the calculation measuring point

### What is calculation measuring point?

It is used to perform four arithmetic operation on measuring points.

### Note

Timing of calculation

The calculation timing is as follows:

•After automatic collection  $\rightarrow$  For details, refer to [6 Auto Execute Settings].

•After manual collection  $\rightarrow$  For details, refer to [5.1 Manual Collection].

\*This applies to only the calculation measuring points where manually collected measuring points are included in the calculation formula.

•After manual data input  $\rightarrow$  For details, refer to [5.4 Manual Input/Edition].

•At manual data calculation  $\rightarrow$  For details, refer to [5.2 Manual Calculation].

■ Occurrence of data missing

Note that in the following cases, calculation measuring point data will be missed. It is displayed in blank. •There is even one data missing in the measuring point set to the calculation formula.

•Data of the measuring point set to the calculation formula becomes zero, which causes zero division.

\*From the reasons above, if product type time period measuring points are included in the calculation

formula, the calculation result may be missing.

### (1) Click the **Register calculation measuring point** button.

🜃 EcoAd	dviser - Measurin	g Point Settings								- 0	$\times$
۲		🛗 Change collection source 📄 Measuring point list output	H	Register Mar	aual input measuring point	Register Specific consumption	measuring point	<b>±</b> 3		<b>R</b>	
. In 1	Register collection source	X Delete collection source 🔍 Change all measuring points	Ļ	Register Pro	duct type time period measuring point	Delete measuring point		Measurin group s	g point etting	List of reference en	rror
		Collection source			Measurin	g point		Measurin	g po	Reference er	rror
$\bigcirc$	The measuring po	ints will be listed in the right list when you select the collection sour	rce o	f the left list.							
	ID	Collect source name		ID	Measuring point name		Measuring type	N	leasuring	point unit	
		1 Office		1	Machine_A(A)		Analog value	A	ι		^
		2 Assembly Line 1st		2	Machine_A(kW)		Analog value	k	W		
		3 Assembly Line 2nd		3	Machine_A(kWh)		Pulse	k	Wh		
		4 Assembly Line DOWN		4	Machine_B(A)		Analog value	A	λ		
		5 Assembly Line Passed/Failed		5	Machine_B(kW)		Analog value	k	W		
-	MA	N Manual input measuring point		6	Machine_B(kWh)		Pulse	k	:Wh		
	TI	M Product type time period measuring point		7	Machine_C(A)		Analog value	A	ι		
	OP	E Calculation measuring point		8	Machine_C(kW)		Analog value	k	W		
	SP	C Specific consumption measuring point		9	Machine_C(kWh)		Pulse	k	Wh		
				10	Machine_D(A)		Analog value	A	λ		
8				11	Machine_D(kW)		Analog value	k	W		
-				12	Machine_D(kWh)		Pulse	k	Wh		
			1	13	Machine_E(A)		Analog value	A	ι		
				14	Machine_E(kW)		Analog value	k	W		
				15	Machine_E(kWh)		Pulse	k	Wh		
				16	Machine_F-1(A)		Analog value	A	λ		
				17	Machine_F-1(kW)		Analog value	k	W		
				18	Machine_F-1(kWh)		Pulse	k	Wh		
				19	Machine_F-2(A)		Analog value	A	ι		
				20	Machine_F-2(kW)		Analog value	k	W		
				21	Machine_F-2(kWh)		Pulse	k	Wh		
				22	Machine_F-3(A)		Analog value	A	1		
				23	Machine_F-3(kW)		Analog value	k	W		
				24	Machine_F-3(kWh)		Pulse	k	Wh		
				25	Machine_F-4(A)		Analog value	A	λ		
				26	Machine_F-4(kW)		Analog value	k	W		
				07			2.1				

leasuring Point ID:	(Range:1-256)	Torriture	on the left side.			_
1		All me	suring points			
		Name		Measuring Type	Unit	
leasuring Point Name:	(maximum30 letters)	00	Office			
		♦ 002	Assembly Line 1st			
		♦ 003	Assembly Line 2nd			
easuring Type:		♦ 004	Assembly Line DOWN			
Pulse	•	00	Assembly Line Passed/Failed			
essuring Point Unit	(maximum9 lattare)	I → Ma	nual input measuring point			
easting rome one	(maximumo recers)	PART	nuctive time period measuring point	L		
	•					
ecimal:	(Range:0-5)					
alculation formula:	(Maximum 4000 letters) (Maximum 200 points)					
	^					

# (2) Input each item or select it from the pull-down menu.

Item			Details					
Measuring point	Input the ID of	the measuring	point.					
ID	Input range: 1	to 256						
	*Do not registe	r the same ID r	epeatedly.					
Measuring point	Input a name c	of the measuring	point.					
Name	*Max. 30 chara	loters						
Measuring type	Select pulse or	analog value fro	om the pull-do	wn menu.				
Measuring point	Input the unit of	Input the unit of the measuring point or select it from the pull-down menu (listed						
Unit	below).							
	* Max. 8 chara	cters						
	∙Wh	∙kWh	∙MWh	•]	• Piece			
	•Set	•m <sup>2</sup>	•m <sup>3</sup>	•	۰kl			
	•Second	Minute	•Hour					
Decimal *1	Select the num	ber of decimal	places for the	measuring va	lue from the pull-down			
	menu.							
	The selectable	range: 0 to 5, b	lank					
Calculation	Input a calculat	tion formula.						
formula	Drag and drop	a measuring po	int from the ri	ght box of th	e window to add to the			
	calculation forn	nula.						
	*you can select	from collection	sources' measi	uring points, r	manual input measuring			
	points, or pro	duct type time p	eriod measuri	ng points.				
	Input range: 40	000 characters						
	Available chara	cters: +, -, /, *,	(, )					
	Number of mea	asuring points: 2	200 points					
	*Use the period	d (.) for the deci	mal point.					
	*The fractions	of the calculatio	n result are ro	unded off acc	cording to the setting of			
	the number of	f decimal places						

\*1: If it is set to blank, the rounding off will not be executed.

(3) Click the **Register** button to register the calculation measuring point. This is the end of the operation.

Register Calculation measuring point					$\times$
Harrison Dalahibi	(Dec. e. d. 050)	The measuring points can be registe formula" on the left side.	ered by dragging and dro	pping to the "Calc	ulation
Measuring Point ID:	(Range:1-256)	All measuring points			-
1		Name	Measuring	Type Unit	
Measuring Point Name:	(maximum30 letters)	> 001: Office	1,		-
Sales Dept Bill		▶ 002: Assembly Line 1st			
		▶ · 003: Assembly Line 2nd			
Measuring Type:		▶ 004: Assembly Line DOWN			
Pulse	*	O05: Assembly Line Passed/Fail     Mapual input measuring point	led		
Measuring Point Unit:	(maximum8 letters)	<ul> <li>Product type time period measure</li> </ul>	ring point		
\$	•				
Decimal:	(Range:0-5)				
0	•				
Calculation formula:	(Maximum 4000 letters) (Maximum 200 points)				
[001_0028]*150	~				
			Register	Cancel	

### 4.1.8 Registering the product type time period measuring point

#### What is the product type time period measuring point?

When you use the equipment that can manufacture multiple types of products, you can set this product type time period measuring point. By setting the items in the following table, the software can extract the data regarding a product you choose.

Setting item	Details
Time period measuring point	Measuring point to distinguish the product type being manufactured. (Measuring type: Analog value) e.g. Product A manufactured $\Rightarrow$ Measuring value: 1, Product B manufactured $\Rightarrow$ Measuring value: 2
Measuring value point	Measuring point for extraction (Measuring type: Pulse)
Time period type	Product type value which is picked up with user's demands from time period measuring point

E.g. the case you want to measure energy consumption of equipment when product B is being manufactured

	Time	10:00	10:15	10:30	10:45	11:00
	Product type	None Produ	ct A		Product B	None
	Energy consumption (Indicated) [kWh]	- 13306	13313	13320	13325	13328 -

Measure the energy consumption when product B is being manufactured using the product type time period measuring point.

Setting item of time	Time	10:	00 10:	15 10:	30 10:	45 11:	00
period measuring point					l	1	!
Time period measuring point	Product type value	0: None	1: Product A		2) Product B	     	None
Measuring value Enc point (D	ergy consumptio Difference) [kWh]	n ] OkW	7k₩	7kW	5kW	3kW	
The period type: 2 Calculate the difference between the previous indicated value and the extracted value. Detect the value of the time period measuring point which matches that of the time period type							
Time period measurin (Energy consumption by (Product type :2 (Pro	ng point / producing duct B))	Blank			5kW	3kW	

Note

When the manufacturing time is shorter than the data period, the measuring point may not be detected. <Example>

Data period:

Time period measuring point:

15 minutes Manufacturing product A $\Rightarrow$ 1, Manufacturing product B $\Rightarrow$ 2, Manufacturing product  $C \Rightarrow 3$ Product time period measuring point A: Time period type = 1Product time period measuring point B: Time period type = 2 Product time period measuring point C: Time period type = 3

Time	10:0	00 10:	15 10	:30 10:4	45 11:	00
	I				r I I	
Equipment	None	Product A	Produ	ct B Product C	Product A	None
Time period measuring point		1	2	1	0	
Measuring value point(difference)		7	7	5	3	
Product type time period measuring point A	Blank	7	Blank	5	Blank	Blank
Product type time period measuring point B	Blank	Blank	7	Blank	Blank	Blank
Product type time period measuring point C	Blank	Blank	Blank	Blank	Blank	Blank

	🕀 Change collection source 📄 Mea	suring point list output	Register Mai Register Cal	nual input measuring point	Register Specific consumption Change measuring point	measuring point	±Ξ	
Registe collection se	r 🔀 Delete collection source 🖳 Cha ource	inge all measuring points	Register Pro	duct type time period measuring poi	nt 🗵 Delete measuring point		Measuring point group setting	List of reference err
	Collection source			Measu	iring point		Measuring po	Reference er
The measu	ring points will be listed in the right list when you	u select the collection source of	of the left list.					
ID	Collect source name		ID	Measuring point name		Measuring type	Measuring	) point unit
	1 Office		1	Machine_A(A)		Analog value	A	
	2 Assembly Line 1st		2	Machine_A(kW)		Analog value	kW	
	3 Assembly Line 2nd		3	Machine_A(kWh)		Pulse	kWh	
	4 Assembly Line DOWN		4	Machine_B(A)		Analog value	A	
	5 Assembly Line Passed/Failed		5	Machine_B(kW)		Analog value	kW	
	MAN Manual input measuring point		6	Machine_B(kWh)		Pulse	kWh	
	TIM Product type time period measuring period	oint	7	Machine_C(A)		Analog value	A	
	OPE Calculation measuring point		8	Machine_C(kW)		Analog value	kW	
	SPC Specific consumption measuring poin	t	9	Machine_C(kWh)		Pulse	kWh	
			10	Machine_D(A)		Analog value	A	
			11	Machine_D(kW)		Analog value	kW	
			12	Machine_D(kWh)		Pulse	kWh	
			13	Machine_E(A)		Analog value	A	
			14	Machine_E(kW)		Analog value	kW	
			15	Machine_E(kWh)		Pulse	kWh	
			16	Machine_F-1(A)		Analog value	A	
			17	Machine_F-1(kW)		Analog value	kW	
			18	Machine_F-1(kWh)		Pulse	kWh	
			19	Machine_F-2(A)		Analog value	A	
			20	Machine_F-2(kW)		Analog value	kW	
			21	Machine_F-2(kWh)		Pulse	kWh	
			22	Machine_F-3(A)		Analog value	A	
			23	Machine_F-3(kW)		Analog value	kW	
			24	Machine_F-3(kWh)		Pulse	kWh	
			25	Machine_F-4(A)		Analog value	A	
			26	Machine_F-4(kW)		Analog value	kW	

### (1) Click the **Register product type time period measuring point** button.

Register Product type time period measuring	ng point				$\times$
		The measuring point can be regis	stered by dragging and dr asuring point" on the left	ropping to th	ne "Measuring
Measuring Point ID:	(Range:1-256)	All measuring points			-
1		lama	Macouri	ing Tung	Lloit
Measuring Point Name:	(maximum30 letters)	Name	Medsun	ing type	onn
		002: Assembly Line 1st			
		003: Assembly Line 2nd			
Measuring Type:	(Integrated value only)	004: Assembly Line DOWN			
Pulse	Ψ.	• 005: Assembly Line Passed/	Failed		
	(A. I	• Manual input measuring poir	ıt		
Measuring Point Unit:	(Automatic selection)				
	Ŧ				
Decimal:	(Range:0-16)				
Measuring value point: 1	(Integrated value only)				
Time period measuring point ①	(Instantaneous value only)				
Time period type:	(Range:0-65535)				
		-			
		[	Register	(	Cancel

# (2) Input each item or select it from the pull-down menu.

Item	Input	Details
Measuring point ID	1 to 256	Input the ID of the measuring point.
		*Do not register the same ID repeatedly.
Measuring point	Max. 30 characters	Input a name of the measuring point.
name		
Measuring type	-	Pulse fixed
Measuring point unit	-	The same unit as the measuring value point is
		selected.
Decimal	0 to 16	The same number of decimal places as the
		measuring value point is selected.
Measuring value	Collection sources' measuring	Set a measuring point to measure energy
point	points or manual input	consumption of equipment.
	measuring points	*Drag and drop the measuring point from the
	*The measuring type is	right box of the window.
	limited to pulse.	
Time period	Collection sources' measuring	Set a measuring point to distinguish the
measuring point	points or manual input	product type being manufactured.
	measuring points	*Drag and drop the measuring point from the
	*The measuring type is	right box of the window.
	limited to analog value.	
Time period type	0 to 65535	Set the value of the time period measuring
		point you want to extract.

(3) Click the **Register** button to register the product type time period measuring point. This is the end of the operation.

Register Product type time period measur	ring point				$\times$
Macouring Boint ID:	(Pop.go:1.956)	The measuring point can be registered by dra value point" and "Time period measuring poin	gging and dropping t" on the left side.	to the "Meas	uring
Measuring Point ID.	(Range, 1-250)	All measuring points			-
1		Name	Measuring Type	Unit	
Measuring Point Name:	(maximum30 letters)	002 0027 Machine E-4(kWh)	Pulse	kWh	^
Gas leak A	-		Analog value	A	
			Analog value	kW	
Measuring Type:	(Integrated value only)	002_0030: Machine_G(kWh)	Pulse	kWh	
Pulse		002_0031: Machine_H(A)	Analog value	Α	
		002_0032: Machine_H(kW)	Analog value	kW	
Measuring Point Unit:	(Automatic selection)	002_0033: Machine_H(kWh)	Pulse	kWh	
m3	· ·	002_0034: Quality Check_1st(A)	Analog value	Α	
		002_0035: Quality Check_1st(kW)	Analog value	kW	
Decimal:	(Range:0-16)	002_0036: Quality Check_1st(kWh)	Pulse	kWh	
2	Ψ	002_0058: Overview(A)	Analog value	Α	
		002_0059: Overview(kW)	Analog value	kW	
Measuring value point: 🕕	(Integrated value only)	002_0060: Total Energy	Pulse	kWh	
002_0061: FLOWMETER (C18)[m3]		002_0061: FLOWMETER (C18)	Pulse	m3	
			Pulse	m3	
Time period measuring point: 🕕	(Instantaneous value only)	002_0069: Machine_F-1_N(Piece)	Pulse	Piece	
002_0058: Overview(A)[A]			Pulse	Piece	
		002_0071: Machine_F-3_N(Piece)	Pulse	Piece	
Time period type:	(Range:0-65535)		Fuise	FIELE	
0		003. Assembly Line DOWN			
		005: Assembly Line Passed/Failed			
		Manual input measuring point			
					~
		Regis	ster	Cancel	

# 4.1.9 Registering the specific consumption measuring point

### What is specific consumption measuring point?

It is used to calculate the specific consumption.

By setting the following items, you can analyze the specific consumption.

•Energy measuring point, which measures energy consumption (Measuring type: pulse)

•Production number measuring point, which counts production volume (Measuring type: analog value)



	10:00	10:15	10:30	10:45	11:00
Energy measuring point	Pulse A	Pulse B	Missing (blank)	Pulse D	0
Production number measuring point	Pulse a	Missing (blank)	Pulse c	0	0
Specific consumption measuring point	Specific consumption 1	Missing (blank)	Missing (blank)	Missing (blank)	0
				2	3

# (1) Click the **Register specific consumption measuring point** button.

	Heasuring point list output 📄 Measuring point list output	Register Ma	nual input measuring point	Register Specific consumption	n measuring point	<u>*</u> =	R
Register collection source	Delete collection source     Delete collection source	Register Program Pr	oduct type time period measuring point	Delete measuring point		Measuring point group setting	List of reference
	Collection source		Measurin	g point		Measuring po	Reference
The measuring p	points will be listed in the right list when you select the collection sour	ce of the left list.					
ID	Collect source name	ID	Measuring point name		Measuring type	Measurin	g point unit
	1 Office	1	Machine_A(A)		Analog value	A	
	2 Assembly Line 1st	2	2 Machine_A(kW)		Analog value	kW	
	3 Assembly Line 2nd		Machine_A(kWh)		Pulse	kWh	
	4 Assembly Line DOWN	4	Machine_B(A)		Analog value	A	
	5 Assembly Line Passed/Failed	Ę	5 Machine_B(kW)		Analog value	kW	
M	AN Manual input measuring point	6	6 Machine_B(kWh)		Pulse	kWh	
Т	TIM Product type time period measuring point	7	7 Machine_C(A)		Analog value	A	
O	PE Calculation measuring point	8	Machine_C(kW)		Analog value	kW	
SF	PC Specific consumption measuring point	Ş	Machine_C(kWh)		Pulse	kWh	
		10	Machine_D(A)		Analog value	A	
		11	Machine_D(kW)		Analog value	kW	
		12	2 Machine_D(kWh)		Pulse	kWh	
		13	Machine_E(A)		Analog value	A	
		14	Machine_E(kW)		Analog value	kW	
		15	5 Machine_E(kWh)		Pulse	kWh	
		16	Machine_F-1(A)		Analog value	A	
		17	Machine_F-1(kW)		Analog value	kW	
		18	Machine_F-1(kWh)		Pulse	kWh	
		19	Machine_F-2(A)		Analog value	A	
		20	Machine_F-2(kW)		Analog value	kW	
		21	Machine_F-2(kWh)		Pulse	kWh	
		22	2 Machine_F-3(A)		Analog value	A	
		23	Machine_F-3(kW)		Analog value	kW	
		24	Machine_F-3(kWh)		Pulse	kWh	
		25	5 Machine_F-4(A)		Analog value	A	
		04	Mashina E 4(1440		An other standards		

Register Specific consumption measuring	point					$\times$
Manager Balak Ba	(Decent 050)	The measuring point can be register measuring point" and "Production nu	red by dragging and umber measuring p	d dropping to point" on the	"Energy left side.	
Measuring Point ID:	(Range:1-256)	All measuring points				-
1		Name	Meas	suring Type	Unit	
Measuring Point Name:	(maximum30 letters)	• 001: Office     •				
		▶ 002: Assembly Line 1st				
Measuring Point Unit:	(maximum20 letters)	003: Assembly Line 2nd     004: Assembly Line DOWN				
	(	004: Assembly Line Down     005: Assembly Line Passed/Fai	led			
		<ul> <li>Manual input measuring point</li> </ul>				
Decimal:	(Range:0-5)	<ul> <li>Product type time period measu</li> </ul>	ring point			
	*	<ul> <li>Calculation measuring point</li> </ul>				
Energy measuring point: 🕕	(Integrated value only)					
Braduction number measuring point	(Integrated value entry)					
Production number measuring point.	(integrated value only)					
			Perioter		Cancel	
			Register		Cancel	

### (2) Input each item or select it from the pull-down menu.

Item	Details
Measuring point ID	Input the ID of the measuring point.
	Input range: 1 to 256
	*Do not register the same ID repeatedly.
Measuring point name	Input a name of the measuring point.
	*Max. 30 characters
Measuring point unit	Input a unit of the measuring point
	* Max. 20 characters
Decimal *1	Select the number of decimal places for the measuring value from the
	pull-down menu.
	*The fractions of the calculation result are rounded off according to the
	setting of the number of decimal places.
	The selectable range: 0 to 5, blank
Energy measuring point	Set a measuring point to measure energy consumption.
	*Drag and drop the measuring point from the right box of the window.
Production number	Set a measuring point to measure production volume.
measuring point	*Drag and drop the measuring point from the right box of the window.

\*1: If it is set to blank, the rounding off will not be executed.

\*2: The measuring type is analog value for specific consumption measuring point.

(3) Click the **Register** button to register the specific consumption measuring point. This is the end of the operation.

		The measuring point can be registered by d measuring point" and "Production number n	ragging and dropping t neasuring point" on the	to "Energy e left side.	
easuring Point ID:	(Range:1-256)	All measuring points			
1		Name	Measuring Type	Linit	-
easuring Point Name:	(maximum30 letters)	► 001: Office	measuring type	Onic	-
Machine A Sp Cons		↓ 002: Assembly Line 1st			- 1
Lucenne Cetreene			Analog value	A	
easuring Point Unit:	(maximum20 letters)		Analog value	kW	
kWh/Piece		- 002_0003: Machine_A(kWh)	Pulse	kWh	
			Analog value	A	
ecimal:	(Range:0-5)	002_0005: Machine_B(kW)	Analog value	kW	
5	•	002_0006: Machine_B(kWh)	Pulse	kWh	
		002_0007: Machine_C(A)	Analog value	A	
iergy measuring point: 🕕	(Integrated value only)	002_0008: Machine_C(kW)	Analog value	kW	
002 0003: Machine A(kWh)[kWh]		002_0009: Machine_C(kWh)	Pulse	kWh	
		002_0010: Machine_D(A)	Analog value	Α	
oduction number measuring point 🕕	(Integrated value only)	002_0011: Machine_D(kW)	Analog value	kW	
005 0001 Machine A-C Passed[Piece]		002_0012: Machine_D(kWh)	Pulse	kWh	
		002_0013: Machine_E(A)	Analog value	A	
		002_0014: Machine_E(kW)	Analog value	kW	
		002_0015: Machine_E(kWh)	Pulse	kWh	
		002_0016: Machine_F-1(A)	Analog value	A	
		002_0017: Machine_F-1(kW)	Analog value	kW	
			Pulse	kWh	
			Analog value	A	
		002_0020: Machine_F-2(kW)	Analog value	KVV	
		002_0021: Machine_F-2(kWh)	Pulse	KVVN	
			Analog value	A	

#### 4.1.10 Changing the measuring point

You will change the information on the selected measuring point.

\*When you use Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI), check whether the measuring point is used in the diagnosis setting. If it used, refer to [12.3 Operation for Setting Change about Diagnosis Function].

(1) Select a measuring point you want to change and then click the **Change measuring point** button.

¢	🛱 Change collection source 📄 Measuring point list output	Register I	Manual input measuring point Calculation measuring point	Register Specific consumption Change measuring point	measuring point	<b>±</b> ≣	[
Register collection so	Delete collection source U Change all measuring points	Register I	Product type time period measuring point	X Delete measuring point		Measuring point group setting	Li
	Collection source		Measuri	na point		Measuring po	Refere
The measuri	ing points will be listed in the right list when you select the collection sour	ce of the left list.					
ID	Collect source name	ID	Measuring point name		Measuring type	Measuring	) point uni
	1 Office		1 Machine_A(A)		Analog value	A	
	2 Assembly Line 1st		2 Machine_A(KW)		Analog value	KVV	
	3 Assembly Line 2nd		3 Machine_A(kWh)		Pulse	kWh	
	4 Assembly Line DOWN		4 Machine_B(A)		Analog value	A	
	5 Assembly Line Passed/Failed		5 Machine_B(kW)		Analog value	KW	
	MAN Manual input measuring point		6 Machine_B(kWh)		Pulse	kWh	
	TIM Product type time period measuring point		7 Machine_C(A)		Analog value	A	
	OPE Calculation measuring point		8 Machine_C(kW)		Analog value	kW	
	SPC Specific consumption measuring point		9 Machine_C(kWh)		Pulse	kWh	
			10 Machine_D(A)		Analog value	A	
			11 Machine_D(kW)		Analog value	kW	
			12 Machine_D(kWh)		Pulse	kWh	
		1	13 Machine_E(A)		Analog value	A	
			14 Machine_E(kW)		Analog value	kW	
			15 Machine_E(kWh)		Pulse	kWh	
			16 Machine_F-1(A)		Analog value	A	
			17 Machine_F-1(kW)		Analog value	kW	
			18 Machine_F-1(kWh)		Pulse	kWh	
			19 Machine_F-2(A)		Analog value	A	
			20 Machine_F-2(kW)		Analog value	kW	
			21 Machine_F-2(kWh)		Pulse	kWh	
			22 Machine_F-3(A)		Analog value	A	
			23 Machine_F-3(kW)		Analog value	kW	
			24 Machine_F-3(kWh)		Pulse	kWh	
			25 Machine_F-4(A)		Analog value	A	
			26 Machine E-4(kW)		Analog value	kW	

(2) The following window appears.

Change the setting.

\*The changeable items vary depending on the measuring point.

The following example illustrates a change of the measuring point of EcoWebServerII.

Change EcoWebServerIII meas	suring point $\times$
Measuring Point ID:	
1	
Measuring Point Name:	(maximum30 letters)
Machine_A(A)	
Measuring Type:	
Analog value	-
Measuring Point Unit:	
A	Ψ
Decimal:	
1	Ψ.
Change	Cancel

Measuring point		Changeable item	
EcoWebServerⅢ	Measuring point	Measuring point name, measuring point type	
	Demand measuring	Measuring point name	
	point		
Edgecross	Measuring point	Measuring point name, measuring point type, measuring	
		point unit, multiplying factor *1, the number of decimal	
		places	
Manual input measuring point		Measuring point name, measuring point type, measuring point	
		unit, the number of decimal places	
Calculation measuring point		Measuring point name, measuring point type, measuring point	
		unit, the number of decimal places, calculation formula	
Product type time period measuring		Measuring point name, measuring value point, time period	
point		measuring point, time period type	
Specific consumption measuring point		Measuring point name, measuring point unit, the number of	
		decimal places, energy measuring point, production number	
		measuring point	

\*1: The setting range varies depending on the measuring type and the data type.

For the setting change, refer to the following table.

Measuring type	Data type	The setting range of Multiplying factor
Pulse, analog value,	INT, UINT	0.00001 to 99999
power factor	DINT, UDINT	0.00001 to 1
	Others	Unavailable
Operating status		Unavailable

\*2: The changed settings are not reflected to the collection source.

#### (3) Click the **Change** button.

Change EcoWebServerIII measure	suring point $ imes$
Measuring Point ID:	
1	
Measuring Point Name:	(maximum30 letters)
Machine_A(A)	
Measuring Type:	
Analog value	-
Measuring Point Unit:	
Α	Ψ.
Decimal:	
1	-
	_
Change	Cancel

(4) The following window appears.

Click the **Yes** button to register the change.

This is the end of the operation.

EcoAdviser	×
Are you sure you	want to register?
<u>Y</u> es	No

# 4.1.11 Deleting the measuring point

You will delete the selected measuring point.

- \*When you use Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI) check whether the measuring point is used in the diagnosis setting. If it used, change the setting value and then delete the measuring point. For details on the setting change, refer to [12.3 Operation for Setting Change about Diagnosis Function].
- \*It is impossible to restore any measuring points that you have already deleted. Note that do not operate accidentally.
- \*Even if you delete the measuring point, its data collected/calculated in the past is not deleted. When you register a new measuring point to the ID, the data of the deleted measuring point will be treated as the past data.

To delete the past data, refer to [5.4 Manual Input/Edition] and input blank to the past data.

### (1) Select a measuring point you want to delete and then click the **Delete measuring point** button.

dviser - Mea	suring Point Settings				
	🛗 Change collection source 📄 Measuring point list output	Register Manual input measuring point Register Calculation measuring point	Register Specific consumption measuring point	ng point	
Register collection so	Delete collection source 🛛 🖳 Change all measuring points	<ul> <li>Register Product type time period measuring point</li> </ul>	Delete measuring point	Measuring point group setting	List of reference error
	Collection source	Measuri	ng point	Measuring po	Reference error
The measur	ing points will be listed in the right list when you select the collection sour	ce of the left list.			
ID	Collect source name	ID Measuring point name	Measur	ing type Measurin	la point unit
	1 Office	1 Machine_A(A)	Analog	value A	
	2 Assembly Line 1st	2 Machine_A(KW)	Analog	value kw	
	3 Assembly Line 2nd	3 Machine_A(kWh)	Pulse	kWh	
	4 Assembly Line DOWN	4 Machine_B(A)	Analog	value A	
	5 Assembly Line Passed/Failed	5 Machine_B(kW)	Analog	value kW	
	MAN Manual input measuring point	6 Machine_B(kWh)	Pulse	kWh	
	TIM Product type time period measuring point	7 Machine_C(A)	Analog	value A	
	OPE Calculation measuring point	8 Machine_C(kW)	Analog	value kW	
	SPC Specific consumption measuring point	9 Machine_C(kWh)	Pulse	kWh	
		10 Machine_D(A)	Analog	value A	
		11 Machine_D(kW)	Analog	value kW	
		12 Machine_D(kWh)	Pulse	kWh	
		13 Machine_E(A)	Analog	value A	
		14 Machine_E(kW)	Analog	value kW	
		15 Machine_E(kWh)	Pulse	kWh	
		16 Machine_F-1(A)	Analog	value A	
		17 Machine_F-1(kW)	Analog	value kW	
		18 Machine_F-1(kWh)	Pulse	kWh	
		19 Machine_F-2(A)	Analog	value A	
		20 Machine_F-2(kW)	Analog	value kW	
		21 Machine_F-2(kWh)	Pulse	kWh	
		22 Machine_F-3(A)	Analog	value A	
		23 Machine_F-3(kW)	Analog	value kW	
		24 Machine_F-3(kWh)	Pulse	kWh	
		25 Machine_F-4(A)	Analog	value A	
		26 Machine_F-4(kW)	Analog	value kW	

(2) The following window appears.

Click the Yes button to delete the measurement point.


# 4.1.12 Setting the measuring point group

From the **Measuring point group setting** button, you will set the measuring point group.

By setting the measuring point group, you can easily find measuring points when dragging and dropping.

Register collection source	e collection source collection source	<ul> <li>Measuring point list output</li> <li>Change all measuring points</li> </ul>	<ul> <li>Register Mai</li> <li>Register Cal</li> <li>Register Pro</li> </ul>	nual input measuring point iculation measuring point duct type time period measuring point	<ul> <li>Register Specific consumption</li> <li>Change measuring point</li> <li>Delete measuring point</li> </ul>	measuring point	Measuring point group setting	L refere
	Collection source	9		Measurin	ig point		Measuring po	Refere
The measuring points will be li	sted in the right list	when you select the collection sourc	e of the left list.					
ID Collect so	ource name		ID	Measuring point name		Measuring type	Measuring	point un
1 Office			1	Machine_A(A)		Analog value	A	
2 Assembly	Line 1st		2	Machine_A(kW)		Analog value	kW	
3 Assembly	Line 2nd		3	Machine_A(kWh)		Pulse	kWh	
4 Assembly	Line DOWN		4	Machine_B(A)		Analog value	A	
5 Assembly	Line Passed/Faile	d	5	Machine_B(kW)		Analog value	kW	
MAN Manual in	put measuring poin	t	6	Machine_B(kWh)		Pulse	kWh	
TIM Product ty	pe time period mea	isuring point	7	Machine_C(A)		Analog value	A	
OPE Calculation	on measuring point		8	Machine_C(kW)		Analog value	kW	
SPC Specific o	onsumption measu	iring point	9	Machine_C(kWh)		Pulse	kWh	
			10	Machine_D(A)		Analog value	A	
			11	Machine_D(kW)		Analog value	kW	
			12	Machine_D(kWh)		Pulse	kWh	
			13	Machine_E(A)		Analog value	Α	
			14	Machine_E(kW)		Analog value	kW	
			15	Machine_E(kWh)		Pulse	kWh	
			16	Machine_F-1(A)		Analog value	Α	
			17	Machine_F-1(kW)		Analog value	kW	
			18	Machine_F-1(kWh)		Pulse	kWh	
			19	Machine_F-2(A)		Analog value	A	
			20	Machine_F-2(kW)		Analog value	kW	
			21	Machine_F-2(kWh)		Pulse	kWh	
			22	Machine_F-3(A)		Analog value	A	
			23	Machine_F-3(kW)		Analog value	kW	
			24	Machine_F-3(kWh)		Pulse	kWh	
			25	Machine_F-4(A)		Analog value	A	
			26	Machine F-4(kW)		Analog value	kW	

# <Example>

Select the details and scope of the display item.	Measuring point list
Analysis method (graph type): Time Series Chart	Measuring point model 🗸 🔻
tem (X axis): lime	Name Mea
Comparison method: Item (measuring point compari	Ison) 🔺 XYZ Assembly Line 🔥
Item	SPC_0026: Assembly Line_Sp.Cons
item -	···· 002_0060: Total Energy F
Drag measuring points here from Mesureing point list.	I 005_0025: Quality Check_2nd_Passed F
	a · Machine_A 002 0002: Machine A/MMb) F
	A: SPC 0001: Machine A Sp Cons
	- 002 0003: Machine A(kWh) F
	005_0001: Machine_A-C_Passed F
	A · Machine_B
	002_0006: Machine_B(kWh) F
	004_0002: Machine_B_DOWN F
Range	► SPC_0002: Machine_B_Sp.Cons
Display interval	Machine_C
	Machine E
Dally	Machine_F-1
Display period	Machine_F-2
	Machine_F-3
No. Start time End time	▶ Machine_F-4
1 3/20/2019 4/19/2019	Machine_G
	▶ Machine_H
	< >

(1) Adding the group

Click the **New group** button to create a new group below the selected group.

\*The number of group hierarchy is max. 4 levels.



(2) Changing the group name

Select a group and then click the **Edit group name** button to input a group name.

After the name input, press the **Enter** key on the keyboard to complete the change.

The group name is up to 32 characters long.



(3) Deleting the group including measuring points

Select a group and then click the **Delete** button to delete the group.

\*The confirmation message does not appear at the time of deletion.

Note that do not click the **Delete** button with the top of the Measuring point group box selected.

Otherwise, all the groups will be deleted.



(4) Adding the measuring point to the group

Drag and drop a measuring point from the all measuring points box to the Measuring point group box to add the measuring point to any group.

The following is the precautions at the time of registration.

- The number of registrations is 256 measuring points per group.
  - \* 7000 points for all groups
- It is possible to register the same measuring point to other groups.
- When you register the product type time period measuring point, calculation measuring point, or specific consumption measuring point to the group, the measuring points set to the calculation item are also registered to the group. It is possible to delete the added measuring points, which are included in the number of registrations.



#### For details, refer to the following window.

(5) Sorting the groups/measuring points

Drag and drop a measuring point or group to change the order or hierarchy level.

With the green arrow, you can move a selected item to the lower level of a group where the mouse cursor is placed over.

With the blue arrow, you can move a selected item to right above or right below a

group/measuring point where the mouse cursor is placed over.



Arrow sign	Details
	Move a selected item to the lower level of a group where the mouse cursor is placed
~	over.
¢	Move a selected item to right above a group/measuring point where
	the mouse cursor is placed over
B.K.	Move a selected item to right below a group/measuring point where
\$	the mouse cursor is placed over

\* If you drag and drop multiple groups at one time, the following message may appear. In that case, move the group one by one.

EcoAdviser	$\times$
The maximum hierarchy that can be registered is up	to 4.
<u>O</u> K	

#### <Example>

In order to move 'Machine\_B' group to above '002\_003: Machine\_A (kWh)' in 'Machine\_A' group, drag 'Machine\_B' group and drop it when the cursor  $\stackrel{\frown}{\Longrightarrow}$  is placed over '002\_003: Machine\_A (kWh).'



Before change

After change

(6) Saving the measuring point group

Click the **Save** button to save the set measuring point group.



\* When you want to end the operation without saving the setting, click the **Cancel** button. The following window appears. Click the **Yes** button to end without saving.



The following window appears.

Click the **Yes** button to save the measuring point group setting.



# 4.1.13 Displaying the reference error list

For calculation measuring point, product type time period measuring point, and specific consumption measuring point, any measuring points where the reference error is occurring are displayed in the list. The measuring points with the error are not measured.

Accordingly, change the setting or delete the measuring point.

\*The reference errors occurring in the diagnosis setting are not displayed on this window.

(1) Changing the setting of the measuring point

(a) Select the measuring point and click the **Change** button.

Reference error list			×
The measuring point may have the following measuring po	ave been deleted. ints are not currently working		
Measuring point type	Measuring point ID	Measuring point Name	
Product type time period	1	Gas leak A	
Calculation measuring	12	Product C proceeds	
Calculation measuring	13	Factory proceeds	
Change	Delete		Close
			<u>6</u>

(b) The following window appears to change the measuring point setting.

Reset the item where **Reference error** is displayed and then click the **Change** button.

\*The displayed window varies depending on the measuring point type.

The following example illustrate a change of the product type time period measuring point.

Change Product type time period measuring point		×		
Measuring Point ID: (Range:1-256)	The measuring point can be registered by drag value point" and "Time period measuring point All measuring points	gging and dropping to the "Measuring " on the left side.		
1	Name	Measuring Type Unit		
Measuring Point Name: (maximum30 letters)	▶ • 001: Office	2.71	Change Calculation measur	ing point
Gas leak A	• 002: Assembly Line 1st		onango oaloalator modoal	ing point
	▶ 003: Assembly Line 2nd			
Measuring Type: (Integrated value only)	▶ 004: Assembly Line DOWN		Measuring Point ID:	The unformed
Pulse	O05: Assembly Line Passed/Failed		12	The reference
Measuring Point Unit: (Automatic selection)	) Manual input measuring point		Measuring Point Name:	error of the
m3			Product C proceeds	calculation
	1		Measuring Type	measuring point
Decimal: (Range:0-16)			Pulse	is [#RĔĖ].
2 ~			Measuring Point Unit:	· L J
Measuring value point:			S	•
Reference error			Decimal:	(Range:0-5)
Inteletence entit	1		0	<b>*</b>
Time period measuring point: () (Instantaneous value only)			Calculation formula:	(Maximum 4000 letters)
002_0058: Overview(A)[A]			[#REF1*2000	(maximum 200 points)
Time period type: (Range:0-65535)				
U				
				× .
	Chan	ge Cancel		

(c) The following message appears.

Click the **Yes** button to change the setting.

This is the end of the operation.

EcoAdviser	$\times$
Are you sure you	want to register?
<u>Y</u> es	<u>N</u> o

(2) Deleting the measuring point

(a) Select the measuring point and then click the **Delete** button.

Reference error list			×
The measuring point may h The following measuring po	ave been deleted. vints are not currently working		
Measuring point type	Measuring point ID	Measuring point Name	
Product type time period	1	Gas leak A	
Calculation measuring	12	Product C proceeds	
Calculation measuring	13	Factory proceeds	
Change	Delete	Close	
		Баланан (акала)	

(b) The following message appears.

Click the **Yes** button to delete the measuring point.

This is the end of the operation.



# 4.2 Diagnosis Settings

This function is for Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI). You will register the settings for diagnosis.

By selecting the tab, switch the setting item.

Eco/	Adviser - Diagnostic settings		<b>–</b> 1		- 0	$\times$
۲	Equipment setting	Equipment setting	lab			
	Electricity rate setting	plact the aquipment and t	on oot the items			_
	Factor diagnosis setting	Select the equipment and t	ten set tre tterns.	Energy measuring point		^
	Calculation measuring point setting	Equipment		Energy measuring point.		
_	Evaluation reset	ID Equipment nam	e			
	Evaluation reset	1	^			
		3		4.Set the parameters for energy-loss diagnosis.		
		4		Time lag adjustment of production number measuring point(minutes) 🕕	(Range:-60-60)	
6		5			0	
		6		Takt time(minutes):	(Banga:1,1440)	
		7		Taki unie(minutes).	(Rallye. 1-1440)	
		8				
		9		Production volume threshold value for determining the exclusion day for diagnosis: 🕕	(Range: 🕕)	
		10				
		12				
		13	<	Energy consumption threshold value for determining the equipment OFF state(kWh): 1	(Range: 🕕 )	
		14		Threshold setting: Auto		
		15				
22		16		Energy consumption threshold value for determining the utility OFF state(KWh):	(Range: 🕕)	
-		17		Threshold setting: Auto 👻		
		18		Production mask time after the equinment start-un(minutes)	(Pange:0-360)	
		20			(Italige.0-500)	
		21				
		22		Production mask time before the equipment shut-down(minutes) 🕕	(Range:0-360)	
		23			0	
		24				
		25		5.Set the break time for calculating the energy-loss during the break time.		
		26		Breaktime:		
		21	Ŧ	break unie.		~
		the equipment data/s			Save	

Tab	Details	Reference
Equipment setting	Register, change, or delete the equipment information for	4.2.2
	energy-loss diagnosis.	4.2.3
Electricity rate setting	Register the setting to convert energy consumption to the	4.2.4
	amount for energy-loss diagnosis.	
Factor diagnosis setting	Register, change, or delete the energy-loss factor for	4.2.5
	equipment.	4.2.6
Calculation measuring	Register, change, or delete the calculation measuring point for	4.2.7
point setting	energy-loss diagnosis.	4.2.8
		4.2.9
Evaluation reset	Reset the evaluation for energy-loss factor.	4.2.10

# 4.2.1 About the diagnosis function

For the outline of the diagnosis function, refer to [7.1].

#### 4.2.2 Registering/Changing the equipment information

You will register or change the information on a piece of equipment.

\*The number of registrations is 50.

\*If you will change the setting after the operation starts, refer to [12.3 Operation for Setting Change about Diagnosis Function].

#### (1) Select Equipment setting.

The following window appears.

Eco/	Adviser - Diagnostic settings						- 0	×
۲	Equipment setting	Equipmen	t setting					
	Electricity rate setting Factor diagnosis setting	Select the Equipm	equipment and then set th ent	the iter	ns. Item			^
		ID	Equipment name		1.Set the equipment name.			
•	Evaluation reset	1 2 3 4 5			Equipment name: (Maximur	m 30 letters)	The measuring pont can be registerr by dragging and dropping to "Energy measuring point", "Production numb measuring point", and "Utility measuring point" on the left side.	er
		6			2.Set the measuring point of equipment		Measuring point list	
		7			Energy measuring point: 1		All measuring points	-
		9					Name	
		10			Production number measuring point: 1		• 001: BoardManufactur      • 002: MetalPartsManuf	
		12			Production number measuring point:		<ul> <li>Calculation measurin</li> </ul>	
		13			Floducion number measuring point.			
		15						
ste		16			O Unavailable			
24		17			Starting time: 00:01			
		18			Ending time: 00:00			
		19						
		20			Apply to all registered equ	uipment		
		21			2 Set the utility measuring point (Optional)			
		22			3.Set the duity measuring point. (Optional)			
		23			Utility measuring point: 🕕			
		24						
		26						
		27	v		4.Set the parameters for energy-loss diagnosis.			
		Delete	equipment				Save	•

#### (2) From the table, select the equipment for registration.

Eco	Adviser - Diagnostic settings			- 0	×
۲	Equipment setting	Equipment setting			
	Equipment setting Electricity rate setting Factor diagnosis setting Calculation measuring point setting Evaluation reset	Equipment setting           Select the equipment and then set the instruction of the set of the instruction of the set of the s	tems.  Item  1.Set the equipment name.  Equipment name:  (Maximum 30 letters)  2.Set the measuring point of equipment  Energy measuring point  Energy measuring point  Production number measuring point  Production number measuring point  Production number measuring point  Production number measuring point  Outavailable  Starting time: 0001  Apply to all registered equipment  3.Set the utility measuring point  Utility measuring point  Utility measuring point	The measuring pont can be registered by dragging and dropping to "Energy measuring point", "Production number measuring point" on the left side. Measuring point list All measuring points * Name > 001: BoardManufactur > 002: MetalPartsManuf > Calculation measurin	Î
		26 27 Delete equipment	4.Set the parameters for energy-loss diagnosis.	Save	¥

(3) The selected equipment information is displayed on the right of the window.

Set the items listed below.

To register each measuring point, drag and drop a measuring point from the measuring point list on the right.

For details on the items, refer to the next page.

	Itom	Necessary/	Input
	Item	Option	Input
Equipment	name	Necessary	Max. 30 characters
Energy me	asuring point	Necessary	Select from collection sources' measuring points whose
Available Production number measuring point		Necessary *Select 'Available' or 'Unavailable.'	<ul> <li>measuring type is pulse or calculation measuring point for diagnosis.</li> <li>*It is impossible to select the manual input measuring point, calculation measuring point, product type time period measuring point, specific consumption measuring point, or demand measuring point.</li> </ul>
Unavailabl	e Starting time		00:00 to 23:59
	Ending time		
Utility measuring point		Option	<ul> <li>Select from collection sources' measuring points whose t measuring type is pulse or calculation measuring point for diagnosis.</li> <li>* It is impossible to select the manual input measuring point, calculation measuring point, product type time period measuring point, specific consumption measuring point, or demand measuring point.</li> </ul>
Time lag adjustment of production		Option	-60 to 60
number measuring point		<b>0</b>	Default: 0
Takt time		Option	1 to 1440 Default: 1
Production determinir diagnosis	volume threshold value for g the exclusion day for	Option	0 to 999999999999
Energy col	nsumption threshold value	Option	Automated or manual
state	ining the equipment on		0 to 999999999999 999
State			*Set any values up to 15 significant digits with max. 5 decimal places.
		<b>.</b>	Default: non setting
Energy col	isumption threshold value	Option	Automated or manual
for determining the utility off state			0 to 9999999999999999 *Set any values up to 15 significant digits with max. 5 decimal places. Default: non setting
Production mask time after the		Option	0 to 360 Default: 0
Production mask time before the		Option	
equipment shut-down			
Break time	Number of setting periods	Option	0 to 3 Default: 0
	Starting time	Option	0:00 to 23:59
	Ending time	Option	

# Note

By clicking the **Apply to all registered equipment** button in each setting item of Production number measuring point and Break time, the present setting will be reflected to all registered equipment.

(4) Click the **Save** button to save the registration.

# <Explanation of some setting items in the above table>

## ■ Energy measuring point

You will register a measuring point that measures the equipment electric energy.

You will also register any measuring points other than electric energy, such as measuring water, gas, and air usage by converting it into the corresponding value using the calculation measuring point in order to use for diagnosis. See the example below.

<Example> Unit price of electric energy=20,Unit price of water=30

Register [Measuring point of water usage'/ $30 \times 20$ ] in the calculation formula for calculation measuring point for diagnosis.

#### Production number measuring point

You will register a measuring point that measures the equipment production volume.

When there is no measuring point that measures the equipment production volume, the equipment timeloss (start-up) and equipment time-loss (shut-down) of the energy saving viewpoint are calculated from the set working hours (starting time and ending time). However, the specific consumption and production loss time rate will not be calculated.

\*For the difference between the production number measuring point and working hours, refer to [Note: Production number measuring point and working hours].

# Working hours (starting time and ending time)

You will set the starting time and ending time of working hours.

\*Be sure to set the working hours excluding the set day aggregation period (hour).

- If the set time were included in the working hours, five focusing viewpoints for energy saving and energy-loss during the standby/break time would not be measured.
- \*For the difference between the production number measuring point and working hours, refer to [Note: Production number measuring point and working hours].

# ■ Utility measuring point

You will register a measuring point that measures the utility electric energy related to the equipment, such as air conditioning, lighting, or compressors.

You will also register any measuring points other than electric energy, such as measuring water, gas, and air usage by converting it into the corresponding value using the calculation measuring point in order to use for diagnosis. By registering this measuring point, the utility start-up time and utility shut-down time of the energy saving viewpoint will be calculated. See the example below.

<Example> Unit price of electric energy=20, Unit price of water=30

Register [Measuring point of water usage'/ $30 \times 20$ ] in the calculation formula for calculation measuring point for diagnosis.

# Note: Production number measuring point and working hours

To determine the operating state or standby state of the equipment, it is necessary to set either the production number measuring point, which measures the number of production, or the working hours. The details of each setting are as follows.

Item	Production number measuring point	Working hours (starting time, ending time)		
ber of	Measuring value of the production	1 is recorded from the starting time to ending		
uction	number measuring point	time on the production data.		
Equipment	Time period from the change to the	Time period from the change to the		
time-loss	equipment ON state to the start of	equipment ON state to the starting time		
(start-up)	production	*When the equipment changes to the ON		
		state after the starting time, the		
		equipment time-loss (start-up) becomes		
		zero.		
Equipment	Time period from the end of	Time period from the ending time to the		
time-loss	production to the change to the	change to the equipment OFF state		
(shut-down)	equipment OFF state	*When the equipment changes to the OFF		
		state before the ending time, the		
		equipment time-loss (shut-down) becomes		
		zero.		
Specific	Specific consumption from the start	No measurement		
consumption	to the end of production			
Production	Time rate of the production number	No measurement		
loss time	measuring point that measures 0			
rate	from the start to the end of			
	production			
	Item         ber of         uction         Equipment         time-loss         (start-up)         Equipment         time-loss         (start-up)         Specific         consumption         Production         loss time         rate	ItemProduction number measuring pointber ofMeasuring value of the production number measuring pointEquipmentTime period from the change to the equipment ON state to the start of productionEquipmentTime period from the end of productionEquipmentTime period from the end of production to the change to the 		

The following example illustrates the equipment time-loss (start-up) and the equipment time-loss (shut-down) have negative value according to the working hours.



Time lag adjustment of production number measuring point

You will set the time difference between the time production volume is counted and the one a work-inprogress is put into the equipment.

When the point which measures the production volume is not just before the entry into the equipment, the value of the energy saving viewpoint is not calculated correctly. Accordingly, this setting enables the software to calculate that value correctly.



Example 2: The production is counted 15 minutes before the entry into the equipment.  $\Rightarrow$ Time lag adjustment of production number measuring point=Positive value

#### Time lag adjustment of production number measuring point=15 min.



#### Time lag adjustment of production number measuring point=10 min.



#### ■ Takt time

You will set the time difference between the time a work-in-progress is just entered into the equipment and the one the product is just unloaded.

The actual takt time is set by rounding up in minutes. For example, for two minutes and 10 seconds, enter three minutes. For any equipment that takes long time to produce, the equipment time-loss (shutdown) and production loss time rate of the energy saving viewpoint will not be calculated correctly. Accordingly, when this takt time is set, the software handles the production count as a non-zero value even if the actual value is zero during the set time. By using this setting, the software calculates the value of the energy saving viewpoint close to the actual operation.

\*This function is disabled when the production number measuring point is not set.



■ Production volume threshold value for determining the exclusion day for diagnosis

You will set the threshold value of daily production volume in order to exclude any specific days from diagnosis. If there is any singular day with low production due to reasons such as the equipment maintenance, it may result in a singular diagnostic result. Accordingly, this setting enables the software to calculate each value of five focusing viewpoints for energy saving and execute the energy-loss factor diagnosis, excluding any days when the production volume is this threshold value or less.

■ Energy consumption threshold value for determining the equipment OFF state

You will set the threshold value of one-minute electric energy for determining the equipment OFF state. This setting enables the software to calculate the value of the energy saving viewpoint by judging oneminute electric energy with the threshold or less as the OFF state and other cases as the ON state. If the threshold is incorrect, the value of the energy saving viewpoint will not be calculated correctly. It is strongly recommended that the threshold value should be set by manual because a value calculated by the automatic setting is a reference value.

When this setting is set manually, execute the diagnosis once and set a value by referring to the daily graph. For the daily graph, refer to [7.4.3 Checking values of the energy saving viewpoint].



■ Energy consumption threshold value for determining the utility OFF state

You will set the threshold value of one-minute electric energy for determining the utility OFF state.

This setting enables the software to calculate the value of the energy saving viewpoint by judging oneminute electric energy with the threshold or less as the OFF state and other cases as the ON state. If the threshold is incorrect, the value of the energy saving point will not be calculated correctly. It is strongly recommended that the threshold value should be set by manual because a value calculated by the automatic setting is a reference value.

When this setting is set manually, execute the diagnosis once, and set a value by referring to the daily graph. For the daily graph, refer to [7.4.3 Checking values of the energy saving viewpoint].



■ Production mask time after the equipment start-up

You will set the time to exclude the count of production after the equipment start-up.

When unwanted production is counted due to maintenance, test runs, or the like after the equipment start-up, the equipment time-loss (start-up) of the energy saving viewpoint will not be calculated correctly. Accordingly, this setting enables the software to calculate the value of the energy saving viewpoint, excluding the count of production for the set time after the equipment start-up.



\*1: When the production mask time is set to one minute, the count of production at the equipment start-up is excluded.
 When the count of production is excluded for n minute after the equipment start-up, set the time of adding one minute to n for the production mask time.

■ Production mask time before the equipment shut-down

You will set the time to exclude the count of production before the equipment shut-down.

If unwanted production is counted due to maintenance, test runs, or the like before the equipment shutdown, the equipment time-loss (shut-down) of the energy saving viewpoint will not be calculated correctly. Accordingly, this setting enables the software to calculate the value of the energy saving viewpoint, excluding the count of production for the set time before the equipment shut-down.



Break time

You will set the starting time and ending time for the break time.

Be sure to set the break time not including the set day aggregation period (hour). By using this setting, the software calculates energy-loss during the break time. Additionally, setting not only the break time but also the specific time enables the software to calculate the energy-loss of equipment and utility corresponding to those times.

(1) Number of set periods

Select the number of break times.

(2) Starting time/Ending time

Set the starting time and ending time for the break time.

# 4.2.3 Deleting the equipment information

You will delete the registered information of equipment.

\*The energy-loss factors set in [4.2.5 Setting/Editing the energy-loss factor] are also deleted. \*It may take some time to delete the settings and data related to the equipment.

ECO	Adviser - Diagnostic settings				
۲	Equipment setting	Equipment setting			
	Electricity rate setting	Select the equinment and then set the it	teme		
	Factor diagnosis setting	Select the equipment and then set the h	tenia.		^
	Calculation measuring point setting	Equipment	Item		
	Evoluction report	ID Equipment name	1.Set the equipment name.		
- <b>1</b> 1-	Evaluation reset	1 Line-1_BoardMan 🔨	Equipment name: (Maximum 30 letters)	The measuring pont can be registered	
		2 Line 2_BoardMan	Line-1_BoardManufacturingArea	by dragging and dropping to "Energy	
		3 Line-3_BoardMan		measuring point", and "Utility	
$(\mathbf{b})$		5		measuring point" on the left side.	
		6	2.Set the measuring point of equipment	Measuring point list	
		7			
		8	Energy measuring point:	All measuring points 🔻	
		9	001_0248: Equipment-A1[kWh]	Name	
		10	Production number measuring point: (1)	▶ · 001: BoardManufactur	
		12	Available	▶ 002: MetalPartsManuf	
		13	Production number measuring point:	Calculation measurin	
		14	001_0093: PNumber_Line-F[Piece]		
		15			
23		16	O Unavailable		
-		17	Starting time: 00:01		
		18	Ending time: 00:00		
		20	Apply to all registered equipment		
		21			
		22	3.Set the utility measuring point. (Optional)		
		23	Utility measuring point		
		24	001 0246: EEnergy(detail) Egu-A Line-BikWhi		
		25	oo i_ozito: zzitolg/(dotal)_zita / _zito b[(rinj		
		20	4 Pat the perometers for operative loss disappoin		
			4.5et the parameters for energy-loss diagnosis.		~
		Delete equipment		Save	

(1) Select the equipment you want to delete and then click the **Delete equipment** button.

#### (2) The following message appears.

Click the **Yes** button to delete the equipment.



(3) When the deletion is completed, the following message appears. Click the **OK** button to close the message.

EcoAdviser	$\times$
The deletion of equipment's setting values and data has been compl	eted.
<u></u> К	

# 4.2.4 Setting the electricity rate

You will set the electricity rate setting to convert energy consumption to the corresponding electricity charge.

\*If you change the setting after the operation starts, refer to [12.3 Operation for Setting Change about Diagnosis Function].

# (1) Select the **Electricity rate setting** tab.

The following window appears.

🖺 EcoA	Adviser - Diagnostic settings		-	×
۲	Equipment setting	Electricity rate setting		
	Electricity rate setting	Set the electricity rate.		
	Factor diagnosis setting Calculation measuring point setting Evaluation reset	Currency unit (maximum8 letters)		
\$				

# (2) Input each item.

Item	Input	Details
Currency unit	Max. 8 characters	Set the unit.
Electricity rate	0 to	Set the electricity rate per 1 kWh to convert energy
per 1 kWh	99999999999999999999	consumption to the corresponding amount.
	Default: 0	The input value is max. 5 decimal places.
		*When you keep the default setting, the following functions will
		not properly operate:
		•Worst ranking
		<ul> <li>Conversion of the amount of improvement result</li> </ul>
		<ul> <li>Conversion of the amount of energy-loss during the</li> </ul>
		standby/break time

# (3) Click the **Apply setting** button.

🗳 Eco	Adviser - Diagnostic settings		-	×
۲	Equipment setting	Electricity rate setting		
	Electricity rate setting	Set the electricity rate.		
	Factor diagnosis setting Calculation measuring point setting Evaluation reset	Currency unit:(maximum8 letters)           \$           Electricity rate per 1kWh:           10           Apply setting		
⇔				

(4) When the setting is completed, the following message appears. Click the **OK** button to close the message.

EcoAdviser	$\times$
The settings to the software has been comp	leted.
<u></u> K	

# 4.2.5 Setting/Editing the energy-loss factor

You can set any measuring point as an energy-loss factor.

The registered energy-loss factor is used for energy-loss factor diagnosis together with the default energy-loss factors.

\*If you change the setting after the operation starts, refer to [12.3 Operation for Setting Change about Diagnosis Function].

\* The following items are the default energy-loss factors in EcoAdviser.

(O: Available -: Unavailable) 5 focusing viewpoints for energy saving Equipment time-Production loss loss (shut-down) Equipment time-Utility time-loss **Jtility time-loss** loss (start-up) consumption (shut-down) time rate (start-up) Specific **Energy-loss factor** Equipment start-up time  $\bigcirc$ \_  $\bigcirc$  $\bigcirc$  $\bigcirc$ \_ Equipment shut-down time - $\bigcirc$ - $\bigcirc$  $\bigcirc$  $\bigcirc$ Manufacturing starting time  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$ Manufacturing ending time  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$ Ο  $\bigcirc$ Manufacturing ending time  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$ (the previous day) Utility start-up time  $\bigcirc$ \_ \_ \_ -Utility shut-down time  $\bigcirc$ ---The worst time of production loss time rate ---- $\bigcirc$ -The worst time of specific consumption Ο \_ ---\_ Day of week  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$ Workday type  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$ Early/Middle/Late month  $\bigcirc$ Ο  $\bigcirc$  $\bigcirc$ Ο  $\bigcirc$ Month  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$ Production volume  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$ (the previous day) Production volume  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$  $\bigcirc$ Number of production stop \_ Ο  $\bigcirc$ \_ \_ \_ Time of production stop Ο \_ \_ \_ \_  $\bigcirc$ 

Energy-loss factor	Details
Equipment start-up time	Start-up time of equipment by the hour from 0 to 23 o'clock
Equipment shut-down time	Shut-down time of equipment by the hour from 0 to 23 o'clock
Manufacturing starting time	Start-up time of production by the hour from 0 to 23 o'clock
Manufacturing ending time	Shut-down time of production by the hour from 0 to 23 o'clock
Manufacturing ending time	Shut-down time of production on the previous day by the hour from 0 to 23
(the previous day)	o'clock
Utility start-up time	Start-up time of utility by the hour from 0 to 23 o'clock
Utility shut-down time	Shut-down time of utility by the hour from 0 to 23 o'clock
Worsening time of production	Time of the highest rate when the production loss time rate is calculated by the
loss time rate	hour from the start to the end of production in the time from 0 to 23 o'clock
Worsening time of specific	Time of the highest rate when the specific consumption is calculated by the hour
consumption	from the start to the end of production in the time from 0 to 23 o'clock
Day of week	Diagnosis day (Monday, Tuesday, Wednesday, Thursday, Friday, Saturday,
	Sunday)
Workday type	Four types: [Previous day: Workday, Next day: Workday]
	[Previous day: Workday, Next day: Non-workday]
	[Previous day: Non-workday, Next day: Workday]
	[Previous day: Non-workday, Next day: Non-workday]
Early/Middle/Late month	Early month: 1 <sup>st</sup> to 10 <sup>th</sup> , Middle month: 11 <sup>th</sup> to 20 <sup>th</sup> , Late month: from 21 <sup>st</sup>
Month	Month of the diagnosis day
Production volume	Production volume on the previous day
(the previous day)	
Production volume	Production volume on the day
Number of production stop	Number of the period in non-production from the starting time to the ending
	time of production on the day
Time of production stop	Total time of the period in non-production from the starting time to the ending
	time of production on the day

## (1) Select the Factor diagnosis setting tab.

The following window appears.

۲	Equipment setting	Factor diagnosis setting				
	Electricity rate setting	Desister edditional items of second				
	Factor diagnosis setting	Register additional items of energy	y-loss factor.			
	Calculation measuring point setting	Additional items can be added to t	ne default items for	energy loss factor diagnosis.		
	Eveloption and	U				
- <b>1</b> 1-	Evaluation reset	Equipment	Additional iter	ms		
		ID Equipment name	Select the ta	praet to edit/delete		
		1 Line-1_BoardMa ^	Geleci ile ta	inger to edibueiete.		
6)		2 Line-2_BoardMa	ID	Energy-loss factor name	Tabulation method	
		3 Line-3_BoardMa		1		^
		4		2		
		5		3		
		6		4 c		
		7		6		
		8		7		
		9		8		
		10		9		
		12	: 1	10		
_		13	: 1	11		
-0-		14	1	12		
-		15	1	13		
		16	1	14		
		17	1	15		_
		18	1	16		
		19	1	17		
		20	1	18		$\checkmark$
		21				
		22			Edit Delete	
		23				
		24				
		25				

(2) Select the equipment to set energy-loss factors.



(3) A list of energy-loss factors you have registered is displayed.Select the saving destination and then click the **Edit** button.

🔤 Eco	Adviser - Diagnostic settings					_		×
۲	Equipment setting	Factor diagnosis setting						
• • • • • •	Equipment setting Electricity rate setting Factor diagnosis setting Calculation measuring point setting Evaluation reset	Factor diagnosis setting Register additional items of ene Additional items can be added t Equipment ID Equipment name 1 Line-1_BoardMa 2 Line-2_BoardMa 3 Line-3_BoardMa 4 5 6	ergy-los to the de	Additional items Select the target ID E 1 2 3 4	rgy loss factor diagnosis. to edit/delete. Energy-loss factor name	Tabulation metho	d	
<ul> <li>▶</li> <li>₩</li> </ul>		7       8       9       10       11       12       13       14       15       16       17       18       19       20       21       22       23       24       25		5 6 7 8 9 10 11 12 13 14 15 16 17 18		Edit	Delete	

# (4) The following window appears.

# Set each item.

Edition of energy-loss factor				×
ID:		The measuring pont can be registered by dra point for energy-loss factor" on the left side.	agging and dropping to "Me	asuring
1		Measuring point list		
1.Register a measuring point of the data that you	want to diagnose as an e	All measuring points		Ŧ
Energy-loss factor name:	(maximum30 letters)	An medodning points		
	(maximumoo reliero)	Name	Measuring Type	Unit
		001: BoardManufacturingArea		
Measuring point for energy-loss factor		• 002: MetalPartsManufacturingArea		
2 Set the calculation of measuring point for energy	v-loss factor			
Tabulation method:	,			
Average	·			
Exclusive data: (1)				
Number 1:	(Range: 🕕 )			
Number 2:	(Range: 🕕 )			
Number 3:	(Range: 🕕 )			
			Save	ncel
		<u> </u>		

Item		Input	Details	5	
Energy-loss	factor name	Max. 30 characters	Register a name of the energy-lo	oss factor.	
			By setting the measuring point	for energy-loss factor, the	
			measuring point's name is auton	natically set.	
Measuring p	oint for	Select from collection	Register a measuring point that	can become the energy-	
energy-loss factor		sources' measuring	loss factor.		
		points	Drag and drop the measuring	point from the measuring	
			point list box on the right of the	window for registration.	
Tabulation method		•Mode	Select the method to aggregate	e data of the energy-loss	
		·Average (Default)	factors by the day.		
		•Maximum	The selected method is used for energy-loss fa		
		·Minimum	diagnosis.		
			Refer to the following examples.		
			Energy-loss factor data	Tabulation method	
			Numerical value	Average, maximum,	
			(e.g. temperature, humidity)	minimum	
			Number (e.g. production type ID)	Mode	
Exclusive Numerical -999999999999999999			By setting this item, the set num	nerical values are excluded	
data	value 1	to	to aggregate the data.		
Numerical		999999999999999999999	When you keep the default setting, no exclusive data is s		
value 2		*Set any values up to	For example, if you want to reg	ister the occurrence of an	
		15 significant digits	error as an energy loss factor, s	set the value representing	
	Numerical	with max. 16 decimal	the normal status of equipment	to exclusion data.	
	value 5	places.			
		Default: Blank			

# (5) Click the **Save** button.

1		me	measuring pont can be registered by drag	ging and dropping to "N	leasurin	g
		poin	t for energy-loss factor" on the left side.			
		Me	easuring point list			
1.Register a measuring point of the data that you want to (	diagnose as an e	All	measuring points			-
nergy-loss factor name: (r	naximum30 letters)	Na	me	Measuring Type	Linit	-
PNumber_Line-F		ING	001 0075: Liebt 1 Area E	Dulas	Land	
Accouring point for operative loss factor				Pulse	kWh	
weasuring point for energy-loss factor			001_0077: Area-E4	Pulse	k/Mb	
001_0093: PNumber_Line-F[Piece]			001_0078: Facility-D	Pulse	k/Mb	
			001_0079: Light-2_Area-F	Pulse	kWh	
<ol><li>Set the calculation of measuring point for energy-loss fa</li></ol>	ictor.		001_0080: Transducer_DBoard-I	Pulse	kWh	
abulation method: 🕦			001 0081: DistributionBoard-A	Pulse	kWh	
A			001 0082: DistributionBoard-B	Pulse	kWh	
Average	•		001 0083: DistributionBoard-C	Pulse	kWh	
xclusive data:			001_0084: DistributionBoard-D	Pulse	kWh	
Number 1:	(Range: 🔒 )		001_0085: DistributionBoard-E	Pulse	kWh	
Number 1.	(rearige. )		001_0086: Main DistributionBoard	Pulse	kWh	
			001_0087: OfficeAutomation	Pulse	kWh	
Number 2:	(Range: 🕕 )		001_0088: PNumber_Line-A	Pulse	Piece	
			001_0089: PNumber_Line-B	Pulse	Piece	
			001_0090: PNumber_Line-C	Pulse	Piece	
Number 3:	(Range: 🕕 )		001_0091: PNumber_Line-D	Pulse	Piece	
			001_0092: PNumber_Line-E	Pulse	Piece	
			001_0093: PNumber_Line-F	Pulse	Piece	
			001_0094: EPower_DBoard-A	Analog value	kW	
			001_0095: EPower_DBoard-B	Analog value	kW	
			001_0096: EPower_DBoard-C	Analog value	KW	
			001_009/: EPower_DBoard-D	Analog Value	KVV	
			001_00098: EPower_DBoard-E	Analog value	KVV Diaco	
			001_0099. FNumber_Equ-K	Pulco	Piece	
			out_orou.rnumbel_Equ-b_Lille-A	Fuise	Fiece	Y

(6) When the saving is completed, the display switches to the diagnosis settings window.

# 4.2.6 Deleting the energy-loss factor setting

You will delete the registered energy-loss factor setting.

€	Equipment setting	Factor diagnosis setting				
2	Electricity rate setting Factor diagnosis setting Calculation measuring point setting	Register additional items of energy- Additional items can be added to the	oss factor. default items	for energy loss factor diagnosis.		
	Evaluation reset	Equipment	Additiona	l items		
		ID Equipment nome	Select th	ne target to edit/delete.		
)		1 Line-1_BoardMa ^	ID	Energy-loss factor name	Tabulation method	
		3 Line-3 BoardMa		1 PNumber_Line-F	Average	^
_		4		2		
		5		3		
		6		4		
		7		5		
		8		6		
		9		7		
		10		8		
		11		9		
		12	÷	10		
Ł		13		12		
5		14		13		
		15		14		
		16		15		
		10		16		
		10		17		
		20		18		~
		21				
		22			Edit Delete	
		23			Luit Delete	
		24				
		05				

#### (1) Select the target equipment.

Electricity rate setting Factor diagnosis setting Calculation measuring point setting Evaluation reset       Register additional items of energy-loss factor. Additional items can be added to the default items for energy loss factor diagnosis.         Evaluation reset       Image: Calculation measuring point setting Evaluation reset       Additional items of energy-loss factor.         Additional items can be added to the default items for energy loss factor measuring point setting Evaluation reset       Additional items         Image: Calculation measuring point setting Evaluation reset       Image: Calculation measure Image: Calculation meas	Electricity rate setting         Factor diagnosis setting         Calculation measuring point setting         Evaluation reset         Equipment         Image: Ima	Equipment setting	actor diagnosis setting	
04	18         16           19         17           20         18	Equipment setting Electricity rate setting Factor diagnosis setting Calculation measuring point setting Evaluation reset	Actor diagnosis setting           Register additional items of energy-loss factor.           udditional items can be added to the default items for energy loss factor diagnosis.           Equipment           Ine-1_BoardMa           Line-2_BoardMa           Line-3_BoardMa           Ine-3_BoardMa           Ine-3_BoardM	

(2) Select the energy-loss factor you want to delete and then click the **Delete** button.

# (3) The following message appears.

Click the **Yes** button to delete the energy-loss factor.

EcoA	lviser ×	
	Are you sure you want to delete the additional items and the related data ?1:PNumber of Line-F	
	<u>Y</u> es <u>N</u> o	

(4) When the deletion is completed, the following message appears. Click the **OK** button to close the message.



# 4.2.7 Setting the calculation measuring point for diagnosis

This is used to register calculation measuring points to the equipment setting.

It is different from the calculation measuring point set in [4.1.7 Registering the calculation measuring point] as the following points:

- Collection sources' measuring points excluding demand measuring points can be set to the calculation formula.
- $\cdot$  The measuring type is pulse only.

#### (1) Select the Calculation measuring point setting tab.

The following window appears.

🖺 EcoA	Adviser - Diagnostic settings						-		×
۲	Equipment setting	Calculat	on measuring point se	tting					
	Electricity rate setting Factor diagnosis setting Calculation measuring point setting Evaluation reset	∑ Re †‡ Ch	gister measuring point ange measuring point Measurir	X Delete mea	asuring point				
		Set the	calculation measuring	point for diagnos	is.Select the measuring point name an	d then edit/delete	the mea	isuring po	pint.
(~)		ID	Name		Measuring Type	Unit			
\$									

# (2) Click the **Register measuring point** button.

🕒 Eco/	Adviser - Diagnostic settings				- 🗆 ×
۲	Equipment setting	Calculati	ion measuring point setting		
	Electricity rate setting Factor diagnosis setting	∑ Re	gister measuring point 🛛 Delete mea	asuring point	
di i	Evaluation reset	∯ Ch	ange measuring point Measuring point		
		Set the	calculation measuring point for diagnos	is.Select the measuring point name an	d then edit/delete the measuring point.
$\bigcirc$		ID	Name	Measuring Type	Unit
₽					

#### (3) The following window appears.

# Input each item or select from the pulldown menu.

Measuring Point ID:	(Range:1-150)	formula" on the left side.	, colored by an agging and a	opping to and obtained of
1	(rearge. 1 156)	All measuring points		-
		Measuring point name	Measuring Type	Measuring Point Unit
Measuring Point Name:	(maximum30 letters)	• 001: BoardManufacturingAre	a	
		• 002: MetalPartsManufacturin	gArea	
Measuring Type:				
Pulse	Ψ			
Measuring Point Unit:	(maximum8 letters)			
	<b>*</b>			
Decimal:	(Range:0-5)			
	<b>v</b>			
Calculation formula:	(Maximum 4000 letters) (Maximum 30 points)			
	^			
	×			

Item			Deta	nils			
Measuring point	Input the ID o	f the measuring	point.				
ID	Input range: 1	to 256					
	*Do not regist	er the same ID r	epeatedly.				
Measuring point	Input a name	of the measuring	) point.				
name	*Max. 30 char	acters					
Measuring type	Pulse fixed						
Measuring point	Input a unit of	the measuring p	point or select it fi	rom the pull-de	own menu (listed below).		
unit	*Max. 8 chara	cters					
	∙Wh	∙kWh	∙MWh	۰J	• Piece		
	∙Set	•m <sup>2</sup>	•m <sup>3</sup>	۰I	٠kl		
	•Second	Minute	•Hour				
Decimal point	Select the num	nber of decimal p	laces for the mea	asuring value f	rom the pull-down menu.		
*1	The selectable	range: 0 to 5, b	lank				
Calculation	Input a calcula	Input a calculation formula.					
formula	Drag and drop	a measuring po	oint from the righ	t box of the w	indow to add to the calculation		
	formula.	formula.					
	*You can select from collection sources' measuring points excluding demand measuring points.						
	Input range: Max. 4000 characters						
	Available characters: +, -, /, *, (, )						
	Number of me	asuring points: 3	30 points				
	*Use the perio	od (.) for the deci	imal point.				
	*The fractions	of the calculatio	n result are round	ded off accordi	ng to the setting of the number		
	of decimal pl	aces.					

\*1: If it is set to blank, the rounding off will not be executed.

#### (4) Click the **Register** button.

Register Calculation measuring point for diagno	osis				×
Manual Palation	(Dec. e. 1. 150)	The measuring points can be registered formula" on the left side.	l by dragging and d	fropping to the "Calculat	tion
Measuring Point ID:	(Range:1-150)	All measuring points			-
1		Measuring point name	Measuring Type	Measuring Point Unit	Ť.
Measuring Point Name:	(maximum30 letters)		Pulse	kWh	~
PNumber of All Line			Pulse	kWh	
		001_0080: Transducer_DB	Pulse	kWh	
Measuring Type:			Pulse	kWh	
Pulse	+	- 001_0082: DistributionBoard-B	Pulse	kWh	
		001_0083: DistributionBoar	Pulse	kWh	
Measuring Point Unit:	(maximum8 letters)	- 001_0084: DistributionBoar	Pulse	kWh	
Piece	*	- 001_0085: DistributionBoard-E	Pulse	kWh	
		001_0086: Main Distribution	Pulse	kWh	
Decimal:	(Range:0-5)	001_0087: OfficeAutomation	Pulse	kWh	
0	-	001_0088: PNumber_Line-A	Pulse	Piece	
		001_0089: PNumber_Line-B	Pulse	Piece	
Calculation formula:	(Maximum 4000 letters)	001_0090: PNumber_Line-C	Pulse	Piece	
	(Maximum 30 points)	001_0091: PNumber_Line-D	Pulse	Piece	
[001_0091]+[001_0092]+[001_0093]	~	001_0092: PNumber_Line-E	Pulse	Piece	
		001_0093: PNumber_Line-F	Pulse	Piece	
		001_0094: EPower_DBoard-A	Analog value	kW	
		001_0095: EPower_DBoard-B	Analog value	kW	
		001_0096: EPower_DBoard-C	Analog value	kW	
		001_0097: EPower_DBoard-D	Analog value	kW	
		001_0098: EPower_DBoard-E	Analog value	kW	
			Pulse	Piece	
	$\checkmark$	001_0100: PNumber_Equ-B	Pulse	Piece	
		001_0103: PNumber_Equ-D	Pulse	Piece	~
			Register	Cancel	

(5) When the registration is completed, the display switches to the diagnosis settings window.

## 4.2.8 Changing the calculation measuring point for diagnosis setting

You will change the setting of the selected calculation measuring point for diagnosis.

\*When you want to change the setting after the operation starts, refer to [12.3 Operation for Setting Change about Diagnosis Function].

🖺 EcoA	Adviser - Diagnostic settings				-		×
۲	Equipment setting	Calculation measuring point set	tting				
	Electricity rate setting Factor diagnosis setting Calculation measuring point setting Evaluation reset	∑ Register measuring point      ☆ Change measuring point      Measurin	Delete measuring point      g point		the mean		oint
$\bigcirc$		ID Name	Measuring Tyr		e ule measu	aning pr	
		1 PNumber of All Line	Pulse	Piece			_
\$							

(1) Select the **Calculation measuring point setting** tab.

(2) Select a measuring point you want to change and then click the **Change measuring point** button.

1	Equipment setting	Calcul	ation measuring point setting		
	Electricity rate setting				
	Factor diagnosis setting	ΣF	Register measuring point 🛛 🛚	Delete measuring point	
	Calculation measuring point setting <	<b>4</b>	Change measuring point		
	Evaluation reset	4			
			Measuring po	int i o i i o i i i o i i i i i i i i i i	
		Settr	ne calculation measuring point	for diagnosis.Select the measuring po	bint name and then edit/delete the measuring po
		1D	Name	Measuring Type	Unit
			1 PNumber of All Line	Pulse	Piece

#### (3) The following window appears.

......

#### Change the setting and then click the **Change** button.

acuita Daint Du	(Desceid 450)	formula" on the left side.	rea by dragging and d	ropping to the "Calcula	uon
asuring Point ID:	(Range:1-150)	All measuring points			-
1		Measuring point name	Measuring Type	Measuring Point Un	it
asuring Point Name:	(maximum30 letters)	▶ 001: BoardManufacturingArea			
PNumber of All Line		• 002: MetalPartsManufacturingAre	а		
asuring Type:					
Pulse	~				
asuring Point Unit:	(maximum8 letters)				
Piece	*				
cimal:	(Range:0-5)				
0	*				
Iculation formula:	(Maximum 4000 letters) (Maximum 30 points)				
[001_0091]+[001_0092]+[001_0093]	~				
		[			

(4) The following message appears.

#### Click the **Yes** button.

EcoAdviser $\times$		
Are you sure you	want to register?	
<u>Y</u> es	<u>N</u> o	

(5) When the registration is completed, the display switches to the diagnosis settings window.

## **4.2.9** Deleting the calculation measuring point for diagnosis

You will delete the calculation measuring point for diagnosis.

Check whether the measuring point is used in the equipment setting or the factor diagnosis setting. If used, refer to [12.3 Operation for Setting Change about Diagnosis Function].

#### (1) Select the Calculation measuring point setting tab.

🖺 EcoA	🖺 EcoAdviser - Diagnostic settings – 🗆 🗙				
۲	Equipment setting	Calculation measuring point setting			
	Electricity rate setting Factor diagnosis setting Calculation measuring point setting Evaluation reset	Register measuring point     Change measuring point     Measuring point     Set the calculation measuring point for	Delete measuring point It Ir diagnosis.Select the measuring point na	me and then edit/delete the measurin	g point.
$(\mathbf{G})$		ID Name	Measuring Type	Unit	
		1 PNumber of All Line	Pulse	Piece	
\$					

## (2) Select a measuring point you want to delete and then click the **Delete measuring point** button.

€	Equipment setting	Calculation measuring point setting		
	Electricity rate setting Factor diagnosis setting Calculation measuring point setting < Evaluation reset	Register measuring point Dr Change measuring point Measuring point	elete measuring point	
		Set the calculation measuring point for	diagnosis.Select the measuring point	t name and then edit/delete the measuring poi
		1 PNumber of All Line	Pulse	Piece
F				

(3) The following message appears.

Click the **Yes** button to delete the measuring point.

EcoAdv	iser	×			
Are you sure you want to delete measuring point? DOP_0001: PNumber of All Line[Piece]					
	<u>Y</u> es	No			
### 4.2.10 Resetting the evaluation

This function is used to reset the evaluation executed in the energy-loss factor diagnosis ([7.4.5]). You can reset it for all equipment or by selecting the equipment and its viewpoints.

#### (1) Select the **Evaluation reset** tab.

#### The following window appears.



(2) When you want to reset the evaluation for all equipment, click the **Execute** button.

To reset the evaluation of the selected energy saving viewpoints, select the equipment and its viewpoints and then click the **Execute** button.



(3) The following message appears.

Click the **Yes** button to reset the user's evalution.

<If you reset the evaluation by selecting the equipment and its viewpoints>



#### <If you reset the evaluation for all equipment>

EcoAdviser	$\times$
Are you sure you want to reset user's evaluation for all equipme	ent ?
<u>Y</u> es <u>N</u> o	

(4) When the reset is completed, the following message wil appear. Click the **OK** button to close the message.

<If you reset the evaluation by selecting the equipment and its viewpoints>

EcoAdviser	×					
User's evaluation of each selected equipment has been reset.						
<u>O</u> K						
<if all="" equipment="" evaluation="" for="" reset="" the="" you=""></if>						
EcoAdviser ×						
User's evaluation of all equipment has been reset.						
<u>0</u> K						

# 4.3 System Settings

This section describes the system settings.

Clicking the **Tab** in System settings switches the setting item.

🜃 Eco	Adviser - System Setting	s	<b>-</b> 1			-	- 0	I X
۲	Retention period setting <	Retention period setting	lab					
	Theme setting Language setting	Set the retention period of da	ata.					
	Collection setting	Every 15/30/60 minutes da	ata retention period(	/ear):				
$\bigcirc$		Daily data retention period	(Lestimated usage	capacity : 14GB)				
		10 *	(Estimated usage	capacity : 145MB)				
		Monthly data retention per	iod(year):					
		10 -	(Estimated usage	capacity : 5MB)				
		Yearly data retention perio	d(year):					
		10	(Estimated usage	сарасиу: тмв)				
₩.		Apply setting						

## 4.3.1 Retention period setting

You will set the retention period for each data.

Select a retention period from the pull-down menu and then click the **Apply setting** button to reflect the setting.

🖺 EcoA	Adviser - System Setting	s	-	×
۲	Retention period setting <	Retention period setting		
	Theme setting Language setting	Set the retention period of data.		
	Collection setting	15/30/60 minutes data retention period(year):		
alt -		10 Testimated usage capacity : 14GB)		
		Day data retention period(year):		
$\bigcirc$		10 T (Estimated usage capacity : 145MB)		
		Month data retention period(year):		
		10      Estimated usage capacity : 5MB)		
		Year data retention period(year):		
		10      (Estimated usage capacity : 1MB)		
		Diagnosis data retention period (year)		
		10 (Estimated usage capacity : 3.8GB)		
\$		Apply setting		

Item	Setting
15/30/60-minute basis data retention period	
Day data retention period	
Month data retention period	2 to 10 years
Year data retention period	"Default: 10 years
Diagnosis data retention period *1	

\*1: This function is for Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI).

## 4.3.2 Theme setting

You will set the theme color of EcoAdviser.

					<b>.</b>
Solort a color	· and thon	click tha 🖊	Annly cottin	a hutton to	roflact the cotting
	and then		apply setting	g Dutton to	Tenece the setting.

🜃 Eco/	Adviser - System Setting	IS	-	×
۲	Retention period setting	Theme setting		
	Theme setting <	Set a theme.		
	Collection setting	Black		
$\bigcirc$		⊖ Gray		
		White		
		Apply setting		
₽				

### 4.3.3 Language setting

You will set the display language.

Select a language and then click the **Apply setting** button to reflect the setting.

🜃 Eco/	Adviser - System Setting	S	-	×
۲	Retention period setting	Language setting		
	Theme setting	Set the language.		
	Collection setting			
	y	• Japanese		
		○ English		
		○ Simplified Chinese		
		Apply setting		
<b>‡</b>				

When changing the setting, you see the following message.

The change will be reflected after restart.



## Supplement

The date format of EcoAdviser is changed depending on the language setting.

Language setting	Date format
Japanese	YYYY/MM/DD hh:mm
English	MM/DD/YYYY hh:mm AM/PM
Simplified Chinese	YYYY/MM/DD hh:mm

### 4.3.4 Collection setting

You will set the data collection from the collection sources.

The displayed values are default settings. If you want to change the setting, select any desired setting and then click the **Apply setting** button to reflect the change.

ECO	Adviser - System Setting	IS	_	×
۲	Retention period setting	Collection setting		
	Theme setting	Set parameters of collection.		
	Collection setting	Data collection		
$\bigcirc$		Data period(min):		
		EcoWebServerIII file collection time(min):		
		Edgecross file collection period(min):		
		5 *		
		Aggregation period		
		Day Aggregation Period(hour):           00:00         •		
4		Month Aggregation Period(Day):		
		$1  \forall \sim 31  \forall$		
		Tear Aggregation Period(wonth).		
		Apply setting		

Item	Details						
Data collection	Set the time and period to collect data from the collection sources.						
Data period (min)	15/30/60						
	*Default: 15						
EcoWebServerII	10/20/30/40/50						
file collection time (min)	*Default: 10						
	*Automatically collect at the set minute of every hour.						
Edgecross	5/10/15/30/60						
file collection period	*Default: 5						
(min)	*Automatically collect every set minute.						
	For details on the collection timing, refer to the below table for the						
	automatic collection time.						
Aggregation period *1	Set the period to collect Day/Month/Year basis data.						
Day aggregation period	00:00 to 23:00						
(hour) *2	*Default: 00:00						
	*It can be set by the hour.						
Month aggregation	1 to 31						
period (day)	*Default: 1						
	*When the set day does not exist in the month, the beginning day						
	of the next month is applicable.						
	<example></example>						
	The default setting is changed to 30.						
	January: Jan. 30 to Mar. 1						
	·February: Mar. 1 to Mar. 29						
	•March: Mar. 30 to Apr. 29						
Year aggregation period	1 to 12						
(month)	*Default: 1						

\*1: When you change the aggregation period, the past data is not re-collected using the changed period. Accordingly, if you change it at other than the first setup, note that the past data may not correspond to the setting value after change.

The data period registered in [Manual input/edition] is the shortest data period you set in the past. <Example> Data period: <Before change> 15 minutes, <After change> 30 minutes,

 $\rightarrow$ Data period registered in [Manual input/edition]: 15 minutes.

- \*2: When you use Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI), note the following points.
  - Be sure to set the day aggregation period (hour) to out-of-office hours for each equipment. Otherwise, the five focusing viewpoints for energy saving and standby power cannot be measured.
  - $\cdot$  Be sure to set the day aggregation period (hour) to out-of-break time for each equipment. Otherwise, the break time cannot be calculated and that will become blank.

Automatic file	00	05	10	15	20	25	30	35	40	45	50	55
collection cycle	min											
5 minutes	•	•	•	•	•	•	•	•	•	•	•	•
10 minutes	•		•		•		•		•		•	
15 minutes	•			•			•			•		
30 minutes	•						•					
60 minutes	•											

### ■ Automatic collection time of Edgecross (●: Collection)

# 4.4 System Maintenance

This section describes the operation for maintenance.

It is possible to back up/restore the setting values/data or to set the settings for operation logs.

🜃 Eco/	Adviser - System M	laintenance			-	$\times$
۲	Backup / Restore <	Backup / Restore				
	Operation Log	backup Specify the backup fo Click backup button a Setting backup	Ider. Ifter selecting the backup contents. O Setting + data			
		Restore Specify the folder from	n restore.			
٠		Click restore button a	tter selecting the restore contents.	(Storage free space : 435GB)		

## 4.4.1 Backup

You will back up the setting values or both the values and data.

Set all the auto execute settings to OFF.
 For details, refer to [6 Auto Execute Settings].

### (2) Click the **Folder** button to specify the file destination.

🜃 EcoA	Adviser - System M	laintenance			-	$\times$
۲	Backup / Restore <	Backup / Restore				
	Operation Log	backup Specify the backup fold Click backup button aft Setting backup	er. er selecting the backup contents O Setting + data			
•		Restore Specify the folder from Click restore button after	restore. er selecting the restore contents			
94		O Setting value	O Setting value + data	(Storage free space : 435GB)		

- (3) Select the backup contents.
  - \*When you use Energy Saving Data Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI), select **setting + data**. If you back up or restore the setting only, the diagnosis will fail due to the difference between the past diagnosis data and the setting contents.

Backup contents	Details
Setting	Back up the setting values, such as diagnosis setting $*1$ , graph panel, dashboard,
	and report.
Setting + data	Back up the setting values, such as diagnosis setting $*1$ , graph panel, dashboard,
	and report, and the data, such as collected data of each measuring point, diagnosis
	data *1, and operation logs.

\*1: This function is for Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI).\*2: Any files output by the customer are not backed up.

#### (4) Click the **backup** button.

🜃 Eco/	Adviser - System M	laintenance			-	$\times$
۲	Backup / Restore <	Backup / Restore				
	Operation Log	backup				
		Specify the backup fol	der.			
$\bigcirc$		C:\Users\三菱電機\Do	cuments\EcoAdviserSetting_Backup	(Storage free space : 435GB)		
		Click backup button af	ter selecting the backup contents.			
		◯ Setting	Setting + data	(Required free space : 29MB)		
		backup				
		Restore				
		Specify the folder from	restore.			
-		Click rootors button of	ter collecting the restore contents			
*		Setting value	Setting the restore contents.	(Storage free space : 435GB)		
		restore		,		

(5) The following message appears.



(6) When the backup is completed, the following message appears.

### Click the **OK** button to close the window.



(7) Make sure that the following files are backed up.

If the file name or extension is different (uppercase, lowercase, etc.), contact the nearest Mitsubishi Sales Office or dealer.

Backup contents	Setting	Setting + data
	DashboardConfig folder	DashboardConfig folder
Energy Saving	Template folder	Template folder
Data Analysis	EcoAdviserSettings.db	EcoAdviser.db
Software (Model:	SystemInfo.xml	EcoAdviserLog.db
MES3-EAP1-DA)		EcoAdviserSettings.db
		SystemInfo.xml
	DashboardConfig folder	DashboardConfig folder
	Template folder	Template folder
Enorgy Soving	EcoAdviserSettings.db	EcoAdviser.db
Data Analysis and	EcoAdviserDiagnosisSettings.db	EcoAdviserLog.db
Data Analysis anu Diagnosis Softwara	EcoAdviserDiagnosisSettingsLog.db	EcoAdviserSettings.db
	SystemInfo.xml	EcoAdviserDiagnosis.db
	SystemInfoDiagnosis.xml	EcoAdviserDiagnosisSettings.db
EAPI-AI)		EcoAdviserDiagnosisSettingsLog.db
		SystemInfo.xml
		SystemInfoDiagnosis.xml

\* Depending on the state of use, the folder of DashboardConfig or Template may not exist.

- (8) Be sure to turn ON, which had previously turned OFF on procedure (1).For details, refer to [6 Auto Execute Settings].
- (9) If the automatic collection time has passed during this operation, manually collect data as necessary. This is the end of the operation.

### 4.4.2 Restoration

You will restore the backed-up setting values or both them and the backed-up data.

## Caution

The following table shows the transition of the setting values between Energy Saving Data Analysis Software (Model: MES3-EAP1-DA) and Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI).

○: Available –: Unavailable

		Resto	ration
		MES3-EAP1-DA	MES3-EAP1-AI
Backup	MES3-EAP1-DA	0	0
Баскир	MES3-EAP1-AI	_	0

\*Energy Saving Data Analysis Software (Model: MES3-EAP1-DA) does not have the diagnosis function. If you have transferred the setting values from Energy Saving Analysis Data Software (Model: MES3-EAP1-DA) to Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI), to use the diagnosis function, you must set the settings.

Set all the auto execute settings to OFF.
 For details, refer to [6 Auto Execute Settings].

(2) Click the **Folder** button and then specify the destination to restore the setting values and data.

🜃 EcoA	Adviser - System N	laintenance			-	×
۲	Backup / Restore <	Backup / Restore				
di.	Operation Log	backup Specify the backup fo	lder.			
$\bigcirc$		Click backup button a	after selecting the backup contents.			
		⊖ Setting	◯ Setting + data			
		backup				
		Restore				
		Specify the folder from	m restore.			
4		Click restore button a	after selecting the restore contents.			
		<ul> <li>Setting value</li> </ul>	O Setting value + data	(Storage free space : 435GB)		
		restore				

### (3) Select the restoration contents.

Restoration contents	Details
Setting value	Restore the setting values, such as graph panel, dashboard, and report.
Setting value +	Restore the setting values, such as graph panel, dashboard, and report, and the
data	data, such as collected data of each measuring point and operation logs.

\*It is possible to restore the setting values only from the backup file of 'Setting values and data.'

\*Any files output by the customer are not restored.

### (4) Click the **restore** button.

🔟 Eco	Adviser - System I	<i>l</i> aintenance	-	$\times$
۲	Backup / Restore	Backup / Restore		
<b>d</b>	Operation Log	backup Specify the backup folder.		
$\bigcirc$		Click backup button after selecting the backup contents.		
		O Setting O Setting + data		
		Restore		
		Specify the folder from restore. C:Users\三遊電欄Documents\EcoAdviserSetting_Backup                       (Required free space : 29MB)		
\$		Click restore button after selecting the restore contents.		
		Setting value     Setting value + data     (Storage free space: 435GB)     restore		

(5) The following message appears.

Click the **Yes** button to execute the restoration.



(6) When the restoration is completed, the following message appears.

Click the **OK** button and then restart EcoAdviser.



(7) After the restoration, confirm the folder reference of each file.

If the folder reference is not correct, set it correctly.

- •Data folder path of the reference of the collection source  $\rightarrow$  [4.1.2 Changing ]
- •Output destination setting of data  $\rightarrow$  [5.3.4 Creating the automatic data output setting (File setting)]
- •Output destination setting of dashboard HTML files  $\rightarrow$  [9.3.2 Setting the automatic dashboard output]
- •Output destination setting of reports  $\rightarrow$  [10.2.1 Setting the output destination]
- (8) Be sure to turn ON, which had previously turned OFF on procedure (1).For details, refer to [6 Auto Execute Settings].
- (9) If the automatic collection time has passed during this operation, manually collect data as necessary. This is the end of the operation.

## 4.4.3 Operation log display

You will display the operation logs and save them in the file. For the format of the output file, refer to [12.1 File Format].

(1)	Select a p	period from the pull-down menus of <b>Start</b> and <b>End</b>	to	ext	rac	t
🜃 Eco	Adviser - System N	aintenance	-	-		×
۲	Backup / Restore	Operation Log				

Ŭ	Operation Log <					
		Specify display period.	Time	Event	Information 1	Information 2
		Start				
$\bigcirc$		3/21/2019				
0		3/21/2019 <b>•</b>				
		Extraction				
*			:			
			<			>
		Operation Log Setting				File output

(2)	Click the	Extraction	button t	to display	the operation	logs for the	selected period.
<-/							

	/peration Log <	Specify display per Start 3/21/2019 End 3/21/2019 End 2/21/2019	riod.	Time 2019/03/13 20:35:04 2019/03/13 20:40:00 2019/03/13 20:40:00 2019/03/13 20:45:00 2019/03/13 20:45:00 2019/03/13 20:55:00 2019/03/13 20:55:00	Event Software start Automatic collection start Automatic collection end Automatic collection end Automatic collection end Automatic collection end	Information 1	Information 2
		Start 3/21/2019 End 3/21/2019	▼ ▼ Extraction	2019/03/13 20:35:04 2019/03/13 20:40:00 2019/03/13 20:40:00 2019/03/13 20:45:00 2019/03/13 20:45:00 2019/03/13 20:50:00 2019/03/13 20:50:00	Software start Automatic collection start Automatic collection end Automatic collection start Automatic collection start Automatic collection start Automatic collection end		
		Start 3/21/2019 End 3/21/2019	• •	2019/03/13 20:40:00 2019/03/13 20:40:00 2019/03/13 20:45:00 2019/03/13 20:45:00 2019/03/13 20:50:00 2019/03/13 20:55:00 2019/03/13 20:55:00	Automatic collection start Automatic collection end Automatic collection start Automatic collection end Automatic collection start Automatic collection end		
		3/21/2019 End 3/21/2019	T T	2019/03/13 20:10:00 2019/03/13 20:40:00 2019/03/13 20:45:00 2019/03/13 20:45:00 2019/03/13 20:50:00 2019/03/13 20:55:00	Automatic collection end Automatic collection start Automatic collection end Automatic collection start Automatic collection end		
,		End 3/21/2019	T Extraction	2019/03/13 20:45:00 2019/03/13 20:45:00 2019/03/13 20:50:00 2019/03/13 20:50:00 2019/03/13 20:55:00	Automatic collection start Automatic collection end Automatic collection start Automatic collection end		
		3/21/2019	T Traction	2019/03/13 20:45:00 2019/03/13 20:50:00 2019/03/13 20:50:00 2019/03/13 20:55:00	Automatic collection end Automatic collection start Automatic collection end		
		E	Extraction	2019/03/13 20:50:00 2019/03/13 20:50:00 2019/03/13 20:55:00	Automatic collection start Automatic collection end		
		E	Extraction	2019/03/13 20:50:00	Automatic collection end		
			-	2019/03/13 20:55:00			
			-		Automatic collection start		
				2019/03/13 20:55:00	Automatic collection end		
				2019/03/13 21:00:00	Automatic collection start		
				2019/03/13 21:00:00	Automatic collection end		
				2019/03/13 21:05:00	Automatic collection start		
				2019/03/13 21:05:00	Automatic collection end		
				2019/03/13 21:10:00	Automatic collection start		
				2019/03/13 21:10:00	Automatic collection end		
				2019/03/13 21:10:00	Automatic collection start		
				2019/03/13 21:10:01	Automatic collection end		
				2019/03/13 21:15:00	Automatic collection start		
				2019/03/13 21:15:00	Automatic collection end		
				2019/03/13 21:20:00	Automatic collection start		
				2019/03/13 21:20:00	Automatic collection end		
				2019/03/13 21:25:00	Automatic collection start		
				2019/03/13 21:25:00	Automatic collection end		
				2019/03/13 21:30:00	Automatic collection start		
				2019/03/13 21:30:00	Automatic collection end		
				2019/03/13 21:35:00	Automatic collection start		
				2019/03/13 21:35:00	Automatic collection end		
				2019/03/13 21:40:00	Automatic collection start		

(3) If you want to save the extracted operation logs in the file, click the **File output** button and then select the destination to save in the file.

When the saving is completed, the window returns to the previous one.

€	Backup / Restore	Operation Log				
	Operation Log	On a sife disalary a sized	-	-		
		Specity display period.	Time	Event	Information 1	Information 2
-		Start	2019/03/13 20:35:04	Software start		
		3/21/2019 *	2019/03/13 20:40:00	Automatic collection start		
)		End	2019/03/13 20:40:00	Automatic collection end		
		Elia	2019/03/13 20:45:00	Automatic collection start		
		3/21/2019	2019/03/13 20:45:00	Automatic collection end		
			2019/03/13 20:50:00	Automatic collection start		
		Extraction	2019/03/13 20:50:00	Automatic collection end		
			2019/03/13 20:55:00	Automatic collection start		
			2019/03/13 20:55:00	Automatic collection end		
			2019/03/13 21:00:00	Automatic collection start		
			2019/03/13 21:00:00	Automatic collection end		
			2019/03/13 21:05:00	Automatic collection start		
			2019/03/13 21:05:00	Automatic collection end		
			2019/03/13 21:10:00	Automatic collection start		
			2019/03/13 21:10:00	Automatic collection end		
			2019/03/13 21:10:00	Automatic collection start		
			2019/03/13 21:10:01	Automatic collection end		
			2019/03/13 21:15:00	Automatic collection start		
			2019/03/13 21:15:00	Automatic collection end		
			2019/03/13 21:20:00	Automatic collection start		
			2019/03/13 21:20:00	Automatic collection end		
			2019/03/13 21:25:00	Automatic collection start		
			2019/03/13 21:25:00	Automatic collection end		
			2019/03/13 21:30:00	Automatic collection start		
			2019/03/13 21:30:00	Automatic collection end		
			2019/03/13 21:35:00	Automatic collection start		
			2019/03/13 21:35:00	Automatic collection end		
			2019/03/13 21:40:00	Automatic collection start		

This is the end of the operation.

## 4.4.4 Operation log setting

You will change the setting of operation logs.

(1) Click the **Operation log setting** button.

€	Backup / Restore	Operation Log				
	Operation Log <	Specify display period.	Time	Event	Information 1	Information 2
		Start 3/21/2019	]			
		3/21/2019 <b>*</b>	]			
		Extraction				
5			1			
			<			

# (2) The following window appears

# Change the setting.

Operation log setting $\times$
Operation log retention period setting
Operation log retention period (year):
10
Operation log file format setting
File encoding:
Shift_JIS 🔻
Delimiter:
comma 🔻
Time format:
YYYY/MM/DD hh:mm:ss
Quotation marks:
Double quotation 🔻
Register Cancel

Item			Details				
Operation log retention period (Year)	Select a period *The selectable	Select a period from the pull-down menu. The selectable range: 1 to 10					
File encoding	Select an enco •Shift_JIS	elect an encoding to be output to CSV files from the pull-down menu. •Shift_JIS •UTF-8					
Delimiter	Select a delimi •Comma •Semicolon	ielect a delimiter to be output to CSV files from the pull-down menu.         •Comma       •Tab         •Semicolon       •Space					
Date format	Input a date for The following output.	ormat to be output to CS characters are converte	SV files. ed to the corre	esponding date inform	ation for		
	Input	Date information	Input	Date information			
	YYYY	The dominical year (4 digits)	.S				
	YY	The dominical year (Lower 2 digits)	.SS				
	MM	Month (2 digits)	.SSS	Numebou of disits in			
	DD	Day (2 digits)	.SSSS	Number of digits in			
	hh	Hour (2 digits, 00 to 23)	.SSSSS	decimal point			
	mm	Minute (2 digits)	.SSSSSS	(1 (0 9)			
	SS	Second (2 digits)	.SSSSSSS				
	ms	Millisecond (3 digits)	.SSSSSSSS				
	us	Microsecond (6 digits)	.SSSSSSSSS				
	ns	Nanosecond (9 digits)					
	*The year (fou	r digits) and the year (la	ast two digits) (	cannot be used simulta	aneously.		
	Furthermore,	milliseconds, microseco	onds, nanoseco	onds, and the number	of digits		
	in seconds aft	er the decimal point (su	uch as .s) cann	ot be used simultaneo	ously.		
	(Ex.1) YYYY/MM/DD hh:mm:ss:ms 2019/04/01 10:11:22:333						
	(Ex.2) YYYY/M	M/DD hh:mm:ss:.sssss	ssss 2019/0	04/01 10:11:22:33300	00000		
Quotation mark	Select a quotal	tion mark to be output I	to CSV files fro	m the pull-down menu	۱.		

(3) To save the changed setting, click the **Register** button.When you do not change, click the **Cancel** button.

This is the end of the operation.

Operation log set	tting			×
Operation log rete	ention period s	etting		
Operation log rete	ention period (	year):		
10				-
0 1 1 1				
Operation log file	format setting			
File encoding:				
Shift_JIS				*
Delimiter:				
comma				*
Time format:				
YYYY/MM/D	D hh:mm:ss			
Quotation marks:				
Double quo	otation			-
- Box	ziator		Canaal	
Reg	JISIEI		Cancel	

# **4.5 Version Information**

EcoAdviser - Version Info  $\times$ ۲ Energy Saving Support Software d, EcoAdviser 6) Energy Saving Data Analysis Software Model:MES3-EAP1-DA Version 1.0.0 ©2019 MITSUBISHI ELECTRIC CORPORATION ALL RIGHTS RESERVED \$

The following shows the version information of EcoAdviser.

#### <Version history>

EcoAd	lviser	Historical	
MES3-EAP1-DA	MES3-EAP1-AI	data Access I/F	Changed contents
1.0.0	-	1.0	●MES3-EAP1-DA
			First edition
1.0.1	1.0.0		● MES3-EAP1-DA
			(1) Implemented the displaying function
			with comma-separated values in the
			number panel on the dashboard
			function.
			(2) Implemented the saving function that
			the data regarding automatic execution
			at rebooting this software.
			● MES3-EAP1-AI
			First edition

# 5. Data

This chapter explains measuring data collection, calculation, extraction, and input.

Click the **Data** button in the left menu on the window to enter the data window.

\*The following window is an example of Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI).

🜃 EcoA	\dviser - Data	-	×
<ul><li>●</li></ul>	Collection Calculation Output Manual input Data		
$\bigcirc$	Select the method to specify the collection file.		
	Period designation     File selection		
	Select a Collection source.		
	Collection source Name Office Assembly Line 1st Assembly Line 2nd		
•			
	Calad a paged		
	Stat End		
	3/21/2019 3:00 PM * ~ 3/21/2019 3:00 PM *		
	Data collection		

# 5.1 Manual Collection

This section describes how to manually collect the logging files from the collection source.

\*It may take some time when there are many files to collect.

\*If you try to manually collect data while the function of auto execute settings is in process, the following message will appear and the operation cannot be performed.

After a short wait, perform it.

EcoAdviser $\times$
Other processing is in progress. Try again in a moment.
OK

## 5.1.1 Specifying the period

This is a method to collect the logging files by specifying a period.

\*The method is available only when the collection source is EcoWebServer II with HTTP. To collect data manually from EcoWebServer II with FOLDER or Edgecross, refer to [5.1.2 Selecting the file].

🜃 Eco	Adviser - Data	—	×
<ul><li>Э</li></ul>	Collection Calculation Output Manual input Data		
6	Select the method to specify the collection file.		
	Select a Collection source.		
	Collection source Name Office Assembly Line 1st Assembly Line 2nd		
\$			
	Select a period.		
	Start         End           3/21/2019 3:00 PM         ×         3/21/2019 3:00 PM         ×		
	Data collection		

(1) Click the **Collection** button and then select the period designation.

(2) Select the checkbox of a collection source to collect the logging files.

🜃 EcoA	Adviser - Data	-	$\times$
<ul><li>Э</li></ul>	Collection Calculation Output Manual input Data		
$\bigcirc$	Select the method to specify the collection file.		
	Period designation		
	O File selection		
	Select a Collection source.		
	Collection source Name		
	Assembly Line 1st Assembly Line 2nd		
\$			
	Select a period.		
	Start         Enu           3/21/2019 3:00 PM         ▼           3/21/2019 3:00 PM         ▼		
	Data collection		

(3) Set the period from the pull-down menus of **Start** and **End**.

## \*Max. 62 days

🔟 Eco	Adviser - Data	_	×
ا	Collection Calculation Output Manual input Data		
$\bigcirc$	Select the method to specify the collection file.		
	Period designation     File selection		
	Select a Collection source.		
•	Collection source Name  Coffice  Assembly Line 1st  Assembly Line 2nd		
	Select a period.		
	Start         End           3/13/2019 12:00 AM		
	Data collection		

(4)	Click the Data conection	bullon to	conect the	logging	mes for	the	specin
🜃 Eco/	Adviser - Data				-		$\times$
<ul><li>Э</li></ul>	Collection Calculation Output Manual input Data						
$\bigcirc$	Select the method to specify the collection file.						
	<ul> <li>Period designation</li> <li>File selection</li> </ul>						
	Select a Collection source.						
● ◆	Collection source Name  Collection source Name  Assembly Line 1st  Assembly Line 2nd						
	Select a period.						
	Start         End           3/13/2019 12:00 AM <ul> <li></li></ul>						
	Data collection						

(4) Click the **Data collection** button to collect the logging files for the specified period.

(5) When the collection is completed, the following message appears.Click the **OK** button to close the message.

This is the end of the operation.

EcoAdviser	×
Manual collection	processing is completed.
	<u>O</u> K

## 5.1.2 Selecting the files

This is a method to collect by specifying logging files.

### (1) Select File selection.

🜃 EcoA	Adviser - Data			-		$\times$
<ul><li>Э</li></ul>	Collection Calculation Output Manual input					
$\bigcirc$	Select the method to specify the collection file.		Collection source data file			
	Period designation     File selection					
	Collection source Name Office Assembly Line 1st Assembly Line 2nd Assembly Line DOWN					
\$	Assembly Line Passed/Failed	1	There is no corresponding data.			
	File list display			Data	collection	

(2) Select the checkbox of a collection source to collect the logging files. Click the **File list display** button.

<ul> <li>Cellection</li> <li>Calculation</li> <li>Collection</li> <li>Calculation</li> <li>Collection</li> <li>Cellection</li> <li>Select the method to specify the collection file.</li> <li>Period designation</li> <li>File selection</li> <li>Select a Collection source.</li> <li>Collection source Mane</li> <li>Collection source Name</li> <li>Conce</li> <li>Sesembly Line 2Mane</li> <li>Sesembly Line 2Mane</li> <li>There is no corresponding data.</li> </ul>	🜃 Eco/	Adviser - Data		-		$\times$
Select the method to specify the collection file.     Period designation   File selection     Select a Collection source.     Collection source Name   Office   Office   Select a Sembly Line 2nd   Assembly Line 2nd   Assembly Line Passed Failed     Image: Select a Collection source Name     Image: Select a Collection source Name     Image: Office     Image: Select a Collection Source Name     Image: Select a Colle	<ul><li>Э</li></ul>	Collection Calculation Output Manual input Data				
Currential de la sufe Ordentiale intendido special une contectadar nue. Ordentiale data nue Ordentiale d		Salact the method to energify the collection file	Collection source data file			
Period designation File selection Select a Collection source. Collection source Name Office Assembly Line Tst Assembly Line 2nd Assembly Line Passed/Failed There is no corresponding data. File list display	<b>()</b>					
Select a Collection source   Collection source Name   Collection source Name   Seembly Line 7ad   Assembly Line 7ad   Assembly Line Passed/Failed   There is no corresponding data.   File list display		Period designation     Eile selection				-
Select a Collection source.     Collection source Name     Office     Assembly Line Tst     Assembly Line DOWN     Assembly Line Passed/Failed     If is is no corresponding data.   File list display   Data collection		File Selection				
Collection source Name   Collection source Name   Seembly Line 1st   Assembly Line 2nd   Assembly Line Passed/Failed     Image: Seembly Line Passed/Failed		Select a Collection source.				
Image: Constraint of the st         Image: Assembly Line 2nd         Image: Assembly Line Passed/Failed         Image: Assembly Line Passed/Failed         Image: The state of the sta		Collection source Name				
Assertidy Line Tax     Assertidy Line Tax     Assertidy Line Passed/Failed      If it list display		Office				
		Assembly Line 1st				
Assembly Line Passed/Failed       ::       There is no corresponding data.         File list display       Data collection		Assembly Line DOWN				
File list display     Data collection	405	Assembly Line Passed/Failed				
File list display     Data collection			There is no corresponding data.			
File list display     Data collection						
File list display     Data collection						
File list display Data collection						
File list display Data collection						
File list display Data collection						
File list display Data collection						
File list display Data collection						
File list display Data collection						
File list display Data collection						_
		File list display		Data	collection	

(3) A list of files is displayed on the right side of the window.

Select the checkboxes of any files you want to collect and then click the **Data collection** button. \*Max. 62 days

🜃 Eco	Adviser - Data		– 🗆 X
) ا	Collection Calculation Output Manual input /edit		
$\bigcirc$	Select the method to specify the collection file.	Collection source data file	Collection source demand data file
	Period designation	File name	File name
	File selection	19031416.csv	↑
	Select a Collection source.	19031417.csv 19031418.csv	dm181126.csv
	Collection source Name	19031419.csv	dm181128.csv
	Office	19031420.csv	dm181129.csv
	Assembly Line 1st	19031422.csv 19031423.csv	dm181201.csv
	Assembly Line DOWN	✓ 19031500.csv	dm181203.csv
<b>\</b>			dm181204.csv
		✓ 19031503.csv	dm181206.csv
		✓ 19031505.csv	dm181208.csv
		✓ 19031506.csv	dm181209.csv
		✓ 19031508.csv	dm181211.csv
		✓ 19031509.csv ✓ 19031510.csv	dm181212.csv dm181213.csv
		✓ 19031511.csv	dm181214.csv
		✓ 19031512.csv ✓ 19031513.csv	dm181215.csv
		✓ 19031514.csv	dm181217.csv
	Eile list display		Date collection
	File list display		Data collection

\*The files that have been automatically collected are displayed in green.

(4) When the collection is completed, the following message appears.Click the **OK** button to close the message.

This is the end of the operation.

EcoAdviser	×
Manual collection processing is complet	ed.
Οκ	

# 5.2 Manual Calculation

For product type time period measuring point, calculation measuring point, and specific consumption measuring point, the measuring point data can be re-calculated for any specified period.

This function is used, when you have added or changed the information of the measuring point after the operetion starts, to calculate the past data using the calculation formula after the change.

\*If you try to manually calculate data while the function of auto execute settings is in process, the following message will appear and the operation cannot be performed.



### (1) Click the **Calculation** button.

🜃 EcoA	Adviser - Data	_	×
<ul><li>Э</li></ul>	Collection Calculation Output Manual input Data		
$\bigcirc$	Select measuring point.		
	Name   Product type time period measuring point  - Calculation measuring point  - Sectific consumption point		
\$			
	٢ >		
	Select a period.		
	Start         End           2019/03/21 15:00         •         2019/03/21 15:00         •		
	Calculation		

(2) Select the checkboxes of any measuring points you want to recalculate.

\*Max. 256 measuring points

🜃 EcoA	dviser - Data -	$\times$
<ul> <li>→</li> </ul>	Collection Calculation Data	
$\bigcirc$	Select measuring point.	
■ ● ◆	Name            → - Product type time period measuring point             ← Catcutation measuring point             → OPE_0001-Sales Dept Bill             → OPE_0002-Finance Dept Bill             → OPE_0003-GA Dept Bill             → OPE_0004-Material Dept Bill             → OPE_0007-Manufacturing A Dept Bill             → OPE_0007-Manufacturing D Dept Bill             → OPE_0007-Manufacturing C Dept Bill             → OPE_0007-Manufacturing C Dept Bill             → OPE_0007-Manufacturing C Dept Bill             → OPE_0010-Product A proceeds             → OPE_0011-Product B proceeds             → OPE_0012-Product C proceeds             → OPE_0013-Factory proceeds             → Specific consumption measuring point	
	Select a period.	
	Start         End           2019/03/21 15:00         •         2019/03/21 15:00         •	
	Calculation	

(3) Specify the period you want to calculate from the pull-down menus of Start and End. Set the year, month, day, and time.

\*The period is max. 62 days within the data retention period.

🜃 Eco/	Adviser - Data	-	$\times$
۲	👱 Σ 🏢 Ş		
10	Collection Calculation Output Manual input / edit		
	Data		
6	Select measuring point.		
	Name		
	<ul> <li>Product type time period measuring point</li> <li>Calculation measuring point</li> </ul>		
	OPE_0001: Sales Dept Bill		
2	OPE_0002: Finance Dept Bill     OPE 0003: GA Dept Bill		
	−      ✓ OPE_0005: Design Dept Bill     OPE 0006: Manufacturing A Dept Dill		
	OPE_0006. Manufacturing & Dept Bill     OPE 0007: Manufacturing B Dept Bill		
	- OPE_0008: Manufacturing C Dept Bill		
-	OPE_0009: Factory Bill     OPE_0049: Factory Bill		
	OPE_0010. Product A proceeds		
	OPE_0012: Product C proceeds		
	OPE_0013: Factory proceeds		
	Secure consumption measuring point		
	Select a period.		
	Start End		
	2019/03/15 00:00 🔻 ~ 2019/03/22 00:00 🔻		
	Calculation		
	Sublide		

### (4) Click the **Calculation** button.

🜃 EcoA	ldviser - Data	-	$\times$
<ul><li>Э</li></ul>	Collection Calculation Output Manual input Data		
$(\mathbf{c})$	Select measuring point.		
■ ● ◆	Name            - Product type time period measuring point             - Calculation measuring point             - OPE_0001: Sales Dept Bill            Ø OPE_0002: Finance Dept Bill            Ø OPE_0003: GA Dept Bill            Ø OPE_0003: Material Dept Bill            Ø OPE_0006: Manufacturing A Dept Bill            Ø OPE_0007: Manufacturing B Dept Bill             - OPE_0007: Manufacturing C Dept Bill             - OPE_0007: Manufacturing C Dept Bill             - OPE_0007: Manufacturing C Dept Bill             - OPE_0010: Product A proceeds             - OPE_0011: Product B proceeds             - OPE_0013: Factory proceeds             - Specific consumption measuring point		
	Select a period.		
	Start         End           2019/03/15 00:00         ▼         ~         2019/03/22 00:00         ▼		
	Calculation		

(5) When the calculation is completed, the following message appears.Click the **OK** button to close the message.

This is the end of the operation.

EcoAdviser	×
Manual calculation processing is comp	leted.

# 5.3 Output

This section explains how to output data of collection sources' measuring points, manual input measuring points, product type time period measuring points, calculation measuring points, specific consumption measuring points, and energy saving evaluation value measuring points registered in EcoAdviser.

\*When you use Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI), the energy saving evaluation value measuring points can be output for each equipment registered in the equipment setting. For five focusing viewpoints for energy saving and energy-loss during the standby/break time, refer to [7.1 Outline].

\*It is possible to import the output file into other system.

\*For the format of the output file, refer to [12.1 File Format].

EcoAd	dviser - Data	-		$\times$
€ ∎	Collection Calculation Output Data			
$\bigcirc$	Select measuring point.			
■ ● ◆	All measuring points         Name         • 001: Office         • 002: Assembly Line 1st         • 003: Assembly Line 1st         • 003: Assembly Line 2nd         • 004: Assembly Line Passed(Failed)         • Manual input measuring point         • Office consumption measuring point         • Specific consumption measuring point			
	Select the output data period.			
	Hourty			
	Start End			
	3/21/2019 9:00 AM ▼ ~ 3/21/2019 9:00 AM ▼			
	Data output	Fil	e output	

Click the **Output** button to display the window for data output.

### 5.3.1 Creating the automatic output setting (measuring point setting)

You will set the setting for measuring points to automatically extract data or automatically output files.

- \*If the setting is overwritten and saved, the automatic output setting will be cancelled. For details, refer to [5.3.3].
- \*For any settings with the energy saving evaluation value measuring point selected, automatic output cannot be performed.

(1) To set a new setting, click the **New** button. To open an existing setting, click the **Open** button.



(2) The following confirmation message appears.

If you continue the operation without saving the current settings, click the **Yes** button. If you stop the operation and save the settings, click the **No** button.



(3) Select the checkboxes of any measuring points you want to output.

\*For any settings with the energy saving evaluation value measuring point selected, automatic output cannot be executed.

🗾 EcoAdviser - Data						-		×
Collection Calcula	Data	New Ope	en Save	Delete Auto-output	Format / Output folder			
Select measuring	point.							
All measuring po	ints	-						
Name           005           05	0018: Machine_O_Failed 0019: Machine_P_Passed 0020: Machine_P_Failed 0021: Machine_Q_Passed 0022: Machine_R_Passed 0023: Machine_R_Passed 0024: Machine_R_Pailed 0025: Quality Check_2nd_Pass 0026: Quality Check_2nd_Failed measuring point ime period measuring point heasuring point umption measuring point tata period. End M ~ 3/21/2019 9:00 AM	ed d			No collected data.			
	Data out	put				File	output	

\*When you use Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI), the following energy saving evaluation value measuring points can be output for each equipment registered in the equipment setting.

For five focusing viewpoints for energy saving and energy-loss during the standby/break time, refer to [7.1 Outline].

ID	Name	Details
0001	Equipment time-loss (start-up)	Output values of five focusing viewpoints
0002	Equipment time-loss (shut-down)	for energy saving.
0003	Utility time-loss (start-up)	
0004	Utility time-loss (shut-down)	
0005	Production loss time rate	
0006	Specific consumption	
0010	Energy-loss during the standby time (equipment)	Output values of energy-loss during the
0011	Energy-loss during the standby time (utility)	standby/break time.
0012	Energy-loss during the break time (equipment)	For energy-loss during the break time,
0013	Energy-loss during the break time (utility)	data is output as the following:
0014	Energy-loss during the break time (equipment) 1	•Total of energy-loss during the break
0015	Energy-loss during the break time (utility) 1	time
0016	Energy-loss during the break time (equipment) 2	Output the total value of energy-loss for
0017	Energy-loss during the break time (utility) 2	every break time.
0018	Energy-loss during the break time (equipment) 3	·Energy-loss during the break time $1/2/3$
0019	Energy-loss during the break time (utility) 3	Output each value of energy-loss during
		the break time 1, 2, and 3.

(4) Select period to output data from the pull-down menu.

\*Only for the setting of Hourly, automatic output can be performed.



(5) Click the **Save** button and then select **Save as**.

\*When you have opened an existing setting, select **Save** to overwrite. When you overwrite, this is the end of the operation.

viser - Dala		
Collection Calculation Output Manual input / edit	Open Save Dele Auto-output Cotput folder	
Select measuring point.	Save as	
All measuring points		
Name           005_0018: Machine_O_Failed           005_0020: Machine_P_Passed           005_0020: Machine_Q_Passed           005_0020: Machine_Q_Passed           005_0021: Machine_Q_Passed           005_0022: Machine_Q_Passed           005_0022: Machine_Q_Failed           005_0022: Machine_Q_Failed           005_0022: Machine_R_Failed           005_0022: Machine_R_Failed           005_0026: Quality Check_2nd_Passed           005_0026: Quality Check_2nd_Failed           > Produlty phetix_period measuring point           > Specific consumption measuring point           > Select the output data period.           Hourly           Select a period.           Start         End           3/21/2019 9:00 AM         +	No collected data.	

(6) The following window appears.

Select a line and then click the **Save** button.

No.	Setting name	
1	Manufacturing A Hourly	^
2	Manufacturing A Daily	
3	Manufacturing A Monthly	
4	Manufacturing A Yearly	
5	<empty></empty>	
6	<empty></empty>	
7	<empty></empty>	
8	<empty></empty>	
9	<empty></empty>	
10	<empty></empty>	
11	<empty></empty>	
12	<empty></empty>	
13	<empty></empty>	
14	<empty></empty>	
15	<empty></empty>	
16	<empty></empty>	
17	<empty></empty>	
18	<empty></empty>	
19	<empty></empty>	~

(7) The following window appears.Input a registration name (setting name) and then click the **OK** button.

This is the end of the operation.

Registered name	×
Input the registered name.	
Manufacturing A_QualityCheck2	
ОК	Cancel

### 5.3.2 Deleting the automatic output setting (measuring point setting)

You will delete the registered setting for measuring points to automatically extract data or automatically output files.

(1)	Click the <b>Delete</b> button.		
🜃 EcoA	Adviser - Data		$\times$
،	Image: Collection Calculation     Image: Calculation Calculation     Im		
$\bigcirc$	Select measuring point.		
	All measuring points		
	Name		
•	• 001: Office     • 002: Assembly Line 1st     • 003: Assembly Line 2nd     • 004: Assembly Line DOWN     • 005: Assembly Line Passed/Failed     • Manual input measuring point     • Product type time period measuring point     • Calculation measuring point     • Specific consumption measuring point     • Specific consumption measuring point     • Specific consumption measuring point		
	Select the output data period.		
	Hourly		
	Select a period.		
	Start         End           3/21/2019 9:00 AM                3/21/2019 9:00 AM              *		
	Data output F	File output	

#### (2) The following window appears.

Select a setting you want to delete and then click the **Delete** button.

Delete		×
No.	Setting name	
1	Manufacturing A Hourly	^
2	Manufacturing A Daily	
3	Manufacturing A Monthly	
4	Monufecturing A Vearly	-
5	Manufacturing A_QualityCheck2	
6	<empty></empty>	
7	<empty></empty>	
8	<empty></empty>	
9	<empty></empty>	
10	<empty></empty>	
11	<empty></empty>	
12	<empty></empty>	
13	<empty></empty>	
14	<empty></empty>	
15	<empty></empty>	
16	<empty></empty>	
17	<empty></empty>	
18	<empty></empty>	
19	<empty></empty>	$\sim$

(3) The following confirmation message appears.Click the **Yes** button to delete the setting.This is the end of the operation.

EcoAdviser ×				
Are you sure you want to delete setting?				
	<u>Y</u> es	No		

### 5.3.3 Selecting the automatic output setting

You will select the setting to output files using the automatic output function.

(1)	Click the <b>Auto-output</b> button.			
🜃 EcoA	Adviser - Data	-		$\times$
ا	Image: Collection     Calculation     Output     Manual input / edit     Image: Collection     Image: Collection <t< th=""><th></th><th></th><th></th></t<>			
$\bigcirc$	Select measuring point.			
	All measuring points     •       Name     •       • 001: Office     •       • 002: Assembly Line 1st     •       • 003: Assembly Line Pown     •       • 004: Assembly Line Pown     •       • 005: Assembly Line Pown     •       • 006: Assembly Line PossedFailed     •       • Manual input measuring point     •       • Product type time period measuring point     •       • Specific consumption measuring point     •       • Select the output data period.     •       Hourly     •       Select a period.     •       Start     End       3/21/2019 9:00 AM     •			
	Data output	Fil	e output	

(2) The following window appears.

Select the checkbox of a setting you want to output and then click the **Register** button.

\*Only for the setting of Hourly, automatic output can be performed.

\*For any settings with the energy saving evaluation value measuring point not selected, automatic



(3) The following confirmation message appears.Click the **Yes** button to save the setting.

This is the end of the operation.

EcoAdviser ×			
Are you sure you v	want to register?		
<u>Y</u> es	<u>N</u> o		
### 5.3.4 Creating the automatic output setting (File setting)

You will set the output file format and the output destination.

(1)	Click the Format/Output	folder button.			
🜃 EcoA	Adviser - Data		-		×
<ul> <li></li> </ul>	Collection Calculation Output Data	Den Save Delete Auto-output Output Setting			
$(\mathbf{c})$	Select measuring point.				
•	All measuring points       Name          • 001: Office           • 002: Assembly Line 1st           • 003: Assembly Line 2nd           • 004: Assembly Line DOWN           • 005: Assembly Line Passed/Failed           • Colo: Assembly Line Passed/Failed           • Colo: Assembly Line product measuring point           • Calculation measuring point           • Specific consumption measuring point	No collected data.			
	Select the output data period.				
	Select a period.				
	Start         End           3/21/2019 9:00 AM         *         3/21/2019 9:00 AM         *				
	Data output		File	output	

(2) The following window appears.

Input each item or select from the pull-down menu.

Click the **Register** button.

This is the end of the operation.

CSV	Format setting
File E	Encoding
	Shift_JIS
Deci	mal
	period 💌
Delin	niter
	comma 🔻
Date	Format
	YYYY/MM/DD hh:mm
Quot	ation Marks
	None
Time	Column Name
	DateTime
Outp	ut Destination Setting
Data	File Output Folder
	C:\Users\三菱電機\Documents\MES3-EAP1\DataFileOu 🛌
_	

Item	Details								
File encoding	Select an encoding	Select an encoding to be output to CSV files from the pull-down menu.							
	•Shift_JIS •UTF-8								
Decimal point	Select a decimal point displayed from the pull-down menu.								
	•Period	•Comma							
Delimiter	Select a delimiter	to be output to CSV files from the pull-dow	wn menu.						
	•Comma	•Tab •Semicolon	<ul> <li>Space</li> </ul>						
Date format	Input a date forma	at to be output to CSV files.							
	The following char	acters are converted to the corresponding	date information	for output.					
	Input	Date information after conversion	Input	Date information after					
	characters		characters	conversion					
	YYYY	The dominical year (4 digits)	.s						
	YY	The dominical year (Lower 2 digits)	.SS						
	MM	Month (2 digits)	.SSS	Number of digits in					
	DD	Day (2 digits)	seconds after the						
hh Hour (2 digits, 00 to 23)			.SSSSS	decimal point					
	mm	Minute (2 digits)	.SSSSSS	(1  to  9)					
	SS	Second (2 digits)	.SSSSSSS	(1 (0 ))					
	ms	Millisecond (3 digits)	.SSSSSSSS						
	us	Microsecond (6 digits)	.SSSSSSSSS						
	ns	Nanosecond (9 digits)							
	*The year in four	digits and in the last two digits cannot be	used simultaneous	sly.					
	In addition, millis	econds, microseconds, nanoseconds, and	the number of dig	its in seconds after the					
	decimal point (su	ch as .s) cannot be used simultaneously.							
	<ex. 1=""> YYYY/MM</ex.>	/DD hh:mm:ss:ms 2019/04/03	1 10:11:22:333						
	<ex. 2=""> YYYY/MM</ex.>	/DD hh:mm:ss:.ssssssss 2019/04/01 1	0:11:22:3330000	00					
Quotation mark	Select a quotation	mark to be output to CSV files from the p	oull-down menu.						
	•None	Double quotation     Quotation	tion						
Time column	Input a column na	me of the time data.							
name	*The date is displa	yed in the date format above.							
Data file output	Specify the destination	ation of automatic output of data files.							
folder	*Default: C:¥User	s¥(User Name)¥Documents¥MES3-EAP1¥	DataFileOut						

#### 5.3.5 Automatic output of data files

To perform automatic output, set the automatic data output to ON in the auto execute settings. For details, refer to [6 Auto Execute Settings].

#### 5.3.6 Manual output of data files

You will output the measuring point data and files.

(1) Select the checkboxes of any measuring points you want to extract.

🗳 EcoAdviser - Data	-		×
③ ★ ∑ Output Manual input /edit → Data ○ Output Manual input /edit ○ Output Manual input /edit ○ Output Vietting			
Select measuring point			
All measuring points			
Name         Ob5_0018: Machine_D_Failed         Ob5_0020: Machine_D_Failed         Ob5_0022: Machine_Q_Failed         Ob5_0022: Machine_Q_Failed         Ob5_0022: Machine_R_Failed         Select the output data period.         Start         End         3/21/2019 S:00 AM       3/21/2019 S:00 AM			
Data output	File	output	

(2) Select an output data period from the pull-down menu.

🜃 EcoA	dviser - Data	-		$\times$
<ul><li>Э</li><li>↓</li></ul>	Image: Select measuring point       Image: Select measuring point			
	Select measuring point.         All measuring points         Name         005_0018: Machine_P_Passed         005_0020: Machine_P_Failed         005_0022: Machine_Q_Failed         005_0022: Machine_R_Passed         005_0022: Machine_R_Passed         005_0022: Machine_R_Passed         005_0022: Machine_R_Failed         005_0026: Quality Check_2nd_Failed         > Manual input measuring point         > Calculation measuring point         > Calculation measuring point         > Select the output data period.         Hourly         Select a period.         Start       End         3/21/2019 9:00 AM       ~ 2/21/2019 9:00 AM			
	Data output	FII	e output	

$(\mathbf{S})$	specify the period from the pull-down menus of Start	anu	ЕПО	10 0	Juc
🜃 EcoA	Adviser - Data		-		×
	⊥         Σ         Image: Second se				
	Data Output Setting				
$\bigcirc$	Select measuring point.				
	All measuring points     •       Name     005_0018; Machine_Q_Failed				
	Data output		File	output	

(3) Specify the period from the pull-down menus of **Start** and **End** to output data.

(4) Click the **Data Output** button.

🔟 EcoAdviser - Data	– 🗆 X
	) Den Save Delete Auto-output Format / Output folder
Select measuring point.	
All measuring points	
Name         -       005_0018: Machine_O_Failed         -       005_0019: Machine_P_Passed         -       005_0020: Machine_P_Failed         -       005_0022: Machine_Q_Passed         -       005_0022: Machine_Q_Passed         -       005_0022: Machine_R_Failed         -       Manual input measuring point         -       Calculation measuring point         -       Specific consumption measuring point         -       Specific consumption measuring point	No collected data.
Salect the data interval	
Geleti tre trata interval.	
Hour	
Select a period.	
Start         End           3/20/2019 12:00 AM         ▼         ~         21/2019 12:00 AM         ▼	•
Data output	File output

(5) Data of each measuring point is displayed on the right side of the window. Click the **File output** button.

Adviser - Data	<b></b>		P		<b>H</b> D						×
Collection Calculation Data	Output Manual input / edit	New	Open	ו	Save Delet	e Auto Setting	o-output Format Output fo	t/ Ider			
Select measuring point.			L F		Time		Quality Check_2nd	d(kWh)	Quality Check_2nd_Passed	Quality Che	ack_:
All measuring points		-		Þ	3/20/2019 12	MA 00:		0	C	)	^
An measuring points		-			3/20/2019 12	:15 AM		0	0	)	
Name					3/20/2019 12	:30 AM		0	C	)	
005_0018:	Machine_O_Falled				3/20/2019 12	:45 AM		0	C	)	
005_0020:	Machine_P_Failed				3/20/2019 1:0	00 AM		0	C	)	
005_0021:	Machine_Q_Passed				3/20/2019 1:1	I5 AM		0	C	)	-1
005_0022:	Machine_Q_Failed				3/20/2019 1:3	30 AM		0	C	)	
005_0023:	Machine_R_Passed				3/20/2019 1:4	15 AM		0	C	)	
005_0024.	Machine_R_Falled Quality Check 2nd Pass	bed			3/20/2019 2:0	MA 00		0	0	)	
	Quality Check_2nd_Faile	d			3/20/2019 2:1	I5 AM		0	0	)	
▶ - Manual input meas	suring point				3/20/2019 2:3			0	U.	)	
Product type time p	eriod measuring point				3/20/2019 2.4			0	0	,	
Calculation measu     Specific concurrent	iring point				2/20/2019 3.0			0	0	)	
P Opecine consumpti	on measuring point	$\sim$			3/20/2019 3:3	RO AM		0	0	, )	
<		>			3/20/2019 3:4	15 AM		0	0	)	
Select the output data no	eriod				3/20/2019 4:0	00 AM		0	0	)	
Concertine output data p	chod.				3/20/2019 4:1	15 AM		0	0	)	
Hourly		-			3/20/2019 4:3	30 AM		0	C	)	
Only the second set					3/20/2019 4:4	15 AM		0	C	)	
Select a period.					3/20/2019 5:0	00 AM		0	C	)	
Start	End				3/20/2019 5:1	I5 AM		0	C	)	
3/20/2019 12:00 AM	· ~ 3/21/2019 12:00 A	M 👻			3/20/2019 5:3	BO AM		0	0	)	$\checkmark$
	Data ou	tput	1	<						File output	-

(6) Specify the destination and then save the extracted data in CSV files.When the file output is completed, the following message appears.Click the **OK** button to close the message.

This is the end of the operation.

EcoAdviser	$\times$
The output of the data file is comp	oleted.
ОК	

### 5.4 Manual Input/Edition

This section explains how to input and edit collection sources' measuring points and manual input measuring points' measuring data.

\*If you try to manually input/edit data while the function of auto execute settings is in process, the following message will appear and the operation cannot be performed.

A	After a short wait, perform it.						
	EcoAdviser ×						
	Other processing is in progress. Try again in a moment.						
	<u>O</u> K						

Click the Manual input/edit button to display the setting menu on the window.



#### 5.4.1 Inputting/Editing measuring data

You will input data of any measuring points for any period.

- (1) Select the checkboxes of any measuring points you want to input/edit.
  - \*Max. 256 measuring points

🜃 EcoA	dviser - Data		-		$\times$
) ا	Collection Calculation Output Data	P≊ _E port			
$\bigcirc$	Select measuring point.				
■ ● ◆	Name         Image: Constraint of the state of the	No collected data.			
	Select the output data period.				
	15M •				
	Select a period.				
	Start         End           3/21/2019 3:00 PM         *         ~         3/21/2019 3:00 PM         *				
	Data output		Data re	egistration	١

(2) Select the data period to input/edit from the pull-down menu.When selecting from 15, 30, or 60 minutes, set the same data period as EcoAdviser (which is set in System Settings).

EcoAdviser - Data	-		×
Image: Second			
Select measuring point.			
Name       M         Image: Construction of the state of			
Data output	Data	registrati	on

For the data period, refer to [4.3.4 Collection setting].

The setting range: 15M/30M/60M/24H

(3) Specify the period from the pull-down menus of Start and End to input/edit data\*Max. 31 days

Select measuring point.         Name       M         -       005_0011: Quality Check_1st_Passed         -       005_0012: Quality Check_1st_Falled         -       005_0015: Machine_I-N_Passed         -       005_0017: Machine_O_Passed         -       005_0017: Machine_O_Passed         -       005_0017: Machine_O_Passed         -       005_0017: Machine_O_Passed         -       005_0020: Machine_P_Passed         -       005_0020: Machine_Q_Passed         -       005_0022: Machine_R_Passed         -       005_0023: Machine_R_Passed         -       005_0026: Quality Check_2nd_Passed         -       005_0026: Quality Check_2nd_Fassed         -       005_0026: Quality Check_2nd_Fassed         -       005_0026: Quality Check_2nd_Fassed         -       005_0026: Quality Check_2nd_Fassed         -       >	
Name         M           -         005_0011: Quality Check_1st_Passed           -         005_0012: Quality Check_1st_Failed           -         005_0016: Machine_I-N_Passed           -         005_0017: Machine_O_Passed           -         005_0017: Machine_O_Passed           -         005_0017: Machine_O_Passed           -         005_0017: Machine_O_Passed           -         005_0019: Machine_P_Passed           -         005_0020: Machine_Q_Passed           -         005_0022: Machine_Q_Passed           -         005_0023: Machine_R_Passed           -         005_0023: Machine_R_Passed           -         005_0026: Quality Check_2nd_Passed           -         005_0026: Quality Check_2nd_Failed           -         Ø05_0026: Quality Check_2nd_Failed           -         Ø05_0026: Quality Check_2nd_Failed           -         Ø05_0026: Quality Check_2nd_Failed           -         Manual input measuring point	
Select the output data period.       15M     *       Select a period.       Start     End       3/20/2019 12:00 AM     *	No collected data.

(4) Click the **Data output** button to extract the measuring point data.

🔟 EcoA	Adviser - Data		_		×
ا	Collection Calculation Output Jedit	편 - 면역 port			
$\bigcirc$	Select measuring point.				
	Name				
	O05_0011: Quality Check_1st_Passed     O05_0012: Quality Check_1st_Failed     O05_0015: Machine_I-N_Passed				
	005_0019: Machine_O_Failed     005_0019: Machine_P_Passed     005_0020: Machine_P_Failed     005_0021: Machine_Q_Failed     005_0022: Machine_Q_Passed     005_0022: Machine_Q_Failed				
*		No collected data.			
	Select the output data period.				
	15M 💌				
	Select a period.				
	Start         End           3/20/2019 12:00 AM         •				
	Data output		Data r	egistratio	n

(5) The extracted data is displayed on the right side of the window.

Input or change the data.

\*The input value is rounded according to the setting of the decimal places of the measuring point.

↓	Σ			XLSX	HISK			
Collection (			Honuslipput	Event				
Jonection	Jaiculation	Output	/ edit	Export	impon			
	Dat	а		F	ile			
Select mea	asuring point	1			• F	Time	Quality Check_2nd_Passed	Quality Check_2nd_Failed
Mama						3/20/2019 2:15 PM	39	0
Name	005 0044	Quality	Oback dat Dec	IV		3/20/2019 2:30 PM	20	0
	005_0011	Quality	Check_Ist_Pas Check_1st_Fail	sed n		3/20/2019 2:45 PM	32	0
	005_0015:	Machin	e_I-N_Passed			3/20/2019 3:00 PM	36	0
	005_0016:	Machin	e_I-N_Failed			3/20/2019 3:15 PM	5	0
	005_0017:	Machin	e_O_Passed			3/20/2019 3:30 PM	93	2
	005_0018:	Machin	e_O_Failed			3/20/2019 3:45 PM	39	0
	005_0019.	Machin	e_P_Passed e_P_Failed			3/20/2019 4:00 PM	23	0
	005 0021:	Machin	e Q Passed			3/20/2019 4:15 PM	21	0
-0	005_0022:	Machin	e_Q_Failed		Ι	3/20/2019 4:30 PM	10	0
	005_0023:	Machin	e_R_Passed			3/20/2019 4:45 PM	0	0
	005_0024:	Machin	e_R_Failed			3/20/2019 5:00 PM	0	0
	005_0025	Quality	Check_2nd_Pas Check_2nd_Fai	ad		3/20/2019 5:15 PM	0	0
▶ - Manu	al input meas	suring p	oint	~		3/20/2019 5:30 PM	0	0
<				>		3/20/2019 5:45 PM	0	0
						3/20/2019 6:00 PM	0	0
Select the	output data p	eriod.				3/20/2019 6:15 PM	0	0
15M				-		3/20/2019 6:30 PM	0	0
						3/20/2019 6:45 PM	0	0
Select a pe	eriod.					3/20/2019 7:00 PM	0	0
	Ptort		End			3/20/2019 7:15 PM	0	0
2/20/2040			Enu			3/20/2019 7:30 PM	0	0
3/20/2019	12.00 AM	1~ Ľ	siz lizo 19 12:00	-1VI		3/20/2019 7:45 PM	0	0

(6) Click the **Data registration** button.

\*If you have changed the information of the measuring point, repeat this procedure from the beginning.

(7) The following confirmation message appears.

Click the **Yes** button to start the registration of data.



(8) When the data registration is completed, the following message appears.Click the **Yes** button to close the message.

This is the end of the operation.



#### 5.4.2 Exporting measuring data

You will output the data displayed on the window to the Excel file for inputting measuring data. For the format of the output file, refer to [12.1 File Format].

- (1) Select the checkboxes of any measuring points you want to export.
- \*Max. 256 measuring points

Eco/	Adviser - Data		– 🗆 X	<
<ul><li>●</li></ul>	Collection Calculation Output Manual input Data	Import		
© = > *	Data     File       Select measuring point.       Name     M       -     005_0011: Quality Check_1st_Passed       -     005_0012: Quality Check_1st_Failed       -     005_0013: Machine_I-N_Failed       -     005_0013: Machine_D_Passed       -     005_0013: Machine_D_Passed       -     005_0013: Machine_D_Failed       -     005_0013: Machine_D_Failed       -     005_0013: Machine_D_Failed       -     005_0021: Machine_D_Failed       -     005_0022: Machine_D_Failed       -     005_0022: Machine_D_Failed       -     005_0022: Machine_R_Failed       -     005_0022: Machine_R_Failed       -     005_0022: Machine_R_Failed       -     005_0022: Quality Check_2nd_Failed       -     005_0022: Quality Check_2nd_Failed       -     005_0022: Quality Check_2nd_Failed       -     >       Select the output data period.       15M     *       Select a period.	The second secon		
	3/21/2019 3:00 PM ▼ ~ 3/21/2019 3:00 PM ▼ Data output		Data registration	

(2) Select a period from the pull-down menu to export data.When selecting from 15, 30, or 60 minutes, set the same data period as EcoAdviser (which is set in System Settings)

🜃 EcoA	dviser - Data	_		×
	Image: Collection     Image: Calculation     Output     Image: Calculation     Image: Calculation			
$\bigcirc$	Select measuring point			
	Name     M       -     005_0011: Quality Check_1st_Passed       -     005_0012: Quality Check_1st_Failed       -     005_0012: Machine_J-Passed       -     005_0016: Machine_J-N_Failed       -     005_0017: Machine_Q-Passed       -     005_0019: Machine_P_Failed       -     005_0019: Machine_Q-Failed       -     005_0019: Machine_Q-Failed       -     005_0020: Machine_Q-Failed       -     005_0022: Machine_Q-Tailed       -     205_0028: Quality Check_2nd_Failed       -     V       -     Manual input measuring point			
	Select the output data period.			
	15M			
	Select a period.			
	3/21/2019 3:00 PM * ~ 3/21/2019 3:00 PM *			
	Data output	Data	registratio	n

For the data period, refer to [4.3.4 Collection setting].

(3) Specify the period from the pull-down menus of Start and End to export data.
 \*Max. 31 days

🜃 Eco/	Adviser - Data	-		×
)    	Collection Calculation Output Manual Input Cellection Calculation Output Vedit File			
■ ● ◆	Oo5_0011: Quality Check_1st_Passed     Oo5_0012: Quality Check_1st_Passed     Oo5_0015: Machine_I-N_Failed     Oo5_0016: Machine_P-Rassed     Oo5_0016: Machine_P-Railed     Oo5_0019: Machine_P-Railed     Oo5_0019: Machine_P-Railed     Oo5_0020: Machine_P-Railed     Oo5_0020: Machine_P-Railed     Oo5_0020: Machine_P-Railed     Oo5_0020: Machine_R-Rassed     Oo5_0020: Machine_R-Rassed     Oo5_0020: Machine_R-Railed     Oo5_0020: Machine_R-Rassed     Oo5_0020: Machine_R-Rassed     Oo5_0020: Machine_R-Railed     Oo5_0020: Machine_R-Rassed     Oo5_0020: Machine_R-Rassed     Oo5_0020: Quality Check_2nd_Passed     Oo5_0020: Quality Check_2nd_Failed     Oo5_0020: Quality Check_2nd_Failed     Oo5_0020: Quality Check_2nd_Failed     Select the output data period	No collected data.		
	15M 👻 Select a period. Start End			
	3/20/2019 12:00 AM × ~ 221/2019 12:00 AM ×	Dat	a registratio	n

(4) Click the **Data output** button to extract the measuring point data.

🔟 EcoA	Adviser - Data		-		$\times$
<ul> <li>()</li> </ul>	Collection Calculation Output Data	주 년 Sort			
$\bigcirc$	Select measuring point.				
<ul> <li>■</li> <li>●</li> <li>●</li> <li>◆</li> <li>◆</li> </ul>	Name         M	No collected data.			
	Select the output data period.				
	15M 💌				
	Select a period.				
	Start         End           3/20/2019 12:00 AM         ▼				
	Data output		Data r	egistratio	n

(5) The extracted data is displayed on the right side of the window. Click the **Export** button.

 $\times$ 

Collection Calculation Output Data	ort Impo	d rt		
Select measuring point.		Time	Quality Check_2nd_Passed	Quality Check_2nd_Failed
		3/20/2019 2:15 PM	39	(
Name	M	3/20/2019 2:30 PM	20	(
005_0011: Quality Check_1st_Passed	^	3/20/2019 2:45 PM	32	(
005_0012: Quality Check_1st_Failed		3/20/2019 3:00 PM	36	(
		3/20/2019 3:15 PM	5	(
005_0017: Machine_O_Passed		3/20/2019 3:30 PM	93	
005_0018: Machine_O_Failed		3/20/2019 3:45 PM	39	(
005_0019: Machine_P_Passed		3/20/2019 4:00 PM	23	(
		3/20/2019 4:15 PM	21	(
005_0021. Machine_Q_Passed		I 3/20/2019 4:30 PM	1d	(
005_0023: Machine_R_Passed		3/20/2019 4:45 PM	0	(
005_0024: Machine_R_Failed		3/20/2019 5:00 PM	0	(
🗹 005_0025: Quality Check_2nd_Passed		3/20/2019 5:15 PM	0	(
005_0026: Quality Check_2nd_Failed		3/20/2019 5:30 PM	0	
Manual input measuring point	~	3/20/2019 5:45 PM	0	
		3/20/2019 6:00 PM	0	
Select the output data period.		3/20/2019 6:15 PM	0	
		3/20/2019 6:30 PM	0	
15M	Ŧ	3/20/2019 6:45 PM	0	
Select a period		3/20/2019 7:00 PM	0	(
Select a period.		3/20/2019 7:15 PM	0	(
Start End		3/20/2019 7:30 PM	0	(
3/20/2019 12:00 AM 🔻 ~ 3/21/2019 12:00 AM	Ŧ	3/20/2019 7:45 PM	0	(
	L	2/20/2010 0-00 PM	0	

(6) The following confirmation message appears.Click the **Yes** button to export data.



(7) When the export is completed, the following message appears.Click the **OK** button to close the message.

This is the end of the operation.



#### 5.4.3 Importing measuring data

You will import the Excel file where measuring data has been manually input.

\*Data imported at one time is 256 measuring points and 2976 lines (15-minute period data for 31 days). \*For the imported data, use the same data period as EcoAdviser.

🜃 Eco	Adviser - Data	-		×
) ا	Image: Collection     Calculation     Output     Manual input     Export     Import       Data     File			
6	Select measuring point.			
	Name     M       + 001: Office     +       + 002: Assembly Line 1st       + 003: Assembly Line 2nd       + 004: Assembly Line DOWN       + 005: Assembly Line PassedFailed       + Manual input measuring point			
	Select the output data period.			
	15М 👻			
	Select a period.			
	Start         End           3/21/2019 3:00 PM         •         3/21/2019 3:00 PM         •			
	Data output	Data	registratio	on

(1) Click the **Import** button and then specify the Excel file to import.

(2) The imported data is displayed on the right side of the window.Click the **Data registration** button to register the data.

Adviser - Data				-	
Collection Calculation Output	Import				
Data	e				
Select measuring point.		Time	Quality Check_2nd_Passed	Quality Check_2nd_Failed	
Nama		3/20/2019 2:15 PM	39	0	
Name 005 0011: Quality Check 1st Passed		3/20/2019 2:30 PM	20	0	
		3/20/2019 2:45 PM	32	0	
005_0015: Machine_I-N_Passed		3/20/2019 3:00 PM	36	0	
005_0016: Machine_I-N_Failed		3/20/2019 3:15 PM	5	0	
005_0017: Machine_O_Passed		3/20/2019 3:30 PM	93	2	
		3/20/2019 3:45 PM	39	0	
		3/20/2019 4:00 PM	23	0	
		3/20/2019 4:15 PM	21	0	
	I	3/20/2019 4:30 PM	1¢	0	
···· 005_0023: Machine_R_Passed		3/20/2019 4:45 PM	0	0	
005_0024: Machine_R_Failed	:	3/20/2019 5:00 PM	0	0	
	•	3/20/2019 5:15 PM	0	0	
Manual input massuring point		3/20/2019 5:30 PM	0	0	
<		3/20/2019 5:45 PM	0	0	
		3/20/2019 6:00 PM	0	0	
Select the output data period.		3/20/2019 6:15 PM	0	0	
		3/20/2019 6:30 PM	0	0	
15М 🔻		3/20/2019 6:45 PM	0	0	
Select a neriod		3/20/2019 7:00 PM	0	0	
Select a period.		3/20/2019 7:15 PM	0	0	
Start End		3/20/2019 7:30 PM	0	0	
3/20/2019 12:00 AM 🔻 ~ 3/21/2019 12:00 AM 🔻		3/20/2019 7:45 PM	0	0	
		2/20/2010 0.00 PM	٥	0	

(3) The following confirmation message appears.

Click the  $\ensuremath{\text{Yes}}$  button to start the data registration.

Eco	Adviser	×
Are yo	ou sure you wai	nt to export the data.?
	<u>Y</u> es	No

(4) When the data registration is completed, the following message appears.Click the **OK** button to close the message.

This is the end of the operation.



# 6. Auto Execute Settings

This chapter explains the functions of automatic execution.

Click the **Auto execute settings** button to enter the setting window.



Setting	Details
Automatic collection	Collect data from the collection sources at the specified period (time).
	For details on the period (time) or the aggregation period for automatic
	collection, refer to [4.3.4 Collection setting].
Automatic report	Output the report (daily/monthly/annual report) at the set date.
output *1	For details on the output date and destination, refer to [10.2.1 Setting the
	output destination]. For the output report, refer to [10.2.2 Setting the automatic
	output].
Automatic data	Output the data of the set measuring points to CSV files after automatic
output	collection.
*1	For details, refer to [5.3 Data Output].
Automatic	Output the dashboard HTML file every hour after automatic collection.
dashboard HTML	For details on the output dashboard HTML file, refer to [9.3.2 Setting the
output *1	automatic dashboard output].
Automatic	Update the graphs and measuring values displayed on the dashboard on
dashboard update	EcoAdviser every hour after automatic collection.
*1	
Automatic diagnosis	This function is for Energy Saving Data Analysis and Diagnosis Software
*1	(Model: MES3-EAP1-AI).
	Once a day, EcoAdviser diagnoses energy-loss.
	*In the time period after the Day aggregation period (time) with two hours,
	EcoAdviser diagnoses after automatic collection.

\*1: To set this function to ON, the automatic collection setting must be ON.

If the setting is OFF, the following message will appear.

Click the **Yes** button to switch both this function and the automatic collection setting to ON.

In addition, if the automatic collection setting is switched to OFF, this function will also change to OFF.

EcoAdviser	×
Automatic collection is OFF Are you sure you want to tu	: rn automatic collection on?
Yes	No

## 6.1 Cautions

• This software has to be running in order that the Automatic collection can properly work.

Turn on your computer, activate this software, and then use this function while the software is still running. Furthermore, turn off sleep timer on your computer before starting Automatic collection, otherwise, this function cannot work properly.

• While you manually collect, calculate, input, or edit data or you perform energy-loss diagnosis, the function of auto execute settings does not work.

After the operation is completed, the function will work.

- When you restart EcoAdviser, the settings remain at the last end.
- Automatic collection may fail if the computer is heavily loaded. If it fails, collect the data manually. The following shows some examples of the occurrence:

•The automatic collection timing has passed during the processing of the software, and at least one hour has passed without executing the automatic collection.

•A RAM shortage has occurred in other applications or software using CPU, RAM, or HDD.

·Low-speed HDDs are used (slow processing).

•HTTP communication is performed with a collection source of EcoWebServerIII under the condition of slow communication speed.

•Automatic diagnosis is executed without even a manual diagnosis execution. (It takes longer to process if no-diagnosis day is diagnosed for a long time.)

•The time of automatic report output is set near the run time of automatic diagnosis. (It takes longer to process report output or automatic diagnosis.)

• This function cannot collect data whose collection period is a duration that Automatic collection has not been functioned. Collect the data mentioned above manually, if necessary.

## 6.2 Automatic Data Collection

This section describes the details of automatic data collection.

#### 6.2.1 Base time of automatic collection

EcoAdviser automatically collect data from the collection sources based on the current time of the computer.

If the time of the collection source is different from that of the computer, the latest logging file may not be collected.

Be sure to synchronize the time of each collection source and the computer regularly. The difference is 3 minutes or less as a guide.

\*For Edgecross of collection sources, if the computer's time is ahead, data may not be collected from the collection source.

#### 6.2.2 Data file of automatic collection

The following table shows the latest files to collect.

Collection source	Logging file type	The latest file
EcoWebServerⅢ	Zoom (1 min.) data file	Time of one hour before the computer's clock
	Demand (daily) data file	Date of one hour before the computer's clock
Edgecross	Historical data file	The hindmost file by sorting the file name in ascending order.
		*1

\*1: Note the following points for collected historical data files.

• When the first number and last number in the files are 00000001 and FFFFFFF respectively, sort the files by putting 00000001 below FFFFFFF to determine the latest file.

• For any files that neither are collected due to matters such as prefix change or errors nor are latest, you have to execute data collection.

## 6.3 Automatic Data Output

This section describes the details of automatic data output.

#### 6.3.1 Data file of automatic output

EcoAdviser outputs the file according to the setting set at [5.3 Data Output].

The output file name is created using the number of the setting. If the same number file has already existed in the output destination, the file will be overwritten.

\*For details on the file format, refer to [12.1 File Format].

#### 6.3.2 Data period of automatic output

At every automatic collection, EcoAdviser outputs 15/30/60-minute basis data from the day aggregation period to the automatic collection time.

The following illustration is an action example under the following settings:

- ·Data period: 15 minutes
- ·Day aggregation period: 0:00

·Automatic collection time for EcoWebServerII: 10 minutes (every hour)

At the automatic collection executed at the same hour as the day aggregation period, data of the previous day is output. After that, data from the day aggregation period to the automatic collection time is output.



### 6.4 Automatic Diagnosis

This function is for Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI). This section describes the automatic diagnosis.

#### 6.4.1 Timing of automatic diagnosis

Once a day, EcoAdviser automatically executes the diagnosis after automatic collection. However, this executes when the automatic collection time is after the day aggregation period (hour) with two hours.

#### 6.4.2 Details of automatic diagnosis

EcoAdviser automatically executes the following diagnoses.

- Energy-loss diagnosis  $\rightarrow$  Refer to [7.3.3].
- Energy-loss factor diagnosis  $\rightarrow$  Refer to [7.4.5].

The items of the energy saving viewpoint for diagnosis are ones selected at [7.2].

The diagnosis period is for days set at the last diagnosis with the previous day is the ending day.

\*When the diagnosis is never executed, the term is 62 days.

<Example>

Diagnosis period of the last diagnosis: Jan. 1, 2020 to Jan. 15, 2020 (for 15 days)

→Diagnosis period of automatic diagnosis: 15 days before to the previous day (for 15 days)

# 7. Diagnosis

#### This function is for Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI).

This chapter explains the operations for diagnosis execution.

On the following window, you can check the result of energy-loss diagnosis or the improvement result by energy saving activities.

Click the **Diagnosis** button to enter the diagnosis window.

🔤 EcoA	Adviser - Diagn	osis					- 0	$\times$
۲	Energy-loss di	agnosis	Improvement result check					
2	Diagnosis	● Five ○ Ene	e focusing points for energy saving ergy-loss during standby/break time	Detailed setting	Start 7/26/2020 End 9/24/2020	Collection status check	Diagnosis panel	
	Diagnosis		Energy saving points		Diagnosis period	Diagnosis source data	Panel management	
•••								
6								
\$								

# 7.1 Outline

This section explains the outline of diagnosis function.

The diagnosis function diagnoses energy-loss of the equipment registered in [4.2 Diagnosis Settings]. The diagnosis has two types: energy-loss extraction and energy-loss factor diagnosis.

·Energy-loss extraction

The energy saving viewpoint enables EcoAdviser to calculate values by equipment and convert into the amount. The result of energy-loss ranks the equipment.

·Energy-loss factor diagnosis

The five focusing viewpoints for energy saving enables EcoAdviser to diagnoses how much factors, such as time, day, and production volume, cause energy-loss. It is possible to diagnose factors including the product type by setting. The user evaluates the effectiveness of the result of energy-loss factor diagnosis by AI, and AI performs diagnosis considering the evaluation at the following diagnosis.

The energy-loss diagnosis requires calculation of each value of the energy saving viewpoint. For the energy saving viewpoint, refer to [What is energy saving viewpoint?] in the next page.

#### ■What is energy saving viewpoint?

It is used to diagnose the equipment where energy-loss is occurring.

The following table explains each item of the energy saving viewpoint.

Er	nergy saving viewpoint	Details
Five focusing	(1) Equipment time-loss (start-up)	Time period from the equipment ON state to the start
viewpoints for		of production
energy saving	(2) Equipment time-loss (shut-down)	Time period from the end of production to the change
		to the equipment OFF state
	(3-1) Utility time-loss (start-up)	The difference between the time of change to the
		utility ON state and the time of change to the
		equipment ON state
		*Depending on the case, it may be negative
		value.
	(3-2) Utility time-loss (shut-down)	The difference between the time of change to the
		utility OFF state and the time of change to the
		equipment OFF state
		*Depending on the case, it may be negative
		value.
	(4) Specific consumption	The specific consumption from the start to the end of
		production
	(5) Production loss time rate	Time rate of no production from the start to the end of
		production in the day
		*Data during the break time is included in the
		calculation.
Energy-loss	(1) Energy-loss during the standby	Energy consumption of the equipment during the
during the	time (equipment)	equipment OFF state
standby/break	(2) Energy-loss during the standby	Energy consumption of the utility during the utility OFF
time	time (utility)	state
	(3) Energy-loss during the break time	Energy consumption of the equipment during the break
	(equipment)	time
	(4) Energy loss during the break time	Enorgy concurated regardless of the production status.
	(4) Energy-ioss during the break time	*It is calculated regardless of the equipment ON/OFF
	(uuncy)	state and the production status

\*1: The start of production and the end of production are defined as the following: Start of production: The time of the first count of production volume after the equipment start-up End of production: The time of the last count of production volume before the equipment shut-down

\*2: The equipment ON/OFF state is determined by the energy consumption threshold value for determining the equipment off state. The utility ON/OFF state is determined by the energy consumption threshold value for determining the utility off state. For details, refer to [4.2.2 Registering/Changing the equipment information].



<Five focusing viewpoints for energy saving>

<Energy-loss during the standby/break time>



# 7.2 Energy-Loss Diagnosis Settings

You will set the energy saving viewpoint used for diagnosis.

(1) (	Click the	e De	tailed setting	butto	n.				
🔝 EcoA	Adviser - Diagno	osis					-		×
۲	Energy-loss dia	agnosis	Improvement result check						
2	Diagnosis	<ul> <li>Five</li> <li>Energy</li> </ul>	focusing points for energy saving rgy-loss during standby/break time	Detailed setting	Start 7/26/2020 End 9/24/2020	Collection status check	Diagnosis panel		
alt -	Diagnosis		Energy saving points		Diagnosis period	Diagnosis source data	Panel manager	ment	
$\bigcirc$									
\$									

#### . . .. .

#### (2) The following window appears.

Detailed setting for energy saving points		$\times$
Select the energy saving point for energy-loss diagno	sis.	
Five focusing points for energy saving		
(1)Equipment time-loss (start-up)	(2)Equipment time-loss (shut-down)	
(3-1)Utility time-loss (start-up)	✓ (3-2)Utility time-loss (shut-down)	
✓ (4)Specific consumption	✓ (5)Production loss time rate	
Energy-loss during standby/break time		
(1)Standby Energy-loss (equipment)	(2)Standby Energy-loss (utility)	
☑ (3)Break-time Energy-loss (equipment)	✓ (4)Break-time Energy-loss (utility)	
	OK Cancel	

Click items of the energy saving viewpoint you want to use for diagnosis to check the boxes and then click the **OK** button.

If you click the **Cancel** button or click the  $\times$  button to close the window, the setting will not be saved.

\*The default setting is all the boxes checked.

- \*If you change the settings after the operation starts, refer to [12.3 Operation for Setting Change about Diagnosis Function].
- \*It is impossible to set different settings for each diagnosis target (equipment).

# 7.3 Energy-Loss Diagnosis by Manual Operation

You will execute energy-loss diagnosis of the registered equipment from the Energy-loss diagnosis tab.

Eco	oAdviser - Diagn	osis					- 0	×
۲	Energy-loss d	iagnosis	Improvement result check					
2	Diagnosis	<ul> <li>Five</li> <li>Ene</li> </ul>	focusing points for energy saving rgy-loss during standby/break time	Detailed setting	Start 7/26/2020	Collection status check	Diagnosis panel	
	Diagnosis		Energy saving points		Diagnosis period	Diagnosis source data	Panel management	
6								
\$								

#### 7.3.1 Collecting the data used for diagnosis

The diagnosis requires diagnosis data from collection sources.

The diagnosis data from collection sources can be stored for 62 days.

If you want to diagnose data for more than 62 days, collect data and execute diagnosis several times.

For example, when you want to diagnose the data from Jun. 1, 2020 to Aug 31, 2020, collect and diagnose data two times: 1<sup>st</sup>: Jun. 1, 2020 to Jul. 31, 2020; 2<sup>nd</sup>: Aug. 1, 2020 to Aug. 31, 2020

Accordingly, before diagnosis execution, check that the diagnosis data from collection sources is stored for the period you want to diagnose.

#### Note

Diagnosis data from collection sources is 1-minute data collected from collection sources.
The storage period is for 62 days before the last collection day. Any expired data is deleted.
<Example 1> Data collection order: Nov. 1, 2019 to Dec. 31, 2019; Jan. 1, 2020 to Jan. 31, 2020 Storage period: Dec. 1, 2019 to Jan. 31, 2020 The data from Nov. 1, 2019 to Nov. 30, 2019 is deleted.
<Example 2> Data collection order: Dec. 1, 2019 to Jan. 31, 2020; Nov. 1, 2019 to Nov. 30, 2019 Storage period: Sep. 30, 2019 to Nov. 30, 2019 The data from Dec. 1, 2019 to Jan. 31, 2020 is deleted.
\* These are also true that if you collect 1-miniute data from multiple collection sources sequentially.
<Example 3>
First, Diagnosis data is collected from collection source 1 Jul. 1 to Aug. 31. Second, Diagnosis data is collected from collection source 2 Jul. 1 to Aug. 15.

This operation leads to the result that the data from Aug. 16 to Aug. 31 will be deleted.

To avoid this situation, diagnosis data is collected from collection source 2 first, and then diagnosis data is collected from collection source 1.

壁 EcoAdviser - Diagnosis  $\times$ ۲ Energy-loss diagnosis Improvement result check 1 \$ Start 7/26/2020 -٥I • Five focusing points for energy saving 2 Collection status check Diagnosis panel Diagnosis  $\bigcirc$  Energy-loss during standby/break time Detailed setting \* End 9/24/2020 Diagnosis Energy saving points Diagnosis period Panel management di.  $\bigcirc$ ¢

(1) Click the **Collection status check** button.

#### (2) The following window appears.

The diagnosis data from collection sources currently stored is displayed.

Any boxes with the checkmark represent that diagnosis data from collection sources is stored.

rver ID, Illection	1, BoardMa	2, MetalPart	talPart
29/2020			
/2020	1		
2/2020	1		
3/2020	1		
1/2020	~		
5/2020	~		
6/2020	<b>√</b>		
//2020	<b>√</b>		
3/2020	<b>√</b>		
0/2020	<b>√</b>		
0/2020	<b>√</b>		
1/2020	~		
2/2020	~		
3/2020	~		
4/2020	~		
5/2020			
6/2020	~		
7/2020	~		
8/2020	1		
9/2020	~		
20/2020	~		
21/2020	~		

When all the boxes are checked for the period you want to diagnose, move to [7.3.2 Setting the diagnosis].

If there is any box without the checkmark in that period, move to [5.1 Manual Collection] in order to collect data of the date from the collection source.

\*When there is even one data of the date, the box is checked. For diagnosis of the date, two-hour or more continuous serial data is required. Even if the box is checked, there is a case that the diagnosis result may not be displayed.

#### 7.3.2 Setting the diagnosis period

You will set the diagnosis period.

Select from the pulldown menus of **Start** and **End**.

EcoA	Adviser - Diagno	sis					- 0	×
۲	Energy-loss dia	gnosis Improv	vement result check					
	Diagnosis	<ul> <li>Five focusin</li> <li>Energy-loss</li> </ul>	g points for energy saving during standby/break time	Detailed setting	Start 7/26/2020 End 9/24/2020	Collection status check	Diagnosis panel	
	Diagnosis		Energy saving points		Diagnosis period	Diagnosis source data	Panel management	
© ■ ► *								
	Item	1			Deta	ils		
Star	rt		Set the sta	art da	te of the diag	gnosis perioc		
End			Set the en	d dat	e of the diag	nosis period		

\*It is possible to set max. 366 days for diagnosis period.

#### 7.3.3 Executing energy-loss diagnosis

You will execute energy-loss diagnosis.

Click the **Diagnosis** button to execute the diagnosis.

The result is displayed on the window. For details on how to check the result, refer to [7.4 Energy-Loss Diagnosis Result Check].

\*If you want to cancel the diagnosis midway, click the  $\times$  button on the upper right of the window to exit EcoAdviser. For details, refer to [3.1.2 Exiting EcoAdviser]. In such case, the diagnosis is not disabled and not saved.



# 7.4 Energy-Loss Diagnosis Result Check

This section explains how to check the result of energy-loss diagnosis or its operation.

🗳 EcoA	dviser - Diagnosis	– 🗆 X	
۲	Energy-loss diagnosis Impro	ement resu(1)	
	Diagnosis	points for energy saving putting standby/break time Detailed End 4/30/2020   Collection Detailed End 4/30/2020   Collection Diagnosis Database Detailed	
	(2) <sub>nosis</sub>	Energy saving points (3) Diagnosis period Diagnosis source data Panel management	
	Ranking of energy-loss by equip	er Diagnosis period : 3/1/2020-4/ Start Equipment name : Line-1_BoardManufacturingArea	
	Rank         ID         Equipment name           1         1         Line-1_Boar           0         0         Line 0	plot Date (1)Equipment (2)Equipment (3-1)Utility time-loss (start-up) (start-up) [Winutes] (Minutes) (Minu	
	3 3 Line-3_Boar	II 3/1/2020 II 3/2/2020 220 10 15 41 0.2032 7 ↓	
		Energy saving points : (1)Equipment time-loss (start-up)	(5)
		Energy-loss graph by energy saving point	
*		Auto-threshold: Standard      Manual-threshould: Save	(4)
		300 200 100 3/5/2020 6:27 AM 3/18/2020 6:26 AM 4/2/2020 6:56 AM 4/2/2020 6:56 AM 4/2/2020 6:56 AM 4/2/2020 6:56 AM 4/2/2020 6:56 AM	

No.	Item	Details	Reference
	Switching the	Select an energy saving viewpoint to display the result of	
(1)	energy saving	energy-loss diagnosis. Depending on the selected item, the	7.4.1
	viewpoint	display (2) to (5) on the window is changed.	
		Rank the equipment according to energy-loss.	
(2) Energy-loss worst		By selecting the equipment, the values of energy saving	742
(2)	ranking	viewpoint, the graph display of energy saving viewpoint, and	7.4.2
		the energy-loss factor diagnosis are displayed.	
(3) Value of energy saving viewpoint		Display the value of each energy saving viewpoint item for the	742
		equipment selected at the energy-loss worst ranking.	7.4.5
Graph display of		Display the graph of each energy saving viewpoint item for the	
(4)	energy saving	equipment selected at the energy-loss worst ranking.	7.4.4
	viewpoint		
(5)	Energy-loss	Rank the pre-set energy-loss factors in order of relevance with	745
(5)	factor diagnosis	energy-loss.	7.4.5

standby/break time

#### 7.4.1 Switching the energy saving viewpoint

You will switch the energy saving viewpoint from the radio button.

The result is displayed according to the setting set at [7.2 Energy-Loss Diagnosis Setting].

#### Select the energy saving viewpoint from the radio button.

The following is the window of five focusing viewpoints for energy saving.



#### The following is the window of energy-loss during the standby/break time.

standby/break time.



#### 7.4.2 Checking the energy-loss worst ranking

You will check the ranking for energy-loss by equipment.

Eporav loos d	liagnosis Im	provomont ros	sultchack							
Diagnosis			or energy saving andby/break time	Detailed E	tart 3/1/2020 nd 4/30/2020	<b>•</b>	Collection	Di	iagnosis	
Diagnosis		Energy sa	aving points	ootang	Diagnosis per	riod Di	agnosis source d	ata Panel I	management	
Ranking of en	Equipmer name	uipment D C nt	Diagnosis period : Equipment name : plot Date	3/1/2020-4/ Line-1_Board (1)Equipment time-loss (start-up)	anufacturingArea (2)Equipment time-loss (shut-down)	a (3-1)Utility time-loss (start-up)	(3-2)Utility time-loss (shut-down)	(4) Specific consumption	(5)Production loss time rate	
2	2 Line-2_B	oard	3/1/2020	[Minutes]	[Minutes]	[Minutes]	[Minutes]	[KWh/Piece]	[%]	
		ouru	3/2/2020					0.2032		
		E	Energy saving poir Energy-loss grat	nts : (1)E	quipment time-lo ng point	ss (start-up)		▼ Energy	loss factor diag	jno
			Auto-threshold	d: Standard	-	() Ma	anual-threshould:		Save	
			300 -	him	1-11			.1	Inte	

■ Saving the ranking table

The ranking table currently displayed is saved in the diagnosis panel. The saved panel is available on the dashboard.

(1) (	Click 监	🅗 (dashbo	pard icon)							
🖺 EcoA	dviser - Diagno	osis							- 🗆	×
۲	Energy-loss di	agnosis Improvemen	nt result check							
	Diagnosis	Five focusing poin     Energy-loss during	s for energy saving standby/break time setting		Start 3/1/2020  The first status check statu			Diagnosis panel		
	Ranking of ene	ergy-loss by equipment	gy saving points Diagnosis period : Equipment name :	3/1/2020-4 Line-1_Boa	Start ardManufacturingArea	a	agnosis source da	ta Paneir	nanagement	
	Rank ID	Equipment name 1 Line-1_Board 2 Line-2 Board	plot Date	(1)Equipm time-loss (start-up) [Minutes]	ent (2)Equipment time-loss (shut-down) [Minutes]	(3-1)Utility time-loss (start-up) [Minutes]	(3-2)Utility time-loss (shut-down) [Minutes]	(4)Specific consumption [kWh/Piece]	(5)Production loss time rate [%]	
	3	3 Line-3_Board	3/1/2020					0 2022		-
•			Energy saving poin	nts : (	1)Equipment time-lo	ss (start-up)		Energy-	loss factor diag	nosis
*			<ul> <li>Auto-threshold</li> <li>300</li> <li>200</li> <li>300</li> <li>315/2</li> <li>312/2020 7:57 AM</li> </ul>	d: Standard	3/18/2020 6:26 220 6:27 AM	— Ма Ам 4/2/ /26/2020 4:59 АМ	nual-threshould:	4/16/2020 6: 6:56 AM	Save	AM

#### (2) The following window appears.

Diagnosis	s panel list		$\times$
No.	Diagnosis panel name	Update time	
1	<empty></empty>		^
2	<empty></empty>		
3	<empty></empty>		
4	<empty></empty>		
5	<empty></empty>		
6	<empty></empty>		
7	<empty></empty>		
8	<empty></empty>		
9	<empty></empty>		
10	<empty></empty>		
11	<empty></empty>		
12	<empty></empty>		
13	<empty></empty>		
14	<empty></empty>		
15	<empty></empty>		
16	<empty></empty>		
17	<empty></empty>		
18	<empty></empty>		
19	<empty></empty>		
20	<empty></empty>		
21	<empty></empty>		
22	<empty></empty>		$\checkmark$
		Save Close	

- (3) Select the saving destination and then click the **Save** button.
- (4) The following window appears.

Enter a name to register the diagnosis panel and then click the  $\mathbf{OK}$  button.

Save		×
Input a diagnosi	s panel name.	
Panel		
	ОК	Cancel

(5) When the saving is completed, the window closes.

#### 7.4.3 Checking values of the energy saving viewpoint

You will check values of the energy saving viewpoint in the table.

#### ■ Table

The details of the table are describe as follows.

Diagno	sis period :	3/1/2020-4/30	/2020 (1)						
Equipment name : Line-1_BoardManufa			ManufacturingA	turingArea (2)				$\bigcirc$	
plot	Date	(1)Equipment time-loss (start-up) [Minutes]	(2)Equipment time-loss (shut-down) [Minutes]	(3-1)Utility time-loss (start-up) [Minutes]	(3-2)Utility time-loss (shut-down) [Minutes]	(4)Specific consumption [kWh/Piece]	(5)Production loss time rate [%]		
	3/1/2020							*	
	3/2/2020					0.2032	7		$(\Lambda)$
	3/3/2020	152	20	0	6				(4)
	3/4/2020		0		0				
	3/5/2020		13	-9		0.22755	15.1		
	3/6/2020	96	3	-11		0.18813	7.8		
	3/7/2020								
	3/8/2020								
	3/9/2020	100	16	8	25	0.22546	10.1	-	
No.	It	Item name		Details					
(1)	Diagnosi	agnosis period		Display the diagnosis period you set. For details, refer to [7.3					

(1)	Diagnosis period	Display the diagnosis period you set. For details, refer to [7.3.2].		
(2)	Equipment name	Display the equipment selected at the energy-loss worst ranking.		
(3)	Energy enving viewneint	Display items of the energy saving viewpoint you set. For details, refer		
	Energy saving viewpoint	to [7.2] or [7.4].		
(4)		Display each value*1 of the energy saving viewpoint.		
	Values	When there is any deterioration point*2 in the day, it is displayed in		
		red with underline.		

\*1: Each figure is displayed as a summed value in each category on each day, respectively (except for both the specific consumption and the production loss time rate).

\*2: This applies to only five focusing viewpoints for energy saving.

The deterioration point means the date with the amount of energy-loss equals to the threshold value or more. Even if without any energy-loss, however, the deterioration point might be identified, while the threshold value is set to be zero.

For details on how to set the threshold to determine any deterioration points, refer to [7.4.4].

■ Display of energy consumption/production volume graph

The energy consumption/production volume graph can be displayed for 366 days before the present time of the used computer in the diagnosis period.

\*Only one window is used to display the graph.

If you try to display several windows, the warning message will appear and the graph will not be displayed. In order to display the graph for the date that user specified, the diagnosis data of the same date must be stored. Furthermore, those data must be two-hour or more continuous serial data.



# (1) Click [1] (graph icon) next to the date where you want to display in the graph.

Diagnosis period :		3/1/2020-4/30/2020							
Equipment name :		Line-1_BoardManufacturingArea							
plot	Date	(1)Equipment time-loss (start-up) [Minutes]	(2)Equipment time-loss (shut-down) [Minutes]	(3-1)Utility time-loss (start-up) [Minutes]	(3-2)Utility time-loss (shut-down) [Minutes]	(4)Specific consumption [kWh/Piece]	(5)Production loss time rate [%]		
	3/1/2020							1	
	3/2/2020					0.2032	7		
	3/3/2020	152	20	0	6				
	3/4/2020		0		0				
	3/5/2020		13	-9		0.22755	15.1		
	3/6/2020	96	3	-11		0.18813	7.8		
	3/7/2020								
	3/8/2020								
li	3/9/2020	100	16	8	25	0.22546	10.1	-	
#### (2) The following window appears.



The following table shows the items for graph operation.

Item	Details
Vertical axis	Display the graph scale. The vertical axis has two types:
	ullet Display the graphs of energy measuring point and utility measuring point with
	different vertical axes. *Default
	<ul> <li>Display the graphs with one vertical axis.</li> </ul>
	When the vertical axis is displayed for each graph, the graph display order is
	energy measuring point, utility measuring point, and production volume from the
	left.
	*By clicking the <b>Switching the vertical axis</b> button, change the display style.
Horizontal axis	Display the day aggregation period (hour) from the date to the next day.
	*The sampling interval of the graph is 1 minute.
Switching the	Switch the display style of the vertical axis.
vertical axis	

■ Saving values of the energy saving viewpoint

The table of the energy saving viewpoint currently displayed table is saved in the diagnosis panel. The saved panel is available on the dashboard.



#### (2) The following window appears.

N0.	Diagnosis panel name	Update time	
1	<empty></empty>		^
2	<empty></empty>		
3	<empty></empty>		
4	<empty></empty>		
5	<empty></empty>		
6	<empty></empty>		
7	<empty></empty>		
8	<empty></empty>		
9	<empty></empty>		
10	<empty></empty>		
11	<empty></empty>		
12	<empty></empty>		
13	<empty></empty>		
14	<empty></empty>		
15	<empty></empty>		
16	<empty></empty>		
17	<empty></empty>		
18	<empty></empty>		
19	<empty></empty>		
20	<empty></empty>		
21	<empty></empty>		
22	<empty></empty>		~

- (3) Select the saving destination and then click the **Save** button.
- (4) The following window appears.

Enter a name to register the diagnosis panel and then click the **OK** button.

Save	×
Input a diagnosis panel name.	
Panel	
OK Cancel	

(5) When the saving is completed, the window closes.

### 7.4.4 Displaying the energy saving viewpoint in the graph

The diagnosis result is displayed in the graph for the selected energy saving viewpoint.

When you select the setting of five focusing viewpoints for energy saving, the energy-loss factor diagnosis is displayed. For details, refer to [7.4.5].

#### ■ Advice for energy saving

When you select the energy-loss during the standby/break time, the energy saving result and the energy saving tips are displayed.

The energy saving result is displayed as follows:

•Conversion amount [\*\*\* /year]: XX

•\*\*\* represents the currency unit and XX is the amount of conversion of energy-loss set at [4.2.4].



#### Detailed graph

The graph display varies depending on a selected item of the energy saving viewpoint.



When you select the five focusing viewpoints for energy saving, the values are displayed in the blue bar graph and the threshold is displayed with the orange line.

The point at the threshold or more is recorded as a deterioration point.

To set, select or input the threshold and then click the **Save** button.

If the threshold is zero, it may be extracted as a deterioration point even if there is actually no energyloss.

\*To change the setting after the operation starts, refer to [12.3 Operation for Setting Change about Diagnosis Fucntion].

Sett	ing item	Details
Automated-	High	The threshold is automatically calculated using the data.
threshold	Standard *Default	When you want to extract more deterioration points, set to
	Low	High. For less extraction, set to Low.
Manual-threshold		Input any value to set the threshold.
*Setting range: -	99999999999999999999 to	
999999999999999	99	

When the saving is completed, the following message appears.

EcoAdviser	$\times$
The threshold has been savedsuccessfully Press the Diagnosis button to enable chan	/. Iges.
<u>K</u>	

#### 7.4.5 Checking the energy-loss factor diagnosis result

This function can be used when you select the setting of five focusing viewpoints for energy saving.

For the target energy saving viewpoint, the energy-loss factors are displayed in the ranking or in the graph. By analyzing the result, you can effectively take action to improve energy-loss.



#### Checking the ranking table

The following example explains how to check the energy-loss factor diagnosis result.

Some energy-loss factors may not be displayed in this ranking table because the following reason.

The lack of, or insufficient number of data regarding the energy-loss factor(detail) can lead to the result which has no reliable correlation.

Item	Details
Rank	Rank in order of relevance.
	*For details on the ranking, refer to [■Evaluation standard of
	ranking] on the next page.
Energy-loss factor (type)	Indicate the energy-loss factor.
Energy-loss factor (detail)	Indicate detailed data of the energy-loss factor.
Expected improvement result	Indicate an expected result when you have improved the energy-loss.
Does this information help you?	Evaluate the advice.
	For details on the evaluation, refer to [■Evaluation standard of
	ranking] on the next page.

Energy-los	s factor diagnosis					$\times$
Diagnosis p Equipment n Energy savin	eriod: 3/1/2020 - 4/30/2020 ame: Line-1_BoardManufacturir g points: (1)Equipment time-los	ngArea s (start-up)				$\bigcirc$
Rank	Energy-loss factor (type)	Energy-loss factor (detail)	Expected improved result[\$/Year]	Does this in help you ?	nformatio	n
1	Manufacturing starting time	9[Time]	1,344	O Yes	O No	
2	Production volume (the previ	210~420[Piece]	1,477	⊖ Yes	⊖ No	
3	Equipment start-up time	4[Time]	1,077	O Yes	O No	
4	Production volume	424~467[Piece]	734	⊖ Yes	⊖ No	
5	Day of the week	Thursday	2,462	() Yes	O No	
+				Apply eva	aluation	

Rank	details
1	If you improve the equipment time-loss (start-up) from 9 to 10 o'clock, the cost can be reduced by \$1,344 per year.
2	If you improve the equipment time-loss (start-up) of the production volume (the previous day) 210 to 420 pieces, the cost can be reduced by \$1,477 per year.
3	If you improve the equipment time-loss (start-up) from 4 to 5 o'clock, the cost can be reduced by \$1,077 per year.
4	If you improve the equipment time-loss (start-up) of the production ranging 424 to 467 pieces, the cost can be reduced by \$734 per year.
5	If you improve the equipment time-loss (start-up) on Thursday, the cost can be reduced by \$2,462 per year.

■ Evaluation standard of ranking

EcoAdviser ranks energy-loss factors based on the possibility of energy-loss diagnosed by EcoAdviser and the evaluation by the user.

To reflect your evaluation to EcoAdviser, click the **Apply to evaluation** button to close the window. Otherwise, your evaluation will not be reflected.

If you want to cancel the selection, click the selected radio button.

Energy-los	s factor diagnosis						$\times$
Diagnosis p Equipment n Energy savin	eriod: 3/1/2020 - 4/30/2020 iame: Line-1_BoardManufacturir ig points: (1)Equipment time-los	ngAre ss (st	ea art-up)				Ō
Rank	Energy-loss factor (type)	En (de	ergy-loss factor tail)	Expected improved result[\$/Year]	Does this i help you ?	informatio	'n
1	Manufacturing starting time	9[T	ime]	1,344	O Yes	O No	
2	Production volume (the previ	210	)~420[Piece]	1,477	() Yes	O No	
3	Equipment start-up time	4[T	ime]	1,077	O Yes	⊖ No	
4	Production volume	424	4~467[Piece]	734	⊖ Yes	⊖ No	
5	Day of the week	Thu	ursday	2,462	O Yes	⊖ No	
+					Apply ev	aluation	
Ansv	ver selection			Details			
Yes			Raise the	e evaluatio	n		
No		Lower th	e evaluatio	on			
No se	lection		No chang	ge in evalu	ation		

#### ■ Switching the ranking display

By clicking the + or – button, you can switch the display of the sixth factor and later.

Energy-los	s factor diagr	nosis					×
Diagnosis p Equipment n Energy savin	eriod: 3/1/2020 iame: Line-1_B ig points: (1)Eq	- 4/30/2020 IoardManufacturin uipment time-Ios:	ngArea s (start-up)				
Rank	Energy-loss fa	ctor (type)	Energy-loss factor (detail)	Expected improved result[\$/Year]	Does this help you ?	informatio	on
1	Manufacturing	starting time	9[Time]	1,344	○ Yes	O No	
2	Production volu	ume (the previ	210~420[Piece]	1,477	⊖ Yes	⊖ No	
3	Equipment sta	rt-up time	4[Time]	1,077	() Yes	⊖ No	
4	Production volu	ume	424~467[Piece]	734	() Yes	⊖ No	
5	Day of the wee	k	Thursday	2,462	⊖ Yes	⊖ No	
+					Apply e	valuation	
But	ton		De	etails			
4	F	Displa	y the sixth i	factor and	later		
-	-	Hide t	he sixth fac	tor and lat	er.		

#### ■ Saving the ranking table

The ranking table currently displayed is saved in the diagnosis panel.

The panel is available on the dashboard.

Energy-lo:	ss factor diagnosis					$\times$
Diagnosis ( Equipment Energy savi	beriod: 3/1/2020 - 4/30/2020 name: Line-1_BoardManufacturir ng points: (1)Equipment time-los	ngArea s (start-up)				Q
		Energy-loss factor	Expected improved	Dooo thio in	aformatic	n
Rank	Energy-loss factor (type)	(detail)	result[\$/Year]	help you ?	normatic	
Rank	Energy-loss factor (type) Manufacturing starting time	(detail) 9[Time]	result[\$/Year]	help you ? Yes	O No	
Rank 1	Energy-loss factor (type) Manufacturing starting time Production volume (the previ	(detail) 9[Time] 210~420[Piece]	result[\$/Year] 1,344	Ores of the provide states of the provide st	O No O No	
Rank 1 2	Energy-loss factor (type) Manufacturing starting time Production volume (the previ Equipment start-up time	(detail) 9[Time] 210~420[Piece] 4[Time]	result[\$/Year] 1,344 1,477 1,077	Ves Yes Yes	<ul> <li>No</li> <li>No</li> <li>No</li> <li>No</li> </ul>	
Rank 2 2	Energy-loss factor (type) Manufacturing starting time Production volume (the previ Equipment start-up time Production volume	(detail) 9[Time] 210~420[Piece] 4[Time] 424~467[Piece]	1,344 1,477 1,077 734	Does this if help you ? Yes Yes Yes Yes	No No No No	

#### (2) The following window appears.

No.	Diagnosis panel name	Update time	
1	<empty></empty>		^
2	<empty></empty>		
3	<empty></empty>		
4	<empty></empty>		
5	<empty></empty>		
6	<empty></empty>		
7	<empty></empty>		
8	<empty></empty>		
9	<empty></empty>		
10	<empty></empty>		
11	<empty></empty>		
12	<empty></empty>		
13	<empty></empty>		
14	<empty></empty>		
15	<empty></empty>		
16	<empty></empty>		
17	<empty></empty>		
18	<empty></empty>		
19	<empty></empty>		
20	<empty></empty>		
21	<empty></empty>		
22	<empty></empty>		~

- (3) Select the saving destination and then click the **Save** button.
- (4) The following window appears.

Enter a name to register the diagnosis panel and then click the **OK** button.

Save		×
Input a diagnosi	is panel name.	
Panel		
	ОК	Cancel

(5) When the saving is completed, the window closes.

#### Advice

The advice is displayed regarding the energy-loss factor selected in the ranking table.

Energy-los	s factor diagnosis					$\times$
Diagnosis p Equipment n Energy savin	eriod: 3/1/2020 - 4/30/2020 iame: Line-1_BoardManufacturir ig points: (1)Equipment time-los	igArea s (start-up)				$\bigcirc$
Rank	Energy-loss factor (type)	Energy-loss factor (detail)	Expected improved result[\$/Year]	Does this in help you ?	formatio	n
1	Manufacturing starting time	9[Time]	1,344	O Yes	O No	
2	Production volume (the previ	210~420[Piece]	1,477	() Yes	⊖ No	
3	Equipment start-up time	4[Time]	1,077	() Yes	⊖ No	
4	Production volume	424~467[Piece]	734	() Yes	⊖ No	
5	Day of the week	Thursday	2,462	⊖ Yes	O No	
				Annhuaua	luction	
				Apply eva	luation	_
<tips> Using ByMa statuses wh Then you ca</tips>	nufacturing starting time Equipm nich losses are high and low. In find some energy-saving activi	ent time-loss (start-up)(ave ies.	rage) graphs, you can co	mpare opera	tional	< >

■ Graph display of energy-loss factor

When you click the energy-loss factor in the ranking table, the corresponding five focusing viewpoints for energy saving data is displayed in the graph.



The first graph shows the data distribution and the average value of the five focusing viewpoints for energy saving regarding the energy-loss factor.

The horizontal axis shows the energy-loss factor (detail), and the vertical axis shows the average value of the five focusing viewpoints for energy saving.

n=X, which is any number, displayed above the bar graph represents the number of data of energy-loss factor (detail).

The second graph shows the data of the five focusing viewpoints for energy saving regarding the energyloss factor (detail)selected in the ranking table.

The value of the five focusing viewpoints for energy saving is displayed in the bar graph, and the threshold value shown as the deterioration point value is displayed in the orange line.

Five focusing viewpoints for energy saving	Details of graph
(1) Equipment time-loss (start-up)	Data is displayed for when the energy saving viewpoint you set
(2) Equipment time-loss (shut-down)	is measured. The time without data is not displayed.
(3-1) Utility time-loss (start-up)	· Display interval: every minute
(3-2) Utility time-loss (shut-down)	
(4) Specific consumption	Display interval: Day
(5) Production loss time rate	

#### Note

Some energy-loss factors whose five focusing viewpoints have high average value tend to be easily picked up in ranking table. Although, if some energy-loss factors have one or more following facts, they might not be displayed in there.

- Insufficient number of corresponding data
- Already applied to the evaluation, "Does this information help you?"
- Some extremely high or large values make the average bigger

# 7.5 Improvement Result Check

By clicking the **Improvement result check** tab, you can check the improvement result for energy saving activities. The two graphs of energy consumption and energy saving viewpoint shows the comparison before and after improvement by equipment.

EcoA	dviser - Diagnosis	-	×
۲	Energy-loss diagnosis	Improvement result check	
	Result check	i 7/27/2020 ▼ Start 8/26/2020 ▼ 8/25/2020 ▼ End 9/24/2020 ▼ Before improved After improved panel	
	Result check	Diagnosis period Panel management	
	ID         Equipment name           1         Line-1_BoardManu           2         Line-2_BoardManu           3         Line-3_BoardManu	facturin ifacturin ifacturin	
		:	
\$			
	¢	>	

#### 7.5.1 Checking the improvement result

You will check the improvement result.

(1) Select the diagnosis period from the pulldown menu.

\*If you include the date of no energy-loss diagnosis execution, the result of the date will be displayed in blank.

🔝 EcoA	dviser - Diagnos	is					_		$\times$
۲	Energy-loss diag	nosis Imp	rovement result	check					
	Result check	Start 7/27/ End 8/25/2 Befo	2020 2020 re improved	Start         8/26/2020         •           End         9/24/2020         •           After improved         •	Diagnosis panel				
	Result check		Diagr	iosis period	Panel management				
Item					Deta	ils			
Befor	re improve	ement	Start	Set max. 365 da	avs for the pe	riod			
End					ayo for the pe				
			End	*The start day r	nust be set to	a day before the e	end	day.	
After	improven	nent	End Start	*The start day r Set max. 365 da	must be set to ays for the pe	$\frac{1}{2}$ a day before the error of the err	end	day.	_

(2) Click the **Check result** button.

The graph is displayed for the set period.

EcoA	dviser - Diagnosis		×
۲	Energy-loss diagnosis	s Improvement result check	
2	Result check Result check	art 3/1/2020	
	ID Equipment name 1 Line-1_BoardMan 2 Line-2_BoardMan 3 Line-3_BoardMan	Equipment name : Line-1_BoardManufacturingArea Energy consumption Macturin nufacturin 1//2020 - 3///2020 - 4//30/201 3///2020 - 4//30/201 3///2020 - 4//30/201 3///2020 - 4//30/201 3///2020 - 4//30/201 	020 20
\$	٢	Energy saving points :Five focusing points for saving energy	

#### 7.5.2 Switching the display of improvement result

You will switch the graphs displayed on the **Improvement result check** tab to the ones of any energy saving viewpoint item of any equipment.

(1) Select the equipment you want to display in the graph from the table on the left of the window.

Energy-1055 diagn
Result check Result check
ID Equipment n: 1 Line-1_Board 2 Line-2_Board 3 Line-3_Board

(2) The graphs of energy consumption and energy saving viewpoint of the selected equipment are displayed.



Item	Details
Total before	Indicate the total value of energy consumption before improvement activities.
improvement	It is a sum of energy measuring point and utility measuring point before improvement
	for the period. The number of decimal places is displayed according to energy
	measuring point or utility measuring point, whichever is larger.
	*If you save the graph in the diagnosis panel and view it on the dashboard, total before
	improvement will not appear.
Total after	Indicate the total value of energy consumption after improvement activities.
improvement	It is a sum of energy measuring point and utility measuring point after improvement
	for the period. The number of decimal places is displayed according to energy
	measuring point or utility measuring point, whichever is larger.
	*If you save the graph in the diagnosis panel and view it on the dashboard, total after
	improvement will not appear.
Reduced	Indicate the reduced energy consumption through improvement activities.
energy	It is a value that the sum of energy measuring point and utility measuring point after
consumption	improvement is subtracted from the sum of the measuring points before improvement.
	The unit is the same as energy measuring point.
	The number of decimal places is displayed according to energy measuring point or utility
	measuring point, whichever is larger.
Reduced cost	Indicate the reduced cost through improvement activities.
	It is a sum of reduced energy consumption multiplied by the electricity rate (integer
	value).
	For the electricity rate, refer to [4.2.4 Setting the electricity rate].

(3) Select an item of the energy saving viewpoint to display in the graph from the pulldown menu.

						-						· ·	
🖺 EcoA	dviser - Diagnos	is									-		×
۲	Energy-loss diag	nosis Imp	rovement res	ult check									
	~	Start 3/1/2	020	▼ Start	t 4/1/2020	-	2.3						
	Result	End 3/31/2	020	▼ End	4/30/2020	*	Diagnos	is					
	check	Befor	e improved		After improved	d	panel						
	Result check		Dia	ignosis per	iod		Panel manag	jement					
	ID Equipment	name	Equip	ment name	e : Line-1	BoardMa	anufacturingArea						
$\bigcirc$	1 Line-1_Boar	rdManufacturir	Energ	gy consump	otion								$\odot$
	3 Line-3_Boar	rdManufacturir	800	:	_					Before in	mproved 3/1/	2020 - 3/3	1/2020
			600 400				ulli . Li			After imp	proved 4/1/2	120 - 4/30/	2020
			200	<b></b>									
			0	1,000,00									
			3/1/	3/6/2 2020,4/1/202	2020,4/6/2020 20 3/11/2020,	3/16/20 4/11/2020,	20,4/16/2020 3/21/2020,4/	3/26/2020,4 (21/2020	4/26/2020 3/31/2020				
				Total befor	e improved[kWh	]: 12,	,378.8115	Reduced	energy[kWh]	-38.9142	2		
				Total after i	improved[kWh] :	12,41	17.7257	Reduced	cost[\$]: -	389			
											_		
-			Ener	gy saving p	oints :	Five for	cusing points for	saving ene	ergy	-			$\bigcirc$
			Sel	ect the ener	gy saving point t	o display	from the pull-dov	wn menu.			_		
	<	>											

(4) The <u>c</u>	graph of	the selected item is displayed on the bottom of the window.
EcoAdviser - D		
Result of Result	Ult ck check	1/2020 • Start 4/1/2020 • 1/2020 • End 4/30/2020 • End 4/30/2020 • End After improved After improved panel Diagnosis period Panel management
ID Equ	ipment name	Equipment name : Line-1_BoardManufacturingArea
1 Line     2 Line	e-1_BoardManufac e-2_BoardManufac	turin Energy consumption
3 Line	e-3_BoardManufac	Before         Improved 3/1/2020 - 3/31/2020           400         After improved 4/1/2020 - 4/30/2020
		3/6/2020,4/6/2020 3/16/2020,4/16/2020 3/26/2020,4/26/2020 3/1/2020,4/12/2020 3/11/2020,4/11/2020 3/21/2020,4/21/2020 3/31/2020
		Total before improved[kWh]:     12,378.8115     Reduced energy[kWh]:     -38.9142       Total after improved[kWh]:     12,417.7257     Reduced cost[\$]:     -38.9
*		Energy saving points : (1)Equipment time-loss (start-up)
K		Before improved 3/1/2020 - 3/31/2020 After improved 3/1/2020 - 3/31/2020 3/6/2020,4/6/2020 3/16/2020,4/16/2020 3/26/2020 3/12/2020,4/11/2020 3/11/2020,4/21/2020 3/21/2020 Total before improved[Minutes]: 2,496 Improved value[Minutes]: 339 Total after improved[Minutes]: 2,157
Ite	m	Details
Total bef	fore	Indicates the total value before improvement activities and the total value after
improve	ment/	improvement activities for energy saving viewpoint
Total aft	er	The value varies depending on the item of the energy saving viewpoint as follows
improve	mont	Production loss time rate
mprover	mene	Sum of the time of no production from production start to production and ( sum
		of the time from production start to production start to production end y sum
		Upit: 94
		• Chasific consumption
		• Specific consumption
		Units area as as as the unit of the answer as insuration volume (during the period)
		• Other items of the energy saving viewpoint
		•Other items of the energy saving viewpoint
		•Sum of the item of the energy saving viewpoint (during the period)
		The number of decimal places and the unit are the same as the energy saving
		viewpoint.
		*If you save the graph in the diagnosis panel and view it on the dashboard, total
		before improvement will not appear.
Improve	d	Indicates the amount of energy-loss improved through improvement activities.
value		The value is that total after improvement is deducted from total before improvement.
		The number of decimal places is the same as total before improvement and total after
		improvement.
		The unit is point for production loss time rate.
		For other items of the energy saving viewpoint, the unit is the same as total before
		improvement and total after improvement.

#### 7.5.3 Saving the graph in the panel

Each graph currently displayed is saved in the diagnosis panel.

The saved panel is available on the dashboard.



#### (2) The following window appears.

No.	Diagnosis panel name	Update time	
1	<empty></empty>		^
2	<empty></empty>		
3	<empty></empty>		
4	<empty></empty>		
5	<empty></empty>		
6	<empty></empty>		
7	<empty></empty>		
8	<empty></empty>		
9	<empty></empty>		
10	<empty></empty>		
11	<empty></empty>		
12	<empty></empty>		
13	<empty></empty>		
14	<empty></empty>		
15	<empty></empty>		
16	<empty></empty>		
17	<empty></empty>		
18	<empty></empty>		
19	<empty></empty>		
20	<empty></empty>		
21	<empty></empty>		
22	<empty></empty>		~

- (3) Select the saving destination and then click the **Save** button.
- (4) The following window appears.

Enter a name to register the diagnosis panel and then click the **OK** button.

Save	×
Input a diagnosis panel name.	
Panel	
OK Cancel	

(5) When the saving is completed, the window closes.

## 7.6 Other Function

#### 7.6.1 Managing the diagnosis panels

When you click the **Diagnosis panel** button, the window starts up to display a list of saved diagnosis panels. This list window is used for managing the panels such as changing the panel name or deleting the panel.



#### ■ Changing the diagnosis panel name

(1) Select a diagnosis panel to change the name and then click the **Change** button.

	Diagnosis panel name	Updated time
1	Line-1_FiveFocusingPointTable	9/25/2020 7:28:02 PM
2	Line 1_ImprovementRealt	0/25/2020 7:20:54 PM
3	<empty></empty>	
4	<empty></empty>	
5	<empty></empty>	
6	<empty></empty>	
7	<empty></empty>	
8	<empty></empty>	
9	<empty></empty>	
10	<empty></empty>	
11	<empty></empty>	
12	<empty></empty>	
13	<empty></empty>	
14	<empty></empty>	
15	<empty></empty>	
16	<empty></empty>	
17	<empty></empty>	
18	<empty></empty>	
19	<empty></empty>	
20	<empty></empty>	
21	<empty></empty>	
22	<empty></empty>	
23	<empty></empty>	
24	<empty></empty>	
25	<empty></empty>	
26	<empty></empty>	
27	<empty></empty>	
28	<empty></empty>	
29	<emntv></emntv>	

(2) The following window appears.

Change the name and then click the **OK** button.

Edit	×
Input a diagnosis panel name.	
Line-1_FiveFocusingPointTable	
OK Cancel	

#### ■ Deleting the diagnosis panel

(1) Select a diagnosis panel to delete and then click the **Delete** button.

	Diagnosis panel name	Updated time	
j 1	Line-1_FiveFocusingPointTable	9/25/2020 7:28:02 PM	
2	Line 4_ImprovementRealt	0/25/2020 7:20:54 PM	_
3	<empty></empty>		
4	<empty></empty>		
5	<empty></empty>		
6	<empty></empty>		
7	<empty></empty>		
8	<empty></empty>		
9	<empty></empty>		
10	<empty></empty>		
11	<empty></empty>		
12	<empty></empty>		
13	<empty></empty>		
14	<empty></empty>		
15	<empty></empty>		
16	<empty></empty>		
17	<empty></empty>		
18	<empty></empty>		
19	<empty></empty>		
20	<empty></empty>		
21	<empty></empty>		
22	<empty></empty>		
23	<empty></empty>		
24	<empty></empty>		
25	<empty></empty>		
26	<empty></empty>		
27	<empty></empty>		
28	<empty></empty>		
29	<emntv></emntv>		

(2) The following message appears.

Click the **Yes** button to delete the diagnosis panel.

EcoAdviser	$\times$
Are you sure you want to delete diagnosis panel ?2 : Line-1_Improvement	Reslt
<u>Y</u> es <u>N</u> o	

# 8. Graph

This chapter explains how to create a graph and a graph panel displayed on the dashboard and to analyze data using the created graph.

Cherk	unc	010	up ii	Dut	con	000	inc		- grup	/// vv///	10000	•				
🜃 EcoA	dviser -	Graph												-		×
۲				R	Ŀ	1	31		Start time		-	-	T		•	
di la	New	Open	Save	Delete	Hour	Day	Month	Year	End time		-	Ŧ	Data extraction	Item selection panel display	<u>a</u> ,	
		Fi	le			Displa	interval			Display p	eriod			Item select	Edit	
$\bigcirc$																
9																
\$																

Click the **Graph** button to enter the graph window.

# 8.1 Creation/Saving of Graph Panel

This section describes necessary information on how to create a graph panel. The following shows the procedures to create the panel.

New graph creation	Create a new graph panel.
$\downarrow$	
Graph saving	Save the graph panel.

#### 8.1.1 How to create the graph

From the **New** button, a graph will be created.

\*A maximum of 4 graphs can be displayed at one time.

#### (1) Click the **New** button.

🜃 Eco/	Adviser - Graph				-		×
۲	New Open Save Delete	LIIIIHourDayMonthYear	Start time	T Data extraction	Item selection	•	
	File	Display interval	Display period		Item select	Edit	
$\bigcirc$							
8							
₽							

(2) The following window appears.

Select a graph you want to create and then click the **Next** button.

For details on the analysis method (graph type), refer to the below table.



Analysis method (Graph type)	Details	Analysis method (Graph type)	Details
Image: constrained of the second of the se	Used at comparing data change in time transition.	Understand         Biological Statute           Scatter plot         Biological Statute	Used at examining the relationship (correlation) between two measuring points.
how provide the second	Used at comparing the variation/stability of data.	Histogram	By dividing the range from the maximum value to the minimum value during display period into equal parts according to partition number, the distribution of measuring data is displayed by division. Used at checking the distribution of measuring data.
Pie chart	Used at checking the percentage of measuring data. *1	<figure></figure>	Used at checking the cumulative ratio of size of measuring data. *1 *2
Rank chart	Used at comparing the size and rank of measuring data. *1		

 $^{\ast}$  1: It is not possible to register measuring points whose measuring type is power factor.

In addition, do not register measuring points with a negative value.

\*2: The aggregation range of each stacked graph in the histogram is as follows. (N is measuring point data.)

a-b (a $\leq$ N $\leq$ b), b-c (b $\leq$ N $\leq$ c), c-d (c $\leq$ N $\leq$ d), …, r-s (r $\leq$ N $\leq$ s), s-t (s $\leq$ N $\leq$ t)

(3) The following window appears.

\*The window is an example for selecting Time series chart at the graph type.

Select an analysis viewpoint and then click the **Next** button.

For details on the selection for analysis viewpoint, refer to the following table.

Create a new graph			$\times$
Method selection	Viewpoint selection	Item selection	
Select the analysis viewpoint			
Analysis method (graph type): Time Series Chart			
Item (X axis): Time	Comparison meth	od: Iring point comparison) 🗸	]
	Back	Next Cancel	

Analysis method (Graph type)	Analysis viewpoint	Number of measuring points
Time series	Item (X axis) : Time	12 points
chart	Comparison method: Item (Measuring point comparison) *1	
	Item (X axis) : Time	1 point
	Comparison method: Item (Date comparison) *1	
Box plot	Comparison method: Item (Measuring point comparison) *1	12 points
	Comparison method: Item (Date comparison)	1 point
Pie chart	Comparison method: Item (Measuring point comparison) *2	12 points
	Comparison method: Item (Date comparison) *1	1 point
Rank chart	Comparison method: Item (Measuring point comparison) *2	12 points
	Comparison method: Item (Date comparison) *1	1 point
Scatter plot	X axis: Measuring point	1 point for each
	Y axis: Measuring point	
Histogram	Division number (Select from 5, 10, 15, or 20)	1 point
Pareto chart	Comparison method: Item (Measuring point comparison) *2	12 points
	Comparison method: Item (Date comparison) *1	1 point

Displayed data varies depending on the measuring point and measuring type.

\*1: When measuring type is Analog value or for specific consumption measuring point, data by the display interval shows.

When measuring type is Pulse or for product type time period measuring point, accumulated data by the display interval shows.

\*2: When measuring type is Analog value or for specific consumption measuring point, the first data of the display period shows.

When measuring type is Pulse or for product time period measuring point, accumulated data of the display period shows.

(4) The following window appears.

Drag and drop a measuring point from the measuring point list to the item box to display in the graph.

For the number of registrations of measuring points, refer to the previous table.

- From the  $|\cdots|$  button to the right of the measuring point, you can perform the following operations.
- Delete: Delete a measuring point in the item box
- $\cdot\,$  Change graph type: Change the displayed graph type.

\*This is available for time series chart.

The following is the window of selecting [item (date comparison)] at the analysis viewpoint.

Create a new graph	×
Method selection $ ightarrow$ Viewpoint se	election Item selection
Select the details and scope of the display item.	Measuring point list
Analysis method (graph type): Time Series Chart Item (X axis): Time Comparison method: Item (date Drag and drop	All measuring points    Measuri Unit
Item Drag measuring points here from Mesureing point list.	002_Assembly Line 1st           002_0001: Machine_A'(A)           002_0002: Machine_A'(KW)           002_0003: Machine_A'(KW)           002_0003: Machine_A'(KW)           Public           KWh           Change graph type           he_B(A)           Analog v           Analog v           KWh           Delete           ye_B(KWh)           Puble           wold           002_000: Machine_C(A)           Analog v           Analog v           KWh           002_000: Machine_C(A)           Analog v           Analog v           KW           - 002_000: Machine_C(KW)           Analog v           KW           - 002_000: Machine_C(KW)           Analog v           KW           - 002_000: Machine_C(KW)           Analog v           KWh           - 002_000: Machine_C(KW)           Analog v           KWh           - 002_000: Machine_C(KW)
Range	- 002_0011_Wachine_D(kW) - 002_0012: Wachine_D(kWh - 002_0013: Wachine_E(kWh
Display interval           Day         •           Display period         Number of display period         1 •           No.         Start time         End time           1         3/13/2019         4/25/2019	002_001: Machine_F-2(k)         Analogy         LW           002_002         Delete the measuring point           002_001: Machine_F-1(k         Pulse         KWh           002_001: Machine_F-2(k).         Analog v         KW           002_002: Machine_F-2(k         Pulse         KWh           002_002: Machine_F-2(k         Pulse         KWh
	Back OK Cancel

#### (5) Set the displayed range and then click the **OK** button.

Item	Details						
Display interval	Select a display interval for measuring data from the pull-down menu.						
	*When the analysis method is Box plot, this setting is not available.						
	The display interval is Hourly.						
	•Hour •Day •Month •Year						
The number of	When the analysis method and analysis viewpoint are Time series chart and Item						
display period	(date comparison) respectively, this setting is available.						
	Select the number of display period from the pull-down menu.						
	The selectable range: 1 to 3						
Display period	Set the Start time and End time from the pull-down menu to specify the display						
	period.						
	The maximum range varies depending on the display interval settings.						
	Hourly : 7 days (168 hours) *In the case of the box plot, it is 31 days.						
	Day : 365 days						
	Month : 120 months						
	Year : 10 years						

#### Note

- The display period of the box plot is specified by date. However, the start time of the day is 0 o'clock regardless of the Day Aggregation Period.
- When the analysis method and analysis viewpoint are Time series chart and Item (date comparison) respectively, the graph is displayed based on the following points:
- •The horizontal axis of graph is based on the longest display period.
  - \*The date of the axis is displayed based on the Display period No.1.
- •Each graph is displayed aligning to the left.
- •When the measuring point is Pulse, the measured value and accumulated value are displayed.
- \*The graph type can be changed for measured value only.

(6) The graph is displayed.

This is the end of the operation.



#### 8.1.2 How to save the graph

From the **Save** button, a graph will be saved.

\*If you want to delete without saving, do not execute the following operation.

Click the **X** button to close the graph window.

\*Save a graph when it is properly displayed.

Bad example: a pie chart where measuring points with a negative value have been registered.



(1) Click the **Save** button and then select **Save as**.

When you have opened an existing graph, select **Save** to overwrite it. This is the end of the operation for overwrite save.



(2) The following window appears.

Specify the saving location and then click the **Save** button.

		Save	e Close	
	22	Electric Bill	4/17/2019 1:57:30 PM	~
a 1 1	21	Air Conditioner Proportion	4/17/2019 1:56:39 PM	
	20	<empty></empty>		
	19	<empty></empty>		
	18	<empty></empty>		
	17	<empty></empty>		
	16	<empty></empty>		
	15	<empty></empty>		
	14	<empty></empty>		
80	13	Correlation analysis	4/17/2019 1:55:26 PM	
0	12	kWh 2nd Line	4/17/2019 1:54:56 PM	
	11	kWh 1st Line	4/17/2019 1:54:36 PM	
5	10	DOWN_2nd Line	4/17/2019 1:54:09 PM	
	9	DOWN_1st Line	4/17/2019 1:53:46 PM	
	8	Machine_F-3_Sp.Cons	4/17/2019 1:53:22 PM	
00	7	Machine_F-3_DOWN	4/17/2019 1:52:52 PM	
	6	Assembly Line Output_Week	4/17/2019 1:52:15 PM	
00	5	Assembly Line Sp.Cons Hourly	4/17/2019 1:50:52 PM	
00	4	Assembly Line Output [Piece]	4/17/2019 1:50:12 PM	
¢¢	3	Dispersion of Sp.Cons_2nd Line	4/17/2019 1:49:29 PM	
¢ <b>ļ</b>	2	Dispersion of Sp.Cons_1st Line	4/17/2019 1:48:40 PM	
	1	Assembly Line Sp.Cons[kWh/Piece]	4/17/2019 1:46:26 PM	^
No.		Graph panel name	Update	

(3) The following window appears.

Input a name of the graph panel to save and then click the **OK** button.

\*The graph panel name is displayed when the graph is arranged on the dashboard.

Save			$\times$
Input the name.			
Graph1			
	ОК	Cancel	

(4) When the saving is completed, the window is closed. This is the end of the operation.

# 8.2 Data Analysis/Graph Edition

This section describes how to analyze data with graph view and edit an existing graph. The following shows the procedures to analyze data and edit the existing graph.

Existing graph opening	Open an existing graph panel. *To create a new graph to analyze data, for details on the operation, refer to [8.1.1 How to create the graph].			
↓				
Execute the following operation	as necessary. *The order of the operations is not relevant.			
Display interval settings	Set the display interval.			
Display period settings	Set the display period.			
Data outraction	When the display interval is Hour or Day, set the day to			
	extract data.			
Itom coloction panel displa	Add/delete a measuring point and temporarily display/hide			
	y it.			

 $\downarrow$ 

Graph saving

Save the graph panel. For details on the operation, refer to [8.1.2 How to save the graph].

#### 8.2.1 Opening the existing graph

You will open an existing graph.

\*A maximum of 4 graphs can be displayed at one time.

### (1) Click the **Open** button.

🜃 EcoA	Adviser - Graph				-		$\times$
۲		(b) [1] [31] [[]]	Start time	T		-	
alt i	New Open Save Delete	Hour Day Month Year	End time	Data extraction	panel display	8 <b>2</b>	
$\bigcirc$	File	Display interval	Display period		item select	Edit	
9							
\$							

(2) The following window appears.

Select a graph panel and then click the **Open** button.

No.		Graph panel name	Update		
<b>. 1  </b>	1	Assembly Line Sp.Cons[kWh/Piece]	4/17/20	19 1:46:26 PM	^
¢ <b>ļ</b>	2	Dispersion of Sp.Cons_1st Line	4/17/20	19 1:48:40 PM	
¢	3	Dispersion of Sp.Cons_2nd Line	4/17/20	19 1:49:29 PM	
	4	Assembly Line Output [Piece]	4/17/20	19 1:50:12 PM	
<b>. ()</b>	5	Assembly Line Sp.Cons Hourly	4/17/20	19 1:50:52 PM	
<b>. ()</b>	6	Assembly Line Output_Week	4/17/20	19 1:52:15 PM	
	7	Machine_F-3_DOWN	4/17/20	19 1:52:52 PM	
	8	Machine_F-3_Sp.Cons	4/17/20	19 1:53:22 PM	
1	9	DOWN_1st Line	4/17/20	19 1:53:46 PM	
1	10	DOWN_2nd Line	4/17/20	19 1:54:09 PM	
0	11	kWh 1st Line	4/17/20	19 1:54:36 PM	
0	12	kWh 2nd Line	4/17/20	19 1:54:56 PM	
°.•	13	Correlation analysis	4/17/20	19 1:55:26 PM	
	14	<empty></empty>			
	15	<empty></empty>			
	16	<empty></empty>			
	17	<empty></empty>			
	18	<empty></empty>			
	19	<empty></empty>			
	20	<empty></empty>			
a 1 1	21	Air Conditioner Proportion	4/17/20	19 1:56:39 PM	
.11	22	Electric Bill	4/17/20	19 1:57:30 PM	1

(3) The selected graph panel is displayed on the graph window. This is the end of the operation.



#### 8.2.2 Setting the display interval

You will set the data display interval of the selected graph panel.

By clicking the **Hour**, **Day**, **Month**, or **Year** button on the top of the window, it is possible to switch the interval of graph data.

\*When the analysis method (graph type) is Box plot, the display interval is automatically set to Hourly.



#### 8.2.3 Setting the display period

You will set the data display period of the selected graph panel.

Set the **Start time** and **End time** from the pull-down menu to display data for a period.

\*When the analysis method and analysis viewpoint are Time series chart and Item (date comparison) respectively, the display period can be changed from the **Item selection panel display** button.



#### 8.2.4 Extracting the data

You will set the day to extract data of the selected graph panel.

\*When the display interval is set to Hour or Day, this setting is available.

#### Click the **Data extraction** button.

Select the checkbox of days you want to extract data for and then click the **OK** button.



#### 8.2.5 Displaying the data (numeric values)

The numeric values of data in the graph will be displayed.

Select the **Data** tab in the Panel to check data in table format.

🜃 EcoA	🖬 EcoAdviser - Graph — 🗆 🗙							
<ul><li>Э</li></ul>	Image: New Open Save Delete     Image: New Open Save Delete     Image: New Open Save Delete       File     Display interval	E	Start time 3/1/201 End time 3/21/20 Display p	19  Thermodylamic selection panel display liter selection Edit				
	Item selection		Assembly Li	ine Output [Piece] :=	×			
$(\mathbf{b})$			Graph	Data				
	All measuring points 🗸		Time	Ouslity Chack, 2nd, Passad/Discal				
			2/1/2019	1216				
	Name Measuring T		3/2/2019	1410				
	► 001: Office		3/3/2019	0				
	002: Assembly Line 1st		3/4/2019	1283				
	• 003. Assembly Line DOWN		3/5/2019	1649				
	005: Assembly Line Passed/Failed		3/6/2019	1476				
	Manual input measuring point		3/7/2019	1443				
_	Product type time period measuring point		3/8/2019	1316				
4	<ul> <li>Calculation measuring point</li> </ul>		3/9/2019	1513				
	<ul> <li>Specific consumption measuring point</li> </ul>	:	3/10/2019	0				
		:	3/11/2019	1292				
			3/12/2019	1405				
			3/13/2019	1247				
	< >>		3/14/2019	1064				
	005_0025: Quality Check_2nd_Passed[Piece]		3/15/2019	1489				
			3/10/2019	0				
			3/19/2019	1256				
			3/10/2019	1250				
			3/20/2019	1004				
			3/21/2019	1368				
		1						

#### 8.2.6 Operating the item selection panel

This subsection describes the operations about the Item selection panel.

Click the **Item selection panel display** button to display/hide the panel.

\*When you create a new graph panel or open an existing graph panel, it is automatically displayed. The following table shows possible operations in the item selection panel.

Item	Details
Move item selection	Change the displayed position of the item selection panel.
panel	
Add/Delete measuring	Add/Delete a measuring point to display in the graph.
point	
Change display period	Change the start date and end date for display period.
Show/Hide data	Set the Show/Hide of graph data on each measuring point or display period.
Change graph type	Change the graph type.
	*When the analysis method is Time series chart, this function is available.
Set display axis	Set the vertical axis of graph.
	*When the analysis method is Time series chart, this function is available.

Move item selection panel

It is possible to change the displayed position of the item selection panel.

Click the  $\blacksquare$  sign on the upper right of the panel.

Select **Move** and then select any position to display.

By dragging •••• between the item selection panel and graph, you can adjust the displayed area.



#### ■ Add/Delete measuring point

To add a measuring point to display in the graph, drag and drop the measuring point from the upper frame to the bottom frame.

To delete it, click ··· to the right of the measuring point in the bottom frame and then select **Delete**.



#### ■ Change display period

When the analysis method and analysis viewpoint are Time series chart and Item (date comparison) respectively, this function is available.

It is possible to change the start date and end date for display period.



Display interval	Maximum display period
Hourby	7 days (168 hours)
пошту	*In the case of the box plot, 31 days.
Day	365 days
Month	120 months
Year	10 years
#### ■ Show/Hide data

You can set the Show/Hide of graph data on each measuring point or display period. To display data, select the checkbox to the left of a measuring point or display period. To hide, remove the checkmark.



■ Change graph type

When the graph type is Time series chart, the graph type can be changed to a similar graph type or overlaid graph type.

Click  $\cdots$  to the right of a measuring point in the bottom frame.

Select Change graph type and then select any graph type.

\*The graph type to display has the following conditions:

 $\cdot For 100\%$  stacked graph, set every measuring point to the same display axis.

•The 100% stacked graph cannot be displayed along with other charts.

If you set one measuring point to display in the 100% stacked graph, every measuring point will be also displayed in the 100% stacked graph.

•The bar graph, stacked graph, and 100% stacked graph cannot be displayed at the same time.



■ Set display axis

When the graph type is Time series chart, the display axis can be divided into.

Click  $\cdots$  to the right of a measuring point in the bottom frame.

Select **Display axis setting** and then select any axis.

The display axis can be divided into a maximum of 3.



# 8.3 Deletion of Graph Panel

#### You will delete a saved graph panel.



(2) The following window appears.

Select a graph you want to delete and then click the **Delete** button.

No		Craph papel pame	Undata				
110.		Graph panel name	Opdate				
	1	Assembly Line Sp.Cons[kWh/Piece]	4/17/20	19 1:46:26 PM	^		
¢	2	Dispersion of Sp.Cons_1st Line	4/17/20	19 1:48:40 PM			
¢	3	Dispersion of Sp.Cons_2nd Line	4/17/20	19 1:49:29 PM			
a 1 1	4	Assembly Line Output [Piece]	4/17/20	19 1:50:12 PM			
o 1 🛙	5	Assembly Line Sp.Cons Hourly	4/17/20	19 1:50:52 PM			
o 1 1	6	Assembly Line Output_Week	4/17/20	19 1:52:15 PM			
o 1 🛙	7	Machine_F-3_DOWN	4/17/20	19 1:52:52 PM			
<b>a 1 1</b>	8	Machine_F-3_Sp.Cons	4/17/2019 1:53:22 PM				
1	9	DOWN_1st Line	4/17/2019 1:53:46 PM				
-	10	DOWN_2nd Line	4/17/2019 1:54:09 PM				
	11	kWh 1st Line	4/17/2019 1:54:36 PM				
	12	kWh 2nd Line	4/17/2019 1:54:56 PM				
°.•	13	Correlation analysis	4/17/20	19 1:55:26 PM			
	14	<empty></empty>					
	15	<empty></empty>					
	16	<empty></empty>					
	17	<empty></empty>					
	18	<empty></empty>					
	19	<empty></empty>					
	20	<empty></empty>					
• I I	21	Air Conditioner Proportion	4/17/20	19 1:56:39 PM			
	22	Electric Bill	4/17/20	19 1:57:30 PM	~		
		Dele	ia	Close	_		

(3) The following confirmation message appears.Click the **Yes** button to delete.

EcoAdviser	×
Are you sure you want to del	ete it?
Yes <u>N</u> o	

(4) When the deletion is completed, the window is closed. This is the end of the operation.

# 8.4 Change of Other Settings

This section describes how to set the graph color and panel name.

#### 8.4.1 Setting the theme

You will set the theme color of a selected graph panel.

Click the **Change theme** button and then select a color from the pull-down menu.



#### 8.4.2 Setting the panel name

You will set the panel name (panel title) of a selected graph panel.

Click the **Edit panel name** button and then input a panel name.



# 8.4.3 Displaying/Hiding the graph title

You will set the Show/Hide of the graph title.

Click the isign on the upper right of the graph and then select **Graph title display** to switch the Show/Hide settings.

\*When **Graph title display** has a checkmark, the graph title appears.



# 8.4.4 Displaying/Hiding the legend

You will set the Show/Hide of the graph legend.

Click the isign on the upper right of the graph and then select **Legend display** to switch the Show/Hide settings.

\*When **Legend display** has a checkmark, the legend appears.

\*When the window is small or when the graph is displayed in smaller size due to display of multiple graphs, the legend is not displayed regardless of this setting.



#### 8.4.5 Setting the legend display position

You will set the displayed position of the graph legend.

Click the E sign on the upper right of the graph.

Select Legend display position and then select any position to display the legend.



# 9. Dashboard

This chapter explains how to create dashboards.

It is possible to create various dashboards according to the use application, and you can take advantage of the dashboards in various scenes.



Click the **Dashboard** button on the left menu to enter the dashboard window.



# 9.1 Dashboard Creation/Edition

The following items are basic operations about the dashboard.



#### 9.1.1 Creating a new dashboard

Click the **New** button to create a new dashboard.

🜃 Eco	Adviser - Dashboard	-	×
۲	File		
a).	New Close Open Save Delete Export Setting		
$\bigcirc$	File Export Setting		~
\$			

#### 9.1.2 Opening the existing dashboard

You will open the existing dashboard.

#### (1) Click the **Open** button.

coA	dviser - Dashboard		-	×
	File Layout Display			
	New Close Open Save	Defete Export Setting Export Setting		
	Crawb Danal	×		
	Edit / add each graph panel in screen.	Graph display"		
	No. Graph panel name	Update time		
	1 Assembly Line S	4/17/2019 1:4		 
	2 Dispersion of Sp	4/17/2019 1:4		
	3 Dispersion of Sp	4/17/2019 1:4		
	4 Assembly Line O	4/17/2019 1:5		
	5 Assembly Line S	4/17/2019 1:5		
	6 Assembly Line O	4/17/2019 1:5		 _
	Machine_F-3_D	4/17/2019 1:5		
	8 Machine_F-3_S	4/17/2019 1:5 :		
	9 DOWN_1st Line	4/17/2019 1:5		
	here 10 DOWN_2nd Line	4/17/2019 1:5		
	👩 11 kWh 1st Line	4/17/2019 1:5		
	👩 12 kWh 2nd Line	4/17/2019 1:5		
	13 Correlation analy	4/17/2019 1:5		
	21 Air Conditioner P	4/17/2019 1:5		
	22 Electric Bill	4/17/2019 1:5		
	23 Electric Bill Prop	4/17/2019 1:5		
	30 Product proceed	4/17/2019 2:3		
	31 Product proceed	4/17/2019 2:3		
	32 Shipment quanti	4/17/2019 4:0		
	40 Panel 1	4/17/2019 2:3		
	41 Panel 2	4/17/2019 2:3 <		>

\*When you have already opened a dashboard, the following message will appear.

Click the  $\ensuremath{\text{Yes}}$  button to save.

#### Click the **No** button not to save.



(2) The following window appears.

Select a dashboard and then click the **Open** button.

This is the end of the operation.

No.	Dashboard name	Update time
1	XYZ Assembly Line	4/17/2019 2:48:15 PM
2	Electric Bill	4/19/2019 1:10:41 PM
3	Shipment quantity	4/17/2019 4:02:33 PM
4	<empty></empty>	
5	<empty></empty>	

#### 9.1.3 Setting the sheet

You will add/delete the sheet or change its name. It is possible to set several sheets to the dashboard.

(1) Adding/Deleting the sheet

Click the + or - button to add or delete the sheet.

\*The layout setting varies depending on the sheet of the dashboard.

The added sheet has the default setting.

🜃 Eco/	dviser - Dashboard		- 🗆	$\times$
۲	File Layout Display			
di.	New Close Open Save Delete	Dort Expor	ort ng	
$\bigcirc$	File Exp	ort Setting	ng	~
	Graph Panel X			^
	Edit / add each graph panel in "Graph display" screen.	X	YZ Assembly Line	
	No. Graph panel name Update time		TOTAL	
	1 Assembly Line S 4/17/2019 1:4			
	2 Dispersion of Sp 4/17/2019 1:4			
	4/17/2019 1.4			
- <sup>1</sup>	4 Assembly Line C 4/17/2019 1.5			
	5 Assembly Line S 4/17/2019 1.5			
<b>O</b>	0 Assembly Life 0 4/17/2019 1.5			
	Machine F-3 S 4/17/2019 1:5			
	O Machine_F-5_5 4/17/2019 1:5			//
	= 10 DOWN 2nd Line 4/17/2019 1:5			/
	11 kWh 1st Line 4/17/2019 1:5			
	12 kWh 2nd Line 4/17/2019 1:5			
	13 Correlation analy 4/17/2019 1:5			
	21 Air Conditioner P 4/17/2019 1:5			
	22 Electric Bill 4/17/2019 1:5			
	23 Electric Bill Prop 4/17/2019 1:5			
	30 Product proceed 4/17/2019 2:3		Passed	
	31 Product proceed 4/17/2019 2:3		Day (3/21/2019) Day (3/21/2019)	
	32 Shipment quanti 4/17/2019 4:0			
	40 Panel 1 4/17/2019 2:3			~
	41 Panel 2 4/17/2019 2:3	<		>
		sheet1		+ -

Button	Button Action						
	Add a new sheet at the last.						
+	*The added sheet is the default setting.						
-	Delete the selected sheet.						

#### (2) Changing the sheet name

Double-click the sheet tab to change the name.



(3) Sorting the sheets

Drag and drop the sheet to change the position.

#### 9.1.4 Setting the layout

You will set the layout of the dashboard from the Layout tab.

\*The layout setting varies depending on the sheet.



#### The **Layout** tab provides the following settings.

🜃 Eco/	Adviser -	Dashboard						-	-	×
۲	File	Layout	Display							
di.	Graph Panel	Number Image	<ul> <li>Background image clear</li> <li>Background color</li> <li>Background image</li> </ul>	Size: 1920x1080   Title display Update date display	✓ Ruled line display	8 <b>9</b>	Move to the front •	Move to the back	-	
	Pan	el addition		Dashboard				Arrangement		$\diamond$

	Setting item
(1)	Size
(2)	Background color
(3)	Background image
(4)	Title change
(5)	Title display
(6)	Title format
(7)	Update date display
(8)	Update date format
(9)	Ruled line display

# (1) Size setting

Set the dashboard size from the pull-down menu.



Settings: 1920x1080, 1680x1050, 1600x900, 1440x900, 1400x1050, 1366x768, 1360x768, 1280x1024, 1280x960, 1280x800, 1280x768, 1280x720, 1280x600, 1152x864, 1024x768, 800x600

\*Default: 1920x1080

\*If you reduce the size of the dashboard with panels arranged, you may not handle the panels because they are out of the dashboard.



#### (2) Background color setting

Click the **Background color** button to show the following window.

Select a background color from the pull-down menu and then click the **Reflect** button to set the background color.

In addition, clicking the **Reset to initial value** button sets the default background color.

Background color setting							
Background color setting							
Reset to initial value							
	Reflect	Close					

(3) Background image setting

Click the **Background image** button and then select an image file (.png, .jpg, .bmp, .gif) to set the background image of the dashboard.

\*The background image is automatically expanded or reduced with keeping the aspect ratio.

#### (4) Title change

Click the title of the dashboard and then change the title.

Press the **Enter** key to determine the change.

\*Default: my dashboard

🜃 EcoA	Adviser -	Dashboard										-		×
۲	File	Layout D	isplay											
	Graph Panel Pan	Number Image	D Ba	ackground image o ackground color ackground image	dear	Size: Title Upda Dashl	1920x1080 💌 display 🗹 Rule ate date display board	ed line display	2 <b>;</b> /	Move to the front •	Move to the first of the first	ne back • nent •		\$
	Edit / ad	dd each graph p	panel in '	'Graph display"		X	Z Asser	nbly	Lir	ne ×				
		1 Assembly I		//17/2010 1:4			TOTAL							
	000 60	2 Dispersion	of Sn	4/17/2019 1:4										
	¢	3 Dispersion	of Sp.	4/17/2019 1:4										:
		4 Assembly L	ine O	4/17/2019 1:5					7					
		5 Assembly L	ine S	4/17/2019 1:5				773	1		And the			
ste		6 Assembly L	ine O	4/17/2019 1:5			- / 16				17 53			
		7 Machine_F	-3_D	4/17/2019 1:5										
	a 8	8 Machine_F	-3_S	4/17/2019 1:5	:		1 A	/5	7-7					
	-	9 DOWN_1st	t Line	4/17/2019 1:5	:			<b>N 2/2</b>			SRU RU			/
	-	10 DOWN_2n	d Line	4/17/2019 1:5			11				-45/23/			/
		11 kWh 1st Lir	пе	4/17/2019 1:5						1007				
		12 kWh 2nd Li	ine	4/17/2019 1:5								and the		
	80	13 Correlation	analy	4/17/2019 1:5										
	a 8 8	21 Air Conditio	oner P	4/17/2019 1:5										
	<b>a 8 8</b>	22 Electric Bill		4/17/2019 1:5										
		23 Electric Bill	Prop	4/17/2019 1:5			Total Ener	av 🗄	×	Dag	hoas		Ξ×	
	a 8 8	30 Product pro	ceed	4/17/2019 2:3			Total Eller	gу		газ	seu			
		31 Product pro	ceed	4/17/2019 2:3			Day (3/21/2019)			Day (	3/21/2019)			
		32 Shipment o	quanti	4/17/2019 4:0										
	a 🛙 🖥	40 Panel 1		4/17/2019 2:3										$\sim$
	000	41 Panel 2		4/17/2019 2:3		<								>
						sheet1								+ -

#### (5) Title display setting

Select the checkbox of **Title display** to display the dashboard title. To hide the title, remove the checkmark.

## (6) Title format setting

Click the **Title format** button to show the following window.

Set the format of the dashboard title and then click the  $\mathbf{OK}$  button.



The window is closed and the format setting is reflected.

# (7) Update date display setting

This is used to set the update date displayed on the dashboard for display mode or for display in the html file.

Select the checkbox of **Update date display** to display the update date.



## (8) Update date format setting

Click the **Update time format** button to show the following window.

Set the format of the update date of the dashboard and then click the **OK** button.



The window is closed and the format setting is reflected.

(9) Ruled line display setting

This is used to set the ruled line display for dashboard edition mode.

\*Under display mode or under display in the html file, the ruled line is hidden regardless of the setting. Select the checkbox of **Ruled line display** to display the ruled line.

The following table shows the difference between the states of Show and Hide.

Ruled line display	Details
Show	Change the position and size of the panel according to the ruled line.
	*If the position/size of the panel is changed under deviating from the ruled line,
	it will be changed by the width of the ruled line under keeping the deviation.
Hide	Change the panel to any size or change the position freely.

#### 9.1.5 Placing the diagnosis panel

#### This function is for Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI).

You will place the diagnosis panel on the dashboard.

\*It is possible to place 10 panels per sheet in total with graph panels.

\*Of diagnosis panel, max. 100 panels for all dashboards can be placed to display the result of energyloss factor diagnosis.

\*The graphs and measuring values displayed on the panel keeps the state at the time of saving.

#### (1) Click the **Diagnosis panel** button.

The diagnosis panel box is displayed on the left of the window.



(2) Drag and drop a panel to place on the dashboard.

Image: Sec:       1920:1080 *       Ruled line display         Image: Sec:       10120:1080 *       Image: Sec:         Image: Sec:       Drag & drop         Image: Sec:       10120:1080 *         Image: Sec:       1025600 *     <	EcoA	Adviser - Dashboard										-	×
<ul> <li>Ste:</li> <li>Bignosis</li> <li>Graph</li> <li>Image</li> <li>Itel display</li> <li>Itel</li></ul>	۲	File Layout Display											
Diagnosis       Drag & drop         Edit/add each graph panel on "Graph display" screen.       Implement and the screen.         Implement and the screen.       Implement and the screen. <t< td=""><td>2</td><td>Diagnosis panel Panel Craph Panel Panel Craph</td><td>Size: 19.</td><td>20x1080 - splay - date display Dashboard</td><td>Ruled line displa</td><td>ay Bige</td><td>Move the fro</td><td>to nt •</td><td>Move to Arrange Fit size</td><td>the back ment</td><td>•</td><td></td><td>~</td></t<>	2	Diagnosis panel Panel Craph Panel Panel Craph	Size: 19.	20x1080 - splay - date display Dashboard	Ruled line displa	ay Bige	Move the fro	to nt •	Move to Arrange Fit size	the back ment	•		~
Diagnosis       Drag & drop         Edit/add each graph panel on "Graph display" screen.         Image: Construction of the second screen.         Image: Consecond screen.													^
Image: Contract of the second seco		Diagnosis Drag & C	drop 📔										
Edit/add each graph panel on "Graph display" screen.         Ne       Disgnosis post       Update time         Image: Interlight of the state street in the street in	$\bigcirc$		/	III) da	snboard	1							
Screen.       Diagnosis parad.       Update line.       EX       Diagnosis period.       3/1/2020 - 4/30/2020         Image: Screen.       Screen.       Screen.       Screen.       Screen.       Screen.       Screen.         Image: Screen.       Image: Screen.		Edit / add each graph panel on "Grap	h display"	-									
1       Line-1_FreFocu		No Diagnosis papel Linds	ata tima		Panel						i≣×		
Image: Second		1 Line-1_FiveFocu 9/25/	2020 7:2		Diagnosis per	iod: 3/1/2	020 - 4/30	0/2020			-	-	
Image: Second state of the second s		2 Line-1_improve 3/25/	2020 7.2		Equipment na	me: Line-	1_Board	lanufactu	uringArea				
Min					Date	(1)Eq time (star	(2)Eq time (shut	(3-1) time (star	(3-2) time (shut	(4)Sp cons	(5)Pr loss time rate		
4/30/2020       4/29/2020         4/28/2020       67         4/28/2020       67         4/28/2020       67         4/28/2020       94         4/28/2020       94         4/28/2020       94         4/28/2020       94         4/28/2020       94         4/28/2020       94         4/28/2020       94         4/28/2020       94         4/28/2020       94         4/28/2020       94         4/28/2020       94         4/28/2020       935         4/28/2020       89         322       385       1         9       1         128       6         385       7       0.2214         13.6       1         4/22/2020       88       38         38       384       10       0.2488         13.7       1       1						[Min	[Min	[Min	[Min	[KVVII	[%]		
4/29/2020       67       5       -11       26       0.3419       43.9         4/28/2020       67       5       -11       26       0.3419       43.9         4/26/2020       94       4       13       18       0.2503       17.5         4/26/2020					4/30/2020								
4/27/2020       94       4       13       18       0.2553       17.5         4/26/2020       4       13       18       0.2554       14         4/26/2020       4       13       18       0.2554       14         4/26/2020       4/26/2020       9       385       1       0.2554       14         4/26/2020       89       32       385       1       0.2554       14         4/26/2020       89       32       385       1       0.2554       14         4/22/2020       88       38       384       10       0.2488       13.6         4/22/2020       88       38       384       10       0.2488       13.7	32		:		4/29/2020	67	6	44	26	0 2440	42.0		
4/27/2020       94       4       13       18       0.2503       17.5         4/26/2020       4/26/2020       -       -       -       -       -         4/26/2020       4/25/2020       -       -       -       -       -       -         4/26/2020       89       32       385       1       0.2554       14         4/23/2020       120       6       385       7       0.2214       13.6         4/22/2020       88       38       384       10       0.2488       13.3					4/20/2020	07	5	-11	20	<u>0.3419</u> <u>4</u>	43.9		
4/26/2020					4/27/2020	94	4	13	18	0.2503	17.5		 _
4/25/2020         89         32         385         1         0.2554         14           4/23/2020         120         6         385         7         0.2214         13.6           4/22/2020         88         38         384         10         0.2488         13.2					4/26/2020					<u>a</u>			
4/24/2020       89       32       385       1       0.2554       14         4/23/2020       120       6       385       7       0.2214       13.6         4/22/2020       88       38       384       10       0.2488       13.2					4/25/2020								
4/23/2020         120         6         385         7         0.2214         13.6           4/22/2020         88         38         384         10         0.2488         13.7					4/24/2020	89	<u>32</u>	<u>385</u>	1	0.2554	14	_	
					4/22/2020	420	0	205	7	8	42.0	-	 
4/22/2020 88 <u>38 384 10 0.2488 13.7</u>					4/23/2020	120	0	<u>385</u>		0.2214	13.0		
					4/22/2020	88	<u>38</u>	<u>384</u>	10	<u>0.2488</u>	13,2		
				<									>
sheet1 + -				sheet1									+ -

#### 9.1.6 Placing the graph panel

You will place the graph panel on the dashboard.

- \*It is possible to place 10 panels per sheet in total with diagnosis panels.
- \*In the graph panel box, the graphs created in the graph menu are displayed.
- For details how to create graphs, refer to [8.1 Creation/Saving of Graph Panel].

#### (1) Click the **Graph panel** button.

The graph panel box is displayed on the left of the window.



(2) Drag and drop a panel you want to place from the graph panel box to the dashboard.



## 9.1.7 Placing the number panel

You will create the panel where measuring point data is displayed.

Max. 15 panels can be set per sheet.

#### (1) Click the **Number** button.

🜃 Eco/	Adviser - Dashboard		– 🗆 X
۲	File Layout Display		
	Graph Image Backgrou Panel addition	uund image clear Size: 1920x1080 ▼ xund color ✓ Title display ✓ Ruled xund image Update date display Dashboard	line display
	Graph Panel Edit / add each graph panel in "Graph screen.	* XYZ Assem	nbly Line
	No. Graph panel name Upda	ate time TOTAL	·- *
	Assembly Line S 4/17/	/2019 1:4	
	2 Dispersion of Sp 4/17/	/2019 1:4	· · · · · · · · · · · · · · · · · · ·
	9 3 Dispersion of Sp 4/17/	/2019 1:4	
	4 Assembly Line O 4/17/	/2019 1:5	A start
	5 Assembly Line S 4/17/	/2019 1:5	
3	6 Assembly Line O 4/17/	/2019 1:5	
	7 Machine_F-3_D 4/17/	/2019 1:5	
	8 Machine_F-3_S 4/17/	/2019 1:5 :	
	9 DOWN_1st Line 4/17/2	/2019 1:5	
	10 DOWN_2nd Line 4/17/	/2019 1:5	
	0 11 kWh 1st Line 4/17/	/2019 1:5	
	0 12 kWh 2nd Line 4/17/	/2019 1:5	
	13 Correlation analy 4/17/	/2019 1:5	
	21 Air Conditioner P 4/17/	/2019 1:5	
	22 Electric Bill 4/17/2	/2019 1:5	
	23 Electric Bill Prop 4/17/	Total Energy	v Ex Passed Ex
	30 Product proceed 4/17/	/2019 2:3	
	31 Product proceed 4/17/	/2019 2:3 Day (3/21/2019)	Day (3/21/2019)
	32 Shipment quanti 4/17/	/2019 4:0	
	40 Panel 1 4/17/2	/2019 2:3	· · · · · · · · · · · · · · · · · · ·
	41 Panel 2 4/17/2	/2019 2:3 <	>
		sheet1	+ -

(2) The following window appears.

Drag and drop a measuring point you want to display from the Measuring point list box to the Display target item box.

\*One measuring point only can be displayed per panel.

Panel create			×
	Item sele	ction	
Select the target measuring points	and conditions. Drag 8	& Drop	
Display larget item		The sound point list	
Drag and drop the measuring po	int here to display.	All musuring points	-
002_0060: Total Energy[kWh	1]	Name	Mea
		- 002_0059: Overview(KW) - 002_0060: Total Energy - 002_0061: FLOWMETER (C18) - 002_0062: FLOWMETER (C19)	F F
Range		002_0069: Machine_F-1_N(Piece)	F
Differential period	◯ Month ◯ Year	002_0071: Machine_F-3_V(Piece)     002_0071: Machine_F-3_V(Piece)     002_0072: Machine_F-4_N(Piece)     003: Assembly Line 2nd     004: Assembly Line 2nd	F
Data display period Now	O Past	005: Assembly Line PassedFailed     Manual input measuring point     Product type time period measuring point     Calculation measuring point     Seedifc consumption measuring point	
		<	>
		OK Can	cel

#### (3) Set the **Range** items.

Item		Details
Differential period*1		This setting is available when the measuring type is Pulse for the displayed
		measuring point.
		Set the period for calculating Pulse.
	Time	Calculate the difference from the value of the previous hour.
	Day	Calculate the difference from the value of the previous day.
Month		Calculate the difference from the value of the previous month.
	Year	Calculate the difference from the value of the previous year.
Data display	period	Set the data display period.
	Now	Display the current value.
	Past	Display the past value.
		The display date must be set from the pulldown menu of Period designation.

\*1: Each differential period is shown below, respectively.

<Example> Collection setting Data period(min):15

EcoWebServerⅢ file collection time(min):10

Day Aggregatoin Period(hour): 08:00  $\sim$  08:00

Month Aggregation Period(Day):  $~16~\sim~15$ 

Year Aggregation Period(Month): 4  $\sim$  3

Present Date and Time: 10/25/2021 5:20PM

Difference period (Time) is

between present collected value at (10/25/2021 5:00PM)

and previous collected value at (10/25/2021 4:00PM).

Difference period (Day) is

between present collected value at (10/25/2021 5:00PM) and the value at start date-time on the "Day Aggregation Period" (10/25/2021 8:00AM).

Difference period (Month) is

between present collected value at (10/25/2021 5:00PM)

and the value at start date-time on the "Month Aggregation Period" (10/16/2021 8:00AM).

Difference period (Year) is

bewteen present collected value at (10/25/2021 5:00PM)

and the value at start date-time on the "Year Aggregation Period" (4/16/2021 8:00AM).

# (4) Click the **OK** button.

The window is closed and the number panel is created. This is the end of the operation.

# 9.1.8 Placing the image panel

A panel will be created to display any image file (.png, .jpg, .bmp, .gif) . Max. five panels can be created per sheet.

## (1) Click the **Image** button.

🗾 Eco/	Adviser - Dashboard	-	- 🗆 X
۲	File Layout Display		
•	Onumber         Background image cl           Graph         Image           Panel         Background image	ear Size: 1920x1080 V Title display Ruled line display Update date display Dashboard Ruled line display Update date display Dashboard Ruled line display	•
	Graph Panel X Edit / add each graph panel in "Graph display" screen.	XYZ Assembly Line	
	No. Graph panel name Update time	TOTAL	
	1 Assembly Line S 4/17/2019 1:4		
	0 2 Dispersion of Sp 4/17/2019 1:4		:
	9 3 Dispersion of Sp 4/17/2019 1:4		•
	4 Assembly Line O 4/17/2019 1:5		
	5 Assembly Line S 4/17/2019 1:5		
24	6 Assembly Line O 4/17/2019 1:5		t 1-
342	7 Machine_F-3_D 4/17/2019 1:5		
	8 Machine_F-3_S 4/17/2019 1:5		
	9 DOWN_1st Line 4/17/2019 1:5		
	https://www.communication.com/article/		
	0 11 kWh 1st Line 4/17/2019 1:5		
	12 kWh 2nd Line 4/17/2019 1:5		
	13 Correlation analy 4/17/2019 1:5		
	all 21 Air Conditioner P 4/17/2019 1:5		
	22 Electric Bill 4/17/2019 1:5		
	© 23 Electric Bill Prop 4/17/2019 1:5	Total Energy EX Dassed	≡×
	30 Product proceed 4/17/2019 2:3	rotal Ellergy Passed	
	31 Product proceed 4/17/2019 2:3	Day (3/21/2019) Day (3/21/2019)	
	32 Shipment quanti 4/17/2019 4:0		
	40 Panel 1 4/17/2019 2:3		¥
	41 Panel 2 4/17/2019 2:3	<	>
		sheet1	+ -

# (2) The following window appears.

Click the 📐 sign to select an image for display.

Panel create			×
	Image selection		
Select an image file.			
			<b></b>
	Image file is not selected.		
		ОК	Cancel

(3) After the selection, the sample image is displayed on the window.Click the **OK** button to create the panel.

This is the end of the operation.



# 9.1.9 Changing the panel settings

The following table shows a list of setting functions available for each panel.

						(●: Available -: Unavailable)	
	Setting function	Graph panel	Diagnosis panel *1	Number panel	Image panel	Details	
(1)	Position change	•	•	•	•	Change the panel position.	
(2)	Size change	•	•	•	•	Change the panel size.	
(3)	Panel title change	•	•	•	-	Change the panel title.	
(4)	Panel title display	•	•	•	-	Set the panel title display.	
(5)	Panel title format	•	•	•	-	Set the panel title format.	
(6)	Legend display	•	• *2	-	-	Set the legend display.	
(7)	Legend display position	•	• *2	-	-	Set the legend display position.	
(0)	Wrap display		• *2			Set the display method when	
(8)		•	• *2	-	-	not fit in the cell.	
(9)	Measuring point information display	-	-	•	-	Set the measuring point	
(10)	Measuring point information format	-	-	•	-	Set the measuring point information format.	
(11)	Measuring value display position	-	-	•	-	Set the measuring value display position.	
(12)	Measuring value format	-	-	•	-	Set the measuring value format.	
(13)	Background color	-	-	•	-	Set the panel background color.	
(14)	Reorder	●	•	●	●	Change the panel display order.	
(15)	Data display period	•	•	-	-	Set the panel data display period.	

\*1: This function is for Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI).

\*2: This function is available only for any panels with graph display.

#### (1) Position change

Drag and drop the selected panel to move to any position.

Clicking some panels with pressing the **Ctrl** key enables to select them at the same time.

In that case, the **Arrangement** button is available for arrangement.

Arrangement item	Details					
Left align	Align the horizontal position according to the left side of the leftmost					
	panel in the selected panels.					
Align center right and left	Align the horizontal position to the center line between the selected					
	panels.					
Align right	Align the horizontal position according to the right side of the rightmost					
	panel in the selected panels.					
Align top	Align the vertical position according to the top side of the topmost panel					
	in the selected panels.					
Align center top and bottom	Align the vertical position to the center line between the selected panels.					
Align bottom	Align the vertical position according to the bottom side of the					
	bottommost panel in the selected panels.					

#### (2) Size change

Drag the bottom right corner of the panel to change the panel to any size.

Clicking some panels with pressing the **Ctrl** key enables to select them at the same time.

When you click the **Fit size** button with the panels selected, the size of other panel is changed according to the panel (with red circle) which is clicked at the end in the selected panels.

🜃 EcoA	Adviser - Dashboard					-	$\Box$ ×
۲	File Layout Display						
•	Image     Panel     Number     □     Ba       Panel     Image     □     Ba	ckground image clear Size: ckground color I T ckground image I U	1920x1080 🔻 itle display Ipdate date display ashboard	🗹 Ruled line display	Move to the front • Arrangeme	to the back - gement -	~
	Graph Panel Edit / add each graph panel in "	Graph display"	ny dashbc	bard			
● ◆	No.         Graph panel name           all         1         Assembly Line S           69         2         Dispersion of Sp           69         3         Dispersion of Sp           64         Assembly Line O         all           65         Assembly Line O         all           66         Assembly Line O         all	Update time 4/17/2019 1:4 4/17/2019 1:4 4/17/2019 1:5 4/17/2019 1:5 4/17/2019 1:5 4/17/2019 1:5 4/17/2019 1:5					
	P DOWN_1stLine     DOWN_2ndLine     DOWN_2ndLine     To DOWN_2ndLine     twh 1stLine     12 KWh 2ndLine     twh 2ndLine     21 Air Conditioner P     d1 22 Electric Bill     22 Electric Bill     23 Electric Bill Prop     d1 30 Product proceed     31 Product proceed     32 Shipment quanti     d1 40 Panel 1     d1 Panel 2	4/17/2019 15 4/17/2019 15 4/17/2019 15 4/17/2019 15 4/17/2019 15 4/17/2019 15 4/17/2019 15 4/17/2019 15 4/17/2019 23 4/17/2019 23					
		shee	11				+ -

(3) Panel title change

Click the panel title to change its name.

## (4) Panel title display

Click the 📃 button on the panel and then select **Panel title display** to set.



Setting	Details				
Yes	Display the panel title.				
No	Not display the panel title.				

(5) Panel title format

Click the  $\blacksquare$  button and then select **Panel title format**.

Set the font name, style, size, and character decoration and then click the **OK** button.



# (6) Legend display

EcoAdviser - Dashboard  $\times$ ۲ File Layout - Move to the back 🗸 🗋 Background image clear Size: 1920x1080 🔻 Number 3 11 Background color Title display 🔽 Ruled line display Arrange . di. Move to the front • Fit size Graph Panel 3 🔜 Image Background image Update date display Panel addition Dashboard Arrangement 6) × Graph Panel my dashboard Edit / add each graph panel in "Graph display" kWh 1st Line × screen. el title display Þ Hour 3/14/2019 12:00 AM - 3/15/2019 12:00 AM Graph panel name Update time No. Panel title format Machine\_A(KWh)[KWh] Machine\_B(KWh)[KWh] Machine\_C(KWh)[KWh] Panel till Machine\_D(KWh)[KWh] Machine\_E(KWh)[KWh] Machine\_F-1(KWh)[KWh] Legend of Machine\_F-2(KWh)[KWh] Machine\_F-3(KWh)[KWh] Machine\_F-4(KWh)[KWh] Reorder •11 •• 1 Assembly Line S., 4/17/2019 1:4. Legend display F Yes 2 Dispersion of Sp... 4/17/2019 1:4. 4/17/2019 1:4. 3 Dispersion of Sp. No 4 Assembly Line O. 4/17/2019 1:5. 5 Assembly Line S., 4/17/2019 1:5. Data display period 🔸 4/17/2019 1:5. 6 Assembly Line O. ¢ •00 •00 7 Machine\_F-3\_D.. 8 Machine\_F-3\_S.. 4/17/2019 1:5. 4/17/2019 1:5. 9 DOWN\_1st Line 10 DOWN\_2nd Line 4/17/2019 1:5. 4/17/2019 1:5. 11 kWh 1st Line 4/17/2019 1:5... 4/17/2019 1:5. 12 kWh 2nd Line 13 Correlation analy. 4/17/2019 1:5. 21 Air Conditioner P. 4/17/2019 1:5. 22 Electric Bill 4/17/2019 1:5. 23 Electric Bill Prop. 4/17/2019 1:5. 30 Product proceed... 4/17/2019 2:3. 31 Product proceed. 4/17/2019 2:3 32 Shipment quanti... 4/17/2019 4:0. 40 Panel 1 4/17/2019 2:3. 41 Panel 2 4/17/2019 2:3. < sheet1 ÷

Setting	Details			
Yes	Display the legend.			
No	Not display the legend.			

Click the  $\blacksquare$  button and then select **Legend display** to set.

# (7) Legend display position

Click the  $\blacksquare$  button and then select **Legend position** to set. EcoAdviser - Dashboard  $\times$ ۲ File Layout 🗋 Background image clear Size: 1920x1080 🔻 - Move to the back 🗸 🔿 Number 3 11 Background color ✓ Title display Ruled line display Arrangement . di. Move to the front - Fit size Graph Panel 3 🛋 Image 🔝 Background image Update date display Panel addition Dashboard Arrangement 6) × Graph Panel my dashboard := \* Edit / add each graph panel in "Graph display" kWh 1st Line screen. anel title display • Hour 3/14/2019 12:00 AM - 3/15/2019 12:00 AM Graph panel name Update time No. Panel title format Machine\_A(kWh)[kWh] Machine\_B(kWh)[kWh] Machine\_C(kWh)[kWh] Machine\_D(kWh)[kWh] Machine\_E(kWh)[kWh] Machine\_F-1(kWh)[kWh] Machine\_F-2(kWh)[kWh] Machine\_F-3(kWh)[kWh] Quality Check\_1st(kWh)[kWh] •11 ¢¢ ¢¢ 1 Assembly Line S., 4/17/2019 1:4. 2 Dispersion of Sp... 4/17/2019 1:4. eaend disr 4/17/2019 1:4. Legend position • 3 Dispersion of Sp. 4 Assembly Line O. 4/17/2019 1:5. Reorde 5 Assembly Line S., 4/17/2019 1:5. Data display period 🕨 4/17/2019 1:5. 6 Assembly Line O. \$ •00 •00 •00 7 Machine\_F-3\_D.. 8 Machine\_F-3\_S.. 4/17/2019 1:5. 4/17/2019 1:5. 9 DOWN\_1st Line 10 DOWN\_2nd Line 4/17/2019 1:5. 4/17/2019 1:5. ž 11 kWh 1st Line 4/17/2019 1:5... **(**) 30 12 kWh 2nd Line 4/17/2019 1:5. 13 Correlation analy. 4/17/2019 1:5. 21 Air Conditioner P. 4/17/2019 1:5. •11 22 Electric Bill 4/17/2019 1:5. 23 Electric Bill Prop. 4/17/2019 1:5. 30 Product proceed... 4/17/2019 2:3. 31 Product proceed. 4/17/2019 2:3 32 Shipment quanti... 4/17/2019 4:0. 40 Panel 1 4/17/2019 2:3. 41 Panel 2 4/17/2019 2:3. < sheet1 ÷

Тор

Left

Right

Bottom

Setting	Details
Тор	Display the legend above the graph.
Bottom	Display the legend below the graph.
Left	Display the legend at left side of the graph.
Right	Display the legend at right side of the graph.

# (8) Wrap display

Select 🗉 and set wrap display.

Eco/	Adviser - Dash	board								-		$\times$
۲	File Layo	ut Display										
2	Diagnosis G panel F	Araph Land Image	19 itle dis pdate	220x1080 ▼ splay ✓ R e date display	uled line	display	a≱ a≱	Move to he front •	An	ove to the back - rangement - t size		
di i	Pan	el addition		Dashboard					Arrange	ment		~
	Diagnosis p Edit / add each screen. No. Dia 1 Lin 1 Lin 2 Lin	agnosis panel Update time e-1_FiveFocu 9/25/2020 7:2 e-1_Improve 9/25/2020 7:2	constant of the second s	My das Panel Diagnosis per Equipment na Date	hboa iod: 3/1/2 me: Line- (1)Eq time (star	2020 - 4/30 -1_Board (2)Eq time (shut	0/2020 Manufactu (3-1) time (star	uringArea (3-2) time (shut	(4) Sp cons [kWh	Anel title display Panel title display Panel title format Wrap display loss Reorder time Data display period	▶	es lo
► \$				4/30/2020 4/29/2020 4/28/2020 4/27/2020 4/26/2020 4/25/2020 4/25/2020 4/24/2020 4/22/2020 4/22/2020 4/22/2020	89 120 88	32 38 38	-11 13 <u>385</u> <u>385</u> <u>384</u>	26 18 1 1 7 10	0.3419 4 0.2503 9 0.2554 8 0.2214 1 0.2488	43.9 17.5 17.5 13.6		×
Se	ttina						D	eta	ils			
Yes		Display the fu	ıll	text by v	vrap	ping	, cha	arac	ters	by cell widt	h.	
No		Display the c	ha	racters ir	nac	cell c	on a	sing	gle li	ine.		
		If the full text	t c	annot be	disp	olay	ed d	ue t	o th	e cell width,	the	text
		until midway	ar	nd is d	isnla	aver	lat	the	end			

(9) Measuring point information display

oAo	dviser -	Dashboard									-		×
	File	Layout D	isplay										
		Number	🗋 🗋 Ba	ackground image	clear	Size	1920x1080 🔻	6	w .	📙 Move to the ba	ack 🕶		
		~	Ba	ackground color		<b>1</b>	ïtle display 🔽 R	uled line display		🗂 Arrangement	•		
	Graph	🔝 Image	Ba Ba	- ackground image		- 	Ipdate date display	6	Move to the front	Fit size			
	Pan	el addition				D	ashboard			Arrangement			<
	Creat	Denel		×									
	Graph	Panel		•••			a da a b b a a u	a					
						r	ny dashboar	a					
	Edit / ad	ld each graph (	panel in "	'Graph display"									
	screen.												
	No.	Graph pane	el name	Update time									
	<b></b>	1 Assembly L	ine S	4/17/2019 1:4	1		Total Energy		:= *				
	<b>¢</b>	2 Dispersion	of Sp	4/17/2019 1:4			rotar Energy		Panel title	e displav	•	7	
	<b>¢</b>	3 Dispersion	of Sp	4/17/2019 1:4			-		Desetation				
	• 0 <b>0</b>	4 Assembly L	ine O	4/17/2019 1:5			-		Falleruut	FIUITIAL		-	
	• 0 <b>0</b>	5 Assembly L	ine S	4/17/2019 1:5					Measurin	g point information di	splay 🕨	~	Yes
	• 0 <b>0</b>	6 Assembly L	ine O	4/17/2019 1:5					Measurin	g point information to	rmat	•	No
	<b>0 🛙 </b>	7 Machine_F	-3_D	4/17/2019 1:5					Measurin	o value displav positi	on 🕨	-	
	<b>0 🛙 </b>	8 Machine_F	-3_S	4/17/2019 1:5	1		-		Macourin	a volue format			
	1	9 DOWN_1st	t Line	4/17/2019 1:5					Measurin	y value format			
		10 DOWN_2n	d Line	4/17/2019 1:5			[kWh]		Backgrou	ind color setting			
		11 kWh 1st Lir	10	4/17/2019 1:5			F		Reorder		×.		
		12 kWh 2nd Li	ne	4/17/2019 1:5									
	8	13 Correlation	analy	4/17/2019 1:5									
		21 Air Conditio	oner P	4/1//2019 1:5									
		22 Electric Bill	-	4/1//2019 1:5									
	10000	23 Electric Bill	Prop	4/1//2019 1:5									
				1 ACT / CAL10 (202									
		30 Product pro	oceed	4/17/2019 2.3									
		30 Product pro	ceed	4/17/2019 2:3									
		<ul> <li>Product pro</li> <li>Product pro</li> <li>Product pro</li> <li>Shipment of</li> </ul>	oceed oceed quanti	4/17/2019 2:3 4/17/2019 2:3 4/17/2019 4:0									

Click the  $\blacksquare$  button and then select **Measuring point information display** to set.

Setting	Details
Yes	Display the measuring point information.
No	Not display the measuring point information.

(10) Measuring point information format

Click the 📃 button and then select **Measuring point information format**.

Set the font name, style, size, and character decoration and then click the **OK** button.

-ont: Arial		Font style: Regular	Size: 20	ОК
Arial Arial Rounded MT Bahnschrift Baskerville Old Face Bauhau/ 93	^ ~	Regular       ^         Narrow Bold       ^         Narrow Bold Itali       _         Bold       _         Bold Italic       _	20 22 24 26 28 36 48	Cancel
Effects Strikeout Underline Color: Custom	[	Sample AaBbY	yZz	

# (11) Measuring value display position

🜃 EcoAdviser	- Dashboard					– 🗆 🗡
File	Layout Di	splay				
Graph	Number 💽 Number	<ul> <li>Background image clip</li> <li>Background color</li> <li>Background image</li> </ul>	ear Size: 1920x1080 ▼ ✓ Title display ✓ Update date displa	Ruled line display	Image: Ward of the form     Image: Ward of the form       Image: Ward of the form     Image: Ward of the form       Image: Ward of the form     Image: Ward of the form       Image: Ward of the form     Image: Ward of the form	ck • •
Pa	nel addition		Dashboard		Arrangement	
Edit / a	h Panel add each graph p n.	anel in "Graph display"	my dashl	board		
	Graph pane 1 Assembly L 2 Dispersion 3 Dispersion 4 Assembly L 5 Assembly L 6 Assembly L	Iname         Update time           ine S         4/17/2019 1:4           of Sp         4/17/2019 1:4           of Sp         4/17/2019 1:5           ine O         4/17/2019 1:5           ine S         4/17/2019 1:5           ine O         4/17/2019 1:5	Total Energy		Panel title display Panel title format Measuring point information dis Measuring point information for	play >
	7 Machine_F- 8 Machine_F- 9 DOWN_1st 10 DOWN_2nd	3_D 4/17/2019 1:5 3_S 4/17/2019 1:5 Line 4/17/2019 1:5 I Line 4/17/2019 1:5	[kWh]		Measuring value display positio Measuring value format Background color setting	n ▶ ✓ Left: Align Align
	11       kWh 1st Lin         12       kWh 2nd Lin         13       Correlation         21       Air Condition         22       Electric Bill         23       Electric Bill         30       Product pro-         31       Product pro-         32       Shipment qr         40       Panel 1         41       Panel 2	e 4/17/2019.15 ie 4/17/2019.15 analy4/17/2019.15 4/17/2019.15 Prop 4/17/2019.15 ceed 4/17/2019.23 ceed 4/17/2019.23 4/17/2019.23 4/17/2019.23 4/17/2019.23			Reorder	
	HI Fallel Z	4/11/2019 2.3	sheet1			

Click the 🗮 button and then select **Measuring value display position** to set.

Setting	Details
Left align	Display the measuring value with aligning the horizontal
	position to the left side of the panel.
Align center	Display the measuring value with aligning the horizontal
right and left	position to the center of the panel.
Align right	Display the measuring value with aligning the horizontal
	position to the right side of the panel.

(12) Measuring value format

# Click the 😑 button and then select **Measuring value format.**

Set the font name, style, size, and character decoration and then click the **OK** button.

Font: Arial		Font style: Regular		Size: 20	-	ОК
Arial Arial Rounded MT Bahnschrift Baskerville Old Face	^	Regular Narrow Bold <i>Narrow Bold Itali</i> Bold	^	20 22 24 26 28 36		Cancel
Bauhau/ 93 - Effects Strikeout Underline	~	Sample AaBb	۲ ۲	<sub> 48</sub>	•	
Color:	I	Script: Western			-	

# (13) Background color

Click the  $\blacksquare$  button and then select **Background color setting**.

Select a color and then click the **Reflect** button.

Background color setting ×	
Background color setting	
240,240 ¥ Reset to initial value	
Reflect Close	

# (14) Reorder

This is used for setting the front display of the panel when some panels overlap.

Click the  $\blacksquare$  button and then select **Reorder** to set.

The **Move to the front/Move to the back** button in the **Layout** tab is also available for this setting.



Setting	Details
Moving to the front	Move the panel to the front.
Moving to the front most	Move the panel to the frontmost.
Moving to the back	Move the panel to the back.
Moving to the backmost	Move the panel to the backmost.

## (15) Data display period

Set the display data of the panel.

Click the 📃 button and then select **Data display period** to set.

\*The items you can set differ depending on the panel type.

#### EcoAdviser - Dashboard Х File Layout Di 1920x1080 -Number Background image clear Size: - Move to the back -3 . . Title display Background color Ruled line display Arrange Graph Panel Move to the front • Fit size a 🏈 🔜 Image Background image Update date display Panel addition Dashboard Arrangement 6) Graph Panel × my dashboard Edit / add each graph panel in "Graph display" kWh 1st Line :=: screen. anel title display Hour 3/14/2019 12:00 AM - 3/15/2019 12:00 AM • No. Graph panel name Update time Panel title format Assembly Line S... 4/17/2019 1:4. Machine\_A(kWh)[kWh] Machine\_B(kWh)[kWh] Machine\_C(kWh)[kWh] Legend display Machine\_D(KWh)[KWh] Machine\_E(KWh)[KWh] Machine\_F-1(KWh)[KWh] Machine\_F-2(KWh)[KWh] Machine\_F-3(KWh)[KWh] Machine\_F-4(KWh)[KWh] ¢¢ ¢¢ 2 Dispersion of Sp., 4/17/2019 1:4. 3 Dispersion of Sp. 4/17/2019 1:4.. Legend position Machine\_G(kWh)[kWh] 📄 Machine\_H(kWh)[kWh] 📄 Quality Check\_1st(kWh)[kWh] 4 Assembly Line O. 4/17/2019 1:5. Reorder 5 Assembly Line S. 4/17/2019 1:5. Data display period 🕨 Past 6 Assembly Line O. 4/17/2019 1.5 ¢ 7 Machine\_F-3\_D.. 4/17/2019 1:5. Now 8 Machine\_F-3\_S.. 9 DOWN\_1st Line 4/17/2019 1:5. Now(Fixed) 4/17/2019 1:5. 2 10 DOWN\_2nd Line 4/17/2019 1.5 11 kWh 1st Line 4/17/2019 1:5... 12 kWh 2nd Line 4/17/2019 1:5 © 31 31 4/17/2019 1:5. 13 Correlation analy. 21 Air Conditioner P. 4/17/2019 1:5. 22 Electric Bill 4/17/2019 1:5 23 Electric Bill Prop. 4/17/2019 1:5. 30 Product proceed. 4/17/2019 2:3 31 Product proceed. 4/17/2019 2:3. 32 Shipment quanti. 4/17/2019 4:0. 40 Panel 1 4/17/2019 2:3. 41 Panel 2 4/17/2019 2:3. < sheet1

#### ■ For diagnosis panels

Setting	Details
Past	Display graphs and data in the diagnosis period when the panel has been saved.
Now	Display graphs and data with the most recent automatic diagnosis result.

#### ■ For graph panels

Setting		Details	;			
Past	Display the graph/	the graph/data of the display interval and display period set at the time of				
	saving in the panel					
Now	Display the graph/o	data of the display interval a	nd display period, whose end date is the			
	latest time, set at t	he time of saving in the par	nel.			
Now (Fixed)	Display the graph	of the display interval and display period set in the Graph window				
	with the following	graph update interval. For	details, refer to an example in the next			
	page.		_			
	<b>Display interval</b>	Graph update interval				
	Hourly	24 hours				
	Day	31 days (1 month)				
	Month	12 months				
	Year	10 years				

\*If the graph of the target panel is the time series chart, comparison method: item (date comparison), the display period set at the first time at the time of graph creation is updated.



#### Data display period: Past

# <Example 1>

Each graph illustrates each setting of the data display period when the graph is created in the Graph window using the following display settings.

- ·Display interval: Day
- •Display period: February 4, 2019 to February 10, 2019
- •Current time: March 21, 2019



to February 10, 2019



Data display period: Now (Fixed)



Display from March 4, 2019 to March 10, 2019

<Example 2>

Each graph illustrates different current dates of the 'Past (Fixed)' setting when the graph is created in the Graph window using the following display settings.

The end date is the latest time.

- ·Display interval: Day
- •Display period: February 1, 2019 to March 31, 2019



Display from February 1, 2019 to February 28, 2019









#### 9.1.10 Saving the dashboard

You will save the created/edited dashboard.

Select a saving format from the **Save** button in the **File** tab.



#### (1) Save

While modifying an existing dashboard, you can use this function. The existing dashboard is overwritten.

#### (2) Save as

The following window appears.

Select a saving destination and then click the **Save** button.

No.	Dashboard name	Update time
1	XYZ Assembly Line	4/17/2019 2:48:15 PM
2	Electric Bill	4/19/2019 1:10:41 PM
3	Shipment quantity	4/17/2019 4:02:33 PM
4	<empty></empty>	
5	<empty></empty>	

(3) The following window appears.

Input a dashboard name and then click the **OK** button.

The window is closed, and the saving is completed.

Save	$\times$
Input the name.	
dashboard 1	
OK Cancel	
# 9.2 Dashboard Display Function

🜃 EcoAdviser - Dashboard  $\times$ File Layout Display ۲ ✓ Full screen Auto-update Auto-switch Interval (sec) 10 d. Display Tab display Display 6) × Graph Panel **XYZ Assembly Line** Edit / add each graph panel in "Graph display" screen. TOTAL No. Graph panel name Update time Assembly Line S... 4/17/2019 1:4. •11 ¢¢ •11 2 Dispersion of Sp., 4/17/2019 1:4. 3 Dispersion of Sp... 4/17/2019 1:4. 4 Assembly Line O.,. 4/17/2019 1:5. 5 Assembly Line S.. 4/17/2019 1:5. 6 Assembly Line O., 4/17/2019 1:5 ¢ 7 Machine\_F-3\_D... 4/17/2019 1:5. 8 Machine\_F-3\_S.. 4/17/2019 1:5. 4/17/2019 1:5. 9 DOWN\_1st Line 9 DOWN\_1st Line
 10 DOWN\_2nd Line
 11 kWh 1st Line 4/17/2019 1:5 4/17/2019 1:5... 12 kWh 2nd Line 4/17/2019 1:5 **(**) % 13 Correlation analy. 4/17/2019 1:5. 21 Air Conditioner P... 4/17/2019 1:5. .11 22 Electric Bill 4/17/2019 1:5 23 Electric Bill Prop. 4/17/2019 1:5. i≡× Ξ× **Total Energy** Passed 30 Product proceed... 4/17/2019 2:3. .11 © 31 Product proceed... 4/17/2019 2:3. Day (3/21/2019) Day (3/21/2019) 32 Shipment quanti... 4/17/2019 4:0. 40 Panel 1 4/17/2019 2:3. . 1) . 1) 41 Panel 2 4/17/2019 2:3. < sheet1

Click the **Display** tab to enter the display setting window.

## 9.2.1 Setting the display function

You will set the following items with the checkbox or from the pulldown menu.

Setting item	Details
Full screen	The window setting for display mode
display	·Checked: Maximize the window and hide the left menu
	·Non-checked: Keep the current size of the window and display the left menu.
Auto-update	Automatically update the data on the dashboard every hour after automatic collection.
	*The automatic collection of the latest data must be complete.
	When the automatic collection is invalid, the automatic dashboard update also
	becomes invalid.
Auto-switch	Switch the sheets to display at regular intervals when multiple sheets are set.
	*The display order is from the left to the right.
	*The switching interval can be set from the pulldown menu of Interval (sec).
Interval (sec)	*This setting is used only when Auto-switch is selected.
	Select the interval from the pulldown menu (listed below).
	·10, 20, 30, 60, 120, 180, 300 (sec)
Tab display	Display the tab to switch the sheet.

Note: When you want to save the display settings, save the dashboard.

For details, refer to [9.1.10 Saving the dashboard].

## 9.2.2 Switching to the display mode

Click the **Display** button to switch to the display mode.

To cancel the display mode, press the **Esc** key on the keyboard or right-click the dashboard and then select **Release display mode**.



# 9.3 Dashboard Output Function

This section describes the dashboard output to the HTML file.

#### 9.3.1 Executing the dashboard output

Click the **Export** button to output the currently opened dashboard HTML file.

💾 EcoA	Adviser - Dashboard	-	
۲	File Layout Display		
di.	New Close Open Save Delete Exp	stiling	
	File Exp	rt Setting	\$
$(\mathbf{b})$	Create Deniel		^
	Edit / add each graph panel in "Graph display" screen.	XYZ Assembly Line	
	No. Graph panel name Update time	TOTAL	
	1 Assembly Line S 4/17/2019 1:4		
	0 2 Dispersion of Sp 4/17/2019 1:4		:
	0 3 Dispersion of Sp 4/17/2019 1:4		•
	4 Assembly Line O 4/17/2019 1:5		
	5 Assembly Line S 4/17/2019 1:5		
342	6 Assembly Line O 4/17/2019 1:5		
<b>.</b>	7 Machine_F-3_D 4/17/2019 1:5		
	8 Machine_F-3_S 4/17/2019 1:5		
	9 DOWN_1st Line 4/17/2019 1:5		
	10 DOWN_2nd Line 4/17/2019 1:5		
	11 kWh 1st Line 4/17/2019 1:5		
	12 kWh 2nd Line 4/17/2019 1:5	A DATA CAL	
	13 Correlation analy 4/17/2019 1:5		
	21 Air Conditioner P 4/17/2019 1:5		
	22 Electric Bill 4/17/2019 1:5		
	23 Electric Bill Prop 4/17/2019 1:5	Total Energy EX Decard	i ×
	30 Product proceed 4/17/2019 2:3	Passed	
	31 Product proceed 4/17/2019 2:3	Day (3/21/2019) Day (3/21/2019)	
	32 Shipment quanti 4/17/2019 4:0		
	40 Panel 1 4/17/2019 2:3		
	41 Panel 2 4/17/2019 2:3	<	>

#### 9.3.2 Setting the automatic dashboard output

You will set the automatic output of the dashboard HTML file of every hour after automatic collection.

- In Auto execute settings, set the automatic dashboard HTML output to ON. For details, refer to [6 Auto Execute Settings].
- (2) Click the **Export setting** button in the **File** tab on the dashboard.

	- Dash	board								-		×
File	Layou	it Display										
New	X Close	Open Save	Delete	Expor	t	Export setting						
		File		Expor	t	Setting	<b></b>					
Grap	h Pane	el		×								
Edit / scree	add each n.	graph panel in	"Graph displa	ıy'''		X	Z Assemb	ly Lir	ne v			
No.	Gra	ph panel name	Update time	•			TOTAL		^			
	1 Ass	embly Line S	4/17/2019 1	:4								
¢ <b>\$</b>	2 Dis	persion of Sp	4/17/2019 1	:4								
¢0	3 Dis	persion of Sp	4/17/2019 1	:4								
	4 Ass	embly Line O	4/17/2019 1	:5								
	5 Ass	embly Line S	4/17/2019 1	:5								
. II	6 Ass	embly Line O	4/17/2019 1	:5								
	7 Ma	hine_F-3_D	4/17/2019 1	:5								
. il	8 Ma	chine_F-3_S	4/17/2019 1	:5	:							۰,
1	9 DO	WN_1st Line	4/17/2019 1	:5				274/147			77	//
-	10 DO	WN_2nd Line	4/17/2019 1	:5			10,007,007				507	/
	11 kW	n 1st Line	4/17/2019 1	:5								
	12 KW	n 2nd Line	4/17/2019 1	:5						at the		
80	13 Co	relation analy	4/17/2019 1	:5								
	21 Air	Conditioner P	4/17/2019 1	:5								
a 10	22 Ele	ctric Bill	4/17/2019 1	:5								
	23 Ele	ctric Bill Prop	4/17/2019 1	:5			Total Energy	i = ×	Dassed		Ξ×	
a 10	30 Pro	duct proceed	4/17/2019 2	:3			rotal Ellergy		rasseu			
	31 Pro	duct proceed	4/17/2019 2	:3			Day (3/21/2019)		Day (3/21/2019)			
	32 Shi	pment quanti	4/17/2019 4	:0								
	40 Por	nol 1	4/17/2019 2	3								
	40 1 8											

#### 9 Dashboard

(3) The following window appears.



Item	Details								
Automatic HTML file	Select the checkbox of a dashboard you want to output.								
output target selection	* Only one checkbox can be selected.								
HTML file output	Set the output destination of dashboard HTML files.								
destination setting	When you use the web server functionality, refer to [12.2.2. Activating the								
	access right to the folder].								
Automatic switching	Set the automatic switching interval of the sheets from the pulldown menu.								
interval	·10 ·20 ·30 ·60 ·120 ·180 ·300								

- (4) Click the **Register** button.
- (5) The following message appears.

Click the **Yes** button to save the settings.



(6) When the saving is completed, the window is closed. This is the end of the operation.

# 9.4 Dashboard Closing

You will close the currently opened dashboard.

\*The dashboard is not saved at closing. Therefore, save the dashboard before closing.

#### (1) Click the **Close** button.

🗾 Eco	Adviser - Dashboard			– 🗆 X	
۲	File Layout Display				
•	New Close Open Save Delete	Export Ex Export Se	Export setting	۵	~
	Graph Panel Edit / add each graph panel in "Graph display	*	XYZ Assembly Line		^
● ▶ ☆	No.         Graph panel name         Update time           uil         1         Assembly Line S         4/17/2019 1           vil         2         Dispersion of Sp         4/17/2019 1           vil         3         Dispersion of Sp         4/17/2019 1           vil         4         Assembly Line O         4/17/2019 1           vil         4         Assembly Line O         4/17/2019 1           vil         5         Assembly Line O         4/17/2019 1           vil         6         Assembly Line O         4/17/2019 1           vil         6         Assembly Line O         4/17/2019 1	4 4 5 5 5 5	TOTAL		
	Image: Second	5 5 5 5 5 5 5 5			
	23         Electric Bill Prop         4/17/2019 1:           all         30         Product proceed         4/17/2019 2:           all         31         Product proceed         4/17/2019 2:           all         40         Panel 1         4/17/2019 2:           all         41         Panel 2         4/17/2019 2:	b 3 3 3 3 3 3 \$hee	Day (3/21/2019)		~

(2) The following message appears.

Click the  $\ensuremath{\text{Yes}}$  button to close the dashboard.

This is the end of the operation.



# 9.5 Dashboard Deletion

You will delete the created dashboard.



🜃 EcoA	Adviser - Dashboard				– 🗆 X
۲	File Layout Display				
ılı	New Close Open Save Delete	Export Exposed	oort ing		<u>^</u>
$\bigcirc$	File	Export Set	ing		~~
	Graph Panel	×			^
	Edit / add each graph panel in "Graph displ screen.	y"	YZ Assemb	ly Line	
	No. Graph panel name Update tim	•	TOTAL		
	1 Assembly Line S 4/17/2019	:4			
	2 Dispersion of Sp 4/17/2019	:4			:
	9 3 Dispersion of Sp 4/17/2019	:4			
1 T	4 Assembly Line O 4/17/2019	:5		Trade And A AD	
	5 Assembly Line S 4/17/2019	.5			
-0-	6 Assembly Line O 4/17/2019	:5			
	7 Machine_F-3_D 4/17/2019	.5	and the second s		
	8 Machine_F-3_5 4/17/2019	.0			
	9 DOWN_1st Line 4/17/2019	:0			
	10 DOWN_2/Id Line 4/17/2019	.5			
	12 kWh 2nd Line 4/17/2019	5		Press of the second sec	
	9 13 Correlation analy 4/17/2019	5			
	21 Air Conditioner P 4/17/2019	:5			
	22 Electric Bill 4/17/2019	:5			
	23 Electric Bill Prop. 4/17/2019	:5		÷× D I	:= x
	30 Product proceed 4/17/2019	:3	Total Energy	Passed	
	31 Product proceed 4/17/2019	:3	Day (3/21/2019)	Day (3/21/2019)	
	32 Shipment quanti 4/17/2019	:0	, ( , ,		
	40 Panel 1 4/17/2019	:3			~
	41 Panel 2 4/17/2019	:3 <			>
		sheet	1		+ -

(2) The following window appears.

Select a dashboard you want to delete and then click the **Delete** button.

No.	Dashboard name	Update time
1	XYZ Assembly Line	4/17/2019 2:48:15 PM
2	Electric Bill	4/19/2019 1:10:41 PM
3	Shipment quantity	4/17/2019 4:02:33 PM
4	dashboard 1	4/22/2019 2:57:25 PM
5	<empty></empty>	

(3) The following message appears.

Click the **Yes** button to delete the dashboard.

This is the end of the operation.



# 10. Report

This chapter describes the report window.

On this window, you will set the daily/monthly/annual report or output it.

Click the **Report** button on the left menu of the window to enter the report window.

🜃 EcoA	Adviser - Report									_	$\times$
<ul><li>Э</li></ul>	Report Output setting setting Setting										
$\bigcirc$				A	В	С	D	E	F	G	н
	<ol> <li>Select the setting name of form setting.</li> </ol>		1								^
	· · · · · · · · · · · · · · · · · · ·		2								
			3								- 11
	2. Select output type		4								- 11
	Daily		5								- 11
	Preview		7								- 11
			8								
	3. Add the output date		9								
	Start		10								
ste	· · · · · · · · · · · · · · · · · · ·		11								
<b>.</b>	End		12								- 11
	· · · · · · · · · · · · · · · · · · ·		13								- 11
			14								- 11
			16								- 11
			17								
			18								
			19								- 11
			20								- 11
			21								- 11
			22								- 11
	Management report output		24								- 1
		-	25								_
	Open output destination		144	- + →	Sheet1	÷		<			>

# **10.1 Report Setting**

#### 10.1.1 Setting the report setting

nd output items.

	Report output setting									
	Setting									
$\bigcirc$				A	В	С	D	E	F	G
	<ol> <li>Select the setting name of form setting.</li> </ol>		1							
	· · · · · · · · · · · · · · · · · · ·		2							
			3							
	2. Select output type		4							
	Daily		6							
	Preview		7							
		1	8							
	3. Add the output date		9							
	Start		10							
rte i	-	1	11							
<b>H</b> .	End		12							
		1 :	13							
		1	14							
			16							
			17							
			18							
			19							
			20							
			21							
			22							
			23							
	Management report output		24							

(2) The following window appears.

When creating a new report setting, select the setting name of <Empty> and then click Create New.

 $\times$ 

Н

When opening an existing report setting, select the existing one and then click the **Setting** button.



(3) The following window appears.

etting Name: Manufacturing A				Report p drop.	age settings	for daily, monthly and	annual can	be copied m	utually by drag	&
Common	Daily			Monthly			Annual			
Company:	Page	title		Page	title		Page	title		
MITSUBISHI ELECTRIC Co.	1	Assembly	Line 1st	1	Assembly L	ine 1st	1	Assembly L	ine 1st	
	2	Assembly	Line 2nd	2	Assembly L	ine 2nd	2	Assembly L	ine 2nd	
Field for probate	3			3			3			
Field1 Dept.A	4			4			4			
Eield2 Dopt R	5			5			5			
	6			6			6			
Field3 Dept.C	7			7			7			
G Field Dept D	8			8			8			
Field4 Dept.D	9			9			9			
istantaneous value	10			10			10			
the Monthly / Annual report:	11			11			11			
Average	12			12			12			
	14			14			14			
'ower factor	15			14			15			
Maximum	16			16			16			
Waximum	17			17			17			
comparison of the power factor:	18			18			18			
Absolute value	19			19			19			
	20			20			20			
emand value										
Maximum		•	+		<b></b>	+		<b>†</b>	+	
Moximum .	Se	tting	Delete	Se	etting	Delete	Se	tting	Delete	
leader output time:										
End time -	✓ Out	out daily rep	ort automatically	✓ Outp	put monthly re	eport automatically	✓ Outp	out annual rej	port automatica	ally
		Edit fo	ormat		Edit fo	rmat		Edit for	rmat	

Input each item or select it from the pull-down menu.

Item	Details
Setting name	Setting name for this report
	It is displayed at the setting name in the Report setting list.
Company name *1	Input a company name to be output to the daily/monthly/annual report.
	A maximum of 64 characters are allowed in the input field.
	Do not use the following characters for the initial character.
	[, ;, #
Field for probate 1 to 4	Output the field with checkmark only to the daily/monthly/annual report.
*1	Input a headline to be output to the field.
	A maximum of 8 characters are allowed in the input field
Instantaneous value	Set the Analog value to be output to the monthly/annual report.
to the Monthly/Annual	Select a setting item from the pull-down menu.
report	<ul> <li>Average (Daily average/Monthly average)</li> </ul>
	Maximum (Daily maximum/Monthly maximum)
	Minimum (Daily minimum/Monthly minimum)
Power factor to the	Set the value of power factor to be output to the monthly/annual report.
Monthly/Annual	Select a setting item from the pull-down menu.
report	Maximum (Daily maximum/Monthly maximum)
	Minimum (Daily minimum/Monthly minimum)
Comparison of the	Set the comparison method at calculating power factor.
power factor	Select a setting item from the pull-down menu.
	Absolute value *2
	·-0%<100%<0%

Item	Detail
Demand value to the	Set the demand value to be output to the monthly/annual report.
Monthly/Annual	Select a setting item from the pull-down menu.
report	•Average (Daily average/Monthly average)
	Maximum (Daily maximum/Monthly maximum)
	Minimum (Daily minimum/Monthly minimum)
Header output time *3	Set the time (day for monthly report/month for annual report) to be output to
	the header of daily/monthly/annual report.
	Select a setting item from the pull-down menu.
	•Start time: Display the start time of data collection period.
	•End time: Display the end time of data collection period.
	<example> The integrated value from 1 : 00 to 2 : 00 is output.</example>
	For the start time, 1 : 00 is output.
	For the end time, 2 : 00 is output.

\*1: When you use the single quotation mark (') for the initial character, the first character (') will be hidden.

It is counted as the number of input characters.

- \*2: For the selection of Absolute value, if the measuring type is power factor and the same absolute values exist (Example: -99.5% and 99.5%), the previous measured value is handled as the maximum value or minimum value.
- -3: For the header output time, the range set at the aggregation period is output. For the aggregation period, refer to [4.3.4 Collection setting].

<Example 1> When the Day aggregation period is 0 : 00, data from 0 : 00 to 0 : 00 of the next day is output to daily report.

<Example 2> When the Day aggregation period is 3 : 00, data from 3 : 00 to 3 : 00 of the next day is output to daily report.

#### ■ Reference (Daily report)

\*For the format of each report, refer to [12.1 File Format].

Output	time	of he	ader						Со	mpai	ny na	me	Appr	oval	colum	าท
	/										$\mathbf{n}$				$\mathbf{\mathbf{n}}$	
							Assembl	y Line 1s	t				Dept.A	Dept.B	Dept.C	Dept.D
3/19/20	019, Tue										MITSUBISHI E	LECTRIC Co				
	μ		Group A	1	Gro	up B			Gro	up C						
Time	Total Energy	Machine_A(k Wh)	Machine_B(k Wh)	Machine_C(k Wh)	Machine_D(k Wh)	Machine_E(k Wh)	Machine_F- 1(kWh)	Machine_F- 2(kWh)	Machine_F- 3(kWh)	Machine_F- 4(kWh)	Machine_G( kWh)	Machine_H(k Wh)	Quality Check_1st(k Wh)			
	kWb	kWb	kWb	kWb	kWb	kWb	kWb	kWb	kWb	kWh	kWb	kWb	kWb.			
1:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
2:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
3:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
4:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
5:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
6:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
7:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
8:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
9:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
10:00	9	0.2686	0.2366	0.0584	0.2436	0.0692	0.3280	0.3410	0.3176	0.3190	0.1924	0.0924	0.1688			
11:00	19	0.5230	0.4484	0.1262	0.4560	0.1382	0.3986	0.4216	0.4044	0.4212	0.2874	0.1372	0.2778			
12:00	17	0.4948	0.4328	0.1226	0.4466	0.1362	0.4012	0.4214	0.4036	0.4190	0.2870	0.1398	0.2696			ļ
13:00	18	0.4878	0.4270	0.1252	0.4320	0.1386	0.3856	0.4056	0.3860	0.4016	0.2834	0.1382	0.2650			
14:00	15	0.4632	0.4154	0.1220	0.4232	0.1366	0.3800	0.3926	0.3768	0.3772	0.2726	0.1352	0.2520			
15:00	18	0.5044	0.4348	0.1224	0.4310	0.1346	0.3914	0.4042	0.3754	0.3756	0.2832	0.1344	0.2692			
16:00	19	0.5162	0.4408	0.1232	0.4604	0.1372	0.3960	0.4168	0.4048	0.4308	0.2812	0.1352	0.2734			
17:00	22	0.5106	0.4366	0.1234	0.4552	0.1362	0.4012	0.4262	0.4186	0.4294	0.2858	0.1368	0.2792			
18:00	20	0.5158	0.4404	0.1256	0.4604	0.1382	0.4074	0.4258	0.4108	0.4258	0.2826	0.1358	0.2/94			
19:00	16	0.4930	0.4204	0.1234	0.4300	0.1358	0.3992	0.4110	0.3954	0.4102	0.2818	0.13/6	0.26/2			
20:00	20	0.5014	0.4344	0.1250	0.43/0	0.13/0	0.4004	0.4168	0.3968	0.39/0	0.2/82	0.1344	0.2/22			
21:00		0.2220	0.2000	0.0032	0.1940	0.0444	0.1518	0.1594	0.1512	0.15/2	0.1240	0.0010	0.1430			
22:00		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
0:00		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
Day Total	201	5 5014	4 7682	1 3606	4 8700	1 4822	4 4408	4 6424	4 4414	4 5640	3 1402	1 5180	3.0168			
Maximum	201	0.5230	0.4484	0 1263	0.4604	0 1386	0 4074	0.4262	0 4186	0 4308	0.2874	0 1398	0 2794			
Minimum		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
Average	8	0.2292	0.1987	0.0567	0.2029	0.0618	0.1850	0.1934	0.1851	0.1902	0.1308	0.0633	0.1257			

(4) Select a page (line) of daily/monthly/annual report you want to edit and then click the **Setting** button.

Report setting				
Manufacturing A		Report page settings for daily, monthly and drop.	annual can	be copied mutually by drag &
Common	Daily	Monthly	Annual	
Company:	Page title	Page title	Page	title
MITSUBISHI ELECTRIC Co.	1 Assembly Line 1st	1 Assembly Line 1st	1	Assembly Line 1st
Field for probate	2 Assembly Line 2nd	2 Assembly Line 2nd 3	2	Assembly Line 2nd
Field1 Dept.A	4	4	4	
Field2 Dept.B	6	6	6	
Field3 Dept.C	7	7	7	
Eield Poet D	8	8	8	
	9	9	10	
Instantaneous value	11	11	11	
to the Monthly / Annual report.	12	12	12	
Average	13	13	13	
Power factor	14	14	14	
to the Monthly / Annual report:	15	15	15	1
Maximum 👻	16	16	16	
	17	17	17	
Comparison of the power factor:	18	18	18	
Absolute value	19	19	19	1
Demand value	20	20	20	
to the Monthly / Annual report:	<b>↑ ↓</b>	<b></b>		<b>★ ↓</b>
Maximum	Setting Delete	Setting Delete	Se	etting Delete
Header output time:	Quitout daily report automatically	Quitput monthly report automotically	C Out	put appual report automatically
End time 👻	Culput daily report automatically		Vul	
	Edit format	Eait format		Edit format
			Register	Close

\*The following example illustrates daily report settings.

-

(5) The following window appears.

Input a title of the report.

- A maximum of 32 characters are allowed in the input field.
- \* When you use the single quotation mark (') for the initial character, the first character (') will be hidden.

It is counted as the number of input characters.

Drag and c	drop here the measuring to be output to the	e column.		All measuring points			
Output hea	ader setting			Name	Measuri	Unit	
Column	group	Item Name	-	• 001: Office			
1	1	Total Energy	~	002: Assembly Line 1st			
2	2	Machine A(kWh)	• 003: Assembly Line 2nd				
3	3 Group A	Machine_B(kWh)		▶ - 004: Assembly Line DOWN			
4	4	Machine_C(kWh)		• 005: Assembly Line Passe.			
5	5 O D	Machine_D(kWh)		<ul> <li>Manual input measuring p</li> </ul>	-		
6	Group B	Machine_E(kWh)		<ul> <li>Product type time period m.</li> <li>Calculation measuring pair</li> </ul>	 #		
7	7	Machine_F-1(kWh)		Specific consumption mea	n.		
8	3	Machine_F-2(kWh)		, opcone concampion moa.			
9	Group C	Machine_F-3(kWh)					
10	0	Machine_F-4(kWh)					
11	1	Machine_G(kWh)	1				
<		>					
		- Delete					

#### ■ Reference (Daily report)

\*For the format of each report, refer to [12.1 File Format].

				Title	e											
				N												
							Assembly	/ Line 1st	t				Dept.A	Dept.B	Dept.C	Dept.D
											<b>.</b>					
3/19/2	019, Tue		Group A		Gro	up B			Gro	up C	MIISUBISHIE	LECTRIC Co.				
Time	Total Energy	Machine_A(k Wh)	Machine_B(k Wh)	Machine_C(k Wh)	Machine_D(k Wh)	Machine_E(k Wh)	Machine_F- 1(kWh)	Machine_F- 2(kWh)	Machine_F- 3(kWh)	Machine_F- 4(kWh)	Machine_G( kWh)	Machine_H(k Wh)	Quality Check_1st(k Wh)			
	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh			
1:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
2:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
3:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
4:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
5:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
7:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
8:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
9:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
10:00	9	0.2686	0.2366	0.0584	0.2436	0.0692	0.3280	0.3410	0.3176	0.3190	0.1924	0.0924	0.1688			
11:00	19	0.5230	0.4484	0.1262	0.4560	0.1382	0.3986	0.4216	0.4044	0.4212	0.2874	0.1372	0.2778			
12:00	17	0.4948	0.4328	0.1226	0.4466	0.1362	0.4012	0.4214	0.4036	0.4190	0.2870	0.1398	0.2696			
13:00	18	0.4878	0.4270	0.1252	0.4320	0.1386	0.3856	0.4056	0.3860	0.4016	0.2834	0.1382	0.2650			
14:00	15	0.4632	0.4154	0.1220	0.4232	0.1366	0.3800	0.3926	0.3768	0.3772	0.2726	0.1352	0.2520			
15:00	18	0.5044	0.4348	0.1224	0.4310	0.1346	0.3914	0.4042	0.3754	0.3756	0.2832	0.1344	0.2692			
16:00	19	0.5162	0.4408	0.1232	0.4604	0.1372	0.3960	0.4168	0.4048	0.4308	0.2812	0.1352	0.2734			
17:00	22	0.5106	0.4366	0.1234	0.4552	0.1362	0.4012	0.4262	0.4186	0.4294	0.2858	0.1368	0.2792			
10:00	20	0.0108	0.4404	0.1230	0.4604	0.1362	0.4074	0.4258	0.4108	0.4258	0.2820	0.1356	0.2794			
20:00	20	0.5014	0.4204	0.1254	0.4370	0.1330	0.3332	0.4168	0.3968	0.3970	0.2010	0.1370	0.2072			
21.00	8	0 2226	0 2006	0.0632	0 1946	0 0444	0 1518	0 1594	0 1512	0 1572	0 1246	0.0610	0 1430			
22:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
23:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
0:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
Day Total	201	5.5014	4.7682	1.3606	4.8700	1.4822	4.4408	4.6424	4.4414	4.5640	3.1402	1.5180	3.0168			
Maximum	22	0.5230	0.4484	0.1262	0.4604	0.1386	0.4074	0.4262	0.4186	0.4308	0.2874	0.1398	0.2794			
Minimum	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
Average	8	0.2292	0.1987	0.0567	0.2029	0.0618	0.1850	0.1934	0.1851	0.1902	0.1308	0.0633	0.1257			

(6) You will register a measuring point to display in the report.

Drag and drop the measuring point to add to any column.

By clicking the  $\uparrow$  and  $\downarrow$  button, the added measuring point can be moved.

To delete the measuring point, select the measuring point and then click the **Delete** button.

For the settings for other pages, click the **Page** tab to switch the page.

Asse	embly Line 1st				
Output colu	ımn settina	Di	rag &	Drop	
	-				
Drag and	drop here the measuring to be output to	the column.		All measining points	
Output he	ader setting	<b>+</b>		Name	Measuri Unit
Column	group	Item Name		▶ - 001: Office	
1	1	Total Energy	<b>`</b>	002: Assembly Line 1st     002: Assembly Line 2nd	
2	2	Machine_A(kWh)	_	004: Assembly Line DOWN	
	3 Group A	Machine_B(kWh)	_	- 005: Assembly Line Passe	
4	+	Machine_C(KWh)	_	• Manual input measuring p	
6	Group B	Machine E(kWh)	_	Product type time period m	
7	7	Machine F-1(kWh)	-	<ul> <li>Calculation measuring point</li> </ul>	
8	3	Machine_F-2(kWh)	- · ·	• opecific consumption mea	
9	Group C	Machine_F-3(kWh)			
10	0	Machine_F-4(kWh)	_		
11	1	Machine_G(KWh)	1		
<			>		
	<b></b>	- Delete	•		
Join as	the same group name				
Page1   F	Page2 Page3 Page4 Page5	Page6 Page7 Page8 Page9	Page10	Page11 Page12 Page13	Page14 Page15

## Note

For the demand time period of 30 minutes, there are three types of measuring points to measure demand as the following table. The displayed data varies depending on the report for registration.

Measuring point ID	Measuring point name
	(Reference)
1253	Demand (First half)
1254	Demand (Latter half)
1255	Demand

#### • Daily report

Use demand (First half) or demand (Latter half). When demand (First half/Latter half) is used, it becomes the same value as demand (Latter half).

#### • Monthly/Annual report

Use demand (First half/Latter half). When demand (First half) or demand (Latter half) is used, the maximum value (or minimum value, average value) of each demand is output.

#### (7) Input the following setting items as necessary to set.

	Assembly Lir	ne 1st						
Dutpi	ut column sett	ng				Measuring point list		
Drag	) and drop her	e the measuring to be ou	tput to the coli	umn.		All measuring points		T
Outp	out header set	ing		Output data set	tting	Name	Measuri Unit	
C	group	Item Name	Unit	Reference m.	Number of deci	▶ - 001: Office		
1		Total Energy	kWh	002_0060	0	• 002: Assembly Line 1st		
2		Machine_A(kWh)	kWh	002_0003	4	• 003: Assembly Line 2nd		
3	Group A	Machine_B(kWh)	kWh	002_0006	4	• 004: Assembly Line DOWN		
4		Machine_C(kWh)	kWh	002_0009	4	<ul> <li>005: Assembly Line Passe</li> </ul>		
5	Crown R	Machine_D(kWh)	kWh	002_0012	4	<ul> <li>Manual Input measuring p</li> <li>Broduct type time period m</li> </ul>		
6	Group B	Machine_E(kWh)	kWh	002_0015	4	Calculation measuring point		
7		Machine_F-1(kWh)	kWh	002_0018	4	Specific consumption mea		
8		Machine_F-2(kWh)	kWh	002_0021	4	· · · · · · · · · · · · · · · · · · ·		
9	Group C	Machine_F-3(kWh)	kWh	002_0024	4			
10	Group C	Machine_F-4(kWh)	kWh	002_0027	4			
11		Machine_G(kWh)	kWh	002_0030	4			
12		Machine_H(kWh)	kWh	002_0033	4 /			
			<b></b>	+	Delete			
⊃ Jo	oin as the sam	e group name						

Item	Details
Group *1 *2	Input a group name.
	A maximum of 32 characters are allowed in the input field.
	When the same group names are combined, select the checkbox of "Join as
	the same group name."
Item name *2	Input a name to display a measuring item in the report.
	(The default: Measuring point name)
	A maximum of 32 characters are allowed in the input field
Unit *2	Input a unit to display in the report.
	(The default: The unit of measuring point)
	A maximum of 20 characters are allowed in the input field
Number of decimal	Select the number of decimal places of data to display in the report from the
places *2	pull-down menu.
	(The default: The number of decimal places of measuring point)
	The selectable range: 0 to 5 (If the number of decimal places of the
	measurement point is blank, it will be 0.)

\*1: The name of measuring point group is not relevant.

\*2: When you use the single quotation mark (') for the initial character, it is hidden. It is counted as the number of input characters.

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- (8) After the settings, click the **Setting** button to save the settings.
- (9) For Monthly/Annual report, execute the same operation as (5) to (8) to set up.
   If you set up the same settings, drag and drop to copy them.
   When you want to switch the page of Daily/Monthly/Annual report, click the ↑ and ↓ button to switch the page.

To delete the page, select the page and then click the **Delete** button.

Report setting		Drag & [	Drop	to copy		
Setting Name:					and annual car	he conied mutually by drag &
Manufacturing A			drop.	je settings for daily, monuliy	anu annuai cai	The copied mutually by diag &
Common	Daily		Monthly		Annual	
Company:	Page title		age ti	tle	Page	title
MITSUBISHI ELECTRIC Co.	1 Assembly L	ine 1st	1 A	ssembly Line 1st		Assembly Line 1st
	2 Assembly L	ine 2nd	2 A	ssembly Line 2nd	2	Assembly Line 2nd
- Field for probate	3		3		3	3
Field1 Dept.A	4		4		4	1
C Field? Dept R	5		5		Ę	i
	6		6			5
Field3 Dept.C	7		7		7	1
	8		8		8	3
Pield4 DepLD	9		9			3
nstantaneous value	10		10		10	)
o the Monthly / Annual report:	11		11		1	1
Average 👻	12		12		12	2
	13		13		1	3
Power factor	14		14		14	1
o the Monthly / Annual Teport.	10		10		10	)
Maximum	10		10		10	7
Comparison of the power factor:	10		10		10	5
Absolute value	10		10		10	, a
Abbolate value	20		20		20	1
Demand value to the Monthly / Annual report:			20			
Maximum 👻	T			· · · · · · · · · · · · · · · · · · ·		T V
Header output time:	Setting	Delete	Settir	ng Delete	S	atting Delete
End time	Output daily report	rt automatically	Output	t monthly report automatically	/ 🗸 Out	put annual report automatically
	Edit for	mat		Edit format		Edit format
					Register	r Close

(10) When executing automatic output of daily/monthly/annual report, select the checkbox of **Output daily report automatically**.

Manufacturing A				drop.					
Common	Daily			Monthly			Annual		
company:	Page	title		Page	title		Page	title	
MITSUBISHI ELECTRIC Co.	1	Assembly L	Line 1st	1	Assembly	Line 1st	1	Assembly	Line 1st
Field for probate	2	Assembly L	Line 2nd	2	Assembly	Line 2nd	2	Assembly	Line 2nd
Field1 DeptA	4			4			4	t.	
Field2 Dept.B	5			5			6	; ;	
Field3 Dept.C	7			7			7	8	
Field4 Dept.D	9			9			9	)	
stantaneous value	10			10			10	) [	
the Monthly / Annual report:	12			12			12	2	
Average	13			13			13	3	
ower factor	14			14			14	1	
the Monthly / Annual report:	15			15			15	<b>i</b>	
Maximum	• 16			16			16	j	
omparison of the power factor:	17			17			17		
Abcoluto voluo	18			18			18	1	
emand value	20			20			20	)	
the Monthly / Annual report:			+		<b></b>	+		•	+
Maximum	Set	ina	Delete	Se	tting	Delete	S	etting	Delete
eader output time:			2 cicle			2 dicto			Derete
End time	✓ Outp	ut daily repo	ort automatically	✓ Outp	out monthly	report automatically	✓ Out	put annual r	eport automatical
		Edit for	mat		Edit f	format		Edit f	ormat

\*For automatic output of report, refer to [10.2.2 Setting the automatic output ].

Manufacturing A				Report p drop.	age settin	gs for	r daily, monthly and	i annual can	be copied	mutually by drag	8
Common	Daily			Monthly				Annual			
Company:	Page	title		Page	title			Page	title		
MITSUBISHI ELECTRIC Co.		1 Assemb	ly Line 1st	1	Assembl	y Line	e 1st	1	Assembly	Line 1st	
		2 Assemb	ly Line 2nd	2	Assembl	y Line	e 2nd	2	Assembly	Line 2nd	
Field for probate		3		3				3			
Field1 Dept.A		4		4				4			
		5		5				5			
		6		6				6			
Field3 Dept.C		7		7				7			
		8		8				8			
Field4 Dept.D		9		9				9			
nstantaneous value	- 1	0		10				10			
the Monthly / Annual report:	1	1		11				11			
Average		2		12				12			
		3		13				13			
ower factor	1	4 5		14				15			
Maximum	1	6		16				16			
Maximum	1	7		17				17			
Comparison of the power factor:	1	8		18				18			
Absolute value	- 1	9		19				19			
)emand value	2	0		20				20			
o the Monthly / Annual report:			-			Γ				-	
Maximum		T			•	Ļ	•		•		
Header output time:	S	etting	Delete	Se	tting	L	Delete	Se	tting	Delete	
End time	- 🗸 Ou	tput daily re	port automatically	Output	out monthly	y repo	ort automatically	🗹 Out	out annual i	eport automatic	a
		Edit	format		Edit	t form	lat		Editf	format	
							_		_		
								Register		Close	

### (11) After the settings, click the **Register** button to save the settings.

(12) When the saving is completed, the following message appears.

Click the  $\ensuremath{\text{Yes}}$  button to close the message.

This is the end of the operation.

E	coAdviser	×
R	egistration is compl	eted.
	<u>0</u> K	

## **10.1.2** Customizing the report format

With the **Edit format** button, the report format is customized.

The Daily/Monthly/Annual report is created based on the master file in Excel book format.

By adding a user-specific sheet to the master file, each report can be customized.

When the specific sheet is added, insert the sheet after the master sheet with Excel.

\*The master file is created on each report setting.

\*There is a master sheet to paste data in the master file.

Do not change/delete the master sheet and change the sheet name.

Do not set a master sheet name for customized sheet.

Report	Master file name	Master sheet name
Daily report	D_(The registration number of report settings).xlsx	Day1 to Day20
Monthly report	M_(The registration number of report settings).xlsx	Month1 to Month20
Annual report	Y_(The registration number of report settings).xlsx	Year1 to Year20

\* The default destination of master file is "C: ¥Users¥ (User name) ¥Documents¥MES3-EAP1¥Template."

#### ■ Window example for editing a daily report format



# **10.2 Report Output**

This section describes how to automatically or manually output each report. For the format of output file, refer to [12.1 File Format].

#### 10.2.1 Setting the output destination

You will set the output destination folder of report.

\*Each report is output to the same destination for automatic and manual output.

If a report with the same output date has already exist, note that the existing file is overwritten.

(1)	Click the Output Setting	, bu								
🜃 Eco/	Adviser - Report								— C	) ×
< ا	Report Setting Setting									
$\bigcirc$	1. Select the setting name of form setting.		A	В	С	D	E	F	G	Н
$\bigcirc$	,		1	-						^
	· · · · · · · · · · · · · · · · · · ·		2							
	2. Select output type		4							
_			5							
	Daily		6							
	Preview		7							
	3. Add the output date		8							
			10							
	stan		11							
<b>Q</b>	End		12							
			13							
			14							
			16							
			17							
			18							
			19							
			20							_
			22							
			23							
	Management report output		24							
	Open output destination	1	25							~
				H Sheet1	+		<			>

#### (1) Click the **Output setting** button.

(2) Click the 🔄 button and then specify the destination folder for Daily/Monthly/Annual report.

Gaipar	12:15 AM	<b>A</b>		
Output	day :	Ŧ		
	1	-		
Output	month :			
	1	-		
2. Outp	out destination settin	g.		
Daily :				
[	C:\Users\三菱電機\[	Documents\MES3-EAP	1\Report\DailyReport	
Monthl	y :			
	C:\Users\三菱電機\[	Documents\MES3-EAP	1\Report\MonthlyReport	
Annual				
l	C:\Users\三菱電機\[	Documents\MES3-EAP	1\Report\YearlyReport	

(3) Click the **Save** button to save the settings. This is the end of the operation.

			• · ·
Output setting			×
1. Automatic output time se	etting.		
Output time :			
12:15 AM	*		
Output day :			
1	-		
Output month :			
1	-		
2 Output destination setting	0		
2. Output destination setting	y.		
Daily:			
C:\Users\三菱電機\E	Documents\MES3-EAP	1\Report\DailyReport	<b>P</b>
Monthly :			
C:\Users\三菱電機\E	Documents\MES3-EAP	1\Report\MonthlyReport	Þ
Annual :			
C:\Users\= 莽雷機\U	Documents\MES3-EAP	1\Report\YearlyReport	
			_
	1		_
	Save	Cancel	

## 10.2.2 Setting the automatic output of reports

This subsection describes how to set the automatic output for Daily/Monthly/Annual report.

 At the Auto execute settings, set the Automatic report output to ON. (Refer to [6 Auto Execute Settings].)

	(2)	Click the <b>Report setting</b>	button ir	n the <b>Report</b> I	menu.
--	-----	---------------------------------	-----------	-----------------------	-------

🜃 Eco/	Adviser - Report								- 1		×
<ul><li>Э</li></ul>	Report setting Setting										
			A	в	C	D	F	F	G	н	
<b>()</b>	1. Select the setting name of form setting.		1	0	0	U	-		0		^
	<b>•</b>		2								
			3								
	2. Select output type		4								
	Daily		5								
	Proviow		5								
	Tieview		8								
	3. Add the output date		9								
, i	Start		10								
ste	·····		11								
<b>.</b>	End		12								
	Ψ.	:	13								
			15								
			16								
			17								
			18								
			19								
			20								
			21								
			23								
	Management report output		24								
	Open output destination		25								~
	open ouper accuration		H4 4 F FF	Sheet1	÷ (		<			>	

(3) Select the checkbox of a setting you want to automatically output and then click the **Setting** button.



(4) Select the checkbox of "Output report automatically" you want to execute and then click the **Register** button.

Manufacturing A				drop.	age setting	s for daily, monully an	u annuar car	i be copied	mutually by urage
Common	Daily			Monthly			Annual		
Company:	Page	title		Page	title		Page	title	
MITSUBISHI ELECTRIC Co.	1	Assembly	y Line 1st	1	Assembly	Line 1st	1	Assembl	y Line 1st
	2	Assembly	y Line 2nd	2	Assembly	Line 2nd	2	2 Assembl	y Line 2nd
Field for probate	3			3			3	3	
Field1 Dept.A	4			4			4	1	
C Field Deat B	5			5			5	5	
Pield2 Dept.B	6			6			6	6	
Field3 Dept.C	7			7			1	7	
	8			8			8	3	
Field4 Dept.D	9			9			9	9	
natantana ula valua	10			10			10	)	
o the Monthly / Annual report	11			11			11	1	
Average	12			12			12	2	
Average	13			13			13	3	
Power factor	14			14			14	1	
o the Monthly / Annual report:	15			15			15	5	
Maximum	• 16			16			16	6	
	17			17			17	7	
comparison of the power factor:	18			18			18	3	
Absolute value	• 19			19			19	9	
Demand value	20			20			20	)	
o the Monthly / Annual report:		•	+		<b></b>	+		<b></b>	+
Maximum	Se	tting	Delete	Se	tting	Delete	S	etting	Delete
leader output time:									L
End time ·	✓ Outp	out daily rep	port automatically	🗹 Out	out monthly	report automatically	⊡ Out	tput annual	report automatica
		Editf	ormat		Edit	format		Edit	format

(5) When the settings are saved, the following message appears.Click the **OK** button to close the message.

EcoAdviser	$\times$
Registration is com	pleted.
<u>0</u> K	]

(6) The previous settings are reflected to the checkbox of Daily/Monthly/Annual report in the report setting.

Setti	ng information		Automat	ic output		
No.	Setting name		Daily	Monthly	Annual	
1	Manufacturing A		Image: A start of the start			^
2	Manufacturing B		1	~	~	
3	Manufacturing C		~	~	~	
4	<empty></empty>					
5	<empty></empty>					
6	<empty></empty>					
7	<empty></empty>					
8	<empty></empty>					
9	<empty></empty>					
10	<empty></empty>					
11	<empty></empty>					
12	<empty></empty>					
13	<empty></empty>					
14	<empty></empty>					
15	<empty></empty>					
16	<empty></empty>					
17	<empty></empty>					
18	<empty></empty>					
19	<empty></empty>					
20	<empty></empty>					
21	<empty></empty>					
22	<empty></empty>					
23	<emptv></emptv>					$\checkmark$
(	Create New	Setting			Delete	

Click the  $\ensuremath{\textbf{Close}}$  button to close the window.

(7)	Click the Output setting	button.
-----	--------------------------	---------

🜃 Eco/	Adviser - Report								- 0	ı ×
<ul><li>Э</li></ul>	Report Setting Setting									
6)	1. Select the setting name of form setting.		▲ A	В	С	D	E	F	G	Н
	2. Select output type		2 3 4							
	Daily •		5 6 7							
	3. Add the output date		8 9 10							
₽	End	:	11 12 13							
	*	·	14 15							
			17 18							
			19 20 21							
	Management report output		22 23 24							
	Open output destination		25	Sheet1	•		<			>

(8) You will set the time to automatically output reports.

Daily report: Automatically output at the set time every day.

Monthly report: Automatically output at the set day and time every month.

Annual report: Automatically output at the set month, day, and time every year.

	t time :	
	12:15 AM	
Outpu	t day :	
	1	
Outpu	t month :	
	1 🔍	
wong .		-
Month	C:\Users\三菱電標Documents\MES3-EAP1\ReportDailyReport  Iv:	
Month	C:IUsers\三菱電機Documents/MES3-EAP1/ReportDailyReport Iv: C:IUsers\三菱電機Documents/MES3-EAP1/ReportMonthlyReport I	•
Month Annua	C:Users\三菱電標/Documents/MES3-EAP1/Report/DailyReport ly: C:Users\三菱電標/Documents/MES3-EAP1/Report/MonthlyReport al: C:Users\三菱電標/Documents/MES3-EAP1/Report/YearlyReport	

(9) Click the **Save** button to save the settings.

|--|

	tomatic output time setting.
Outp	ut time :
	12:15 AM
Outp	ut day :
	1 🔹
Outp	ut month :
	1
Daily Mont	: 【C:lUsers\三菱電碟DocumentsIMES3-EAP1\ReportDailyReport】】 hly :
	C:\Users\三菱電機\Documents\MES3-EAP1\Report\MonthlyReport
	al :
Annu	C:\Users\三蔬蛋糠\Documents\MES3-EAP1\Report\YearlyReport
Annu	

## **10.2.3 Setting the output of reports**

This subsection describes how to manually output the daily/monthly/annual report.

(1) Select a report setting for output from the pull-down menu.

<b>、</b> /	1 5											
🜃 EcoA	Adviser - Report									- [	2	×
۲												
di i	Report Output setting setting Setting											
				A	в	C	D	F	F	G	н	-
<b>()</b>	1. Select the setting name of form setting.		1	~	5	0	0	-		0		^
			2									
	1.Manufacturing A		3									
	2.Manufacturing B		4									
	3.Manutacturing C	2	5									
	Proviow	1	7									
	TICHCW		8									
	3. Add the output date		9									
· ·	Start		10									
342		r	11									
244	End	· .	12									
		-	13									
	L	_	14									
			16									
			17									
			18									
			19									
			20									
			21									
			23									
	Management report output		24									
	Open output destination	_	25									~
	open super destination		144	4 F H	Sheet1	÷		<			>	

(2) Select a report for output from the pull-down menu.

By clicking the **Preview** button, the report format is displayed on the right side of the window.

€coA Э	dviser - Report								_ l	
$(\mathbf{G})$	1. Select the setting name of form setting		A	В	С	D	E	F	G	Н
$\smile$	1. Select the Setting name of form Setting.	1								^
	1.Manufacturing A 👻	2	_							
		3	-							
	2. Select output type	4	-							
	Daily	0								
	Daily	7								
	Monthly	8								
	Annual	9								
	01-1	10	1							
	Start	1								
		12	2							
	End	13								
	<b>▼</b>	14	ł							
		15	i							
		16	i							
		17	·							
		18	1							
		19	1							
		20	1							
		2								
		22	2							
		23								
	Management report output	24								
	Open output destination	2:		1						~
		H	4 ► HH	Sheet1			<			>

## (3) Set the date for output.

#### The period to be output at one time varies depending on the output report.

If Eco/	Ndviser Report							_		×
	aviser - report									~
۲										
	Report Output setting setting									
	Setting									
			_		_	-	-	_	_	_
6)	1. Select the setting name of form setting.		1	A	В	C	D	E	F	^
	4 Manufacturing A		2							
	4.manuacuning A		3							
	2. Select output type		4							
	Daily		5				Group A		Gra	-
	Proviow		7				Gloup A		Giù	-
	I TEVIEW		-							
	3. Add the output date		0	Time	Total Energy	Machine_A'( kWh)	Machine_B(k Wh)	Machine_C(k Wh)	Machine_D(k Wh)	< _
	Start		10			· · ·	· · ·	· · ·	,	
22	3/20/2019 🔻		11		k\//b	k\Wh	k\Wh	k\Wb	k\//b	-
-	End	+	12		NVVII	NV11	KVIII	KWII	KVVII	-
	₹21/2019	:	12							
			14							
			15							
			16							
			17							
			18							-
			19							
			20							
	Honogement report output		21							
	management report output		22							
	Upen output destination		144	∢ → →H [	Day1 Day2	⊕	<		>	

Report	The period to output
Daily report	A maximum of 7 days
Monthly report	A maximum of 3 months
Annual report	A maximum of 3 years

(4) Click the Management report output button to output the report.Each report is output to the specified folder set at the output settings.(For details, refer to [10.2.1 Setting the output destination].)

	Report Output setting Setting									
.)	1. Select the setting name of form setting.		1	A	В	С	D	E	F	
_	4.Manufacturing A		2		•					
	2 Select output type		3							
	Daily	1	5				0			_
	Preview	]	6				Group A		(	Groi
	3. Add the output date	1	8	Time	Total Energy	Machine_A'( kWh)	Machine_B(k Wh)	Machine_C(k Wh)	Machine_[ Wh)	D <mark>(</mark> k
	Start		10			,	, í	, í	( <sup>'</sup>	
5	3/20/2019 🔻		11		kWh	kWh	kWh	kWh	kWh	
	End	1	12							_
	22112013		13							
			14							
			15							
			10							
			18							-
			19							
			20							
	Management report output		21							
	Upen output destination		22							

(5) When the output is completed, the following message appears.Click the **OK** button to close the message.

Eco	Adviser	×
Rep	ort output is comp	leted.
	<u>0</u> K	

## 10.2.4 Opening the output destination

By clicking the **Open output destination** button, the output destination of report specified at the output settings is opened.

EcoAd	dviser - Report								- I	
di i	setting setting									
$\bigcirc$	1. Select the setting name of form setting.		A	В	С	D	E	F	G	Н
		1	2	-						
		]	3							
	2. Select output type		4							
	Daily	]	5							
	Preview		7							
		1	8							
	3. Add the output date		9							
	Start		10							
<b>Ö</b>			12							
	End	1	13							
			14							
			15							
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			18							
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			21							
			22							
	Management report output		24							
			25							,
	open output destination		44 4 ▶	H Sheet1	•		<			>

# 11. Troubleshooting

This chapter describes how to deal with something abnormal or failures during the operation.

If something abnormal occurs or a message appears while you are using OS functions or other applications, refer to their instruction manuals, respectively.

■ Registration of collection source

Situation	Measuring point data cannot be read via HTTP from EcoWebServer III.
Check point	<ul> <li>Measuring point data is read from the zoom (1 min.) data file or demand (daily) data file of EcoWebServer III.</li> <li>Check the following points in the following order:</li> <li>Check that the above data file exists in the EcoWebServer III.</li> <li>For details on how to check, refer to [EcoWebServer III User's Manual: Operating Edition].</li> <li>Check that measuring data of each measuring point has been input to the data file.</li> <li>Check that the time of the EcoWebServer III is not significantly different from that of the computer.</li> </ul>
Situation	When you register the model name or collect measuring point data via HTTP, the following message appears.
Check point	<ul> <li>The message indicates that it is impossible to connect to the collection source of EcoWebServerII.</li> <li>Check the following points:</li> <li>The power supply of the collection source is ON?</li> <li>The LAN cable is correctly connected?</li> <li>The setting of the IP address is correct?</li> <li>The network setting of the computer is correct?</li> <li>The communication is not blocked by Firewall or antivirus software?</li> </ul>

#### Deletion of collection source/measuring points

Situation	When you try to register a new measuring point to the deleted measuring point ID,
Situation	data of the deleted measuring point remains.
Chack point	Even if you delete the measuring point, the past measuring data is not deleted.
Check point	To delete the past data, refer to [5.4 Manual Input/Edition] to input blank to the data.

## ■ Equipment setting

	Measuring points that measure pulse in Edgecross cannot be registered to the energy
Situation	measuring point, production number measuring point, or utility measuring point in the
	equipment setting.
	When you register measuring points of Edgecross, the measuring type is registered as
	analog value. Check that the measuring type is correctly set. From measuring point
Check point	setting, you can check the measuring type. For change of the measuring type, refer to
	[4.1.5 Changing the information of measuring points in a batch] or [4.1.10 Changing
	the measuring point].

# ■ Automatic collection

Situation	Automatic collection is not executed at the set time.
	Has this software been running?
	The automatic collection cannot work if this software has not been running at the
	setting time.
	Be sure to turn on your computer, activate this software and keep it running.
	Has your computer gone into "sleep mode"?
	The automatic collection cannot work while your computer is in "sleep mode".
Chack point	Be sure to come out of "sleep mode", and change settings your computer if necessary.
спеск роппс	Have you rewound the computer's clock after setting the automatic collection to ON?
	If so, automatic collection will not be executed until the set time.
	Switch the automatic collection to OFF once and set it to ON again.
	If the collection source is EcoWebServerIII with the FOLDER setting or Edgecross,
	check that the reference folder path is correctly set.
	When the setting values have been restored, the reference of each file and the setting
	of saving destination must be re-checked.
Situation	There is missing data in the file collected from Edgecross.
	Have you set to the specifications of historical data file creation recommended in [2.2
	Edgecross's Data File Collection]?
	If you operate with a different setting, data files cannot be acquired by automatic
Check point	collection and there may be missing data in the file.
	To take measures against it, check that the historical data file exists for the
	corresponding time, and manually collect the historical data file of the time when
	missing data exists.
Situation	The automatic collection did not collect past data.
	The automatic collection can collect only latest data.
Check point	You should collect manually the specific period data that had not been collected due to
	the automatic collection failure.

#### Manual collection

Situation	When data is collected from EcoWebServer III by selecting files, EcoAdviser stops
	working midway.
	The file format for collection may be different from usual one due to the reason such
	as change of the file by the user or abnormality occurrence in EcoWebServer III,
Check point	Check the file format.
	For details on how to check, refer to [EcoWebServer III User's Manual: Operating
	Edition].

## ■ Automatic output of data files

Situation	An error occurs when data files are automatically output.
Check point	Check if there is the output destination folder or not, and also check if you have a access
	permission to the output desitnation folder.
	When the setting values have been restored, the reference of each file and the setting
	of saving destination must be re-checked.
	Is the capacity of the output destination enough?
	Check that there is enough free space at the output destination.

# ■ Manual output of data files

Situation	An error occurs when data files are manually output.
Check point	Is the capacity of the output destination enough?
	Check that there is enough free space in the output destination.

# ■ Manual input/edition

Situation	For Edgecross's measuring point data, it is impossible to input or import the value of
	16 digits after the decimal point.
Check point	Due to the specifications of EcoAdviser, it is impossible to input or import any value of
	16 digits or more after the decimal point even when the measuring point data has such
	values.
	In that case, the value may be rounded.
Situation	An error occurs when measuring data is exported.
Check point	Is the capacity of the output destination enough?
	Check that there is enough free space in the output destination.

## ■ Diagnosis result

Situation	Each value of the energy saving viewpoint is not displayed.
	Check the following points:
	1Have you set the settings to measure the energy saving viewpoint, such as
	production number measuring point, utility measuring point, or break time?
	Have you changed or deleted the settings of measuring points used in the
	diagnosis setting?
	②Have you correctly set the energy consumption threshold value for determining the
	equipment OFF state or the energy consumption threshold value for determining
	the utility OFF state?
	If you set any values greater than energy consumption in the equipment operating
	state and in the utility operating state to the two thresholds, the diagnosis will not
	be correctly executed. Check the proper values in the energy
	consumption/production volume graph to set the thresholds. For details, refer to
	[7.4.3 Checking values of the energy saving viewpoint].
	③Have you saved the diagnosis data from collection sources for diagnosis period?
	If the data is not saved, diagnosis of the date cannot be performed.
	For details on how to check the collection status of diagnosis data from collection
Check point	sources, refer to [7.3.1 Collecting the data used for diagnosis].
·	*If you have updated the software from Energy Saving Data Analysis Software
	(Model: MES3-EAP1-DA) to Energy Saving Data Energy Saving Data Analysis and
	Diagnosis Software (Model: MES3-EAP1-AI), the data collected on Energy Saving
	Data Analysis Software (Model: MES3-EAP1-DA) is impossible to use for diagnosis.
	To perform the diagnosis, data must be collected from collection sources again.
	*If automatic collection is executed during the time from manual collection of
	diagnosis data from collection sources to the diagnosis execution, the storage
	period of the data will be updated and the manually collected data may be deleted.
	To execute manual diagnosis, set the automatic collection to OFF.
	④Is the diagnosis data from collection sources two hours or more continuous serial
	data ?
	If the data is less than two hours or is not continuos serial data due to missing,
	diagnosis of the date cannot be executed.
	⑤The production volume threshold value for determining the exclusion day for
	diagnosis is correctly set?
	If you set any values greater than daily production volume, the date is excluded
	from the diagnosis.

-	
Situation	No energy-loss factor diagnosis is displayed.
	Energy-loss factor diagnosis is not displayed in the following cases:
	①The value of the energy saving viewpoint is not displayed.
	For the checking points, refer to the troubleshooting mentioned above.
	②The diagnosis period is short.
	When the diagnosis period is short, energy-loss factor diagnosis may not be
Check point	executed. As a guide, set one month or more for the diagnosis period.
	3There is no bias in the energy-loss factor as a result of diagnosis
	Under these conditions, energy-loss factor diagnosis could not be executed.
	If the diagnosis conditions, such as diagnosis period and equipment setting, are
	changed, energy-loss factor diagnosis can be executed.
Situation	In the energy consumption/production volume graph, every production volume is
	displayed as 1.
	Check whether the working hours are set to the equipment, which is that the
Check point	production number measuring point is not set.
	If the working hours are set to the equipment, the production volume under working
	hours is displayed as 1.

## ■ Graph display

Situation	When data of measuring points that measure pulse of Edgecross is displayed in the
	graph, it is displayed as an analog value.
	For registration of Edgecross's measuring points, the measuring type is automatically
	set to analog value.
Chack point	Check that each measuring type is correctly set.
Check point	You can check it from Measuring point settings.
	For details on how to change the measuring type, refer to [4.1.5 Changing the
	information of measuring points in a batch] or [4.1.10 Changing the measuring point].
Situation	The box plot cannot be displayed.
	Are there any measuring points set or hourly data of the display period?
	To create the box plot, two or more of hourly data is required for the display period
Check point	for each measuring point.
	When you set each display period to multiple measuring points, if even one measuring
	point does not have two or more of hourly data, the graph cannot be displayed.
Situation	The graph is not displayed according to the graph setting.
Chask point	Depending on the graph setting, you must re-open the graph.
Спеск роіпт	Save the graph once and open it again.
	When the past data is displayed with the graph display interval setting of 'Hourly',
Situation	missing data regularly occurs or lower values than original ones are displayed.
Check point	Check whether the data period has been changed from System settings.
	The past data keeps the previous data period and no past data is changed. Therefore,
	if the data period is changed to set a different one, the data will be displayed as outlier.



### ■ Dashboard (Number panel)

#### ■ Dashboard (Graph panel)

Situation	No graph is displayed in the graph panel on the dashboard.
Check point	The measuring point displayed in the graph may have been deleted.
	From the graph window, open the graph to check the display.
	When the following message appears, the measuring point has been already deleted.
	EcoAdviser ×
	There is no measuring point information in Measuring point ID.

#### ■ Dashboard (Diagnosis panel)

•		
Situation	The diagnosis panel is not properly displayed.	
	During the diagnosis execution, the diagnosis panel may not be properly displayed.	
Check point	If it is not properly displayed, wait until the following time passes.	
	·Day aggregation period (time) + 2 hours to Day aggregation period (time) + 3 hours	

## ■ Automatic output of dashboard HTML files

Situation	An error occurs during the automatic output of the dashboard HTML file.
	Check that the output destination folder exists and that you have access to the output
	destination folder.
	When the setting values have been restored, the reference of each file and the setting
спеск ропп	of saving destination must be re-checked.
	Is the capacity of the output destination enough?
	Check that there is enough free space in the output destination.
Situation	The dashboard HTML file has not been updated despite no errors.
Check point	Check your operation log file whether "Automatic dashboard HTML file output end"
	comes after "Automatic dashboard HTML file output start".
	The HTML file output folder might had opened if one of the above two messages or
	both could not be found in the operation log file.
	The dashboard HTML file has not been updated because EcoAdviser could not update
	file/folder while the output folder had been still opened.

# ■ Manual output of dashboard HTML files

Situation	An error occurs when the dashboard HTML file is output.
Check point	Is the capacity of the output destination enough?
	Check that there is enough free space in the output destination.
Situation	There is something abnormal in the output dashboard HTML file, such as a wrong
	value, strange graph, or file that cannot be opened.
Check point	Automatic collection may have been executed while the dashboard HTML file is
	output. Output the file again.

# ■ Display of dashboard HTML files

	When the sheet tab switching is executed with the auto-switch, some sheet tabs that	
Situation	have been displayed are not displayed.	
	*Some sheets but not all	
Check point	While the dashboard HTML file is displayed, you may have deleted the sheet tabs on	
	EcoAdviser and overwritten the file.	
	To view the latest HTML file, update the web browser.	

## ■ Automatic output/Manual output of reports

	The error with Excel not installed occurs when the Excel purchased at Microsoft Store			
Situation	is used.			
	EcoAdviser ×			
	This function cannot be used because Microsoft Excel is not installed.			
	QK			
Check point	It is impossible to use the Excel purchased at Microsoft Store.			
	Use the desktop version of Excel.			
Situation	Although the report is output operationally, there is no file in the output destination.			
Check point	Check that the output destination is correct.			
	When the setting values have been restored, the reference of each file and the setting			
	of saving destination must be re-checked.			
Situation	An error occurs during the report output.			
	Check that the output destination folder exists and that you have access to the output			
Check point	destination folder.			
	When the setting values have been restored, the reference of each file and the setting			
	of saving destination must be re-checked.			
	Is the capacity of the output destination enough?			
	Check that there is enough free space in the output destination.			

#### Others

Situation	When you start the installer, the following message appears, and no installation is executed.  Energy Saving Data Analysis Software  The operating system is not adequate for running Energy Saving Data Analysis Software.  OK		
Check point	The OS of the used computer may be different from the one listed in [2.1 Computer's Operation Environment]. Check the specifications of the computer where EcoAdviser is installed.		
Situation	When you start EcoAdviser, the following message appears, and the startup fails.          Sentinel LDK Protection System       ×         Sentinel key not found (H0007)       OK		
Check point	The hardware key is not connected to the computer you use. EcoAdviser can be used by connecting the hardware key. Connect it to the computer.		

	When you execute the remote desktop connection and then start EcoAdviser, the	
	following message appears.	
Situation	Sentinel LDK Protection System X	
	Terminal services detected (H0027)	
	OK	
	EcoAdviser does not start.	
Check point	When you use EcoAdviser by remote control, execute the connection of remote	
Situation	EcoAdviser does not start.	
	Are you remotely operating the computer where EcoAdviser is installed by using the remote desktop connection?	
Check point	EcoAdviser does not start under the remote control. For remote operation, execute the	
•	remote desktop connection while EcoAdviser is running.	
	For any cases other than the described above, restart the computer.	
Situation	The filter function does not work properly.	
Check point	Click the <b>Clear Filter</b> button and then set it again.	
<b>P</b>	Each maximum value of 'Top N' and 'Bottom N' is 10.	
Situation	The file write error occurs in the operation log.	
	Check whether the setting values have been restored from another computer.	
Спеск роіпт	when the setting values have been restored, the reference of each file and the setting of saving destination must be re-checked	
Cituation		
Check point	Restart the computer where EcoAdviser is installed	
Situation	EcoAdviser crashes suddenly and shows an error message.	
	If the collection source is Ecowebserverill with the FOLDER setting or Edgecross, check that the reference folder path is correct	
Check point	When the setting values have been restored, the reference of each file and the setting	
	of saving destination must be re-checked.	
Situation	You have deleted the master file for report or edited the master sheet	
Situation	Click the <b>Register</b> button in the report setting and re-register the setting of each	
Check point	report. When the registration is completed, the master file before customization will	
	be created.	

Situation	When you are operating EcoAdviser, the window size or layout has changed into				
	smaller one suddenly.				
	The situation occurs when you use a display with different resolution and zoom factor				
	from one at the t	me of starting EcoAdvis	ser due to using	multiple displays. This in	ndicates
	'Change the size of text, apps, and other items' of the display setting items in Windows				
	10.				
	If you use that display, set the following items:				
	(1) Right-click th	e shortcut icon of EcoA	dviser on the de	esktop and then select	
	'Property.'				
	(2) Click the <b>Compatibility</b> tab.				
	(3) Click the <b>High DPI settings change</b> button.				
	(4) Select the checkbox of 'Overwrite high DPI scale action' to change 'Execution				
	resource of magnifying and reducing' to 'System'.				
Check point	(5) Click the <b>OK</b> button and then click the <b>Apply</b> button to reflect the setting.				
	*When you execute this setting, the window display of the software is enlarged				
	according to the resolution and zoom factor of the display and may be displayed in				
	blurry.				
	The following table shows recommended resolution of the display depending on the				
	zoom factor.				
	Zoom factor	Resolution	Zoom factor	Resolution	
	100%	1024*768 or more	200%	2880*1620 or more	
	125%	1900*1200 or more	225%	3840*2160 or more	
	150%	1900*1200 or more	250%	3840*2160 or more	
	175%	2880*1620 or more			-
	During the opera	tion, the following win	dow appears, ar	nd the processina is too	) late to
	end.				

Situation	
	Stop
	Click the <b>Stop</b> button to termina

Check point Click the **Stop** button to terminate the processing. Restart EcoAdviser and then execute the operation again.

\*When you feel that EcoAdviser runs very slowly or abnormally, restart it.

If you need further assistance, contact the nearest Mitsubishi Sales Office or dealer.
# 12. Appendix

## 12.1 File Format

#### 12.1.1 Daily report

The following illustrates an output example of the daily report.

#### ■ File name

- D\_xxxx\_YYYYMMDD.xlsx
- $\cdot$  xxxx: The registration number of the report setting
- $\cdot$  YYYY: The year of output in four digits of the dominical year
- MM: The month of output in two digits
- $\cdot$  DD: The day of output in two digits

#### ■ File contents

													Dept.A	Dept.B	Dept.C	Dept.D
							Assembly	y Line 1s	t		-					
3/19/2	019, Tue										MITSUBISHI B	LECTRIC Co.				
			Group A		Gro	up B			Gro	up C						
Time	Total Energy	Machine_A(k Wh)	Machine_B(k Wh)	Machine_C(k Wh)	Machine_D(k Wh)	Machine_E(k Wh)	Machine_F- 1(kWh)	Machine_F- 2(kWh)	Machine_F- 3(kWh)	Machine_F- 4(kWh)	Machine_G( kWh)	Machine_H(k Wh)	Quality Check_1st(k Wh)			
	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh			
1:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
2:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
3:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
4:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
5:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
6:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
7:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
8:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
9:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
10:00	9	0.2686	0.2366	0.0584	0.2436	0.0692	0.3280	0.3410	0.3176	0.3190	0.1924	0.0924	0.1688			
11:00	19	0.5230	0.4484	0.1262	0.4560	0.1382	0.3986	0.4216	0.4044	0.4212	0.2874	0.1372	0.2778			
12:00	17	0.4948	0.4328	0.1226	0.4466	0.1362	0.4012	0.4214	0.4036	0.4190	0.2870	0.1398	0.2696			
13:00	18	0.4878	0.4270	0.1252	0.4320	0.1386	0.3856	0.4056	0.3860	0.4016	0.2834	0.1382	0.2650			
14:00	15	0.4632	0.4154	0.1220	0.4232	0.1366	0.3800	0.3926	0.3768	0.3772	0.2726	0.1352	0.2520			
15:00	18	0.5044	0.4348	0.1224	0.4310	0.1346	0.3914	0.4042	0.3754	0.3756	0.2832	0.1344	0.2692			
16:00	19	0.5162	0.4408	0.1232	0.4604	0.1372	0.3960	0.4168	0.4048	0.4308	0.2812	0.1352	0.2734			
17:00	22	0.5106	0.4366	0.1234	0.4552	0.1362	0.4012	0.4262	0.4186	0.4294	0.2858	0.1368	0.2792			
18:00	20	0.5158	0.4404	0.1256	0.4604	0.1382	0.4074	0.4258	0.4108	0.4258	0.2826	0.1358	0.2794			
19:00	16	0.4930	0.4204	0.1234	0.4300	0.1358	0.3992	0.4110	0.3954	0.4102	0.2818	0.1376	0.2672			
20:00	20	0.5014	0.4344	0.1250	0.4370	0.1370	0.4004	0.4168	0.3968	0.3970	0.2782	0.1344	0.2722			
21:00	8	0.2226	0.2006	0.0632	0.1946	0.0444	0.1518	0.1594	0.1512	0.1572	0.1246	0.0610	0.1430			
22:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
23:00	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
U:00	201	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
Maximum	201	0.5220	4.7082	0.1262	4.6700	0.1396	4.4408	4.0424	4.4414	4.3040	0.2974	0.1309	0.2704			
Minimum		0.0230	0.0000	0.1202	0.4004	0.1300	0.0000	0.4202	0.4100	0.4308	0.0000	0.1390	0.2794			
Average	8	0.2292	0.1987	0.0567	0.2029	0.0618	0.1850	0.1934	0.1851	0.1902	0.1308	0.0633	0.1257			
	-															1

### 12.1.2 Monthly report

The following illustrates an output example of the monthly report.

#### ■ File name

- M\_xxxx\_YYYYMM.xlsx
- $\cdot$  xxxx: The registration number of the report setting
- $\cdot$  YYYY: The year of output in four digits of the dominical year
- $\cdot$  MM: The month of output in two digits

#### ■ File contents

													Dept.A	Dept.B	Dept.C	Dept.D
	Assembly Line 1st															
Mar,	Mar. 2019 MITSUBISHI ELECTRIC Co.															
			Group A		Gro	up B			Gro	up C						
		Machine A/k	Machine B/k	Machine C(k	Machine D/k	Machine E/k	Machine E.	Machine E	Machine E.	Machine E-	Machine G(	Machine H/k	Quality			
Date	Total Energy	Wh)	Wh)	Wh)	Wh)	Wh)	1(kWh)	2(kWh)	3(kWh)	4(kWh)	kWh)	Wh)	Check_1st(k Wh)			
													,			
	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh			
1	48	1.7698	1.6266	0.4592	1.6118	0.4652	0.9726	1.0134	1.4604	2.1298	1.6564	0.8436	1.4456			
2	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
3	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
4	200	5.2386	4.5352	1.2450	4.6880	1.4260	4.2054	4.4160	4.2302	4.3678	2.9762	1.4432	2.9334			
5	188	4.8442	4.2150	1.1636	4.3524	1.3328	3.9086	4.0740	3.9524	4.1154	2.9060	1.4112	2.7460			
6	170	4.2024	3.6216	0.9932	3.7706	1.1360	3.4182	3.6146	3.4748	3.5946	2.4002	1.1686	2.3294			
7	195	5.1058	4.4290	1.2406	4.5788	1.4188	4.1172	4.3252	4.1690	4.2636	2.9368	1.4346	2.8018			
8	148	3.9450	3.4124	0.9472	3.5452	1.0818	3.0680	3.3062	3.1776	3.2676	2.2498	1.0964	2.1428			
9	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
10	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
11	205	5.3416	4.6378	1.2906	4.7980	1.4782	4.1462	4.4250	4.2828	4.4704	3.1318	1.5242	2.9666			
12	210	5.3796	4.6458	1.2798	4.8316	1.4552	4.3328	4.6004	4.4484	4.6236	3.1548	1.5214	3.0120			
13	161	4.2148	3.6134	1.0008	3.7648	1.1416	3.4822	3.6736	3.5402	3.6566	2.5046	1.2120	2.4132			
14	155	4.1110	3.5784	0.9914	3.7028	1.1364	3.3668	3.5746	3.4350	3.5304	2.4736	1.2004	2.3328			
15	186	5.0392	4.3322	1.2292	4.5214	1.3906	4.0020	4.2326	4.0658	4.1916	3.0046	1.4630	2.8254			
16	161	4.1898	3.6364	1.0410	3.7630	1.1556	3.4954	3.6350	3.4912	3.6024	2.5072	1.2194	2.3790			
17	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
18	165	4.1586	3.6220	1.0266	3.7130	1.1390	3.3234	3.4710	3.3128	3.4190	2.3968	1.1664	2.2546			
19	201	5.5014	4.7682	1.3606	4.8700	1.4822	4.4408	4.6424	4.4414	4.5640	3.1402	1.5180	3.0168			
20	165	4.2196	3.6558	1.0394	3.7382	1.1548	3.3200	3.4832	3.3672	3.4828	2.4028	1.1744	2.3028			
21	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
22	157	3.9646	3.4230	0.9840	3.5058	1.0872	3.2080	3.3530	3.2296	3.3310	2.3492	1.2168	2.2354			
23	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
24	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
25	181	4.2762	3.6904	1.0362	3.8000	1.1504	3.3922	3.5470	3.4146	3.5354	2.4260	1.5038	2.8436			
26	182	4.2646	3.7070	1.0520	3.7874	1.1630	3.3784	3.5376	3.4082	3.5312	2.4450	1.3646	2.3484			
27	171	4.1900	3.6672	1.0560	3.7246	1.1684	3.3024	3.4592	3.3076	3.4148	2.4104	1.2080	2.3242			
28	170	4.1950	3.6480	1.0350	3.7344	1.1486	3.3406	3.4608	3.3330	3.4584	2.4012	1.1676	2.2870			
29	133	3.3320	2.9010	0.8220	2.9844	0.9306	2.9170	3.0092	2.9122	3.0034	2.0950	1.0212	1.9662			
30	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
31	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
Month Total	3552	91.4838	79.3664	22.2934	81.7862	25.0424	73.1382	76.8540	74.4544	77.5538	53.9686	26.8788	51.9070			
Maximum	210	5.5014	4.7682	1.3606	4.8700	1.4822	4.4408	4.6424	4.4484	4.6236	3.1548	1.5242	3.0168			
Minimum	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
Average	115	2.9511	2.5602	0.7191	2.6383	0.8078	2.3593	2.4792	2.4018	2.5017	1.7409	0.8671	1.6744			

## 12.1.3 Annual report

The following illustrates an output example of the annual report.

■ File name

- Y\_xxxx\_YYYY.xlsx
- $\cdot$  xxxx: The registration number of the report setting
- $\cdot$  YYYY: The year of output in four digits of the dominical year

■ File	contents
	0011001100

													Dept.A	Dept.B	Dept.C	Dept.D
	Assembly Line 1st															
2	2018 MITSUBISHI ELECTRIC Co.															
			Group A	r	Gro	up B			Gro	up C	r	r				
Month	Total Energy	Machine_A(k Wh)	Machine_B(k Wh)	Machine_C(k Wh)	Machine_D(k Wh)	Machine_E(k Wh)	Machine_F- 1(kWh)	Machine_F- 2(kWh)	Machine_F- 3(kWh)	Machine_F- 4(kWh)	Machine_G( kWh)	Machine_H(k Wh)	Quality Check_1st(k Wh)			
	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh	kWh			
1	3511	88.6198	77.2922	21.0306	78.2868	23.8932	74.4190	77.2154	75.2758	76.5354	53.3516	26.3726	51.4024			
2	3387	85.2996	74.3774	20.5442	75.5244	23.8570	71.0958	73.7976	71.8694	75.4842	51.4696	25.0738	49.1802			
3	3621	94.8126	82.7038	22.6742	83.4478	25.6520	78.7110	81.2414	79.6638	81.8374	56.6874	27.8110	53.8198			
4	4014	102.9754	89.4992	24.6412	90.5162	27.6304	83.6364	86.5828	85.9818	88.5814	62.1406	31.8348	61.0708			
5	3529	91.0980	78.5928	21.4746	80.8162	24.0978	74.2378	75.4388	74.7794	76.9678	55.3432	27.5220	53.1872			
6	3177	84.0350	73.0512	20.2084	75.1414	22.6046	68.1710	69.9400	68.5464	71.2516	51.4018	26.3648	50.0978			
7	3299	86.3114	74.9990	20.6740	77.4428	23.7408	69.9776	72.1262	70.2652	72.4018	52.0802	25.5794	50.6230			
8	2816	73.4356	64.0416	17.7136	66.1298	20.3850	59.0854	60.3460	58.5270	61.0184	44.1126	21.8322	42.8906			
9	2906	79.7548	69.0796	19.3932	71.2022	22.1682	63.3548	65.2442	62.7448	65.0320	47.8492	23.9474	45.4900			
10	3520	95.3108	82.7628	23.0848	85.6852	26.5074	76.3798	78.6776	75.7064	79.2702	57.1532	28.3032	54.1952			
11	3883	102.1006	88.2928	24.5380	91.8834	28.2910	81.6462	83.8594	81.3168	84.1576	60.8568	29.9712	58.3468			
12	3953	104.7192	90.9006	25.0578	94.2158	28.7696	83.6770	85.9802	83.5948	86.8238	61.0004	29.9826	58.4778			
Year Total	41616	1088.4728	945.5930	261.0346	970.2920	297.5970	884.3918	910.4496	888.2716	919.3616	653.4466	324.5950	628.7816			
Maximum	4014	104.7192	90.9006	25.0578	94.2158	28.7696	83.6770	86.5828	85.9818	88.5814	62.1406	31.8348	61.0708			
Minimum	2816	73.4356	64.0416	17.7136	66.1298	20.3850	59.0854	60.3460	58.5270	61.0184	44.1126	21.8322	42.8906			
Average	3468	90.7061	78.7994	21.7529	80.8577	24.7998	73.6993	75.8708	74.0226	76.6135	54.4539	27.0496	52.3985			

### 12.1.4 Measuring data output file

The below table shows the file format of measuring data when automatic or manual output of data file are executed.

#### ■ File name

The following is an example of automatic output of data files.

data\_xxxx.csv

 $\cdot$  xxxx: The number of the setting value in four digits

\*For example, in the case of No.1, xxxx is 0001.

\*You can save this file as any name.

■ File contents

These are example 1 and example 2 by using following settings, respectively:

- · Date column name: DateTime
- · Date format: YYYY/MM/DD hh:mm

Item	Details
The first	Datetime, Measuring point name 1[measuring unit], Measuring point name 2[measuring
line	unit], ···, Measuring point name n[measuring unit]
From the	V00//MM/DD blogger Managering data 1 Managering data 2
second line	Measuring data 1, Measuring data 2, ···, Measuring data 1

#### Example 1: Automatic Data Output

This example uses the following conditions:

- Date column name: DateTime
- Date format: YYYY/MM/DD hh:mm
- Measuring point: Measuring point 1 to Measuring point 9
- Collection setting Data period(min):15

EcoWebServerⅢ file collection time(min):10

Day Aggregation Period(hour): 08:00  $\sim$  08:00

• Present Date and Time: 2019/02/02 06:20

DateTime	Measuring point 1[A]	Measuring point 2[W]	•••	Measuring point 9[]
2019/02/01 08:15	0.9	6470	•••	1
2019/02/01 08:30	0.9	6500	•••	2
2019/02/01 08:45	0.9	6450	•••	2
2019/02/02 05:45	0.9	6510	•••	2
2019/02/02 06:00	0.9	6520	•••	2

## Example 2: Manual Output

This example uses the following conditions:

- Date column name: DateTime
- Date format: YYYY/MM/DD hh:mm
- Measuring point: Measuring point 1 to Measuring point 9
- · Period: 2019/02/01 0:00AM  $\sim$  2019/02/07 0:00AM
- The data interval: Hour
- Collection setting Data period(min):60

DateTime	Measuring point 1[A]	Measuring point 2[W]	•••	Measuring point 9[]
2019/02/01 00:00	0.9	6470	•••	1
2019/02/01 01:00	0.9	6500	•••	2
2019/02/01 02:00	0.9	6450	•••	2
2019/02/06 23:00	0.9	6510	•••	2
2019/02/07 00:00	0.9	6520	•••	2

## 12.1.5 Measuring point list file

The following tables show the file format of each measuring point list.

Item				Details		
The first line	Collection source ID	Measuring point ID	Measuring point name	Measuring type	Measuring point unit	The number of decimal places
From the second line	(Collection source ID)	(Measuring point ID)	(Measuring point name)	<ol> <li>Pulse</li> <li>Analog value</li> <li>Power factor</li> <li>Operating status</li> <li>Demand</li> <li>Demand</li> <li>(15 minutes)</li> <li>Demand</li> <li>(30 minutes)</li> </ol>	(Measuring point unit)	0 to 5, Blank

■ Measuring point (collection source: EcoWebServer III)

The following example is displayed data when the collection source is EcoWebServerII with the demand monitoring function.

Example					
Collection	Measuring	Measuring point name	Measuring	Measuring	The number of decimal
source ID	point ID		type	point unit	places
1	1	1F Consent Current	2	А	0
1	2	1F Consent Voltage	2	V	1
1	3	1F Consent Power	2	kW	1
:					
1	1255	15-minute demand	5	kw	(Blank)
		(The time period)			

#### Measuring point (collection source: Edgecross)

Item					De	tails			
The first line	Collection source ID	Measuring point ID	Column position	Data type	Measuring point name	Measuring type	Measuring point unit	Multiplyin g factor	The number of decimal places
From the second line	(Collection source ID)	(Measuring point ID)	*1	*2	(Measuring point name)	<ol> <li>Pulse</li> <li>Analog value</li> <li>Power factor</li> <li>Operating status</li> </ol>	Blank	(Multiplyin g factor)	0 to 5, Blank

\*1: It is the column position in the historical data file. (The range: 3 to 258)

\*2: It is the data type described in the historical data definition file.

#### ■ Manual input measuring point

Item			Details		
The first line	Moocuring point ID	Mascuring point pama	Moscuring type	Moocuring point unit	The number of
The first line	Measuring point ID	Measuring point name	Measuring type	measuring point unit	decimal places
From the	(Measuring point	(Measuring point	1: Pulse	(Measuring point	0 to 5 Plank
second line	ID)	name)	2: Analog value	unit)	U LU 5, BIANK

#### ■ Product type time period measuring point

Item		Details										
The first line	Measuring point ID	Measuring point name	Measuring type	Measuring point unit	The number of decimal places	Measuring value point	Time period measuring point	Time period type				
From the second line	(Measurin g point ID)	(Measuring point name)	1: Pulse	(Measuring point unit)	0 to 5, Blank	(Measuring point ID)	(Measuring point ID)	(Time period type)				

#### ■ Calculation measuring point

Item	Details					
The first	Measuring point	Measuring point	Monouring type	Measuring value	The number of	Calculation
line	ID	name	measuring type	point	decimal places	formula
From the	(Measuring point	(Measuring point	1: Pulse	(Measuring point	0 to 5,	(Calculation
second line	ID)	name)	2: Analog value	unit)	Blank	formula)

## ■ Specific consumption measuring point

Item	Details						
The first line	Measuring point ID	Measuring point name	Measuring point unit	The number of decimal places	Energy measuring	Production number	
					point	measuring point	
From the	(Measuring	(Measuring	(Measuring	0 to 5 Blank	Measuring	Measuring point	
second line	point ID)	point name)	point unit)	U to 5, Dialik	point ID	ID	

### 12.1.6 Excel file for input of measuring data

The following table shows the format of the Excel file for input of measuring data.

Thoma	Details			
Item	The first column	From the second column		
The first	Data	Collection source ID_Measuring point ID: Measuring point name		
line	Date			
From the		Managering data		
second line	ויזיזע/עייו:mm 	Measuring data		

٦

The following example is displayed data using the following settings:

• Measuring point: Measuring point 1 to 9

• Period: 2/1/2019 0:00 to 2/7/2019 0:00

• Measuring data period: 60 minutes

Example					
DataTimo	001_0001:	001_0002:	•••	001_0009:	
Daternine	Measuring point 1 Measuring point 2			Measuring point 9	
2/1/2019 0:00	0.9	6470	•••	1	
2/1/2019 1:00	0.9	6500	•••	2	
2/1/2019 2:00	0.9	6450	•••	2	
:					
2/6/2019 23:00	0.9	6510	•••	2	
2/7/2019 0:00	0.9	6520	•••	2	

## 12.1.7 Operation log file

The following table shows the file format of output operation logs.

\*The following example illustrates displayed data using the following settings:

- File encoding: Shift\_JIS
- · Delimiter: Comma
- Date format: M/D/YYYY hh:mm:ss
- · Quotation symbol: Double quotation

Item	Details
The first line	"DateTime", "Event", "Information 1", "Information 2"
From the	"YYYY/MM/DD hh:mm:ss", "(Operating log)", "(Information 1)", "(Information 2)"
second line	

Example: Output from February 1, 2019 to February 7, 2019					
"DateTime" ,"Event", "Information 1", "Information 2"					
"2/1/2019 09:34:12", "Software startup", "", ""					
"2/1/2019 10:00:00", "Automatic collection start", "", ""					
"2/1/2019 10:00:41", " Automatic collection end", "", ""					
:					
:					
"2/7/2019 19:10:49", "File read error", "C:¥Users¥user¥Desktop", ""					
"2/7/2019 19:27:34", "Software end", "", ""					

The following table shows a	
Operation log type	Log contents
Software startup	Startup of the software
Software exit	Exit of the software
Automatic collection start	Start of automatic collection
Automatic collection end	End of automatic collection
Automatic dashboard	Start of automatic update for dashboard display
display update start	
Automatic dashboard	End of automatic update for dashboard display
display update end	
Automatic dashboard	Start of automatic output of the dashboard HTML file
HTML file output start	
Automatic dashboard	End of automatic output of the dashboard HTML file
HTML file output end	
Automatic data file	Start of automatic output of the data file
output start	
Automatic data file	End of automatic output of the data file
output end	
Automatic daily report	Start of automatic creation of the daily report
creation start	
Automatic daily report	End of automatic creation of the daily report
creation end	
Automatic monthly	Start of automatic creation of the monthly report
report creation start	
Automatic monthly	End of automatic creation of the monthly report
report creation end	
Automatic annual report	Start of automatic creation of the annual report
creation start	
Automatic annual report	End of automatic creation of the annual report
creation end	
Automatic diagnosis	Start of automatic diagnosis execution
start *1	
Automatic diagnosis end	End of automatic diagnosis execution
*1	
Manual collection start	Start of manual collection
	Information 1 show the ID number of the selected collection source.
Manual collection end	End of manual collection
Input data saving start	Start of saving input data
	Information 1 shows the ID number of the measuring point to be saved.
	Information 2 shows the period of data to be saved.
Input data saving end	End of saving input data

The following table shows a list of operation log types used for record on EcoAdviser.

\*1: This function is for Energy Saving Data Analysis and Diagnosis Software (MES3-EAP1-AI).

Operation log type	Log contents
Manual calculation start	Start of manual calculation
	Information 1 shows the ID number of the measuring point to be calculated.
	Information 2 shows the period of data to be calculated.
Manual calculation end	End of manual calculation
Energy-loss extraction	Start of energy-loss diagnosis execution
start *1	
Energy-loss extraction	End of energy-loss diagnosis execution
end *1	
User evaluation update	Evaluation execution of the energy-loss factor for energy-loss factor
*1	diagnosis
User evaluation reset *1	Operation of evaluation reset
Database read error	Error occurrence of database read
	Information 1 shows the pass of the database file with an error occurring.
	Information 2 shows the error message of a run-time error.
Database write error	Error occurrence of database write
	Information 1 shows the pass of the database file with an error occurring.
	Information 2 shows the error message of a run-time error.
File read error	Error occurrence of file read
	Information 1 shows the pass of the file with an error occurring.
	Information 2 shows the error message of a run-time error.
File write error	Error occurrence of file write.
	Information 1 shows the pass of the file with an error occurring.
	Information 2 shows the error message of a run-time error.
HTTP communication	Error occurrence of HTTP communication in the file collection
error	Information 1 shows the IP address with an error occurring.
	Information 2 shows the error message of a run-time error.
File copy error	Error occurrence of file copy in the file collection
	Information 1 shows the file pass of the copy source.
	Information 2 shows the file pass of the copy destination.
Date format error	Abnormality occurrence of the date format of the data file in the file
	collection
	Information 1 shows the pass of the file with an error occurring.
Error with Excel not	Occurrence of the case Excel is not installed for report creation
installed *2	
Error with no user's	Occurrence of the case there is no user's report template file
report template file	Information 1 shows the pass of the template file.

\*1: This function is for Energy Saving Data Analysis and Diagnosis Software (MES3-EAP1-AI).

\*2: When the Excel purchased from Microsoft store has been installed, the error with Excel not installed will occur. Use the desktop version of Excel.

## 12.2 IIS Settings

This section describes the IIS settings.

\*The procedure described in this section is an example.

Depending on the computer you use, use environment, or the like, necessary settings or procedure may differ.

Please be advised that we do not provide technical support about network, other environments, and IIS. If you have any inquiries about technical matters such as network or web browser settings, consult your network administrator.

For technical support about IIS, contact Microsoft Corporation.

### 12.2.1 Activating IIS

Although IIS is installed as standard in Windows 10, the default setting is inactive. Activate it as the following procedure:

- (1) From the Start menu, click Windows system tool and then select Control panel.
- (2) Click Program.
- (3) Click Turn windows features on or off.
- (4) Click the checkbox of **Internet information services** to mark.

💽 Wind	ows Features	—		×					
Turn W	Turn Windows features on or off								
To turn a check bo	feature on, select its check box. To turn a x. A filled box means that only part of the	feature o feature i	off, clear i s turned o	ts on.					
±	.NET Framework 3.5 (includes .NET 2.0 a	nd 3.0)		^					
• <b>•</b>	.NET Framework 4.7 Advanced Services								
	Active Directory Lightweight Directory S	ervices							
	Container Image Manager								
	Containers								
	Data Center Bridging								
•	Device Lockdown								
	Guarded Host								
• 🗆	Hyper-V								
	Internet Explorer 11	_							
± 🗖	Internet Information Services								
	Internet Information Services Hostable V	Veb Core		Υ.					
		ОК	Cano	cel					

## 12.2.2 Activating the access right to the folder

You will create a folder to save the dashboard HTML file in the IIS root folder. In addition, change the authority so that ordinary users can edit the settings on EcoAdviser.

(1) Open the root folder of IIS.

The default root folder path is 'C:¥inetpub¥wwwroot.'

📙   🛃 =   w	wwroot –	×
File Home	Share View	~ 🕐
$\leftarrow \rightarrow \checkmark \uparrow$	≪ inetpub → wwwroot ~ ঊ Search wwwroot	<i>م</i>
✓ Quick access ■ Desktop ↓ Downloads 🔮 Documents ■ Pictures	Name R iisstart.htm R iisstart.png	
1 2 items		EE 🖿

(2) Create a folder to save the dashboard HTML files.

\*For the HTML file output destination setting of [9.3.2 Setting the automatic dashboard output], specify the folder created here.

(In the following window, the folder name is 'dashboard.')



(3) Open the **Properties** of the folder.

#### Select the **Security** tab.



(4) The following window appears.

dashboard	Properties			>
eneral Sharir	ng Security	Previous Versions	Customize	
Object name:	C:\inetpub	www.root\dashboard	ł	
Group or user i	names:			
<b>CREATO</b>	ROWNER			^
SYSTEM 84				
Administra	ators (DESKT	OP-OQELL43\Admin	nistrators)	
St Heare (DI	SKTOPOOR	II /2/Ileare)		× 1
l o change per	missions, clic	k Edit.	😌 Edit	
Permissions for	CREATOR			
OWNER		Allor	w Deny	
Full control				^
Modify				
Read & exe	cute			
List folder co	ontents			
Read				
Write				$\sim$
For special per	missions or ac d.	Ivanced settings,	Advanced	ł
andie / waveriee				

(5) Click Users (DESKTOP·OQELL43 \ Users) and then select each Allow checkbox of Modify and Write.Click the Apply button and then click the OK button.

This is the end of the operation.



#### 12.2.3 Displaying the dashboard HTML file

You will display the dashboard HTML file saved in the IIS root folder from the computer in the network.

- (1) Start the web browser.
- (2) Input the URL of ['Computer's IP address' ¥ 'Dashboard (HTML file) saving folder name' ¥ 'Dashboard No. in 4 digits'] and then press the **Enter** key on the keyboard.

\*Dashboard (HTML file) saving folder represents the one created in [12.2.2 Activating the access right to the **folder**].



- (3) The dashboard HTML file is displayed.
  - This is the end of the operation.

					- 🗆 X
< 🔿 🕘 🗗 http:\\1	192.168.10.100\dashboard\0001\ir	ndex.html			☆ ☺ 🥲
<i>e</i> EcoAdviser	×				
		EcoAdvi	ser Dashb	board	
		No	Sheet name		
		1 sh	eet1 Displa	IV	
Click	the "Continuous Display'	" button, the sheet	s in the above tab	le will be in order from th	ne top sequentially.
	Tab automa	tic switching interv	al (sec):10	Continuous display	

# 12.3 Operation for Setting Change about Diagnosis Function

# This function is for Energy Saving Data Analysis and Diagnosis Software (Model: MES3-EAP1-AI).

To change the settings related to the diagnosis function, operate as the following procedure. Note that the start of the procedure changes depending on the setting item. Refer to the following procedure and check the method you need.

(1-1)	You must re-register the			You must re-register the energy-
	Register a new piece of equipment		(1-2)	Register a new energy-loss factor
	using the changed setting. For details on the registration, refer		using the changed setting. For details on the registration,	
	to [4.2.2 Registering/Changing the equipment information].		refer to [4.2.5 Setting/Editing the energy-loss factor].	
$\downarrow$				$\downarrow$

(2)	Collect data from the collection source.
	For details, refer to [5.1 Manual Collection].

 $\downarrow$ 

(3)	Perform the energy-loss diagnosis or improvement result check using the changed			
	setting.			
	Manually perform the diagnosis or wait until the automatic diagnosis is performed.			
	To perform manually energy-loss diagnosis, refer to [7.3 Energy-Loss Diagnosis by			
	Manual Operation].			
	To check the improvement result, refer to [7.5 Improvement Result Check].			
	For automatic diagnosis, refer to [6 Auto Execute Settings].			
$\downarrow$				

(4) This is the end of the operation.

#### The start of the procedure for each setting item (1/2)

	Start of	
Equipmont	Equipment name	
setting	Energy measuring point	(1-1) *1
Secting	Name of energy measuring point	(3)
	Measuring type of energy measuring point	
	Unit of energy measuring point	
	Multiplying factor of energy measuring point	(1-1)
	Number of decimal places of energy measuring point	
	Available/Unavailable of production number measuring point	
	Production number measuring point	(1-1) *1
	Name of production number measuring point	(3)
	Measuring type of production number measuring point	Do not change.
	Unit of production number measuring point	(3)
	Multiplying factor of production number measuring point	(1-1)
	Number of decimal places of production number measuring point	
	Working hours	
	Utility measuring point	(1-1) *1
	Name of utility measuring point	(3)
	Measuring type of utility measuring point	Do not change.
	Unit of utility measuring point	(3)
	Multiplying factor of utility measuring point	(1-1)
	Number of decimal places of utility measuring point	
	Time lag adjustment of production number measuring point	(1-1)
	Takt time	
	Production volume threshold value for determining the exclusion day	
	for diagnosis	
	Energy consumption threshold value for determining the equipment off	
	state, Auto/Manual	
	Energy consumption threshold value for determining the equipment off	
	state, Manual	
	Energy consumption threshold value for determining the utility off	
	state, Auto/Manual	
	Energy consumption threshold value for determining the utility off	
	state, Manual	
	Production mask time after the equipment start-up	
	Production mask time before the equipment shut-down	
	Break time, addition	
	Break time, deletion	
	Break time, time period change	

\*1: If you change the measuring point ID, start from the step (3).

## The start of the procedure for each setting item (2/2)

	Start of procedure	
Energy-loss	Energy-loss factor name	(3)
factor	Measuring point for energy-loss factor	(1-2)
setting	Name of measuring point for energy-loss factor	(3)
	Measuring type of measuring point for energy-loss factor	(2)
	Unit of measuring point for energy-loss factor	(3)
	Multiplying factor of measuring point for energy-loss factor	(1-2)
	Number of decimal places of measuring point for energy-loss factor	
	Tabulation method	
	Exclusive data, addition	
	Exclusive data, deletion	
	Exclusive data, value change	
Calculation	Measuring point name	(3)
measuring	Measuring point unit	
point for	Number of decimal places	(1-1)
diagnosis	Calculation formula	
setting	Name of measuring point used in the calculation formula	(3)
	Measuring type of measuring point used in the calculation formula	(1-1)
	Unit of measuring point used in the calculation formula	(3)
	Multiplying factor of measuring point used in the calculation formula	(1-1)
	Number of decimal places of measuring point used in the calculation	
	formula	
Electricity	Currency unit	(3)
rate setting	Electricity rate per 1 kwh	
Detailed	Each viewpoint setting	
setting		
Deterioration	Automatic/Manual	
point	Manual, Value	
threshold		
setting		

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