

HYBRID SYSTEM Maintenance Tool

DAIKIN Hybrid-Win

Operation Manual

[Object model]

model	Model Identification Code
EcoRich	EHU14-L04, EHU25-L04, EHU25-L07, EHU25-M07
EcoRich R	EHU15R-M07, EHU30R-M07, EHU40R-M07
Super Unit for Industrial Machinery	SUT**S15*07(except -V/-D), SUT**S15*10, SUT**S30*07(except -V/-D), SUT**S80*07, SUT**D80*21, SUT**D11021, SUT**S4007, SUT**S30*10, SUT**S15*16, SUT**D40*16, SUT**S30*16, SUT**S60*07, SUT**D60*21(except SUT10D60L21-20-F-N0257) Note: -P is excepted from the Ver1.*.*
Super Unit for Molding Machine	SUT00S3018, SUT00S5021(except SUT00S5021-10), SUT00S8018(except SUT00S8018-10), SUT00S8021, SUT00D12818, SUT00T12818, SUT00S13018, SUT00S13021, SUT00S15018, SUT00S20018 Note: The Ver1.*.* is not supported for MFG3*3*
Oilcon 8 series	AKZ148, AKZ328, AKZ438, AKZ568, AKZ908, AKZJ188, AKZJ358, AKZJ458, AKZJ568, AKZJ908 AKZC358, AKZG358, AKZG568, AKZG908 AKZW148, AKZW328, AKZW438, AKZW568
Oilcon 9 series	AKZ149, AKZ329, AKZ439, AKZ569, AKZ909 AKJ189, AKJ359, AKJ459, AKJ569, AKJ909 AKC359, AKC569 AKW149, AKW329, AKW439, AKW189, AKW359, AKW459

" * " is number, " L " or blank.

IMPORTANT	There are some models which is not applied this software because of special design. Please contact with Daikin contact points, when you have special design models.
------------------	---

DAIKIN INDUSTRIES, LTD.
Oil Hydraulics Division

PIM00446

Introduction

Thank you for selecting the SUPER UNIT/Oil Con series DAIKIN Hybrid Systems.

This operation manual describes how to operate DAIKIN Hybrid-Win. Before using this software, be sure to read through this manual carefully to ensure proper use of the system.

General Precautions
<ul style="list-style-type: none">● Improper operation or handling of this product causes an accident, reduced service life or performance deterioration of the equipment.● The contents of this manual are subject to model change for the purpose of specifications or improvement of users' convenience.● Keep this manual carefully in a place where users can refer to it whenever required.● The figures given in this manual may be different from the conditions of the actual product because of product improvement.

Copyright and Trademark
<ol style="list-style-type: none">(1) Daikin Industries possesses the copyright of this software.(2) Duplicate, extract or rent without approval by Daikin are prohibited by government law.(3) Specification and contents would be modified without notification.(4) Daikin would exempt from any responsibilities after use of this software, even if above (3) condition would be occurred. <ul style="list-style-type: none">● “Windows XP” is trademark of Microsoft in US.● “Excel” is trademark of Microsoft.● This manual doesn't mention “TM” inside.

Contents

Chapter 1. Precautions before use	1-1
1.1 Description of this guide.....	1-1
1.2 Operating environment.....	1-2
1.2.1 Preparation.....	1-2
1.2.2 Windows account	1-2
1.2.3 Supporting unit.....	1-2
1.2.4 Wiring notes	1-3
Chapter 2. Overview Introduction and Preparation	2-1
2.1 Function	2-1
2.2 Communication specification.....	2-1
2.3 Installation	2-1
2.3.1 Version upgrade	2-1
2.3.2 Installation	2-2
2.3.3 Uninstallation.....	2-6
2.4 Preparation of optional communication cable.....	2-7
2.4.1 Preparation.....	2-7
2.4.2 Connection diagram.....	2-9
2.4.3 Noise countermeasures	2-10
2.5 Connection of communication cable.....	2-11
2.6 Start-up and shutdown of DAIKIN Hybrid-Win	2-17
2.6.1 Starting DAIKIN Hybrid-Win	2-17
Chapter 3. Main screen	3-1
3.1 Setup of Communication Port.....	3-1
Chapter 4. Parameter	4-1
4.1 Description of Parameters.....	4-1
4.2 Parameter screen.....	4-2
4.2.1 The name and work of each part of a parameter screen	4-2
4.3 Read out parameter from units.....	4-4
4.4 Change of Parameter.....	4-5
4.5 Transfer setup parameter into units.....	4-6
4.6 Preservation of a parameter	4-7
4.6.1 Input of file information.....	4-7
4.6.2 Save.....	4-7
4.6.3 Save as.....	4-8
4.7 Read out setup parameter from file.....	4-8
Chapter 5. Waveform measurement screen (EcoRich / Super Unit)	5-1
5.1 Kind of Waveform measurement screen(EcoRich / Super Unit)	5-1
5.2 Starting and End	5-1
5.3 Waveform measurement screen(EcoRich / Super Unit)	5-2
5.3.1 The name and work of each part of waveform measurement screen(EcoRich / Super Unit)	5-2

5.4 Data Collection Settings	5-2
5.4.1 Setup of Sampling Period.....	5-2
5.4.2 Saving file format.....	5-3
5.4.3 Selection of measuring data.....	5-3
5.4.4 Storage of the measured data.....	5-5
5.4.5 Setting Trigger Conditions.....	5-6
5.5 Start and Stop of Measurement	5-7
5.5.1 Start and stop of communication.....	5-7
5.5.2 Start and stop of measurement.....	5-7
5.6 Trigger measurement procedure.....	5-7
5.6.1 Trigger measurement (csv format)	5-8
5.6.2 Trigger measurement (Excel format).....	5-8
5.7 Simple measurement procedure.....	5-9
5.7.1 Simple measurement (csv format).....	5-9
5.7.2 Simple measurement (Excel format)	5-10
Chapter 6. Waveform measurement screen (Oilcon)	6-1
6.1 Kind of Waveform measurement screen (Oilcon)	6-1
6.2 Starting and End.....	6-1
6.3 Waveform measurement screen (Oilcon)	6-2
6.3.1 The name and work of each part of waveform measurement screen.....	6-2
6.4 Start and Stop of Measurement	6-3
6.4.1 Communicative Start and Stop	6-3
6.5 Data Measurement	6-3
6.5.1 Setup of Sampling Period.....	6-3
6.5.2 Data Measurement	6-3
Chapter 7. Alarm history	7-1
7.1 Starting and End.....	7-1
7.2 Alarm history screen.....	7-1
7.2.1 The name and work of each part of a Alarm history screen	7-1
7.2.2 Models and Features.....	7-2
7.3 Operation Method (Oilcon).....	7-2
7.3.1 Alarm History reading.....	7-2
7.4 Operation Method (EcoRich / Super Unit).....	7-3
7.4.1 Alarm History Read.....	7-3
7.4.2 Save Data	7-5
7.4.3 Troubleshooting.....	7-5
Chapter 8. Other features	8-1
8.1 Check the parameter	8-1
8.1.2 Data comparison [File]	8-2
8.2 Communication test.....	8-3
Chapter 9. Precautions	9-1
9.1 Troubleshooting	9-1
9.1.1 Can not be installed	9-1
9.1.2 Communication is not possible.....	9-1

9.1.3 Warning message.....	9-2
9.2 Frequently Asked Questions (Q & A).....	9-3

Chapter 1. Precautions before use

1.1 Description of this guide



Thank you very much for purchasing our hybrid system.


"Hybrid system maintenance tool DAIKIN Hybrid-Win" (hereinafter, Hybrid-Win) can be connected to the hybrid system, such as EcoRich, Super Unit and Oilcon, by serial communication. It is a kind of software which can set the parameters, display and save the graph of pressure and flow rate, display and save the alarm history.

This manual is for those people who want to use the Hybrid-Win software. Before operating, please read this manual carefully, and correctly operate it.

Please refer to other manuals for the hybrid hydraulic unit.

In this manual, safety instructions are classified into two categories: "DANGER" and "CAUTION".

 DANGER	Improper handling regardless of this indication causes an urgently hazardous condition that may result in death or serious injury.
 CAUTION	Improper handling regardless of this indication causes a potentially hazardous condition that may result in medium or slight injury, or property damage.

Even an item indicated as " CAUTION" may result in a serious accident depending on the situation. All instructions given in this manual include important information. Be sure to observe all of them.

In addition, "Important" is not included in "danger" or "caution". It is a measure for protection of users. "Note" indicates some matters should be known.

<Escape Clauses>

- DAIKIN shall not be responsible for any damage attributable to a fire, earthquake, third party's action and other accidents, as well as customer's intention, misuse or use under abnormal conditions.
- DAIKIN shall not be responsible for any damage incidental to use of this product or impossibility to use this product (loss of business profit, discontinuation of business).
- DAIKIN shall not be responsible for any accident or damage attributable to negligence in observing the instructions given in the operation manual or delivery specifications.
- DAIKIN shall not be responsible for any damage attributable to malfunction caused by combinations of this unit and external equipment.

1.2 Operating environment

1.2.1 Preparation

The followings are required in order to use the "Hybrid-Win".

Preparation	Details		
Computer	In order to operate the Hybrid-Win, please prepare the computer (hereinafter PC) satisfying the following conditions.		
	Hybrid-WinVersion	PC Specifications	Environment
	Ver 1.*.*	OS	Windows XP
		Hard disk space	50MB or more
		Recommended CPU	Pentium 500MHz or more
		Installed memory	256MB or more
		Screen resolution	1024 × 768 or more
		Display color	High Color (16 bit) or more
		Application	Microsoft Excel*
	Ver 2.*.*	OS	Windows 7
		Hard disk space	50MB or more
		Recommended CPU	Pentium 500MHz or more
		Installed memory	256MB or more
		Screen resolution	1024 × 768 or more
		Display color	High Color (16 bit) or more
		Application	Microsoft Excel*
* It is necessary only when displaying the waveform graph or outputting data by Excel.			
Hybrid-Win	Please download "DAIKIN Hybrid-Win" from "Daikin hydraulic user support services" in our website (http://www.daikinpmc.com).		
Optional communication cable	The ptional communication cable is required in accordance with the target unit. Please refer to the "2.4.1 Preparation" for more information.		
USB - Serial converter	This is necessary if there is no serial port on the PC. Please refer to the "2.4.1 Preparation" for more information.		

1.2.2 Windows account

- When installing
Be sure to install with Administrator privilege.
- Start-up and operation
It can be started and operated only when the account is Administrator or Power User. It can not work even if the User or Guest account is logged in.

1.2.3 Supporting unit

It supports the unit in the table below.


model	Model Identification Code
EcoRich	EHU14-L04, EHU25-L04, EHU25-L07, EHU25-M07
EcoRich R	EHU15R-M07, EHU30R-M07, EHU40R-M07
Super Unit for Industrial Machinery	SUT**S15*07(except -V/-D), SUT**S15*10, SUT**S30*07(except -V/-D), SUT**S80*07, SUT**D80*21, SUT**D11021, SUT**S4007, SUT**S30*10 SUT**S15*16, SUT**D40*16, SUT**S30*16, SUT**S60*07 SUT**D60*21(except SUT10D60L21-20-F-N0257) Note: -P is excepted from the Ver1.*.*
Super Unit for	SUT00S3018, SUT00S5021(except SUT00S5021-10),

Molding Machine	SUT00S8018(except SUT00S8018-10), SUT00S8021, SUT00D12818, SUT00T12818, SUT00S13018, SUT00S13021, SUT00S15018, SUT00S20018 Note: The Ver1.*.* is not supported for MFG3*3*
Oilcon 8 series	AKZ148, AKZ328, AKZ438, AKZ568, AKZ908, AKZJ188, AKZJ358, AKZJ458, AKZJ568, AKZJ908 AKZC358, AKZG358, AKZG568, AKZG908 AKZW148, AKZW328, AKZW438, AKZW568
Oilcon 9 series	AKZ149, AKZ329, AKZ439, AKZ569, AKZ909 AKJ189, AKJ359, AKJ459, AKJ569, AKJ909 AKC359, AKC569 AKW149, AKW329, AKW439, AKW189, AKW359, AKW459

" * " is number, " L " or blank.

Important	● Even the model of the unit is in the above table, there are some models that cannot be supported (because of non-standard management number). Please contact us in that case.
-----------	---

1.2.4 Wiring notes

 DANGER	
●	Please do not approach or touch the rotating part.
●	When touching the internal controller, please observe the following steps to prevent electric shock. <ul style="list-style-type: none"> i) Please turn off the main power of the hydraulic unit. (Turn OFF the power breaker in the circuit that provides power.) Please apply a tag such as "Operation Prohibition (under working) " to the power circuit breaker. ii) Remove the controller cover after 5 minutes passing. A high-capacity capacitor is used in the controller, and it works in a state of being charged. So there is a risk of electric shock. Be sure to wait 5 minutes (The time required to discharge in the capacitor) before removing the controller cover. iii) Please clean the cover to protect the controller against foreign matters. Before removing the cover, please make sure that the ambient environment is no problem (oil mist, dust does not enter into the controller). If the foreign matter is mixed in, there is risk of damage and injury. iv) The cover does not close completely, when the communication cable is connected. If tighten the screw of the cover, there is a possibility that the communication cable cannot be connected. Please select the tightening place of the screw so as not to break the cable, and please adjust the screw tightening amount. In order to protect the controller against iron scrap, oil mist, dust and so on, please use tape to deal with the opening place. If the foreign matter is mixed in, there is risk of damage and injury.

<Memo>

Chapter 2. Overview Introduction and Preparation

2.1 Function

"Hybrid system maintenance tool DAIKIN Hybrid-Win" can be connected to the hybrid system, such as EcoRich, Super Unit and Oilcon, by serial communication. It is a kind of software which can set the parameters, display and save the graph of pressure and flow rate, display and save the alarm history.

2.2 Communication specification

Communication specification is shown in the table below.

Item	Specifications		
Interface	Conforms to RS-232C		
Transmission data format	Transmission speed	EcoRich	9600 bps
		Super Unit EcoRich R Oilcon	19200 bps
	Start bit		1bit
	Data bit length		8bit
	Parity bit		None
	Stop bit		1 bit
	Parity check		None
Transmission distance	RS-232C within 15m (19200[bps])		

◆ super unit with the communication function

If you want to use the communication function of the super unit, on the unit side you need to set communication settings so as to match the "Hybrid-Win". Please note the setting values of parameters shown in the table below. And set the communication parameters of the unit according to the table below, then turn on the power again.

No.	Description	Setting value	Setting Meaning
C00	Transmission speed	192	19200 bps
C01	Data bit length	8	8 bit
C02	Stop bit	1	1 bit
C03	Parity bit	n	None

Important	After using Hybrid-Win, please change the parameter value in the above table back to its original value, and turn on the power again.
-----------	---

2.3 Installation

Please download "DAIKIN Hybrid-Win" from "Daikin hydraulic user support services" in our website (<http://www.daikinpmc.com>).

2.3.1 Version upgrade

When upgrading the DAIKIN Hybrid-Win, you must uninstall the old version firstly, then install the new version. Please refer to the "2.3.3 uninstall" for uninstall procedure.

2.3.2 Installation

The installing procedures of Hybrid-Win (Ver 1.*.*) and Hybrid-Win (Ver 2.*.*) are different. The followings are installing procedures for each version.

■ The installing procedure of Hybrid-Win (Ver 1.*.*)

Please install the DAIKIN Hybrid-Win (Ver 1.*.*) to your PC and follow the steps below.

1) Close the running application

If there are running applications in your PC, please close them.

2) Setup

Unzip "HybridWin_V ***. EXE (*** is a three-digit number) " that you downloaded, then double-click the "setup.exe".

Important	<ul style="list-style-type: none">● Please prepare a PC with Windows XP for DAIKIN Hybrid-Win. Please make sure the account of Windows XP is Administrator during installing.● In order to install the DAIKIN Hybrid-Win, at least 50MB hard disk space is required.
-----------	---

3) Display of the confirmation message



Start the setup program, a confirmation dialog box will appear. Please check the contents then click the [OK] button.

If you want to stop, please click on the [Exit Setup] button.

4) Confirmation of the installation directory



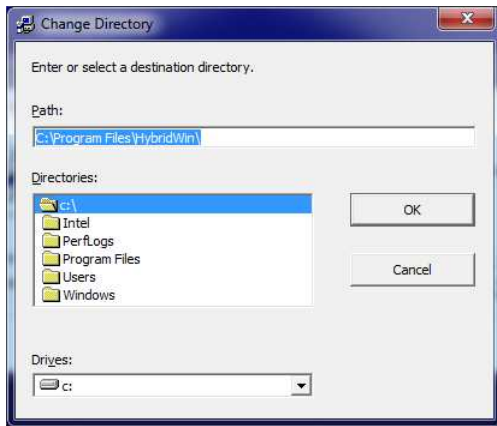
Dialog box shown left is displayed.

When you start the installation, please click the button (A).

The directory for installation is "C:\Program Files \ Hybrid-Win \". And it doesn't matter.

If you want to install to another directory, please click the Directory Change button.

If you want to stop, please click on the [Exit Setup] button.



If you click the Change Directory button, the dialog box shown at left will be displayed.

Please specify the installation directory. Then please click the [OK] button.

If you want to stop, please click on the [Cancel] button.

5) Program group selection



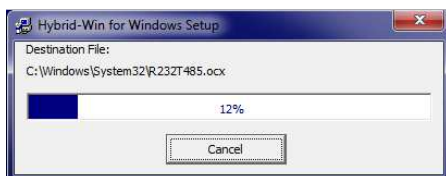
Dialog for program group selection is displayed. Choose the "Hybrid-Win" displayed in advance.

Please click the Continue button.

If you want to change it, enter the new group name, or select from the list of existing groups.

If you want to stop, please click on the [Cancel] button.

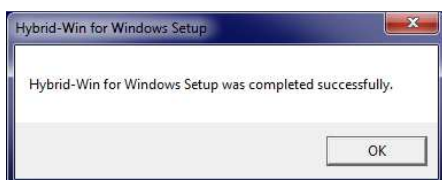
6) Installation start



The dialog box shown on the left will be displayed, when the setup of DAIKIN Hybrid-Win starts.

If you want to stop, please click on the [Cancel] button.

7) The End of Installation



If the installation is completed, the dialog box shown on the left will appear.

Click the [OK] button to return to the Windows screen.

■ The installing procedure of Hybrid-Win (Ver 2.*.*)

Please install the DAIKIN Hybrid-Win (Ver 2.*.*) to your PC and follow the steps below.

1) Close the running application

If there are running applications in your PC, please close them.

2) Setup

Unzip "HybridWin_V 2***. EXE (***) is a three-digit number) " that you downloaded, then double-click the "setup.exe".

Important	<ul style="list-style-type: none"> ● Please prepare a PC with Windows XP for DAIKIN Hybrid-Win. Please make sure the account of Windows XP is Administrator during installing. ● In order to install the DAIKIN Hybrid-Win, at least 50MB hard disk space is required.
-----------	--

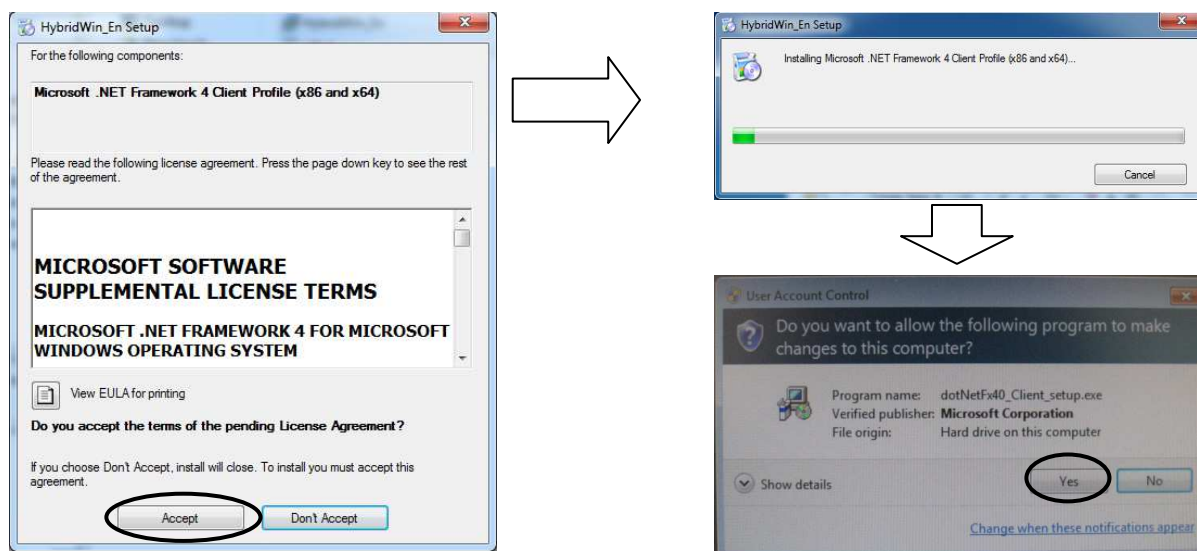
3) Installation of the application environment

The following application environment is necessary for Hybrid-Win.

- MICROSOFT .NET FRAMEWORK 4
- MICROSOFT .NET FRAMEWORK 4 CLIENT PROFILE
- RELATED LANGUAGE PACK

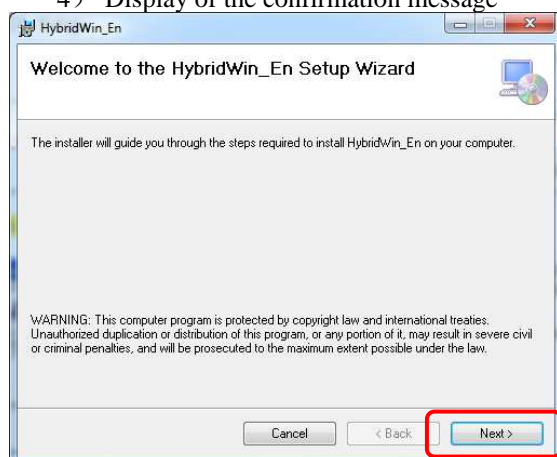
If the above environment is not installed in the PC, the following installation is required. If the PC is connected to Internet, please install the application environment based on the following procedure.

(If the application environment has already been installed in the PC, the following dialog box will not be shown. Please go to step 4 "Display of the confirmation message")



*If the PC is not possible to access to Internet, please download the installer of the above environment from the homepage of MICROSOFT by other PC which is able to access to Internet. Then install it in the PC which is to be used.

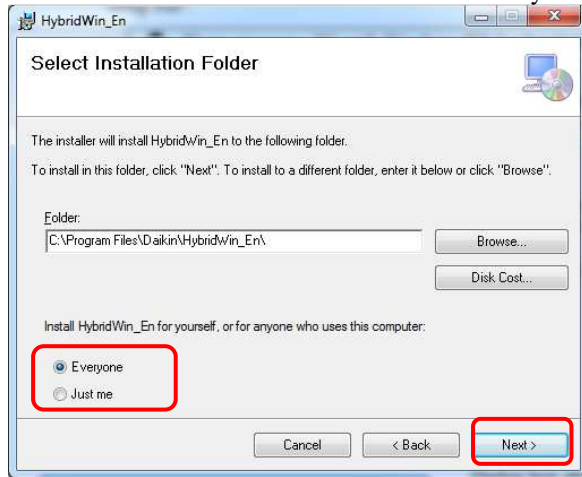
4) Display of the confirmation message



Start the setup program, the confirmation dialog box will be shown. Check the message, and click the "Next" button to continue.

Click the "Cancel" button to stop.

5) Confirmation of the installation directory

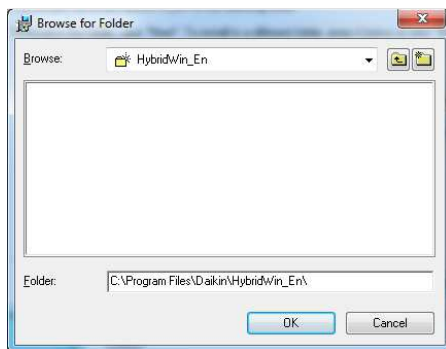


The dialog box shown left will be displayed. When you want to start the installation, please click the “Next” button.

The directory for installation is "C: \ Program Files \ Daikin \ HybridWin_En \". And it doesn't matter.

If you want to install to another directory, please click the “Browse...” button.

If you want to stop, please click on the [Cancel] button.

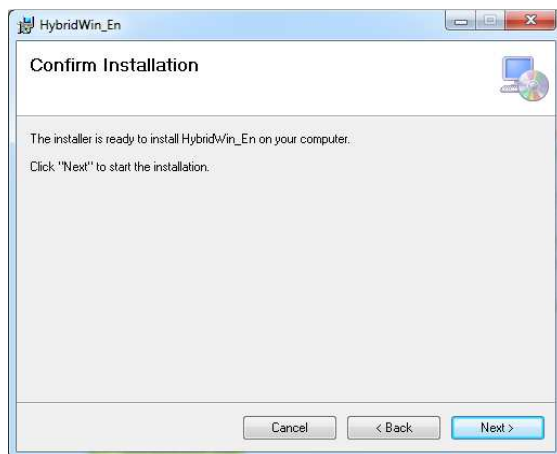


If you click the “Browse...” button, the dialog box shown at left will be displayed.

Please specify the installation directory. Then please click the [OK] button.

If you want to stop, please click on the [Cancel] button.

6) Selection of the program group



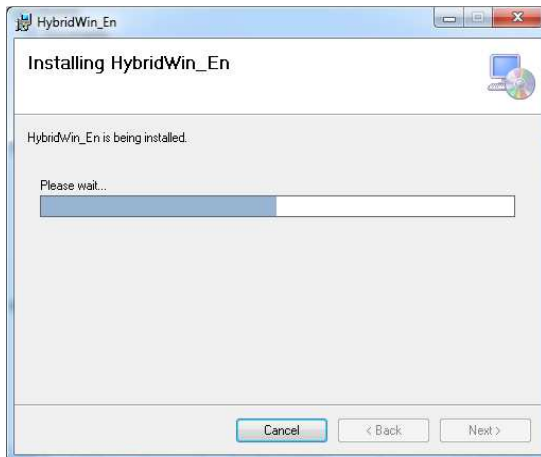
Dialog for program group selection is displayed. Choose the "Hybrid-Win" displayed in advance.

Please click the Continue button.

If you want to change it, enter the new group name, or select from the list of existing groups.

If you want to stop, please click on the [Cancel] button.

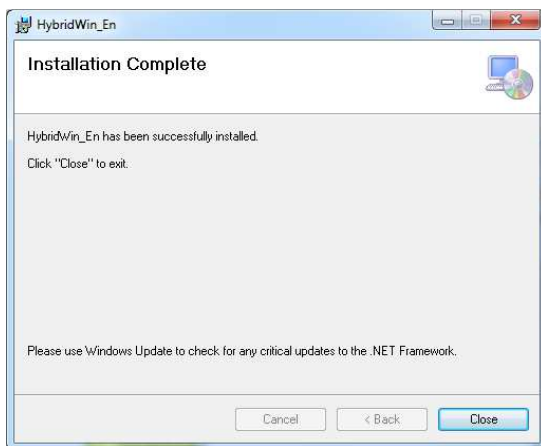
7) Start of installation



The dialog box shown on the left will be displayed, when the setup of DAIKIN Hybrid-Win starts.

If you want to stop, please click on the [Cancel] button.

8) End of installation



If the installation is completed, the dialog box shown on the left will appear.

Click the [Close] button to return to the Windows screen.

2.3.3 Uninstallation

Important	● Please make sure the account of Windows XP is Administrator during uninstalling.
------------------	--

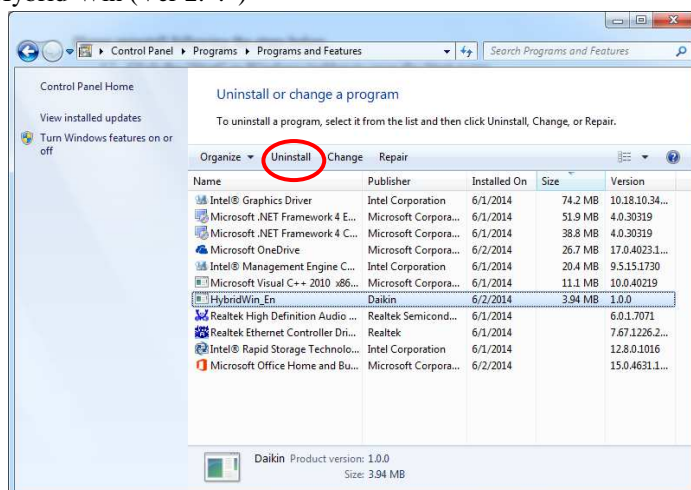
Please uninstall following the steps below.

- 1) Click the "Start" in Windows taskbar to open the Start menu.
- 2) Open the Control Panel folder by clicking the "Control Panel".
- 3) If you click on the "Add or Remove Programs", the following screen will appear. Please select the "Hybrid-Win for Windows" and remove it.

■Hybrid-Win (Ver 1.*.*)




■Hybrid-Win (Ver 2.*.*)



2.4 Preparation of optional communication cable

2.4.1 Preparation

Optional communication cable fitted to the unit is required for using Hybrid-Win.

Important	<ul style="list-style-type: none"> ● You might not be able to use the Hybrid-Win because of your PC. Before buying the optional communication cable, please install the Hybrid-Win, and complete the installation. ● If your computer does not have a serial port, please use the USB-to-serial converter. 				
	<p>◆ Recommended USB-to-serial converter</p> <table border="1"> <thead> <tr> <th>Format</th> <th>Manufacturer</th> </tr> </thead> <tbody> <tr> <td>USB-RSAQ5</td> <td>I-O DATA Device, INC</td> </tr> </tbody> </table>	Format	Manufacturer	USB-RSAQ5	I-O DATA Device, INC
	Format	Manufacturer			
USB-RSAQ5	I-O DATA Device, INC				
 <p style="text-align: center;">Serial port</p>					

Please prepare an optional communication cable for the communication between PC to unit. You can buy it from where you purchase the unit.

■ Optional communication cable

Product name		Model code
RS232C communication cable	1.5m	PM-CM01-15
	3m	PM-CM01-30
Communication cable (3-core solder finished)	1.5m	PM-CM02-15
	3m	PM-CM02-30
Monitor harness for Super unit		PM-CM03
Monitor harness for Eco Rich		PM-CM04
Monitor harness for Oilcon		PM-CM05

■ Correspondence table for optional communication cable and target model

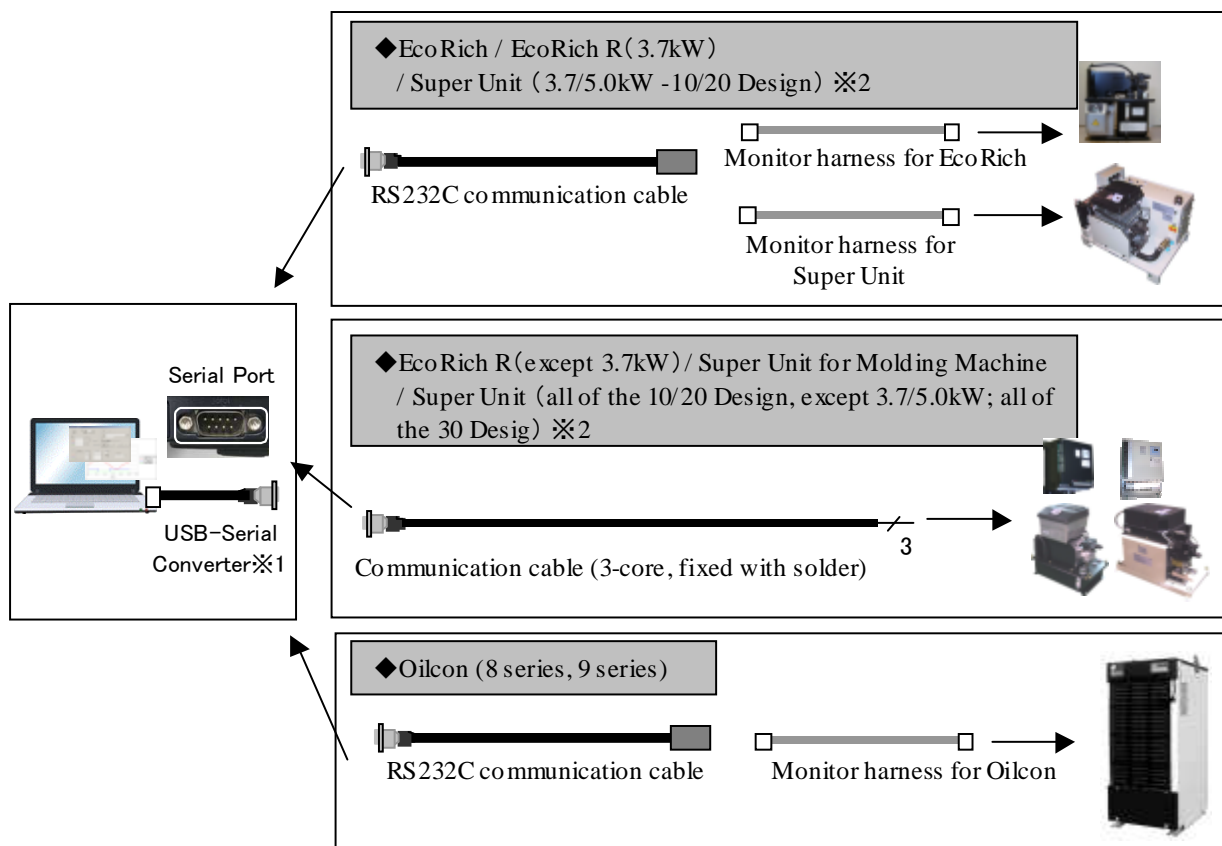
Target model	Type code for optional communication cable				
	RS232C communication cable (PM-CM01-15 / PM-CM01-30)	Communication cable (3-core solder finished) (PM-CM02-15 / PM-CM02-30)	Monitor harness		
			Super unit (PM-CM03)	Eco Rich (PM-CM04)	Oilcon (PM-CM05)
[Eco Rich] EHU14-L04 EHU25-L04 EHU25-L07 EHU25-M07	○	—	—	○	—
[Eco Rich R] EHU15R-M07 EHU30R-M07 EHU40R-M07	— ○	○ —	— ○	—	—
[Super Unit for Industrial Machinery] SUT**S15*07 SUT**S15*10 SUT**S30*07 SUT**S80*07 SUT**D80*21 SUT**D11021	—	○	—	—	—
SUT**S4007-10(20) SUT**S30*10-10(20) SUT**S15*16-10(20) SUT**D40*16-10(20) SUT**S30*16-10(20) SUT**S60*07-10(20) SUT**D60*21-10(20)	○	—	○	—	—
SUT**S4007-30 SUT**S30*10-30 SUT**S15*16-30 SUT**D40*16-30 SUT**S30*16-30 SUT**S60*07-30 SUT**D60*21-30	—	○	—	—	—

Target model	Type code for optional communication cable				
	RS232C communication cable (PM-CM01-15 / PM-CM01-30)	Communication cable (3-core solder finished) (PM-CM02-15 / PM-CM02-30)	Monitor harness		
			Super unit (PM-CM03)	Eco Rich (PM-CM04)	Oilcon (PM-CM05)
[Super Unit for Molding Machine] SUT00S3018 SUT00S5021 SUT00S8018 SUT00S8021 SUT00D12818 SUT00T12818 SUT00S13018 SUT00S13021 SUT00S15018 SUT00S20018	—	○	—	—	—
[Oilcon] AKZ**8 AKZJ**8 AKZC**8 AKZG**8 AKZW**8 AKZ**9 AKJ**9 AKC**9 AKW**9	○	—	—	—	○

Please refer to the "1.2.3 supporting unit" for models not supported.

2.4.2 Connection diagram

The optional communication cable is required for communication between the PC and unit. Please refer to "2.4.1 Preparation" for more information.



*1: If your computer does not have a serial port, please use the USB-to-serial converter.

*2: Please refer the "Correspondence table for optional communication cable and target model" for more information.

2.4.3 Noise countermeasures

Attaching a Ferrite Core

If it is used in a place where the influence of noise is increased significantly, such as the following conditions, please implement noise control measures, such as mounting the ferrite core.

- A place where noise may occur due to static electricity.
- A place where a strong magnetic field and electric field is generated.
- A place near the electric field.
- Please attach the ferrite core to the RS232C communication cable or communication cable (3-core solder finished) (hereinafter, communication cable) on the PC side.
- Please wind the communication cable to the ferrite core two turns.

Recommended ferrite core
RFC-13 (Kitagawa Industries Co., Ltd.)



2.5 Connection of communication cable

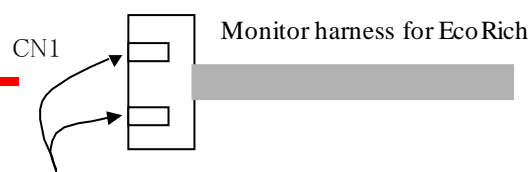
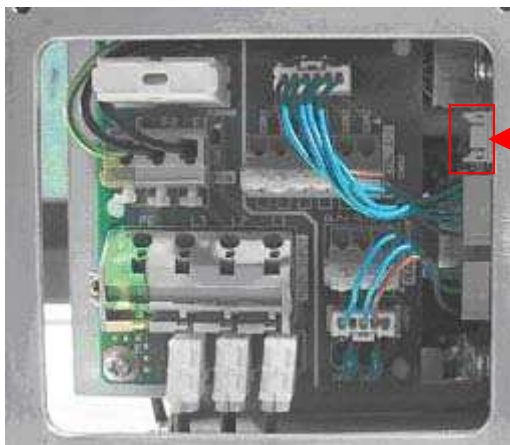
- 1) Please turn OFF the supply power of the unit.
Please turn OFF the supply power of the unit for safety.
- 2) Please connect the communication cable.
Depending on different object model, please connect the communication cable to the unit as follows.

⚠ DANGER

- Please do not approach or touch the rotating part.
- When touching the internal controller, please observe the following steps to prevent electric shock.
 - i) Please turn off the main power of the hydraulic unit.
(Turn OFF the power breaker in the circuit that provides power.)
Please apply a tag such as "Operation Prohibition (under working) " to the power circuit breaker.
 - ii) Remove the controller cover after 5 minutes passing.
A high-capacity capacitor is used in the controller, and it works in a state of being charged. So there is a risk of electric shock. Be sure to wait 5 minutes (The time required to discharge in the capacitor) before removing the controller cover.
 - iii) Please clean the cover to protect the controller against foreign matters. Before removing the cover, please make sure that the ambient environment is no problem (oil mist, dust does not enter into the controller). If the foreign matter is mixed in, there is risk of damage and injury.
 - iv) The cover does not close completely, when the communication cable is connected. If tighten the screw of the cover, there is a possibility that the communication cable cannot be connected. Please select the tightening place of the screw so as not to break the cable, and please adjust the screw tightening amount. In order to protect the controller against iron scrap, oil mist, dust and so on, please use tape to deal with the opening place. f the foreign matter is mixed in, there is risk of damage and injury.

①EcoRich

Name	Type
EcoRich	EHU14-L04, EHU25-L04, EHU25-L07, EHU25-M07



Please connect to CN1, and make sure the direction of 2 guides is correct.

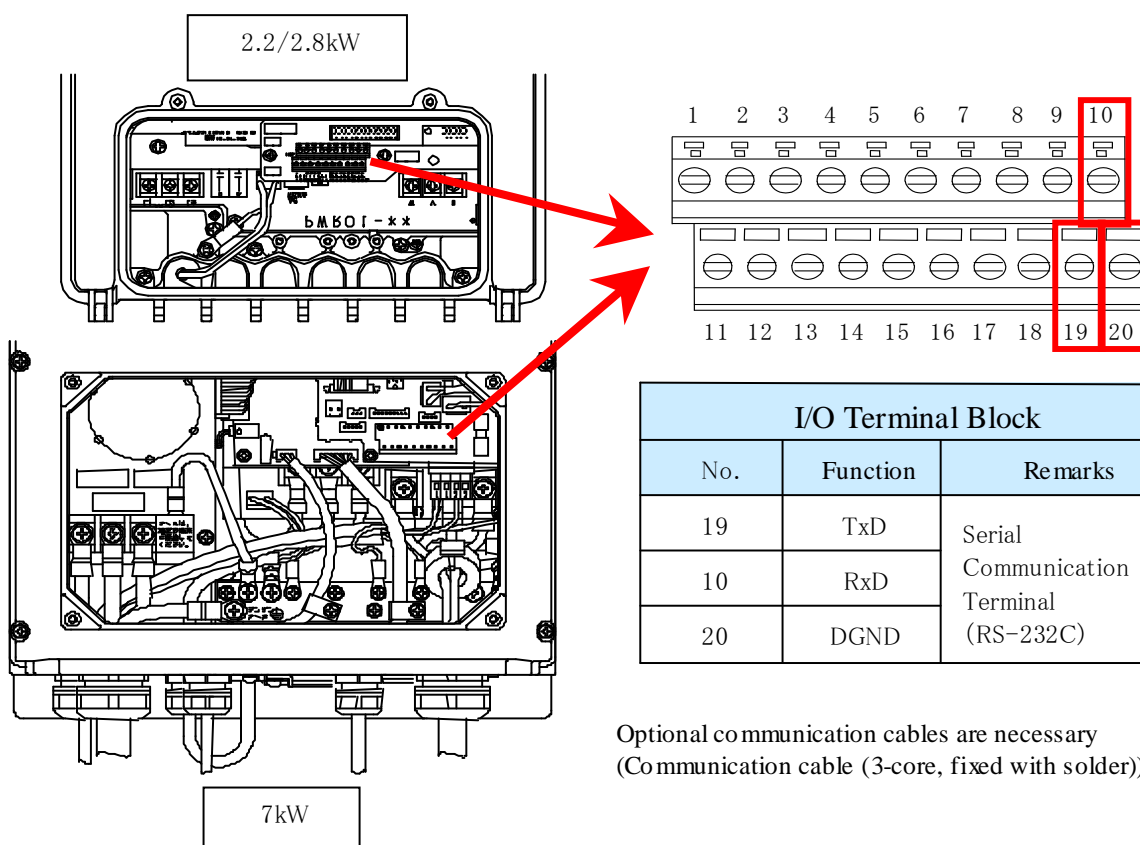
Optional communication cables are necessary (RS232C communication cable, Monitor harness for EcoRich).

* Loosen and remove 4 small screws that are attached to the controller cover (1.0 N · m tightening torque).

* After communication, remove the communication cable and attach the cover back to its original place by using these screws.

②EcoRich R(except 3.7kW)-10/20 Design / Super Unit for Industrial Machinery (except 3.7/5kW)-10/20 Design

Name		Type
EcoRich R		EHU15R-M07-10(20), EHU30R-M07-10(20)
Super Unit for Industrial Machinery	Pump & Motor Type	SUT00S1507-10(20)(except -V/-D), SUT00S1510-10(20), SUT00S3007-10(20)(except -V/-D), SUT00S8007-10(20), SUT00D8021-10(20)
	Unit Type	SUT03S15L07-10(20)(except -V/-D), SUT03S15L10-10(20), SUT03S30L07-10(20)(except -V/-D), SUT10S80L07-10(20), SUT10D80L21-10(20), SUT16D80L21-10(20)



- ① Loosen the screw with a screwdriver.
- ② Check the unsheathed length of the cable, and insert it all the way into the terminal so that the conductors will not become loose.
- ③ Tighten the screw with a screwdriver.
- ④ Pull the cable lightly to make sure that it is securely connected.

Unsheathed length of the cable: 6 mm

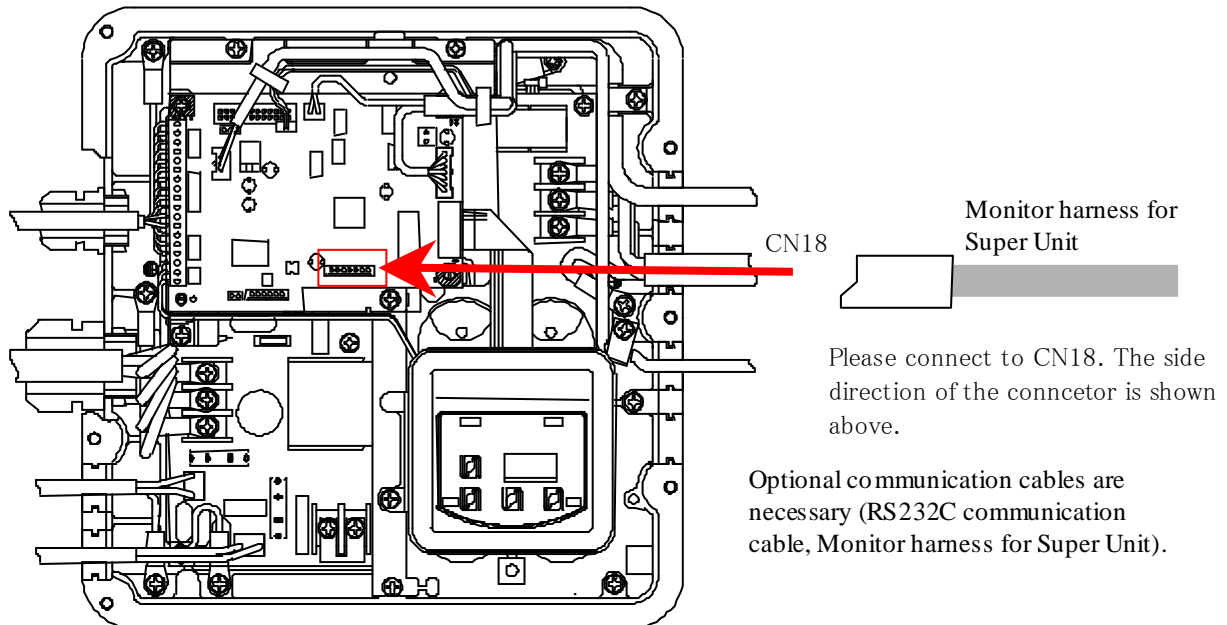


- * 2.2/3.8kW: Loosen 2 cross-headed screws (M4, Tightening torque: 0.6 N·m) to remove the controller cover.
- * 7kW: Loosen 4 cross-headed screws (M4, Tightening torque: 1.0 N·m) to remove the controller cover.
- * After finishing the communication work, please remove the communication cable and restore the cover by the screws.

③EcoRich R(3.7kW)–10/20 Design

Super Unit for Industrial Machinery (3.7/5kW)–10/20 Design

Name		Type
Eco Rich R		EHU40R-M07-10(20)
Super Unit for Industrial Machinery	Pump & Motor Type	SUT00S1516-10(20), SUT00S3010-10(20), SUT00S3016-10(20), SUT00S4007-10(20), SUT00D4016-10(20), SUT00S6007-10(20), SUT00D6021-10(20)
	Unit Type	SUT03S15L16-10(20), SUT03S30L10-10(20), SUT03S30L16-10(20), SUT06D40L16-10(20), SUT10D40L16-10(20), SUT06S60L07-10(20), SUT06D60L21-10(20), SUT10D60L21-10(20) (except SUT10D60L21-20-F-N0257)



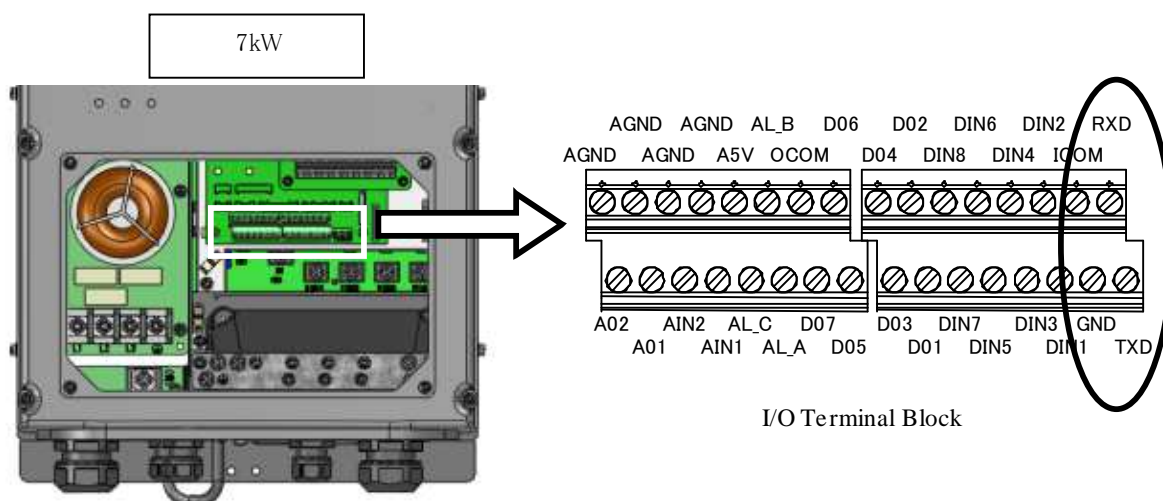
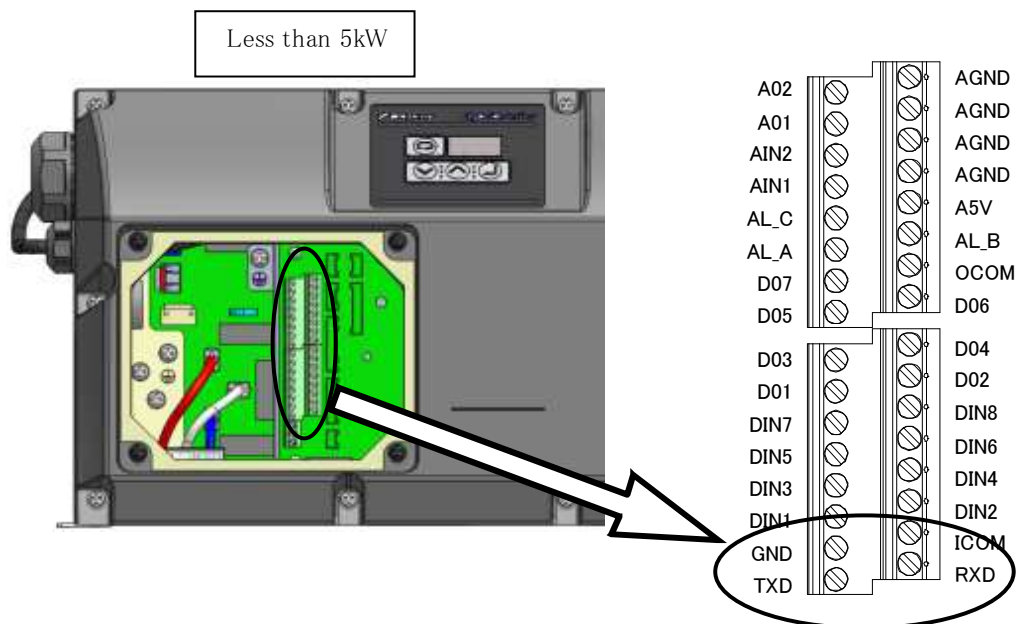
* Loosen 6 cross-headed screws (M5, Tightening torque: 0.9 N·m) to remove the controller cover.

* After finishing the communication work, please remove the communication cable and restore the cover by the screws.

④ EcoRich R - 30 Design

Super Unit for Industrial Machinery - 30 Design

Name		Type
EcoRich R		EHU15R-M07-30, EHU30R-M07-30
Super Unit for Industrial Machinery	Pump & Motor type	SUT00S1507-30 (except -V/-D), SUT00S1510-30, SUT00S3007-30 (except -V/-D), SUT00S1516-30, SUT00S3010-30, SUT00S3016-30, SUT00S4007-30, SUT00D4016-30, SUT00S6007-30, SUT00D6021-30, SUT00S8007-30, SUT00D8021-30,
	Unit type	SUT03S1507-30(except -V/-D), SUT03S1510-30, SUT03S3007-30(except -V/-D), SUT16D8021-30, SUT03S1516-30, SUT03S3010-30, SUT03S3016-30, SUT06D4016-30, SUT10D4016-30, SUT06S6007-30, SUT06D6021-30, SUT10D6021-30(except SUT10D6021-20-F-N0257), SUT10S8007-30, SUT10D8021-30



I/O Terminal Block	
Function	Remarks
TxD	Serial Communication Terminal (RS-232C)
RxD	
DGND	

Optional communication cables are necessary
(Communication cable (3-core, fixed with solder))

- ① Loosen the screw with a screwdriver.
- ② Check the unsheathed length of the cable, and insert it all the way into the terminal so that the conductors will not become loose.
- ③ Tighten the screw with a screwdriver.
- ④ Pull the cable lightly to make sure that it is securely connected.

Unsheathed length of the cable: 6 mm



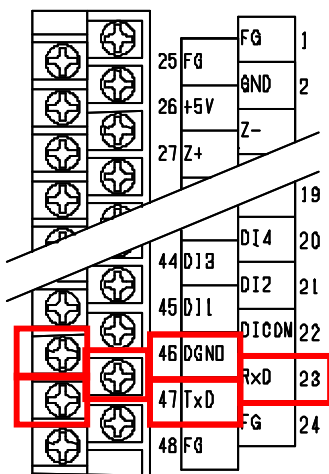
* Loosen 4 cross-headed screws (M4, Tightening torque: 1.0 N·m) to remove the controller cover.

* After finishing the communication work, please remove the communication cable and restore the cover by the screws.

⑤ Super Unit for Molding Machine / Super Unit for Industrial Machinery

Name		Type
Super Unit for Molding Machine		SUT00S3018, SUT00S5021 (except SUT00S5021-10), SUT00S8018 (except SUT00S8018-10), SUT00S8021, SUT00D12818, SUT00T12818, SUT00S13018, SUT00S13021, SUT00S15018, SUT00S20018
Super Unit for Industrial Machinery	Pump & Motor Type	SUT00D11021

I/O Terminal Block

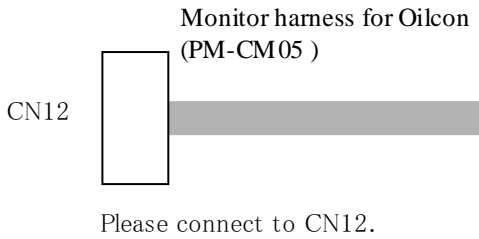
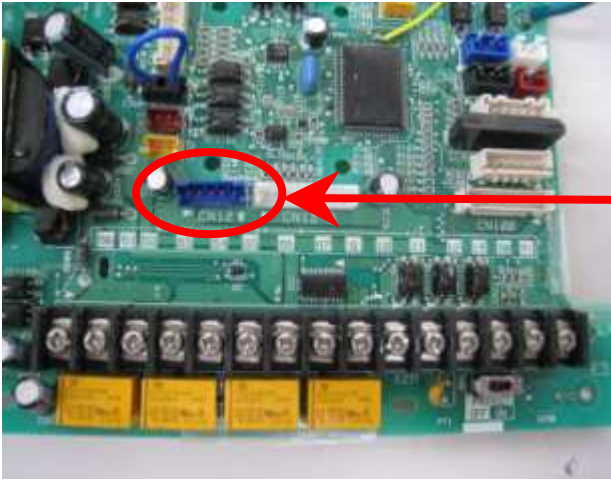


I/O Terminal Block		
No.	Function	Remarks
47	TxD	Serial Communication Terminal (RS-232C)
23	RxD	
46	DGND	

Optional communication cables are necessary
(Communication cable (3-core, fixed with solder))

⑥Oilcon (8 Series)

Name	Type
Oilcon	AKZ148、AKZ328、AKZ438、AKZ568、AKZ908、AKZJ188、AKZJ358、AKZJ458、AKZJ568、AKZJ908 AKZC358、AKZG358、AKZG568、AKZG908 AKZW148、AKZW328、AKZW438、AKZW568

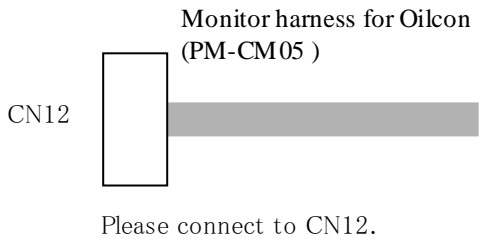
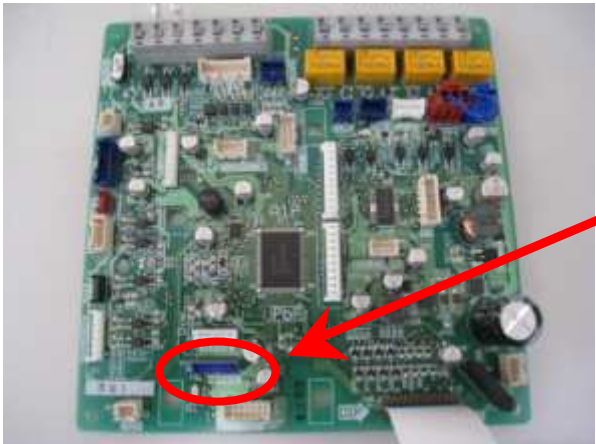


Optional communication cables are necessary (RS232C communication cable, Monitor harness for Oilcon).

- * Remove the screws which is mounted on top plate, and then remove the top plate.
- * After finishing the communication work, please remove the communication cable and restore the top plate by the screws.

⑦Oilcon (9 Series)

Name	Type
Oilcon	AKZ149、AKZ329、AKZ439、AKZ569、AKZ909 AKJ189、AKJ359、AKJ459、AKJ569、AKJ909 AKC359、AKC569 AKW149、AKW329、AKW439、AKW189、AKW359、AKW459



Optional communication cables are necessary (RS232C communication cable, Monitor harness for Oilcon).

- * Remove the screws which is mounted on top plate, and then remove the top plate.

* After finishing the communication work, please remove the communication cable and restore the top plate by the screws.

3) Please turn ON the power supply for the unit.

⚠ CAUTION

- Please firstly make sure the surroundings is safe, then turn ON the power supply.

2.6 Start-up and shutdown of DAIKIN Hybrid-Win

2.6.1 Starting DAIKIN Hybrid-Win

Please start up DAIKIN Hybrid-Win

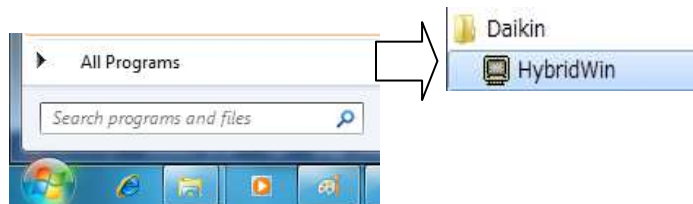
1) Start from the Windows Start menu

■Hybrid-Win (Ver 1.*.*)



Please click the [Start] button or press Ctrl key + ESC key to open the Windows menu, then start it from [All Programs].
Please proceed according to the following order: [HybridWin] → [HybridWin].

■Hybrid-Win (Ver 2.*.*)

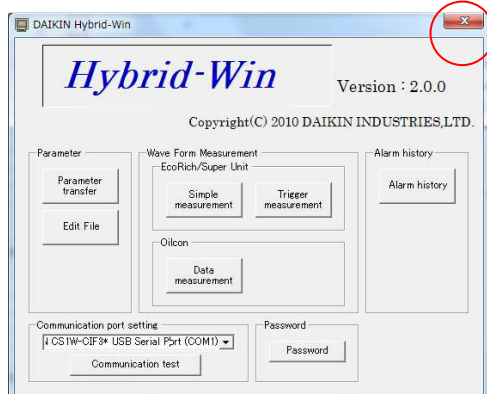


Please click the [Start] button or press Ctrl key + ESC key to open the Windows menu, then start it from [All Programs].
Please proceed according to the following order: [Daikin] → [HybridWin].

Memo

If the USB-to-serial converter is adopted, please start the Hybrid-Win when the converter is connected to the PC.

2) Exit from the main screen



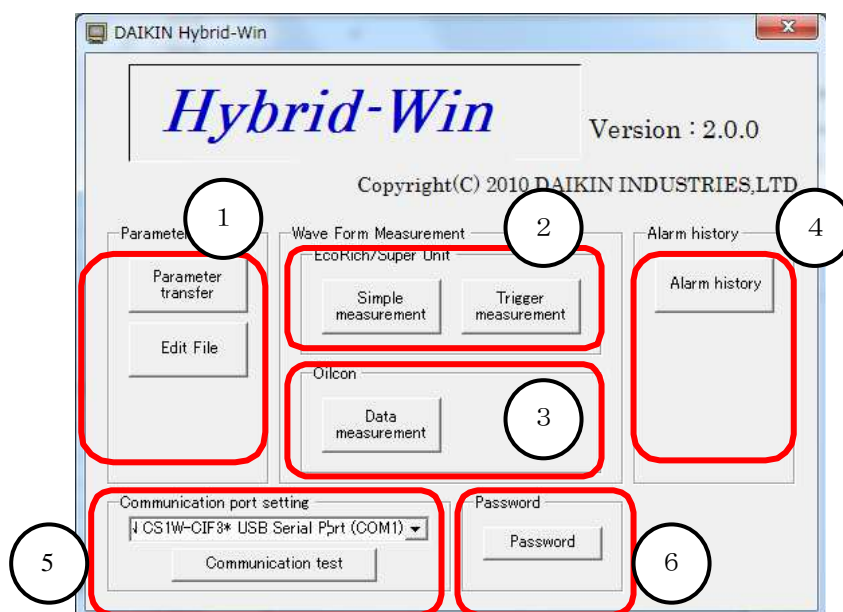
The main screen is displayed.

Please click the circle portion shown in this picture [×] (Close) to exit.

<Memo>

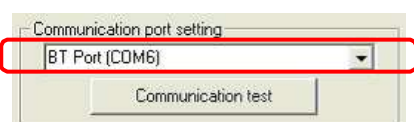
Chapter 3. Main screen

Select each function such as install parameter, indication of waveform or alarm history, etc., on this main screen. And also select communication port.



No.	Sort	Name	Function
1	Parameter	Parameter transfer	The parameter from the unit is read and installed. And it is saved at a file.
		File edit	You can confirm and edit the parameter saved in the file without connecting with the unit.
2	Measurement (EcoRich / Super unit)	Simplicity	You can easily measure waveform of pressure and flowing rate, etc.
		Trigger	You can measure waveform of pressure and flowing rate, etc., when you set the trigger.
3	Measurement (Oilcon)	Data measurement	Monitoring each data, such as machine body temp. or outlet temp. etc., is available. And can be recorded those data as file.
4	Alarm history	Alarm history	The alarm history of the unit is displayed.
5	Communication port setting	Communication port setting	The communication port can be selected. The COM port that can be used is displayed.
		Communication test	You can do the communication test and confirm the communication with the unit.
6	Password	Password	The password is input. Usually, it is not necessary to use it.

3.1 Setup of Communication Port



The communication port can be selected.
The COM port that can be used is displayed.
Communication test is also available with Communication test key, which can be check proper wiring or port.

Memo

- When USB-Serial converter is used, start up this software with connecting the converter.

Chapter 4. Parameter

4.1 Description of Parameters



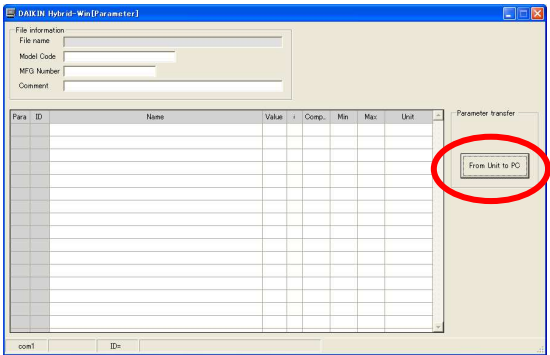
There are the following two functions about parameter.
[Parameter transfer] : The parameter from the unit is red and installed.
And it is saved at a file.
[File edit] : You can confirm and edit the parameter saved in the file without connecting with the unit.

Memo

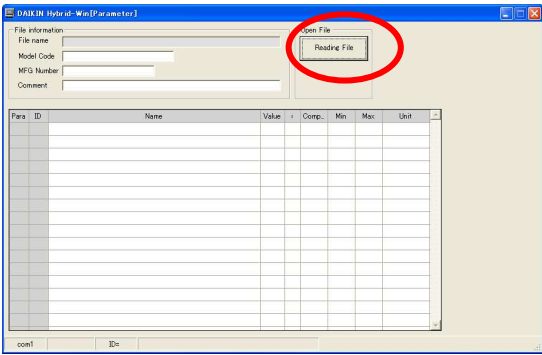
After connection, following 2 funtions are ready to use. Other functions can be used after operated followingw functions.

- [Parameter transfer] function : Parameter transfer [To PC from unit]
- [File edit] function : Open[Read]

[Parameter transfer] function



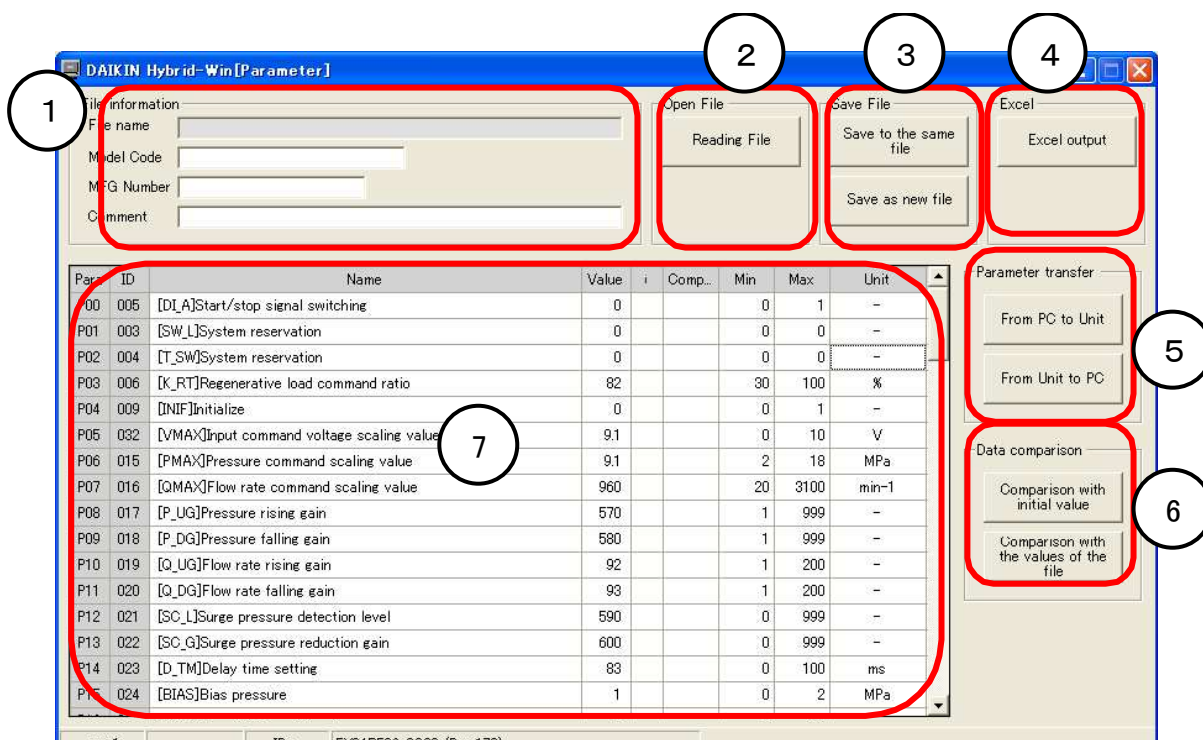
[File edit] function



4.2 Parameter screen

4.2.1 The name and work of each part of a parameter screen

After you push [Parameter transfer] and [File edit] button on a main screen, the next screen will be displayed .



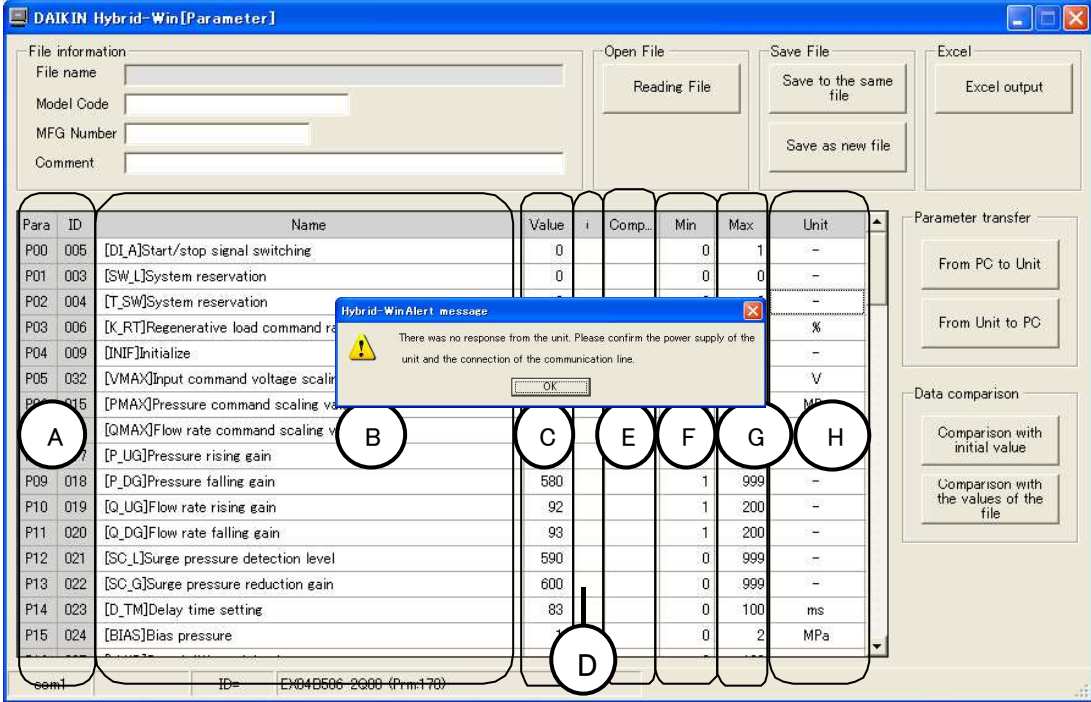
No.	Sort	Name	Function
①	File information	File name	The name of the file that reads the parameter and the name of the saved file are displayed.
		Form sign	Input parameter information.
		MFG number	Input information is displayed by reading the saved parameter file.
		Comment	
②	Open	Read	The parameter file is red and the value is displayed.
③	Save	Save	It preserves the value displayed now in the file operated last time.
		Save as	The value displayed now is preserved in the file naming the file name.
④	Excel	Excel output	The value displayed now is output to Excel.
⑤	Parameter transfer	To unit from PC	The displayed value is written in the unit.
		To PC from unit	The setting of the parameter of the unit value is red and displayed.
⑥	Data comparison	File	The values preserved in the file and the value displayed now are compared.
⑦	Parameter display area	—	It is area that displays parameter. Refer to the following for details.

IMPORTANT	The file which can be red by [Read] is the file saved by [Save] or [Save as]. The data outputted to Excel by [Excel output] is only for an output. It cannot read.
-----------	---





Memo
In the [File edit] function, [Parameter transfer] button and [Data comparison] button are not shown.

⑦ Parameter display area

It is area that displays parameter. Refer to the following for details.



- ① The parameter number and data number of a parameter are displayed.
- ② The name of a parameter is displayed.
- ③ The value of a parameter is displayed.
- ④ The results of check are shown below.

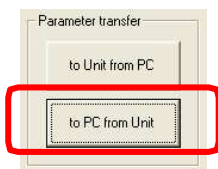
Display	Content
	This sign is shown when the value is not matched.
	This sign is shown when the file is empty as alarm. Ans also show when the software version isn't same between unit and file.
	This sign is shown when the value is changed, but not transfer to unit.
	This sign is shown when the parameter is exceeded from min. or max. value. And also shown when the software version isn't same between unit and file.

- ⑤ The parameter value of target for checking is displayed.
- ⑥ The minimum value of parameter is displayed.
- ⑦ The maximum value of parameter is displayed.
- ⑧ The unit of parameter is displayed.

4.3 Read out parameter from units

A parameter is read from a unit in the following procedures.

1) Click [To PC from unit] button



Click [To PC from unit] button.

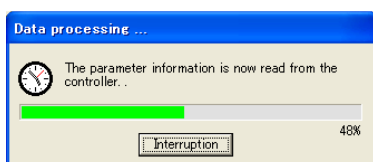
2) Check of a dialog box



Confirmation dialog is shown. Click [OK] to proceed.

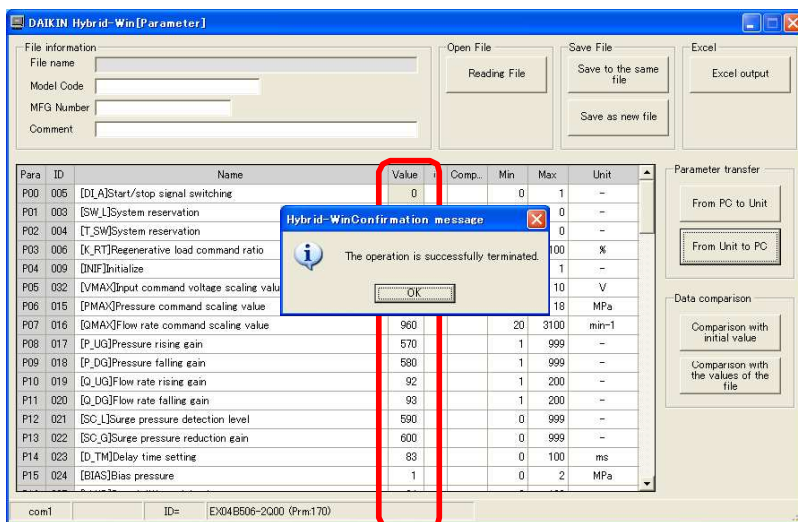
If you want to stop, click [Cancel] button.

3) The display of a dialog box during transmission.



During data transfer, this dialog is shown.

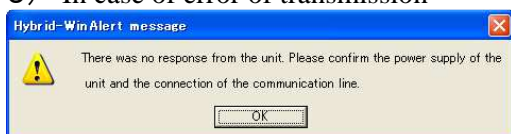
4) The display of the red parameter



Parameters read from unit are displayed in the column said [Value].

Confirmation dialog is shown. Click [OK].

5) In case of error of transmission



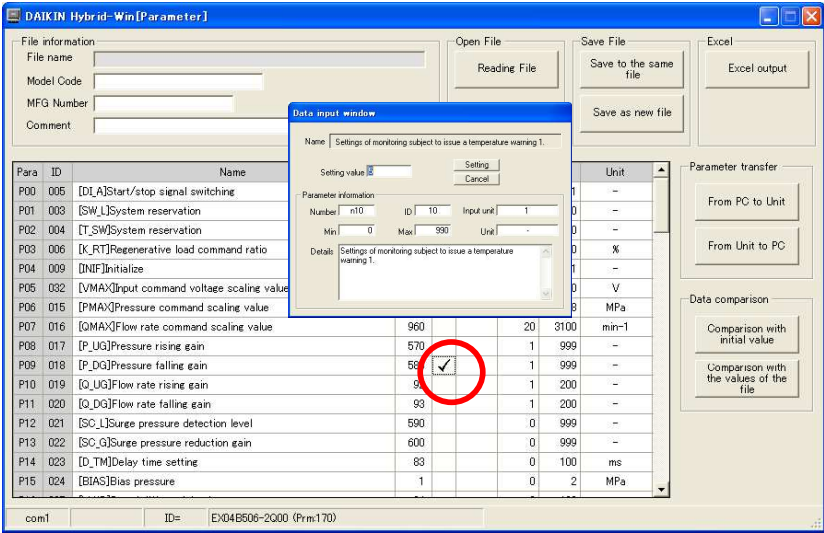
When transmission is not completed normally, the dialog box of the left figure is displayed. Click [OK] button.

4.4 Change of Parameter

1) Selection of the parameter to change

Click a parameter to change from a table.
The dialog box which inputs the value of a parameter is displayed.

2) Input parameter setup value to change

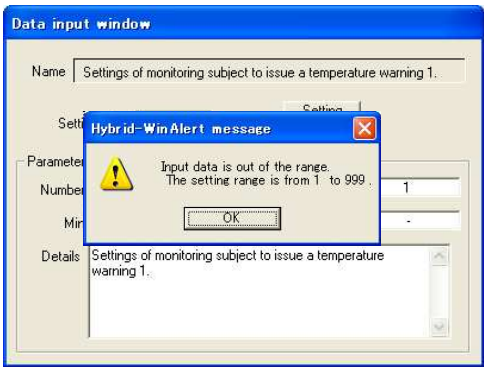


Input required parameter value in the box [Setup value] and click [Setting] button to confirm.

After input the value, ✓ mark is shown in the column [i].
(Refer to left figure)

When you want to stop, click [Cancel] button.

3) Procedure after alarm dialog shown



If the input value is out of the range, alarm dialog such as left figure is shown. The input range is also shown for reference.

If you click [OK] button, it will return to parameter input screen.

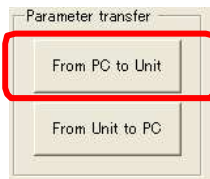
IMPORTANT	Setup parameter values were not transferred with above procedure. Need to transfer procedure to install those parameters. Please refer to Subject NO.2.5 Transfer setup parameter into unit.
-----------	---

Memo	
<ul style="list-style-type: none">• The display of the maximum or minimum parameter value may be different according to the MFG No. of the EcoRich. In this case, the warning will be shown when transferring from PC to Unit. Please input the correct value, and transfer again.• If the pump of the unit is 2-joined-gear pump, even “P40: Pump running selection” is “1: High pressure low capacity”, it is not possible to set the pressure of the low pressure side to 0. Please set the parameter by panel of the unit.• Even “Pressure unit change” is set to “1: PSI Display”, the displayed pressure unit of Hybrid-Win is also MPa.	

4.5 Transfer setup parameter into units

Parameter is transmitted to unit in the following procedures.

1) Selection of [From PC to Unit]



Click [From PC to Unit] button.

2) The check of a dialog box

The following check dialog boxes are displayed.

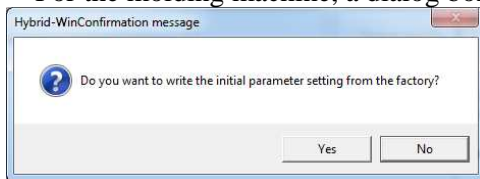


The check dialog box is displayed.

If you want to transfer, click [OK] button.

If you want to stop, click [Cancel] button.

For the molding machine, a dialog box below may be displayed.



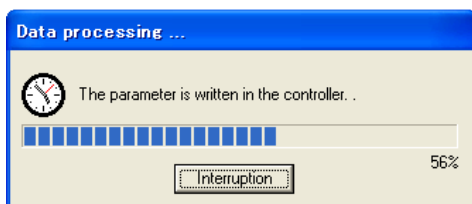
There are parameters that was adjusted at the factory for correcting hardware variations in the molding machine. Please select writing to these parameters or holding the current values.

- Yes: writing to these parameters that was adjusted at the factory
- No: holding the current values

■ Parameters that was adjusted at the factory for molding machine

Parameter No.	Symbol	Parameter name
P07	QMAX	Flow rate command scaling value
H15	Q_EV	Volumetric efficiency correction
H21	PI_Z	PI Zero
H22	PI_G	PI Gain
H23	QI_Z	QI Zero
H24	QI_G	QI Gain
H25	PO_Z	PO Zero
H26	PO_G	PO Gain
H27	QO_Z	QO Zero
H28	QO_G	QO Gain
H30	PS_G	Pressure sensor gain

3) The display of a dialog box during transmission.



During transmission, this dialog is shown.

4) The display of the dialog box at the time of a normal end



If transmission is completed normally, the dialog box of the left figure will be displayed.
If you click [OK] button, it will return to a parameter setup screen.

5) If an error display comes out



When transmission is not completed normally, the dialog box of the left figure is displayed.
Click [OK] button. Please refer to "9.1.2 can not communicate" for more information.

IMPORTANT	<ul style="list-style-type: none">● Right after transmission of parameter, those parameters will be reflected immediately. Those changes would be effected pressure, rotation speed or operation of pump. Please be sure to operation condition of the unit before transmission.● If some error would be occurred, the transmission would not be completed. To re-set the parameter to original, need to re-start the unit. Please make sure the complition of transmission before the operation of unit.● When the indication panel on the unit is shown [Setting], there is possibility that parameter transmission would not be done. Please make sure the indication as [Normal] before using this software.● It is not possible to transfer the parameter file that saved in super unit 20 or 10 design to the 30 design. The reverse is too.● It is not possible to transfer the parameter file that saved in EcoRich R 20 or 10 design to the 30 design. The reverse is too.● For oil cooling unit, if parameter transmission would face alarm, the unit would show [UH] alarm after re-start the unit. Please transfer the parameter completely and re-start the unit again.
-----------	---

4.6 Preservation of a parameter

Ediging parameter can be saved in the file with following procedure.

4.6.1 Input of file information

A screenshot of a "File information" input form. It has a title bar "File information" and four text input fields: "File name" (empty), "Form sign" (containing "AKZ328"), "MFG Number" (containing "8500007"), and "Comment" (containing "for daikin").

When save the file, model NO., MFG No. or comment can be input in this box. These informations will be shown in the next time and make it easier to confirm correct file.

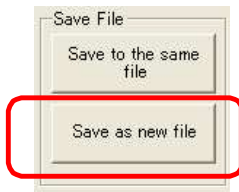
4.6.2 Save



Click [Save to the same file] button.
The parameter currently edited is overwritten at the existing file.

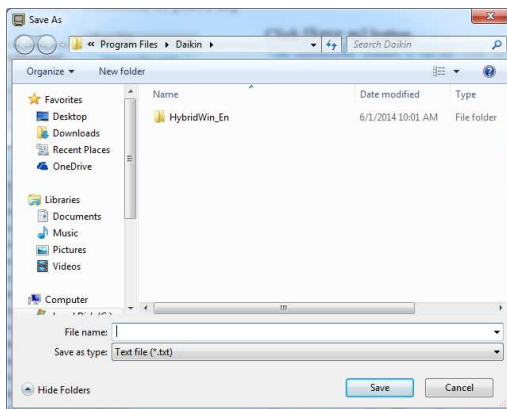
4.6.3 Save as

1) Selection of [Save as new file]



Click [Save as new file] button.
The parameter edited is saved with new file name.

2) Input file name



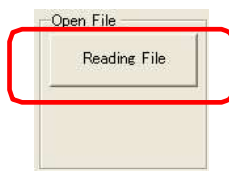
To save with new file name, left figure box is shown.
Input new file name in [File name (N)], and click [Save] button.

If you want to stop, click [Cancel] button.

4.7 Read out setup parameter from file

Parameter is read from a file.

1) Read



Click [Reading File] button.

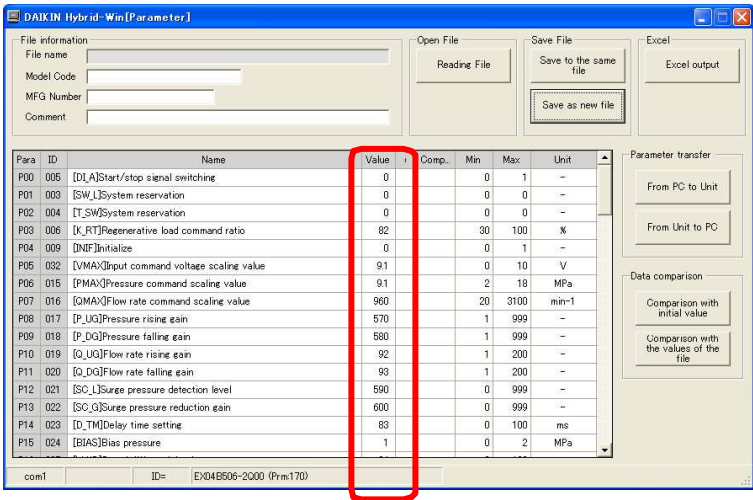
2) Selection of a file



Select a file and click [Open (O)] button.

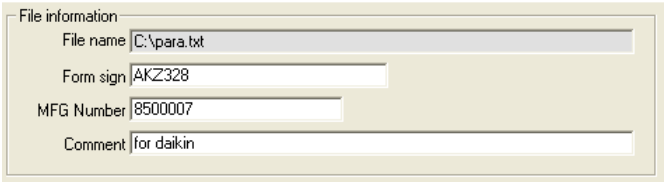
If you want to stop, click [Cancel] button.

3) The display of a parameter



Indicated parameter in the file in the columne of [Value].

4) The display of file information



Indicated data information as left figure.

<Memo>

Chapter 5. Waveform measurement screen (EcoRich / Super Unit)

5.1 Kind of Waveform measurement screen (EcoRich / Super Unit)



Measurements for EcoRich / Super Unit are follows.

[Simple measurement] : Start and stop the measurement manually. The sampling time can be set from 10ms.

[Trigger measurement] : Set the conditions to start measuring, and the measurement will start automatically when it comes to the condition. The sampling time can be set from 1ms. It is possible to measure more fine waveform data than the [Simple measurement]

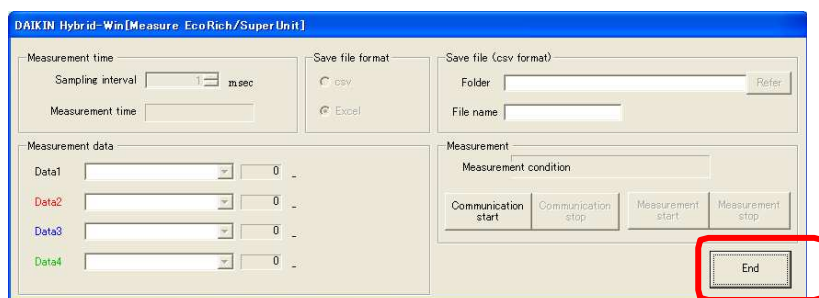
5.2 Starting and End

After clicking [Simple measurement] button or [Trigger measurement] button as above 「5.1 Kind of Waveform measurement screen (EcoRich / Super Unit) , waveform measurement screen will appear. To end measurement, click [End] button and return to main screen.

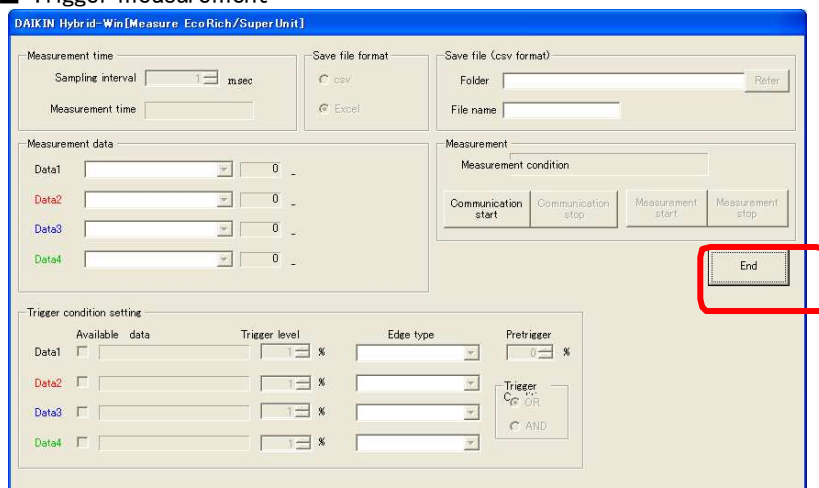
Memo

[End] button can be used in the measurement stop condition only.

■ Simple measurement



■ Trigger measurement



5.3 Waveform measurement screen (EcoRich / Super Unit)

5.3.1 The name and work of each part of waveform measurement screen (EcoRich / Super Unit)

The screenshot shows the DAIKIN Hybrid [Measure EcoRich/SuperUnit] waveform measurement screen. The interface is divided into several sections, each labeled with a number in a circle:

- 1**: Measurement settings. Includes "Sampling interval" (1 msec) and "Measurement time" (0h0m0s255ms).
- 2**: Save file format. Includes radio buttons for "CSV" and "Excel".
- 3**: Save file (CSV format). Includes "Folder" and "File name" fields, and a "Refer" button.
- 4**: Measurement data. Includes four data selection fields (Data1, Data2, Data3, Data4) with dropdown menus and "0" values.
- 5**: Trigger condition setting. Includes "Available data" checkboxes, "Trigger level" (1), "Edge type" (Change edge), and "Pretrigger" (0 %).
- 6**: Measurement condition. Includes buttons for "Communication start", "Communication stop", "Measurement start", and "Measurement stop".
- 7**: End button.

1. Setting the sampling time. Measurement time will be displayed.
2. Selecting the file format for saving the measurement results.
3. Selecting the measuring data.
4. When the saved file format is the csv format, set the file saving address and the file name.
5. Setting the trigger conditions. If it is in simple measurement, it will not appear.
6. Starting / stopping of communication and measurement. Measurement status is displayed.
7. Screen is ended

Memo

According measurement condition, operatable button is limited.

5.4 Data Collection Settings

5.4.1 Setup of Sampling Period

The screenshot shows the "Measurement time" settings section. It includes two fields:

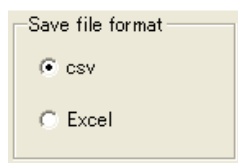
- Sampling interval**: Set to 1 msec.
- Measurement time**: Set to 0h0m0s255ms.

Set the sampling time period for data measurement. Setting value is different based on measurement mode as follows.

[Simple measurement] : 10~9999ms

[Trigger measurement] : 1~9999ms

5.4.2 Saving file format



There are two types of file format can be selected to save the measured data.

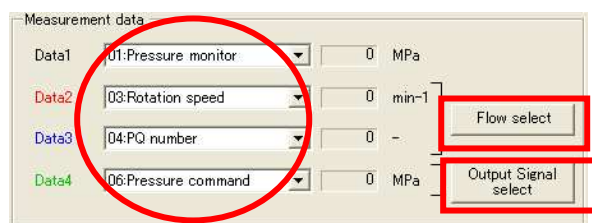
csv : data is saved in csv format.

Please choose this type, if there is no Excel in your PC, or it is desired to reduce the file size, or it is desired to measure for a long time.

Excel : data and waveform graph are shown in Excel.

Please choose this type, if you want to see the graph of waveform.

5.4.3 Selection of measuring data



Choose the data to be measured from the portion of the circle in the left figure.

In the following cases, please select / release by pressing the displayed button.

① "Flow Rate Selection" button is displayed
Please select / release the flow rate by this "Flow rate selection" button. At this time, you can not do trigger setting of flow rate.

② "Output Signal Selection" button is displayed
Please set it when you want to trigger a digital output signal. Select / release the output signal by this "Output Signal Selection" button. The trigger level can not be changed.

Memo
"Flow Rate Selection Button " and "Output Signal Selection Button" show / hide automatically, depending on the target unit.

■ Measuring data list

It is possible to measure data up to four kinds. For each model, the measuring data in the table below can be selected.

◆ Super Unit / EcoRich R

Data No.	Display name	Unit	Description
0	No data	—	Select it, if you do not want to use the selected data number.
1	Current pressure	MPa	The current pressure is displayed.
2	Current flow rate	L/min	The current flow rate is displayed. According to the model, select / release the flow rate by "Flow rate selection" button.
3	Current rotational speed	min ⁻¹	The current rotational speed of motor is displayed.
4	PQ selection number	-	Show the PQ selection number that is selected by a digital input signal.
5	Control mode	-	Show the internal control state.
6	Command pressure	MPa	Show the command pressure after pressurizing or depressurizing.
7	Command rotation speed	min ⁻¹	Show the rotation speed after acceleration or deceleration.
8	Current command ratio	%	Show the ratio of the current value to the maximum output current.
9	U-phase current value	Apeak	Show the U-phase current value.
10	V-phase current value	Apeak	Show the V-phase current value.
11	W-phase current value	Apeak	Show the W-phase current value.

Data No.	Display name	Unit	Description
12	Main circuit DC voltage	V	Show the main circuit DC voltage.
13	Regenerative load ratio	%	Show the load ratio of regenerative load to the rated capacity of regenerative resistor.
14	Actual motor current value	Arms	Show the actual motor current value.
15	Motor load ratio	%	Show the ratio of the motor current to the rated current.
16	Fin temperature	°C	Show the temperature of the heat radiating fins.
17	Motor temperature	°C	Show the motor temperature.
18	Digital output signal	-	<p>Set this data, when you want to trigger a digital output signal. Select / release the digital output signal by "Digital output signal" button.</p> <p>Set the following digital output signal ON → OFF, trigger will be automatically set.</p> <ul style="list-style-type: none"> • Super Unit 3.7/5.0kW equivalent: contact output * • Excluding Super Unit 3.7/5.0kW equivalent: Digital output 2 * <p>The contents of the output signal can be selected by the parameter. Please refer to the instruction manual for more information.</p>
19	2 pumps switching	-	<p>In the case of 2 pumps system, large-capacity-pump and small-capacity-pump autonomously switch for confluence and single mode.</p> <p>Show the current switching state of the pump.</p> <ul style="list-style-type: none"> • 0: Single pump (Single) • 1: Double pump (Confluence)

* Please refer to "2.5 Connecting the communication cable" for the equivalent of EcoRich and Super Unit 3.7/5.0kW .

Memo
The measuring data which can be selected is different for different model.

◆ Super Unit for Molding Machine

Data No.	Display name	Unit	Description
0	No data	—	Select it, if you do not want to use the selected data number.
1	Current pressure	MPa	The current pressure is displayed.
2	Current flow rate	L/min	The current flow rate is displayed. According to the model, select / release the flow rate by "Flow rate selection" button.
3	Current rotational speed	min ⁻¹	The current rotational speed of motor is displayed.
4	Control mode	-	Show the internal control state.
5	Command pressure	MPa	Show the command pressure after pressurizing or depressurizing.
6	Command rotation speed	min ⁻¹	Show the rotation speed after acceleration or deceleration.
7	Command pressure (Voltage)	V	Show the input voltage of the command pressure.
8	Command rotation speed (Voltage)	V	Show the input voltage of the rotation speed.
9	Current pressure (Voltage)	V	Show the voltage of the pressure monitor.
10	Current rotational speed (Voltage)	V	Show the voltage of the flow rate monitor.
11	Current command ratio	%	Show the ratio of the current value to the maximum

Data No.	Display name	Unit	Description
			output current.
12	U-phase current value	Apeak	Show the U-phase current value.
13	V-phase current value	Apeak	Show the V-phase current value.
14	W-phase current value	Apeak	Show the W-phase current value.
15	Main circuit DC voltage	V	Show the main circuit DC voltage.
16	Regenerative load ratio	%	Show the load ratio of regenerative load to the rated capacity of regenerative resistor.
17	Actual motor current value	Arms	Show the actual motor current value.
18	Motor current ratio	%	Show the ratio of the motor current to the rated current.
19	Fin temperature	°C	Show the temperature of the heat radiating fins.
20	Motor temperature	°C	Show the motor temperature.
21	Motor load ratio	%	Show the motor load ratio. A rated load state of the motor is 100%. Over 110%, it will stop and the alarm will come out.
22	Controller load ratio	%	Show the controller load ratio. A rated load state of the controller is 100%. Over 120%, it will stop and the alarm will come out.
23	Pressure load ratio	%	Show the pressure load ratio. Over 144%, it will stop and the alarm will come out. For these models which "E28 Over a rated short period of time" cannot be detected, "0" will be displayed.
24	Horsepower load ratio	%	Show the horsepower load ratio. Over 144%, it will stop and the alarm will come out. For these models which "E28 Over a rated short period of time" cannot be detected, "0" will be displayed.

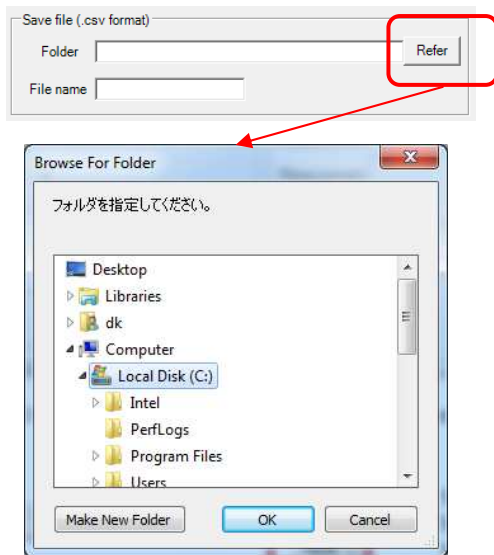
◆ EcoRich

Data No.	Display name	Unit	Description
0	No data	—	Select it, if you do not want to use the selected data number.
1	Current pressure	MPa	The current pressure is displayed.
2	Current flow rate	L/min	The current flow rate is displayed. According to the model, select / release the flow rate by "Flow rate selection" button.
3	Current rotational speed	min ⁻¹	The current rotational speed of motor is displayed.
4	Command pressure	MPa	Show the command pressure after pressurizing or depressurizing.
5	Command rotation speed	min ⁻¹	Show the rotation speed after acceleration or deceleration.
6	Fin thermo temperature	deg.	The temperature of fin thermo is displayed.
7	Motor thermo temperature	deg	The temperature of motor thermo is displayed.

5.4.4 Storage of the measured data

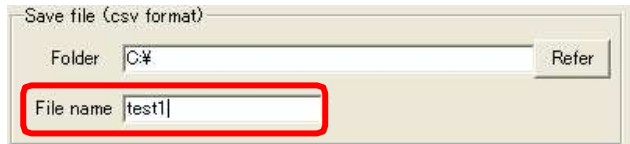
When csv is selected to save file format, please set the file to save the measured data before starting measuring.

1) Folder



Selection of folder is shown with click [Refer] button.
Select required folder.

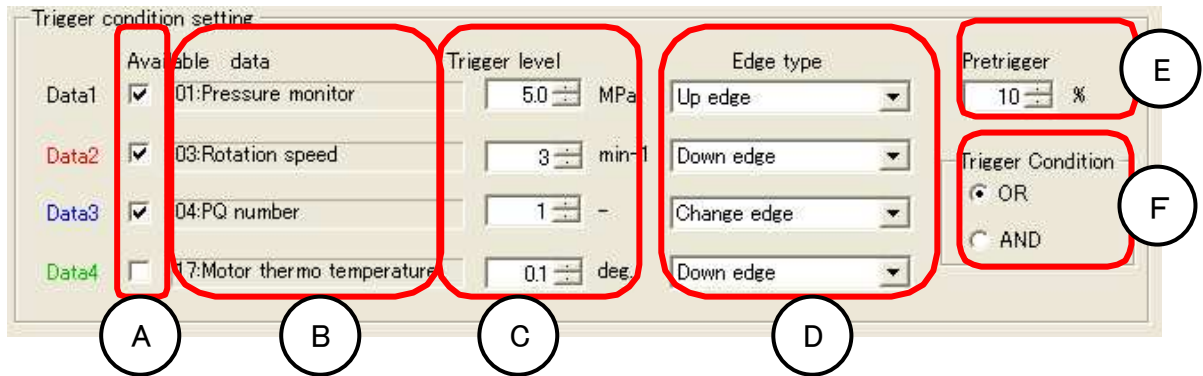
2) File name input



Input file name

5.4.5 Setting Trigger Conditions

Set the trigger condition to start the measuring.
When the trigger condition is satisfied, the measurement will start automatically. Condition setting is as follows.

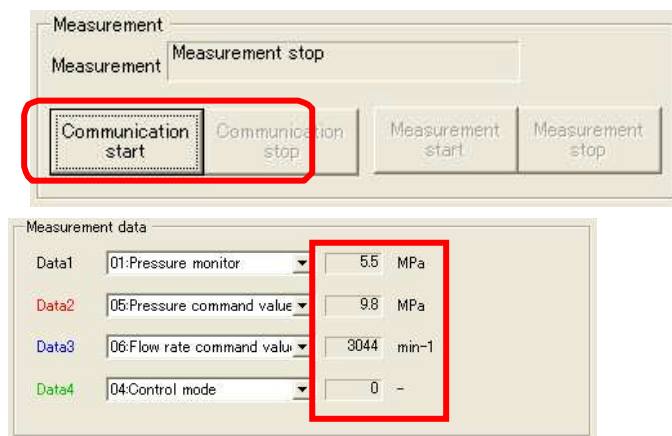


Symbol	Display		Content
A	Enable		Decide whether select this measuring data as a trigger condition.
B	Measuring data		Show the measuring data.
C	Trigger level		Set a value as a condition which satisfies the trigger.
D	Edge Type	Changing edge	When the value changes around the trigger level, such as bottom → above, or above → bottom, the trigger condition is satisfied.
		Rising edge	When the value changes from the trigger level bottom to above, the trigger condition is satisfied.
		Falling edge	When the value changes from the trigger level above to bottom, the trigger condition is satisfied.
E	Pre-trigger		Before the trigger condition is satisfied, from how long ago the

Symbol	Display		Content
			waveform should be measured. Set the ratio [%] to the measurement time. The setting range is 0-50%.
F	Triggering condition	Or	When any of the trigger conditions is satisfied, the measurement will start.
		And	When all the trigger conditions are satisfied. the measurement will start.

5.5 Start and Stop of Measurement

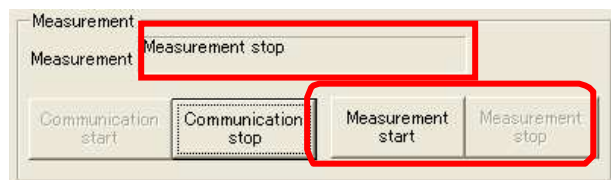
5.5.1 Start and stop of communication



Start communication with [Communication Start] button. Stop measurement with [Communication Stop] button.

When you start the communication, the current value of the selected data will be displayed in the square part in the left figure.

5.5.2 Start and stop of measurement



Start measurement with [Measurement Start] button. Stop measurement with [Measurement Stop] button. When the communication is started, it can be operated.

When the measurement is started, the status is displayed on the square part on the left. (For details, see the table below)

■ measuring state

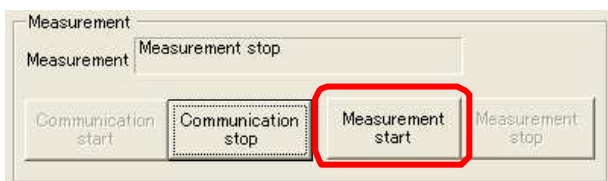
Display	Content
Waiting for measurement start	This is the state before the measurement start.
Waiting for trigger measurement	It is displayed during [Trigger measurement]. It is a state that waiting for the satisfaction of the trigger condition after pressing the measurement start button.
During measurement	It is a state in which the measurement is undergoing.
Receiving data	It is a state in which data is being received from the unit.
During file output	It is a state in which the data is output to a file.
Measurement completion	It is a state in which the measurement is completed.

5.6 Trigger measurement procedure

Memo
If the connection error occurs, it is possible that the value cannot be received and discontinuous value is displayed.

5.6.1 Trigger measurement (csv format)

1) Measurement start



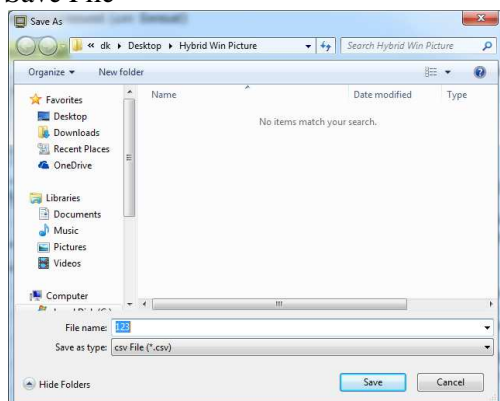
Start measurement with [Measurement Start] button.



[Waiting for trigger measurement] is displayed.

If the trigger measurement condition is satisfied, "During measurement" will be displayed.

2) Save File



After receiving the data from the unit, the dialog box shown on the left will appear.

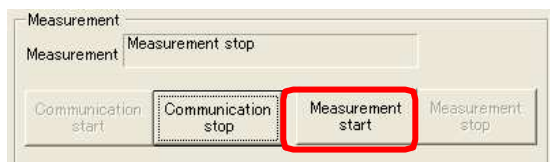
The entered file name in "save file (csv format)" is displayed.

Please enter a new name for this file in the [File name (N)] box, then click the [(S) Save] button.

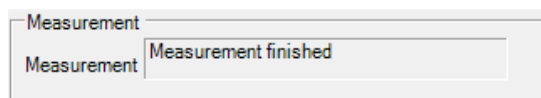
If you want to stop, please click the Cancel button.

5.6.2 Trigger measurement (Excel format)

1) Measurement start



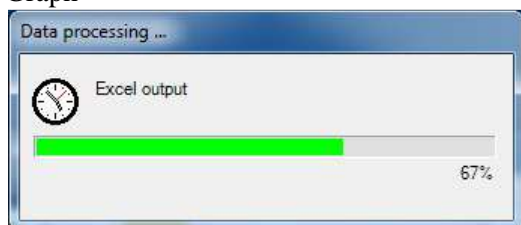
Start measurement with [Measurement Start] button.



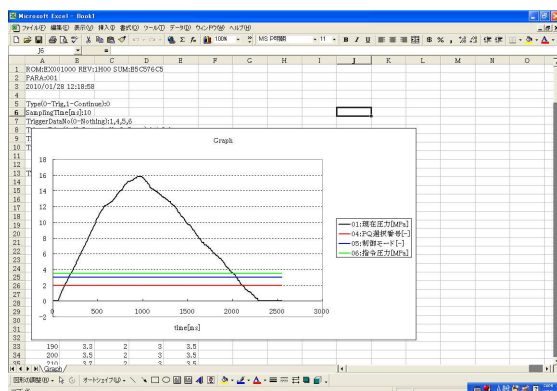
[Waiting for trigger measurement] is displayed.

If the trigger measurement condition is satisfied, "During measurement" will be displayed.

2) Graph



After receiving the data from the unit, the dialog box shown on the left appears.



Graph and measured data are displayed in Excel, as shown in the left figure.

5.7 Simple measurement procedure

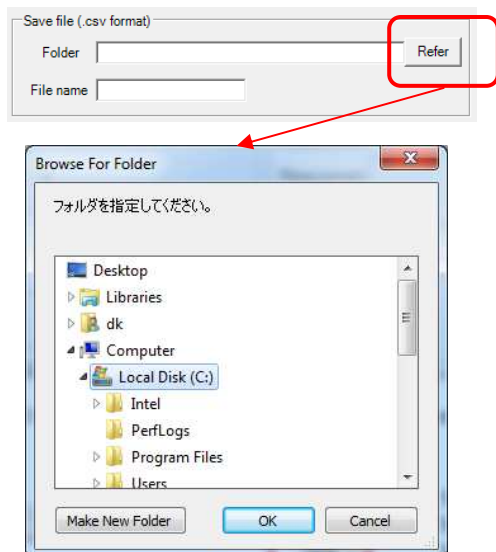
Memo

- This function cannot be used in EcoRich.
- If an error occurs, in order to continue the measurement, the data that could not be received is ignored. So it is possible that discontinuous value is displayed. Please adopt ferrite to against the noise, and set a longer sampling time in that case.

5.7.1 Simple measurement (csv format)

Please set a file to save the measuring data before starting measurement.

1) Folder

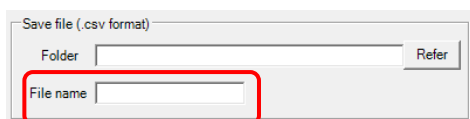


Selection of folder is shown left with click [Refer] button.
Select required folder.

Memo

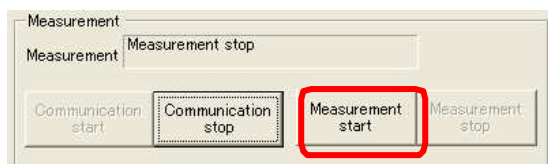
Please select folders in local hard disk. If selected in network or USB, it could be problem to save the data.

2) File name input

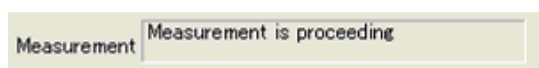


Input file name

3) Start measurement



Start measurement with [Measurement Start] button.



Start the data measurement, "During measurement" will be displayed.

4) Save File



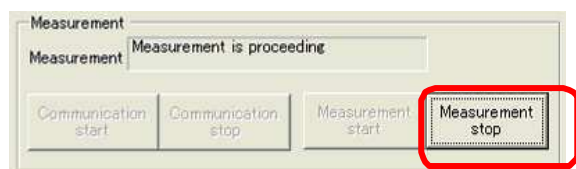
By entering file name in "save file (csv format)", the measured data is saved automatically.

When a number of new data is created, a three-digit number is added to the end of file name. For example "Test003.csv".

File will be created to "999" at most.

If the file of "999" is saved, the measurement will be completed automatically.

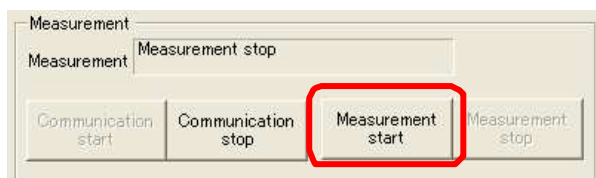
5) Completion of measurement



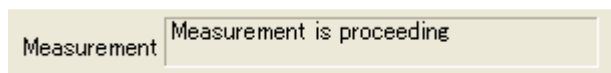
Complete the measurement by pressing the Measure Stop button.

5.7.2 Simple measurement (Excel format)

1) Start measurement

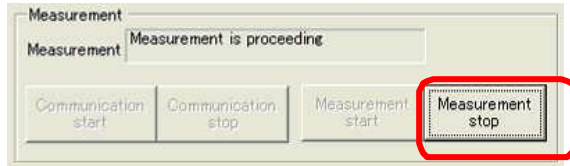


Start measurement with [Measurement Start] button.



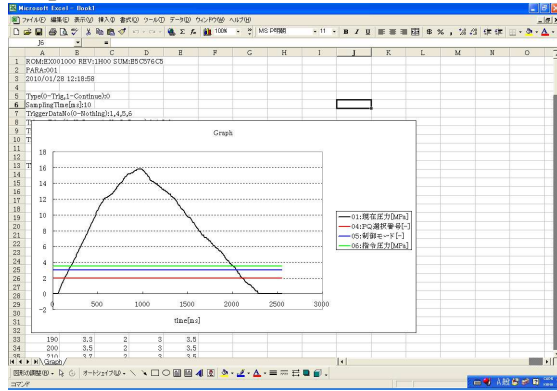
Start the data measurement, "During measurement" will be displayed.

2) Completion of measurement



Complete the measurement by pressing the Measure Stop button.

3) Graph



As shown in the left figure, graph and measured data are displayed in Excel.

<Memo>

Chapter 6. Waveform measurement screen (Oilcon)

6.1 Kind of Waveform measurement screen (Oilcon)



Measurement for oil con is follows.

[Data measurement] : Temperature information such as machine body or outlet can be monitored. Mode setting or saving data file are also available.

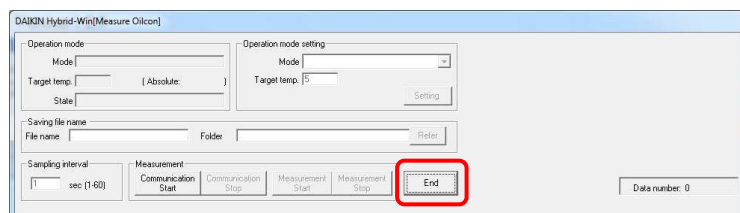
Memo

This function is available for 8 and 9 series.

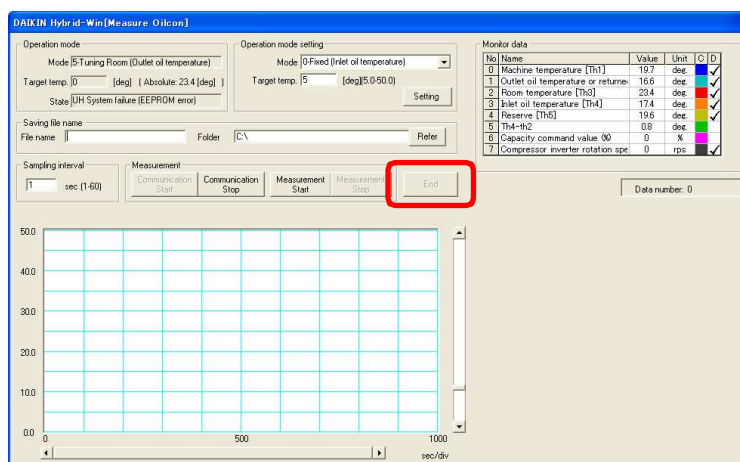
6.2 Starting and End

After click [Data measurement] button as above 「6.1 Kind of Waveform measurement screen (Oilcon)」, following dialog is shown. To end measurement, click [End] button as follows and return to main screen.

■ Version 1.1.0 - 1.2.2



■ After Version 1.2.3

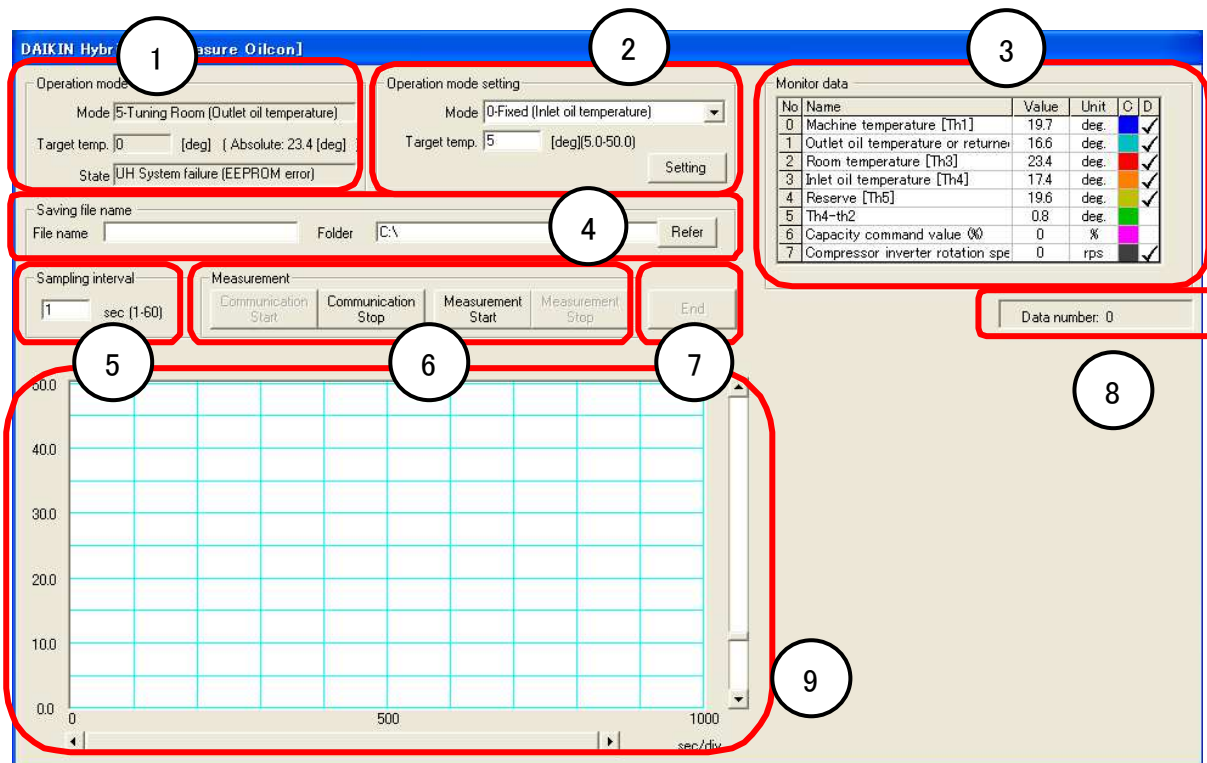


Memo

[End] button can be used in the measurement stop condition only.

6.3 Waveform measurement screen (Oilcon)

6.3.1 The name and work of each part of waveform measurement screen



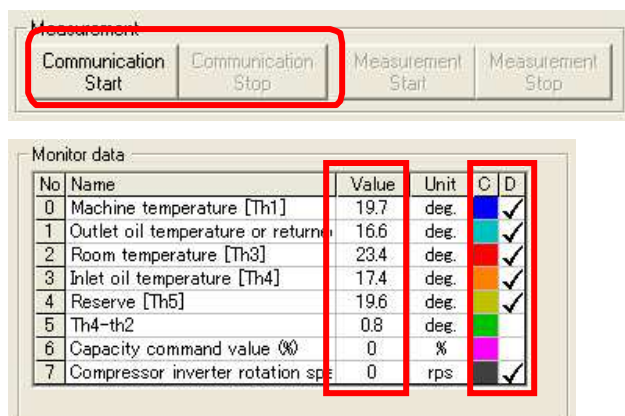
1. Operation mode of unit, target temperature and operational status are displayed.
2. Operation mode and target temperature can be set up.
3. Monitor data is displayed.
4. The preservation folder of internal data and a file name are chosen and displayed.
5. The sampling interval that measures internal data is chosen.
6. Communicative start/stop, and a start/stop of internal data measurement are performed.
7. Screen is ended.
8. The number of measurement data is displayed.
9. Waveform is indicated after starting measurement.

Memo

According measurement condition, operatable button is limited.

6.4 Start and Stop of Measurement

6.4.1 Communicative Start and Stop



Operate start and stop with [Communication Start] and [Communication Stop] button.

After starting communication, current value are shown in the column of [Value].

Click in the column [D] and select and unselect each data to show in the waveform.

Each value is represent the color in [C] column.

6.5 Data Measurement

Working condition such as temperature data can be recorded as file.

During recording data, bin file and csv file are made and can see csv file.

“bin file” is for our internal use which included confidential information with which we can identify suitable support for customers.

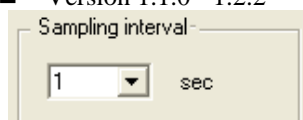
(bin file is not indicated because of confidential information.)

Memo

- Extension name [.csv] file is available after the software version No. 1.2.3. Please refer to the file name with [.csv] to confirm internal data such as temperature data.

6.5.1 Setup of Sampling Period

■ Version 1.1.0 - 1.2.2

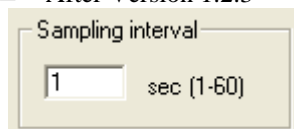


Setup sampling period with this box.

Setting value is different based on software version as follows.

- Version 1.1.0~1.2.2 : 1~10sec (Selection)
- Version 1.2.3 or after : 1~60sec (Set by each 1sec at random)

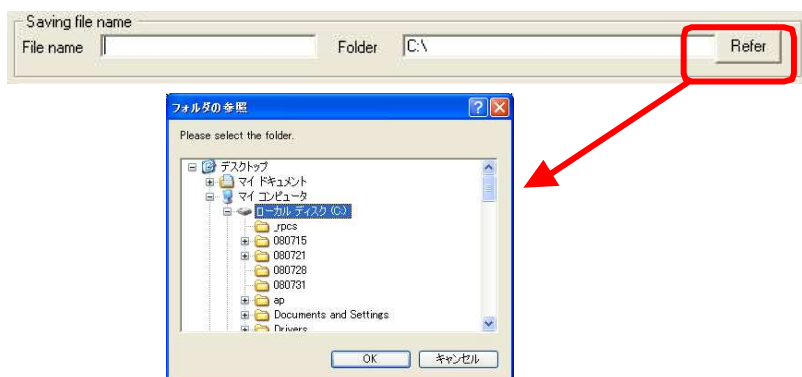
■ After Version 1.2.3



6.5.2 Data Measurement

The file which saves measurement data is set up. Set up before data measurement.

1) Folder

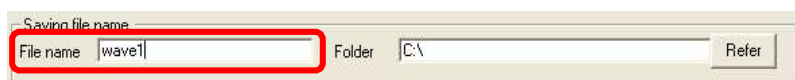


Selection of folder is shown with click [Refer] button.
Select required folder.

Memo

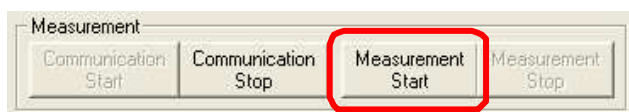
- Please select folders in local hard disk. If selected in network or USB, it could be problem to save the data.

2) File name input



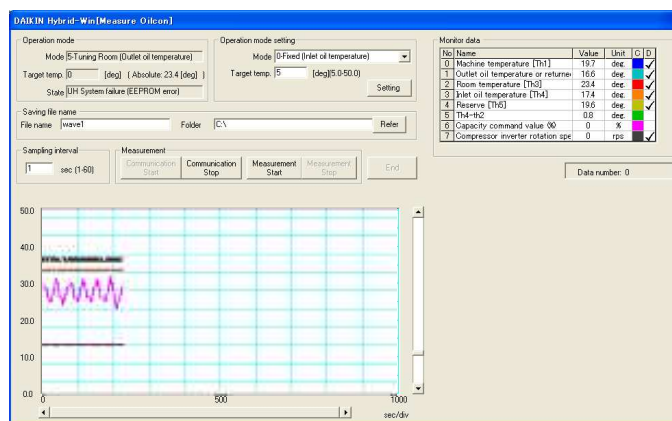
Input file name

3) The start of measurement



Start measurement with [Measurement Start] button.

4) The display of a graph



Accordng above subject No. 6.4.1,
those data can be shown as
waveform as left figure.

The screen will be scrolled
automatically after exceeding
measurement capacity up to
10,000sec. After over the limit,
indication is stopped, but the recording
of data will be continued.

5) Save of a file



The measurement data is automatically recorded in saving file with imputted file name.

Measurement data is continuously recorded and progressed file number automatically. File number is shown as 3 digit number after "data".

The capacity of one file is 6400 line and file number will be progressed up to 999. After finished 999 filing, measurement is automatically stopped.

Save data of [.csv] file

No	Measurement data	Unit	8 Series	9 Series
1	Machine temperature [Th1]	deg.	S	S
2	Outlet oil temperature or returned oil temperature [Th2]	deg.	S	S
3	Room temperature [Th3]	deg.	S	S
4	Inlet oil temperature [Th4]	deg.	S	S
5	Reserve [Th5]	deg.	S	S
6	Th4-th2	deg.	S	S
7	Capacity command value	%	S	S
8	Compressor inverter rotation speed	rps	S	S
9	Power consumption	kW	-	S
10	Oeration mode	-	S	S
11	Target temp.	deg.	S	S

* "S":Save, " - ":Not save

Memo

- The record file is completed when the data volume is over the capacity of one file or push the stop button.
- File ". Csv" can be created in version 1.2.3 or later.

5) Completion of measurement



If [Measurement stop] button is pushed, measurement is completed and measurement data is saved to a file.

<Memo>

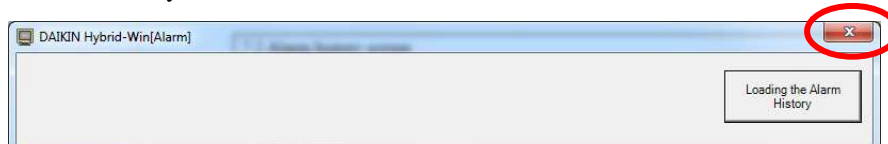
Chapter 7. Alarm history

A past alarm history and internal data are displayed and saved.

7.1 Starting and End

Click [Alarm history] button on a main screen. Alarm history screen is displayed.

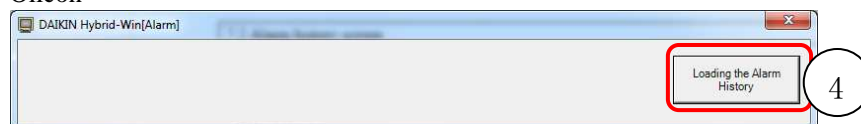
To close Alarm history screen, click X button as below. It returns to a main screen.



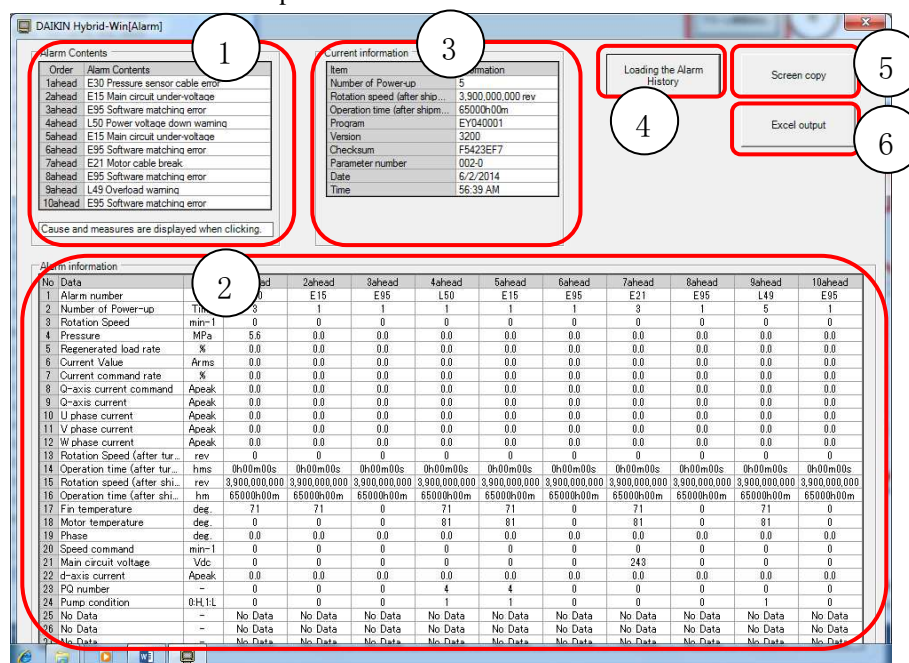
7.2 Alarm history screen

7.2.1 The name and work of each part of a Alarm history screen

Oilcon



EcoRich / EcoRich R / Super Unit



1. The alarm code for the past 10 times and an alarm name are displayed.
2. Actual data such as pressure or current rate are shown to match with each alarm.
3. Times of power on or running time are also indicated.
4. Read out alarm history from a unit. In the case of oilcon, the read value is not displayed but is saved at a file.
5. Make a copy of Alarm history screen. The copy can be pasted of Excel file with pushing [Ctrl+V] key.
6. The read information can be outputted to Excel.

7.2.2 Models and Features

Depending on the connected model, operable functions are shown in the table below.

Model	Read alarm history	Display data	Copy screen	Excel output
EcoRich	●	●	●	●
EcoRich R	●	●	●	●
Super Unit	●	●	●	●
Oilcon	●	—	—	—

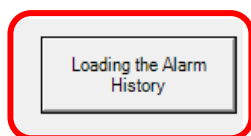
7.3 Operation Method (Oilcon)

The alarm data can be filed and send by e-mail to Daikin service. According the file information, we can provide suitable solution such as replacement parts or repair. (The file is not indicated because of confidential information.)

7.3.1 Alarm History reading

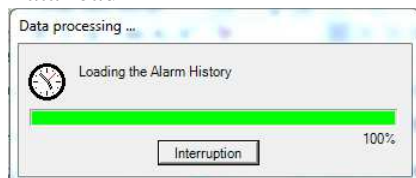
As follows, internal data is saved at a file.

1) Alarm History read



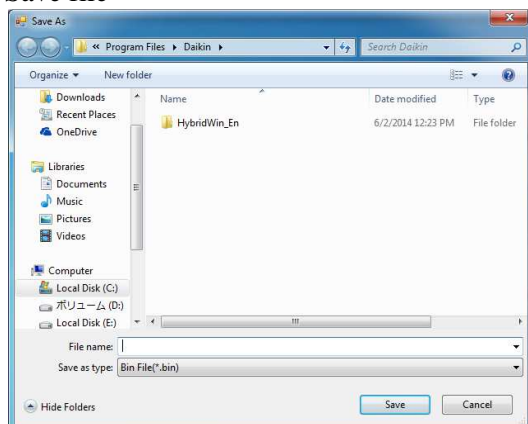
Push [Alarm History reading] button.

2) Data read



Internal data is read from a unit.

3) Save file



The data can be filed with inputted file name.

Memo

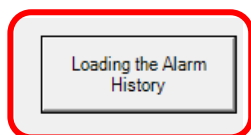
- This data cannot be opened because of confidential information.

7.4 Operation Method (EcoRich / Super Unit)

When the connected models are EcoRich, EcoRich R, Super Unit, the following alarm history and the information when an alarm occurs can be displayed and saved.

7.4.1 Alarm History Read

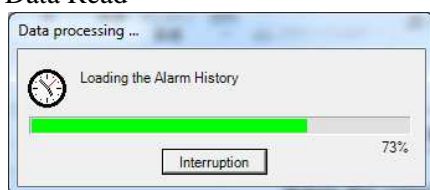
1) Alarm History Read



Push [Alarm History reading] button to read the alarm history from Unit.

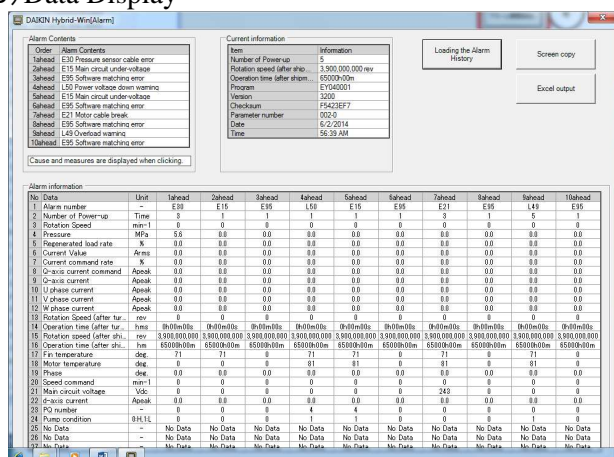
The read data content is shown in the table below.

2) Data Read



Read the data from the internal unit.

3) Data Display



The data that read from the unit is displayed as shown on the left.

◆ Alarm Description

Data	Unit	Description
Order of occurrence	-	Show the alarm which occurred many times ago. The larger the value is, the older the value is.
Alarm Description	-	Show the name and the alarm code of the occurred alarm.

◆ Alarm Information (Super unit, EcoRich R)

Data	Unit	Description
Alarm number	-	Display the alarm number
Power-up times	times	Display power-up times when the alarm occurs.
Rotational speed	min ⁻¹	Display the motor speed when the alarm occurs.
Pressure	MPa	Display the pressure when the alarm occurs.
Regenerative load ratio	%	Display the regenerative load ratio when the alarm occurs.
Current value	Arms	Display the current value when the alarm occurs.
Current command rate	%	Display the rate of current value to the maximum current when the alarm occurs.
q-axis command current	Apeak	Display the q-axis command current when the alarm occurs.

Data	Unit	Description
q-axis current	Apeak	Display the q-axis current when the alarm occurs.
U-phase current value	Apeak	Display the U-phase current value when the alarm occurs.
V-phase current value	Apeak	Display the V-phase current value when the alarm occurs.
W-phase current value	Apeak	Display the W-phase current value when the alarm occurs.
Rotational speed (after power-on)	rev	Display the integrated value of the rotational speed from power-on to the alarm occurrence.
Operating time (after power-on)	*h*m*s	Display the operating time from power-on to the alarm occurrence.
Rotational speed (after shipment)	rev	Display the integrated value of the rotational speed from shipment to the alarm occurrence.
Operating time (after shipment)	*h*m	Display the operating time from shipment to the alarm occurrence.
Fin temperature	°C	Display the fin temperature when the alarm occurs.
Motor temperature	°C	Display the motor temperature when the alarm occurs.
Phase	deg.	Display the phase when the alarm occurs. It is displayed since 30 design.
Speed command	min-1	Display the speed command when the alarm occurs. It is displayed since 30 design.
Main circuit voltage	Vdc	Display the main circuit voltage when the alarm occurs. It is displayed since 30 design.
d-axis current	Apeak	Display the d-axis current when the alarm occurs. It is displayed since 30 design.
PQ number	-	Display the PQ number when the alarm occurs. It is displayed since 30 design.
Pump state	0:H, 1:L	Display the pump state when the alarm occurs. 0: Single, 1: Confluence It is displayed since 30 design.

◆ Alarm Information (EcoRich)

Data	Unit	Description
Alarm number	-	Display the alarm number
Power-up times	times	Display power-up times when the alarm occurs.
Rotational speed (after power-on)	rev	Display the integrated value of the rotational speed from power-on to the alarm occurrence.
Operating time (after power-on)	*h*m*s	Display the operating time from power-on to the alarm occurrence.

Memo

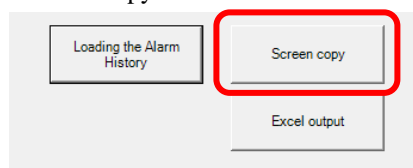
The data that stores the alarm is determined. "No Data" will be displayed in the data, if it stores nothing.
According to the alarm type, it is possible that the value cannot be stored. So "0" may be displayed in the data.

◆ Current Information

Display	Description	Unit
Power-up times	Display the current power-up times.	times
Rotational speed (after shipment)	Display the integrated value of the rotational speed after shipment.	rev
Operating time (after shipment)	Display the operating time after shipment.	*h*m
Program	Display the program information.	-
Version		
Checksum		
Parameter number		
Date	Show the date when the alarm history is read.	-
Time	Show the time when the alarm history is read.	-

7.4.2 Save Data

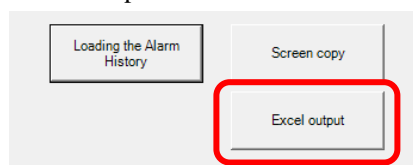
■ Screen copy



Press the Screen Copy button to copy the alarm history screen.

Open a software, such as Excel, and press [Ctrl + V]. In this way, the alarm history screen can be pasted.

■ Excel output



When press the Excel Output button, the alarm history will be output to Excel as shown below.

No.	Data	Unit	1sthead	2ndhead	3rdhead	4thhead	5thhead	6thhead	7thhead	8thhead
1	Alarm number	Time	0	1	1	1	1	1	1	1
2	Number of Power-up	Time	0	1	1	1	1	1	1	1
3	Rotation Speed	min-1	0	0	0	0	0	0	0	0
4	Pressure	MPa	0	0	0	0	0	0	0	0
5	Recommended load rate	%	0	0	0	0	0	0	0	0
6	Current Value	Arms	0	0	0	0	0	0	0	0
7	Current command rate	%	0	0	0	0	0	0	0	0
8	Q-axis current command	Apeak	0	0	0	0	0	0	0	0
9	Q-axis current	Apeak	0	0	0	0	0	0	0	0
10	U phase current	Apeak	0	0	0	0	0	0	0	0
11	V phase current	Apeak	0	0	0	0	0	0	0	0
12	W phase current	Apeak	0	0	0	0	0	0	0	0
13	Rotation speed (after turning on)	rev	0	0	0	0	0	0	0	0
14	Operation time (after turning on)	hms	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00
15	Rotation speed (after shipment)	rev	3,900,000,000	3,900,000,000	3,900,000,000	3,900,000,000	3,900,000,000	3,900,000,000	3,900,000,000	3,900,000,000
16	Operation time (after shipment)	hms	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00
17	Fin temperature	deg.	71	71	71	71	71	71	71	71
18	Motor temperature	deg.	0	0	0	81	81	0	81	0
19	Phase	deg.	0	0	0	0	0	0	0	0
20	Speed command	min-1	0	0	0	0	0	0	0	0
21	Main circuit voltage	Vdc	0	0	0	0	0	0	243	0
22	d-axis current	Apeak	0	0	0	0	0	0	0	0
23	PQ number	-	0	0	0	4	4	0	0	0

As the figure on the left, the alarm history is displayed in Excel.

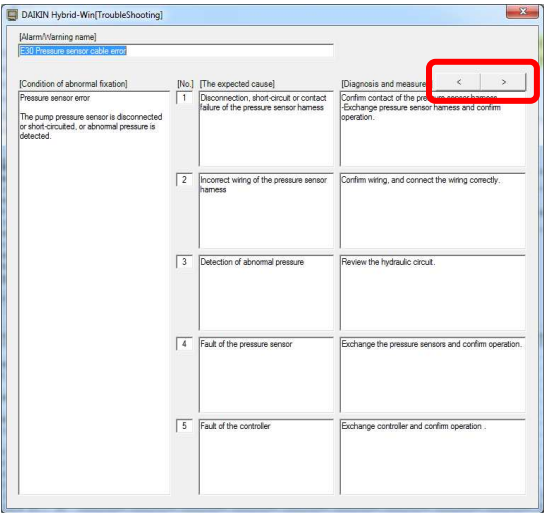
7.4.3 Troubleshooting

The troubleshooting, such as, the possible causes of the alarm, diagnosis and solution will be displayed, if the following operation is performed.

Please research the cause of the alarm and take measures according to the screen.,

Order	Alarm Contents	Item	Information
1sthead	E10 Pressure sensor cable error	Number of Power-up	5
2ndhead	E11 Main circuit under-voltage	Rotation speed (after shipment)	3,900,000,000 rev
3rdhead	E15 Software matching error	Operation time (after shipment)	0:00:00
4thhead	L50 Power voltage down warning	Program	EY040001
5thhead	E11 Main circuit under-voltage	Checksum	F5423EF7
6thhead	E15 Software matching error	Parameter number	002-0
7thhead	E21 Motor cable break	Date	6/2/2014
8thhead	E15 Software matching error	Time	16:39 AM
9thhead	L45 Overload warning		
10thhead	E15 Software matching error		

In the Alarm Content as shown left.
Click the alarm that you want to view its troubleshooting



Troubleshooting screen is displayed as shown left. Press the [<] button or [>] button to change the page.

Chapter 8. Other features

8.1 Check the parameter

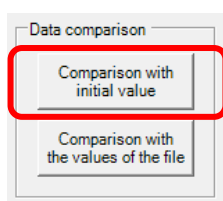
It is easy to compare the parameter between units and saved file.

8.1.1 Data comparison [Initial Value]

Memo

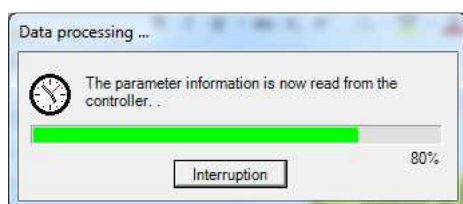
The initial value comparing function is available for these models except EcoRich and Oilcon.

1) Select [Initial Value]



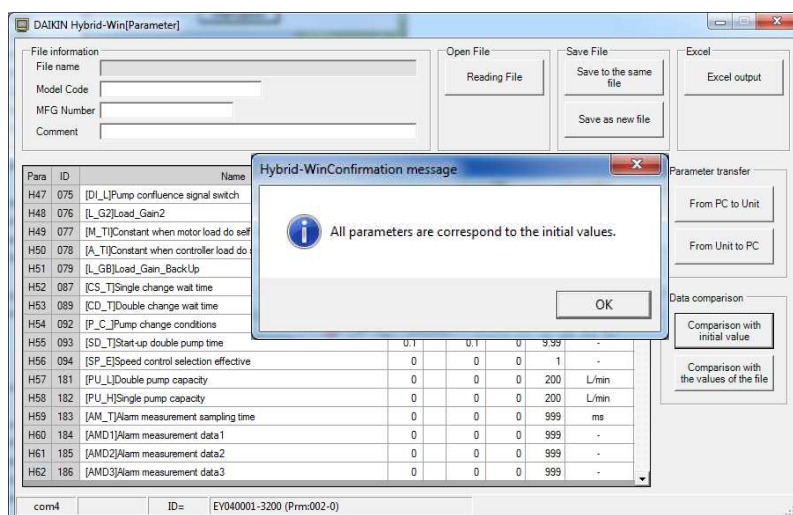
Click the [Initial Value] button.

2) Enter a file name



A dialog box is displayed.

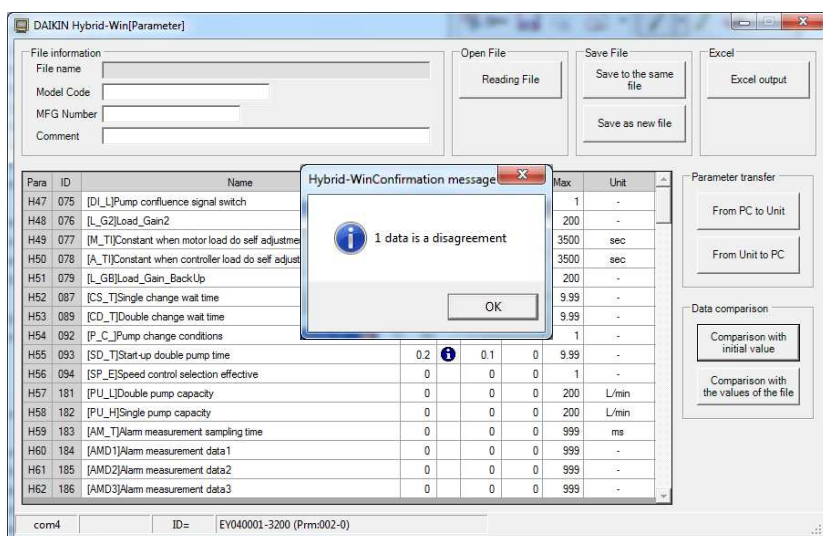
3) Matched



If the check is completed, and all parameters are matched, the dialog box shown on the left will appear.

The factory default value is displayed before the Comparing Value.

4) Not matched



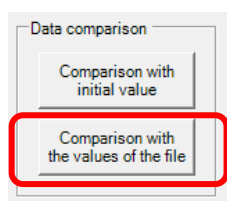
If the check is completed, but not all parameters are matched, the dialog box that marked mismatch number will appear. Press OK button to return.

The factory default value is displayed before the Comparing Value.

The blue mark that indicates mismatch will be displayed in the [i] column.

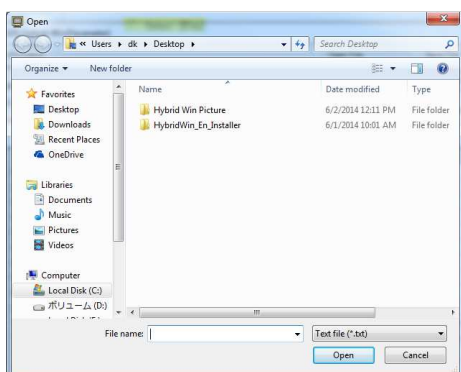
8.1.2 Data comparison [File]

1) Select [File]



Click [File] button.

2) Select file name



Checking file can be selected from file folder in left figure box. Double Click the file or click [Open (O)] button.

To stop the comparison, click [Cancel] button.

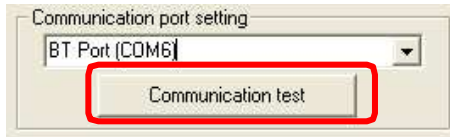
3) “Matched” or “Not matched”

There is a same display screen as [Initial Value]. Please refer to the "8.1.1 Data comparison [Initial Value]" for more information.

8.2 Communication test

The communication test between a personal computer and a unit can be operated in this process.

1) Select [Communication test]



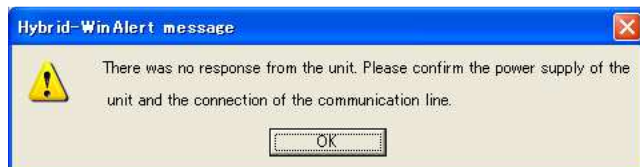
Click [Communication test] button on a main screen.

2) Normal end

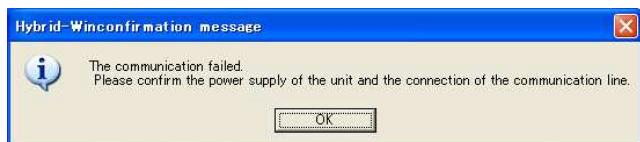


When the test is finished normally, left figure box is shown. Click [OK] button to return parameter setting screen.

3) In the case of error



When there is some error, left figure box is shown. Click [OK] button to return parameter setting screen.



<Memo>

Chapter 9. Precautions

9.1 Troubleshooting

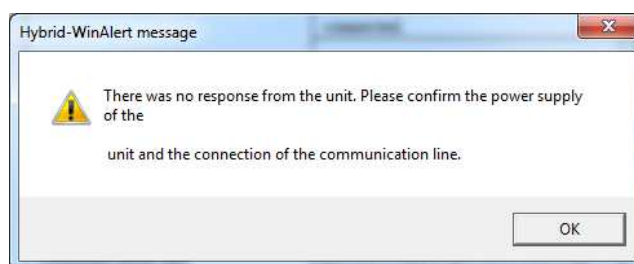
9.1.1 Can not be installed

If the installation is not successful, you may be able to install it successfully by doing the following.

- The user name can only be alphanumeric characters when log in (if you are logged in with a user name that contains kanji, hiragana, etc., it may not be installed correctly).
- log in with administrator privileges
- Install by moving the installer to desktop.
- Modify the settings of the security software

9.1.2 Communication is not possible

The following dialog box is displayed, when you transfer parameters, or do communication test.





Message	Reason	Countermeasure
There was no response from the unit. Please confirm the power of the unit, the connection of communication line.	Power of the unit is not turned on.	Please turn on the power.
	Communication cable is not connected.	Please connect the communication cable.
	The cable connection is not correct.	Please connect correctly, refer to "2.5 Connecting the communication cable."
	The communication port selection on the PC side is wrong.	Please select the communication port correctly, refer to "3.1 the communication port settings".
	Noise Influence.	Please take measures by referring to "2.4.3 Noise countermeasures".
	Communication cable is broken.	Please change the communication cable.
	Target model is the super unit with communication function, and you did not change the communication settings.	Please set correctly by referring to "2.2 Communication Specifications".
	Configuration changes are not reflected.	Please turn on the power again.
	Try to communicate immediately after power-on, When the target unit is EcoRich and the "CHG" is displayed on the panel.	Please do communication work, after the "CHG" display is end on the panel and the pressure is displayed at the normal mode.

9.1.3 Warning message

Message	Reason	Countermeasure
There are <n> parameters that have not been set. Can not be proceeded.	<n> parameters that have not been set have been transferred to the unit.	Please set these parameters before transferring these parameters.
An error occurred when reading the data file.	An error occurred when reading the data file.	It is possible that the file is corrupted. Please read again.
The data file format is abnormal.	File that is not a parameter file has been selected.	Please select a parameter file.
The data file format is abnormal.	The data file format is abnormal.	Please use another data file.
File does not exist.	File does not exist.	Please specify the correct file name.
<n> datas are not enough.	<n> parameters are not enough.	Please set the data.
<n> datas are out of range.	Datas of <n> parameters that read from the unit are out of range.	Please set the data within its range.
<n> datas do not match.	<n> datas mismatch compared to the value of the parameter stored in the file.	—
Controller type is different.	Read the model file which is different from the model that loaded the parameters. Or parameters are transferred to a different models by "PC ⇒ unit".	Writing parameters which match the displayed parameters to the unit. Or select the parameter file of the same model.
Pump capacity is different.	Read the file of the pump capacity that is different from the parameter that is displayed. Or parameters are transferred to the unit which the pump capacity is different by "PC ⇒ unit".	Writing parameters which match the displayed parameters to the unit. Or select the same pump capacity parameter file.
Can not open communication port.	It was not possible to open communication port.	Please ensure proper communication port settings. If the communication port is used by other applications, please quit that application.
Can not open file in write mode.	It was not possible to open the file in write mode.	Please change the file attributes to writable.
An error occurred while writing the file.	An error occurred while writing the file.	Please write again.
Input data is incorrect.	Input data is incorrect. Non-numeric (characters) was set.	Please enter the data correctly.
Input data is out of range. The range is from <n2> from <n1>.	Input data is out of range.	Check the input range, and set again.
A checksum error has occurred in the received data.	A checksum error has occurred in the received data. It may be affected by noise.	Please change the wiring route. Please check the communication cable.
System definition file is not found.	There is no system definition file.	Please uninstall the Hybrid-Win, and install the Hybrid-Win again.
Multi Language String Table File Not Exist.	There is no system definition file.	Please uninstall the Hybrid-Win, and install the Hybrid-Win again.

9.2 Frequently Asked Questions (Q & A)

Classification	Questions	Answer
Basic functions	Can not install	Please refer to "9.1.1 Can not be installed".
	Can not communicate	Please refer to "9.1.2 Communication is not possible".
	Do not know what should be prepared	Please refer to "1.2.1 Preparation".
	Do not know what kind of communication cable can be used.	Please refer to "2.4.1 Preparation".
	Do not know the wiring method	Please refer to "2.5 Connecting the communication cable."
	Do not know which communication port should be chosen.	Please identify the communication port from the displayed name. Please refer to "3.1 Setup of Communication Port " for more information.
Parameter function	Button is not displayed by parameter function	If you do the following, all buttons will be displayed. "Parameter transfer" function: parameter transfer [unit ⇒ PC] "File Edit" function: open the file [file read]
	Can not load the parameter file	Import only the files that you have saved by "Save" and "Save As". It is not possible to read the Excel file.
	When parameters are loaded,  is displayed	Please refer to "4.2 Parameter screen".
	When parameters are loaded,  is displayed	Please refer to "4.2 Parameter screen".
	The parameter value does not change	<ul style="list-style-type: none"> The value is just changed on the screen. It is not transferred to the unit. Please transfer the parameter by "PC ⇒ unit". Please set the unit panel to normal mode (initial display). After turn on the power again, parameters will return to the original value, if an error occurs during parameter transfer. Please transfer again by all means, and make sure the transfer is successfully completed.
	Function "compared to the initial value" is not displayed	The function "compared to the initial value" can not be used by EcoRich and Oilcon.
	When turn on the power again, "UH system failure" occurs, after transferring the parameter to Oilcon	If an error occurs during parameter transfer, when turn on the power again, "UH system failure" will occur. Please write parameters to the Oilcon again, complete the writing correctly, then turn on the power again.
Waveform measurement function (EcoRich / Super Unit)	The setting item can not be changed	<ul style="list-style-type: none"> Please press the communication start button to initiate the communication with the unit. The setting items can not be changed during measurement. It can not be changed after the measurement is complete.
	It is not possible to press the button	Operable button will be different according to communication and measurement state. Only these buttons that are displayed in black can be operated.
	Can not exit the screen	Please press the communication stop button to stop the communication.
	Measurement data is discontinuous	It may be affected by noise. Please measure again.

Classification	Questions	Answer
	Can not do trigger measurement	<ul style="list-style-type: none"> Please select the trigger measurement function. After setting the trigger condition, please check the "Enable" check box. Please refer to the "5.1 Types with waveform measurement function (EcoRich / Super Unit)" for more information.
	No graph display	The graph cannot be displayed, when the saved file format is "csv". Please set file format as "Excel" to save. Please refer to "5.4.2 file save format" for more information.
	The desired operating waveform cannot be measured	Please set the trigger conditions in accordance with the desired operating waveform to be measured. Please refer to "5.4.5 Trigger conditions settings" for more information.
	It is not possible to select / release the flow rate	If the flow rate selection button is displayed, it is possible to select / release only by the button. Please press the flow rate select / release button. Show / Hide flow rate selection button is automatically selected depending on the target unit.
	Can not do flow rate trigger measurement	If the flow rate selection button is displayed, the trigger of the flow rate can not be set.
	The digital output signal can not be selected	Selected only from the output signal selection / output signal release button, it is possible to release. Please press the output signal selection / output signal release button.
	The trigger of the digital output signal can not be set	The trigger of digital output signal is set automatically and can not be changed. Please refer to measurement data list in "selection 5.4.3 measurement data" and "18 digital output signal" for more information.
	When pressing the measurement button, an error message will be displayed	When the file saving format is "csv", the file saving format must be specified. Please refer to the "5.4.4 Saving measurement data" for more information.
	"Do not support this connected model" is displayed.	Target model of this function is EcoRich / Super Unit. It does not correspond to the other models.
Waveform measurement function (Oilcon)	the setting item can not be changed	<ul style="list-style-type: none"> Please press the communication start button to initiate the communication with the unit. The setting items can not be changed during measurement. Please change it after the measurement is complete.
	It is not possible to press the button	Operable button will be different according to communication and measurement state. Only these buttons that are displayed in black can be operated.
	Can not exit the screen	Please press the communication stop button to stop the communication..
	Error message is displayed when pressing the measurement button	It is necessary to specify the saving file, before measuring. Please refer to the "6.5.2 Data measurement " for more information.
	"Do not support this connected model" is displayed.	Target model of this function is Oilcon. It does not correspond to the other models.
	There is an operation mode number which is not displayed in operation mode selection.	Only the operating number which can be set in the connecting model can be displayed.
	Operation mode, the target temperature does not change.	Press the "Settings" button to transfer the changes to the unit.
	The sampling interval and the display period of the monitor data is different.	The sampling interval and the display period of the monitor data is different. Please set the interval time when saving data to a file.
	Can not see the contents of the saved file.	If the connecting model is Oilcon, because internal information is included in measured data, the saved data is non-public. When surveying the cause of failure, please measure this data for our company.

Classification	Questions	Answer
	File can not be created.	During the data measurement, after finishing measuring a certain number of data, the file is created. Or the file is created when the measurement stop button is pressed.
Alarm history function	NO DATA is displayed in alarm information	If there is no remained data, NO DATA is displayed in history. It is not a malfunction. The displayed data, depending on the type of alarm, is different. In addition, the data to be displayed in EcoRich is limited.
	The value "0" is displayed in the alarm information	It does not store the value depending on the type of alarm. There are cases where "0" is displayed in the data.
	The size of the screen can not be changed.	When the connecting model is Oilcon, the size of the screen cannot change.
	Alarm content is not displayed.	When the connecting model is Oilcon, the read data is not displayed. Files only can be saved.
	Can not see the contents of the saved file.	When the connecting model is Oilcon, because internal information is included in measured data, the saved data is non-public. When surveying the cause of failure, please measure this data for our company.

<Memo>