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YASKAWA

YASKAWA AC Drive-Option

USB Copy Unit

Technical Manual

Type JVOP-181

To properly use the product, read this manual thoroughly and retain for easy reference, inspection, and maintenance. Ensure the end user receives this manual.

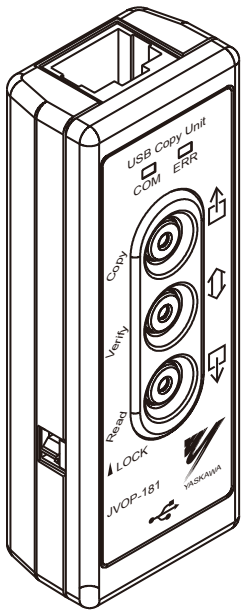
安川インバータ オプション

USB付きコピーユニット

取扱説明書

形式 JVOP-181

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1 Preface and Safety

◆ General Safety

Read and understand this manual before using the copy unit.

The following conventions are used to indicate safety messages in this manual. Failure to heed these messages could result in serious or possibly even fatal injury or damage to the products or to related equipment and systems.

⚠ WARNING

Indicates a hazardous situation, which, if not avoided, could result in death or serious injury.

NOTICE

Indicates a property damage message.

NOTICE: *will also be indicated by a bold key word embedded in the text followed by an italicized safety message.*

◆ Safety Messages

⚠ WARNING

Electrical Shock Hazard

Do not remove covers or touch circuit boards while the power is on.

Failure to comply could result in death or serious injury.

2 Receiving

Please perform the following tasks after receiving the copy unit:

1. Inspect the copy unit for damage. If the copy unit appears damaged upon receipt, contact the shipper immediately.
2. Verify receipt of all components, including USB copy unit; USB cable (30 cm/11.8 in.); RJ-45 cable (1 m/39.4 in.).

3 Product Overview

◆ About this Product

The copy unit has two functions:

- Allows the drive to connect to the USB port on a PC
- Reading and copying drive parameter settings so that those settings can be transferred to another drive

Note: PC software includes DriveWizardPlus and DriveWorksEZ.
DriveWizardPlus is used for editing parameters, operating the drive, and monitoring drive performance when the drive is connected to a PC.
DriveWorksEZ uses visual programming to allow the user to create customized application programs.

◆ Compatible Drives

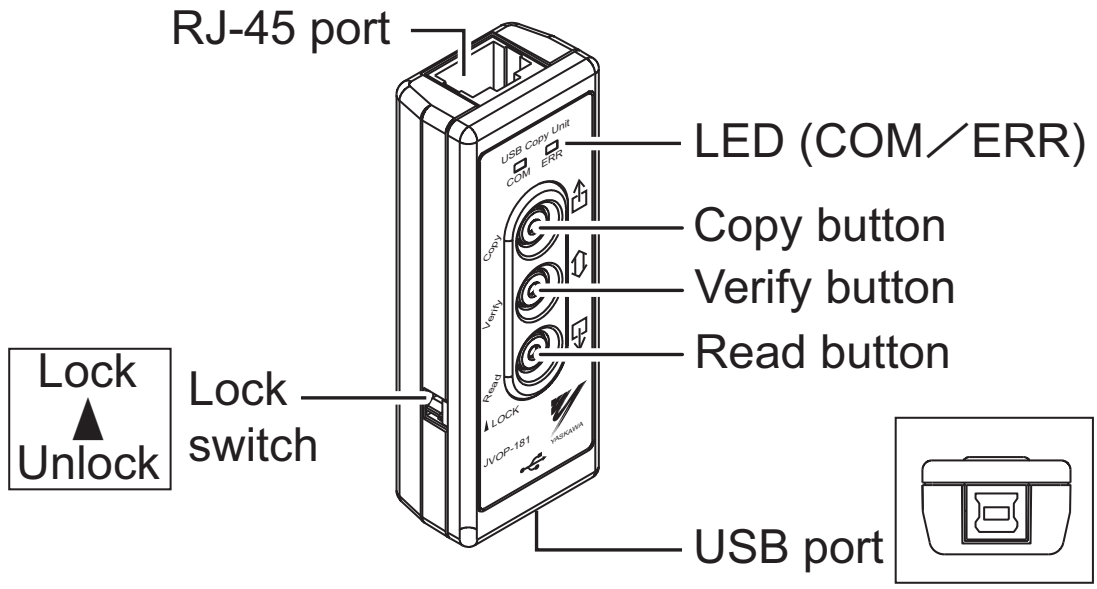
The copy unit is compatible with the following Yaskawa drives:

Drive	Software Version <1>
A1000	All Versions
V1000	1010 and later
J1000	All Versions

<1> The software version appears on the drive nameplate next to "PRG".

4 Components and Functions

◆ Component Names and Functions



◆ Communication Ports

- RJ-45 port or communication port of the Drive connects the copy unit to a drive using the provided RJ-45 cable
- USB port connects the copy unit to a PC using the provided USB cable.

Note: When connecting the copy unit to a PC or drive, use only the cables provided.
Yaskawa cannot guarantee proper operation if other cables are used.

◆ Buttons/Switch

Button/ Switch	Operation
Read <1>	Saves parameter settings from the drive
Verify <1>	Compares parameters on the drive with the settings saved to the copy unit
Copy <1>	Copies parameters settings that have been saved to the copy unit onto the drive
Lock	Read button is locked when the switch is set to the up position

<1> Press and hold the button for at least one second to activate the function.

◆ Option LED Display

Below is a list of meanings for the various LED combinations on the copy unit.

COM	ERR	Meaning
ON	ON	Lights for 0.5 seconds when the power is first switched on
ON	OFF	Normal operation
Flashing	OFF	Data is being exchanged between the drive and the copy unit

COM	ERR	Meaning
OFF	Flashing	No parameters have been saved to the unit *<1>*
OFF	OFF	Cable is not properly connected *<2>*
OFF	ON	Indicates an error in the copy unit *<3>*

<1> After properly setting all drive parameters, connect the copy unit and press and hold the Read button for one second to save parameter settings to the copy unit.
<2> Make sure the cable is properly connected.
<3> Replace the copy unit.

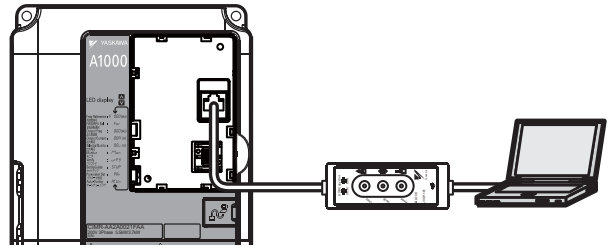
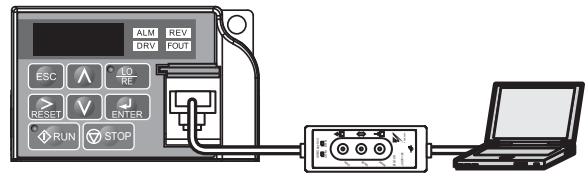
5 Connection the Drive to a PC

◆ Usage

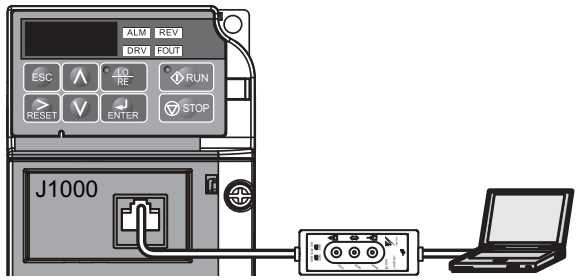
- The copy function does not work when the copy unit is used for connecting the drive to a PC.
- The copy unit will not function if connected to a PC that is in sleep mode.

◆ Connection Diagram and Instructions

Note: For instructions on connecting a PC to the drive, refer to the drive technical manual. Connect A1000 to the USB port on any PC using a USB cable.

Drive	Connection Port	Port Location
A1000	RJ-45 Port of the Drive	
V1000	Communications Port of the Drive	

5 Connection the Drive to a PC

Drive	Connection Port	Port Location
J1000	RJ-45 Port of RS232C Interface Connected to a Drive	

1. Install the USB driver from the installation CD of DriveWizardPlus or our Web site.
   U.S.: http://www.yaskawa.com
   Europe: http://www.yaskawa.eu.com
   Japan: http://www.e-mechatronics.com
   Other areas: contact a Yaskawa representative
2. All communication ports in this copy unit are used to connect to a PC or drive using the cables provided.
3. Use DriveWizardPlus or DriveWorksEZ to operate the drive. Refer to the manuals for those products for detailed operating instructions.

6 Using the Copy Function

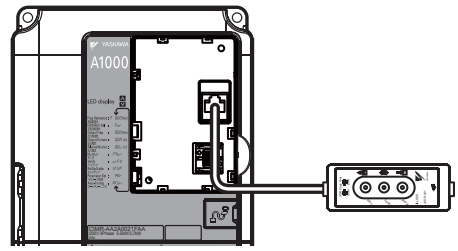
◆ Usage

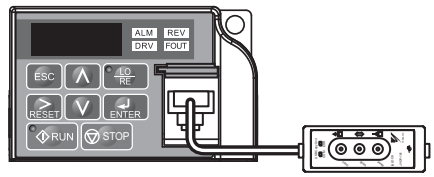
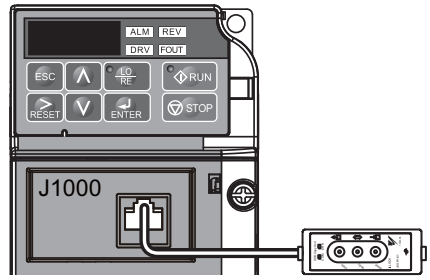
NOTICE: *Never use the copy unit while the drive is running the motor. Whenever using the copy unit, the drive should be fully stopped. Failure to comply could result in abnormal operation of drive or equipment.*

- Parameters can only be saved to a drive when the voltage class, capacity, control mode, and software version match.

◆ Connecting the Copy Unit and Instructions

Using the copy unit with a drive requires the RJ-45 cable included in the package.

Drive	Connection Port	Port Location
A1000	RJ-45 Port of the Drive	

Drive	Connection Port	Port Location
V1000	Communications Port of the Drive	
J1000	RJ-45 Port of RS232C Interface Connected to a Drive	

While reading, verifying, or copying data between the drive and copy unit, the "COM" light on the copy unit will flash, and a message will appear on the drive's display screen.

Once the task of reading, copying, or verifying data is complete, the "COM" light on the copy unit will go out and "End" will appear on the drive's display screen.

- Read
  Press and hold the Read button for one second to save parameters from the drive to the copy unit. While saving settings from the drive to the copy unit, "rEAd" will flash on the display screen.

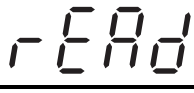
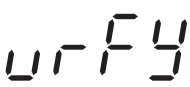
- Verify
  Press and hold the Verify button for one second to confirm that the parameter settings in the drive and the parameter settings saved to the copy unit match. During this time, "vrFY" will flash on the display screen.

- Copy
  Press and hold the Copy button for one second to write parameter settings from the copy unit to the drive. While saving settings from the copy unit to the drive, "CoPy" will flash on the display screen.

◆ Drive LED Display and Meaning

Use the table below to understand the drive LED when the copy unit is connected.

Display		Description
CoPy	CoPy	Writing parameter settings (flashing)
CPEr	CPEr	Control mode of the drive does not match the copy unit <1>
CPyE	CPyE	Error writing data <2>
CSEr	CSEr	Error occurred in the copy unit <3>
dFPS	dFPS	Drive model does not match to the anothe drive <1>
End	End	Task completed
iFEr	iFEr	Communication error between copy unit and drive

Display		Description
	ndAT	• Model, voltage class, capacity, and/or control mode differ *<1>* • No data is saved to the copy unit *<4>*
	rdEr	Error reading data *<5>*
	rEAd	Reading parameter settings (flashing)
	vAEr	Voltage class and/or drive capacity does not match *<1>*
	vFyE	Parameter settings in the drive and those saved to the copy unit are not the same
	vrFy	Comparing parameter settings (flashing)

<1> Parameters can only be copied to a drive when the power supply specifications, capacity, control mode, and software version match.
<2> Press and hold the Copy button for one second. The copy unit will copy parameter settings previously saved to the copy unit to the drive.
<3> Replace the copy unit.
<4> Connect the copy unit to a drive with the proper parameter settings and press and hold the Read button for one second. The copy unit will then save the settings from the drive.
<5> Press and hold the Read button for one second. The copy unit will save the settings from the drive.

7 Specifications

Item	Specification
Port	RJ-45
	USB 2.0
Power supply	Powered from a PC or drive
Operating system	Windows 2000 / XP
Memory	Stores parameters settings for a single drive
Operating temperature	-10 to +50°C
Storage temperature	-20 to +60°C
Dimensions (mm)	30 (W) × 80 (H) × 20 (D)

8 Yaskawa Locations

IRUMA BUSINESS CENTER (SOLUTION CENTER)
480, Kamifujisawa, Iruma, Saitama 358-8555, Japan
Phone 81-4-2962-5696 Fax 81-4-2962-6138

YASKAWA ELECTRIC AMERICA, INC.
2121 Norman Drive South, Waukegan, IL 60085, U.S.A.
Phone 1-847-887-7000 Fax 1-847-887-7370

YASKAWA ELÉTRICO DO BRASIL LTDA.
Avenida Fagundes Filho, 620 São Paulo-SP CEP 04304-000, Brazil
Phone 55-11-3585-1100 Fax 55-11-5581-8795

YASKAWA ELECTRIC EUROPE GmbH
Hauptstraβe 185, 65760 Eschborn, Germany
Phone 49-6196-569-300 Fax 49-6196-569-398

YASKAWA ELECTRIC UK LTD.
1 Hunt Hill Orchardton Woods Cumbernauld, G68 9LF, United Kingdom
Phone 44-1236-735000 Fax 44-1236-458182

YASKAWA ELECTRIC KOREA CORPORATION
7F, Doore Bldg. 24, Yeoido-dong, Youngdungpo-Ku, Seoul 150-877, Korea
Phone 82-2-784-7844 Fax 82-2-784-8495

YASKAWA ELECTRIC (SINGAPORE) PTE. LTD.
151 Lorong Chuan, #04-01, New Tech Park 556741, Singapore
Phone 65-6282-3003 Fax 65-6289-3003

YASKAWA ELECTRIC (SHANGHAI) CO., LTD.
No.18 Xizang Zhong Road. Room 1702-1707, Harbour Ring Plaza Shanghai 200001, China
Phone 86-21-5385-2200 Fax 86-21-5385-3299

YASKAWA ELECTRIC (SHANGHAI) CO., LTD. BEIJING OFFICE
Room 1011A, Tower W3 Oriental Plaza, No.1 East Chang An Ave.,
Dong Cheng District, Beijing 100738, China
Phone 86-10-8518-4086 Fax 86-10-8518-4082

YASKAWA ELECTRIC TAIWAN CORPORATION
9F, 16, Nanking E. Rd., Sec. 3, Taipei, Taiwan
Phone 886-2-2502-5003 Fax 886-2-2505-1280

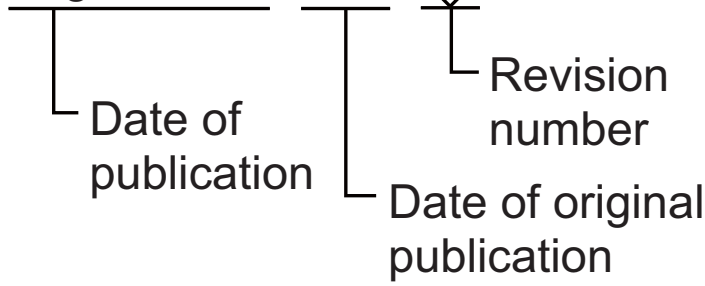
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9 Revision History

The revision dates and numbers of the revised manuals are given on the bottom of the back cover.

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August 2008	◇1	All chapters	Revision: The title of the Manual
			Addition: Application to the A1000 and J1000 drives.

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USB Copy Unit
Technical Manual

安川インバータ オプション

USB付きコピーユニット
取扱説明書

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Any inquiries related to the product can be directed to the address listed at chapter 9.

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