



YASKAWA

YASKAWA AC Drive-Option 24 V Power Supply Installation Manual

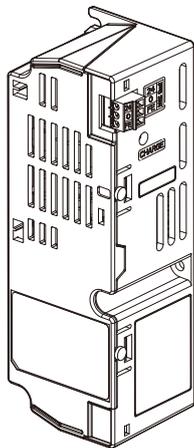
Type PS-A10L, PS-A10H

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 24 V制御電源ユニット 取扱説明書

形式 PS-A10L, PS-A10H

製品を安全にお使い頂くために、この取扱説明書を必ずお読みください。
また、本書をお手元に保管していただくとともに、最終的に本製品をご使用になるユーザー様のお手元に確実に届けられるよう、お取り計らい願います。



This Page Intentionally Blank



Table of Contents

1 PREFACE AND SAFETY	5
2 PRODUCT OVERVIEW	9
3 RECEIVING	10
4 24 V POWER SUPPLY OPTION COMPONENTS	12
5 INSTALLATION PROCEDURE	13
6 VERIFYING OPERATION	29
7 DIMENSIONS	30
8 SPECIFICATIONS	36

Copyright © 2008 YASKAWA ELECTRIC CORPORATION

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, mechanical, electronic, photocopying, recording, or otherwise, without the prior written permission of Yaskawa. No patent liability is assumed with respect to the use of the information contained herein. Moreover, because Yaskawa is constantly striving to improve its high-quality products, the information contained in this manual is subject to change without notice. Every precaution has been taken in the preparation of this manual. Yaskawa assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained in this publication.

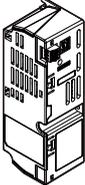
1 Preface and Safety

Yaskawa manufactures products used as components in a wide variety of industrial systems and equipment. The selection and application of Yaskawa products remain the responsibility of the equipment manufacturer or end user. Yaskawa accepts no responsibility for the way its products are incorporated into the final system design. Under no circumstances should any Yaskawa product be incorporated into any product or design as the exclusive or sole safety control. Without exception, all controls should be designed to detect faults dynamically and fail safely under all circumstances. All systems or equipment designed to incorporate a product manufactured by Yaskawa must be supplied to the end user with appropriate warnings and instructions as to the safe use and operation of that part. Any warnings provided by Yaskawa must be promptly provided to the end user. Yaskawa offers an express warranty only as to the quality of its products in conforming to standards and specifications published in the Yaskawa manual. **NO OTHER WARRANTY, EXPRESSED OR IMPLIED, IS OFFERED.** Yaskawa assumes no liability for any personal injury, property damage, losses, or claims arising from misapplication of its products

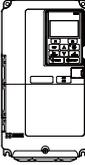
◆ Applicable Documentation

The following manuals are available for the 24 V Power Supply Option:

24 V Power Supply Option

	Yaskawa AC Drive Option 24 V Power Supply Installation Manual Manual No.: TOBPC73060048A
	<p>Read this manual first.</p> <p>The installation manual is packaged with the 24 V Power Supply Option. It contains basic installation and wiring required for proper use of this product.</p>

Yaskawa Drive

	<p>Refer to the manual of the drive this option card is being used with.</p> <p>The instruction manual for the drive covers basic installation, wiring, operation procedures, functions, troubleshooting, and maintenance information. It also includes important information on parameter settings and how to tune the drive.</p>
---	--

1 Preface and Safety

◆ Terms

Note: Indicates a supplement or precaution that does not cause drive damage.

◆ Registered Trademarks

Company names and product names listed in this manual are registered trademarks of those companies.

◆ Supplemental Safety Information

Read and understand this manual before installing, operating, or servicing this option. The option must be installed according to this manual and local codes.

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.

DANGER

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

WARNING

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

CAUTION

Indicates a hazardous situation, which, if not avoided, could result in minor or moderate injury.

NOTICE

Indicates an equipment damage message.

■ General Safety

General Precautions

- The diagrams in this section may include options and drives without covers or safety shields to illustrate details. Be sure to reinstall covers or shields before operating any devices. The option board should be used according to the instructions described in this manual.
- Any illustrations, photographs, or examples used in this manual are provided as examples only and may not apply to all products to which this manual is applicable.
- The products and specifications described in this manual or the content and presentation of the manual may be changed without notice to improve the product and/or the manual.
- When ordering a new copy of the manual due to damage or loss, contact your Yaskawa representative or the nearest Yaskawa sales office and provide the manual number shown on the front cover.

DANGER

Heed the safety messages in this manual.

Failure to comply will result in death or serious injury.

The operating company is responsible for any injuries or equipment damage resulting from failure to heed the warnings in this manual.

NOTICE

Do not expose the drive to halogen group disinfectants.

Failure to comply may cause damage to the electrical components in the option.

Do not pack the drive in wooden materials that have been fumigated or sterilized.

Do not sterilize the entire package after the product is packed.

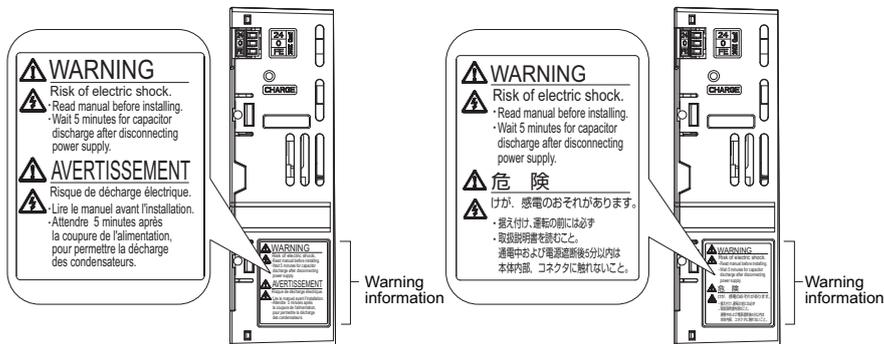
Make sure all cables and wiring are properly connected.

Improper connections can damage to the drive.

■ Option Label Warnings

Warning information is displayed on the 24 V Power Supply Option as shown in the figure below. Follow all warnings and safety instructions when using the product.

For an area that may require displaying warning information in Japanese and English, a warning label is provided with the 24 V Power Supply Option. This label can be placed over the English and French warnings already on the front of the 24 V Power Supply Option.



2 Product Overview

◆ About this Product

The 24 V Power Supply Option maintains drive control circuit power in the event of a main power outage. As long as the control circuit has power, network communications and I/O data remain operational. The 24 V Power Supply Option provides external power to the control circuit only, and does not provide power to the main circuit of the drive.

It is possible to read fault and parameter data in the drive via the operator or network communications when the drive switches to the 24 V Power Supply Option as a back-up power supply.

Note: Parameter settings cannot be changed without the power of the drive's main circuit, even though the control circuit may have enough power to operate.

◆ Applicable Models

Refer to [Table 1](#) to make sure the 24 V Power Supply Option and drive model are properly matched.

Table 1 24 V Power Supply Options and Applicable Drive Models

24 V Power Supply Model	Compatible Drive Model	
PS-A10L	Three-Phase 200 V Class	CIMR-A□2A□□□□
PS-A10H	Three-Phase 400 V Class	CIMR-A□4A□□□□

3 Receiving

Perform the following tasks after receiving this product:

- Inspect the option for damage.
If the option appears damaged upon receipt, contact the shipper immediately.
- Verify receipt of the correct model by checking the model number.
- If you have received the wrong model or this product does not function properly, contact your supplier.

◆ Nameplate

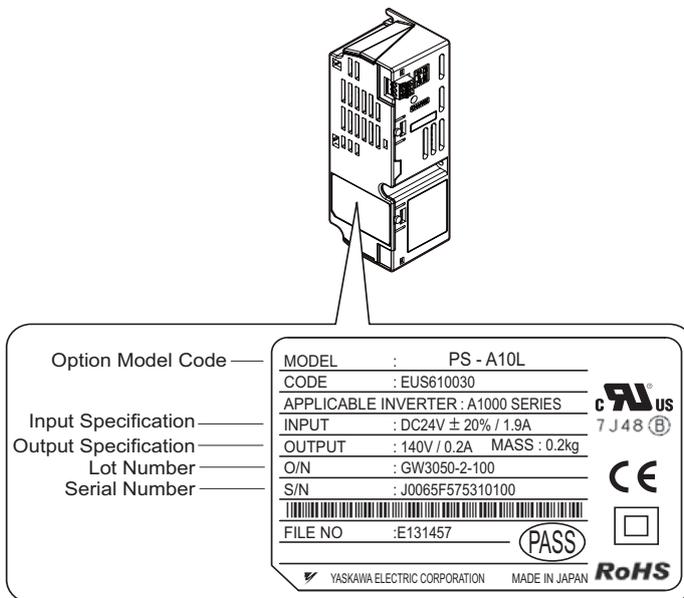
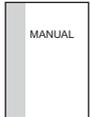


Figure 1 Nameplate for PS-A10L

◆ Contents and Packaging

Table 2 Contents of Package

Description:	24 V Power Supply Option	Warning Labels	Installation Manual	Screws (M4)
				
Quantity:	1	1	1	3

◆ Tool Requirements

The following tools are required to install the 24 V Power Supply Option. Use each tool as indicated in the instructions.

- Phillips screwdriver ⊕ (M4)
- Straight-edge screwdriver (refer to [Figure 2](#))

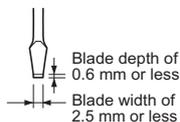


Figure 2 Required Screwdriver Dimensions

4 24 V Power Supply Option Components

◆ 24 V Power Supply Option

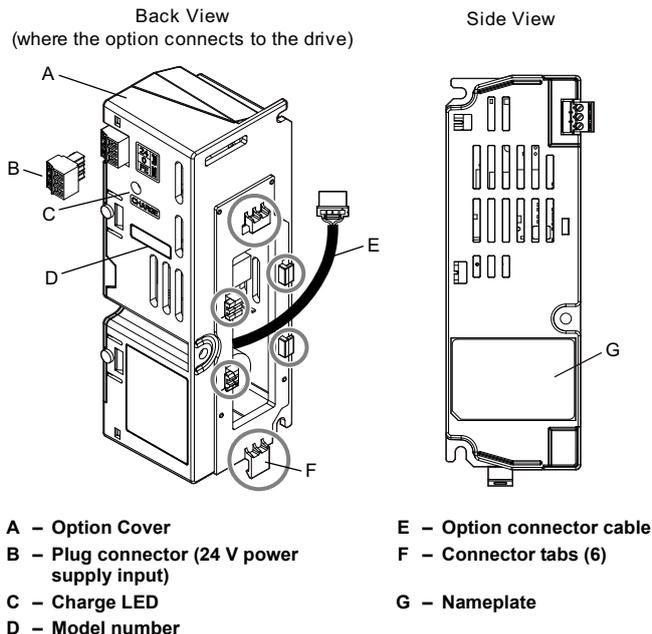
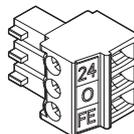


Figure 3 24 V Power Supply Option

◆ Power Supply Plug

Table 3 Plug Connector Terminals

Terminal Designation	Description
24	+24 V
0	0 V
FE	Ground



Plug Connector

5 Installation Procedure

◆ Section Safety

DANGER

Electrical Shock Hazard

Disconnect all power to the drive, before servicing.

Failure to comply will result in death or serious injury.

Voltage still remains in the drive capacitors even after the 24 V Power Supply is shut off. Both the drive and the 24 V Power Supply have a Charge LED. These LEDs will extinguish when the DC bus voltage is below 50 V dc. To prevent electric shock, wait at least the amount of time specified on the drive before touching any components.

WARNING

Electrical Shock Hazard

Do not allow unqualified personnel to use equipment.

Failure to comply could result in death or serious injury.

Maintenance, inspection, and replacement of parts must be performed only by authorized personnel familiar with installation, adjustment, and maintenance of this product.

Do not use damaged wires, or damage the wire insulation.

Failure to comply could result in death or serious injury.

Fire Hazard

Tighten all terminal screws to the specified tightening torque.

Loose electrical connections could result in death or serious injury by fire due to overheating of electrical connections.

NOTICE

Observe proper electrostatic discharge procedures (ESD) when handling the option, drive, and circuit boards.

Failure to comply may result in ESD damage to circuitry.

Do not operate damaged equipment.

Failure to comply may cause further damage to the equipment.

Do not connect or operate any equipment with visible damage or missing parts.

Properly connect all pins and connectors.

Failure to comply may prevent proper operation and possibly damage equipment.

Check wiring to ensure that all connections are correct after installing the option and connecting any other devices.

Failure to comply may result in damage to the option.

◆ Single Drive Installation

Refer to [Figure 4](#) to make sure there is sufficient space for airflow and wiring.

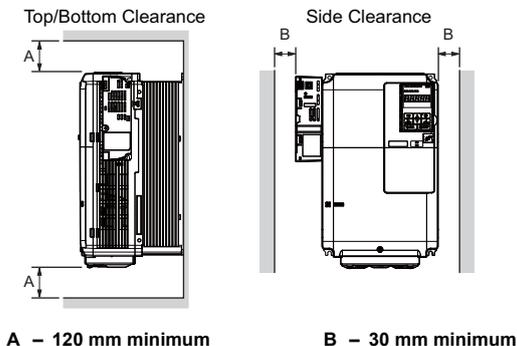


Figure 4 Correct Installation Spacing

Note: IP00/NEMA Type 1 and IP00/Open-Chassis models require the same amount of space above and below the drive for installation.

◆ Wiring Diagram

Figure 5 illustrates the 24 V Power Supply Option and drive connections.

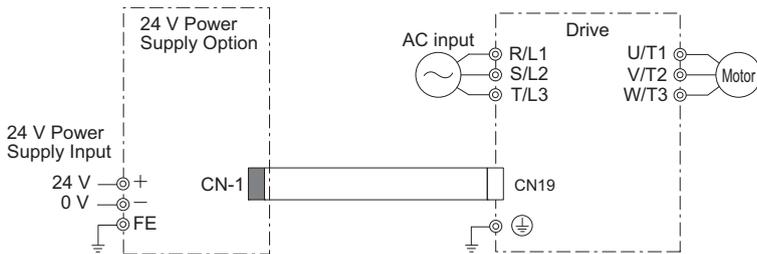


Figure 5 Connection Diagram for Drive and 24 V Power Supply Option

Note: 24 Vdc external power supply must be wired separately by the user.
Refer to [Selecting an External Power Supply on page 36](#) for details.

◆ UL and CE Compliance

■ Installation

- Note:**
1. For compliance with UL and CE standards, the 24 V Power Supply Option should be placed within the enclosure.
 2. This product must be used in areas with an environment rating no greater than Pollution Degree 2 according to UL standards.

■ External Power Supply

Use a Class 2 power supply as defined by UL standards.

5 Installation Procedure

◆ Prior to Installing the 24 V Power Supply Option

DANGER! *Electrical Shock Hazard*

Disconnect all power to the drive, before servicing.

Voltage still remains in the drive capacitors even after the 24 V Power Supply is shut off. Both the drive and the 24 V Power Supply have a Charge LED. These LEDs will extinguish when the DC bus voltage is below 50 V dc. To prevent electric shock, wait at least the amount of time specified on the drive before touching any components.

■ Installation Method of the 24 V Power Supply Option

The capacity of the drive determines how the 24 V Power Supply Option should be installed. Find the matching drive capacity in [Table 4](#) to see if the drive requires installation method A or B.

Table 4 Reference for installing the Option

Reference for installing the Option	Drive Model CIMR-A□		Page
	Three-Phase 200 V Class	Three-Phase 400 V Class	
Installation Method A	2A0004	4A0002	17
	2A0006	4A0004	
	2A0008	4A0005	
	2A0010	4A0007	
	2A0012	4A0009	
	2A0018	4A0011	
	2A0021	4A0018	
	2A0030	4A0023	
	2A0040	4A0031	
	2A0056	4A0038	
	2A0069	4A0044	
	2A0081		
Installation Method B		4A0058	22
	2A0110	4A0072	
	2A0138	4A0088	
	2A0169	4A0103	
	2A0211	4A0139	
	4A0165		

◆ Installation Method A

This section explains how to install the 24 V Power Supply Option to the following drive capacities:

CIMR-A□2A0004 to 2A0081, CIMR-A□4A0002 to 4A0044

■ Removing the Connector Cover

The connector cover must be removed from the drive to install the 24 V Power Supply Option.

Push on the connector tab and slide the cover in the direction indicated by the arrow in [Figure 6](#) to remove the connector cover from the drive.

Note: Once the 24 V Power Supply Option is installed, the connector cover is no longer needed.

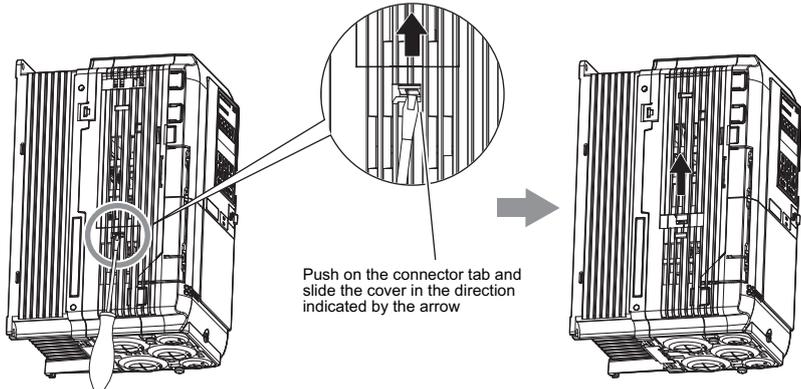


Figure 6 Removing the Connector Cover

5 Installation Procedure

■ Connecting the 24 V Power Supply Option

1. Pull out the connection cable from the 24 V Power Supply Option.

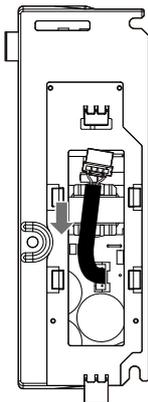


Figure 7 Pulling Out the Connection Cable

2. Firmly plug the connector into the matching port inside the drive.

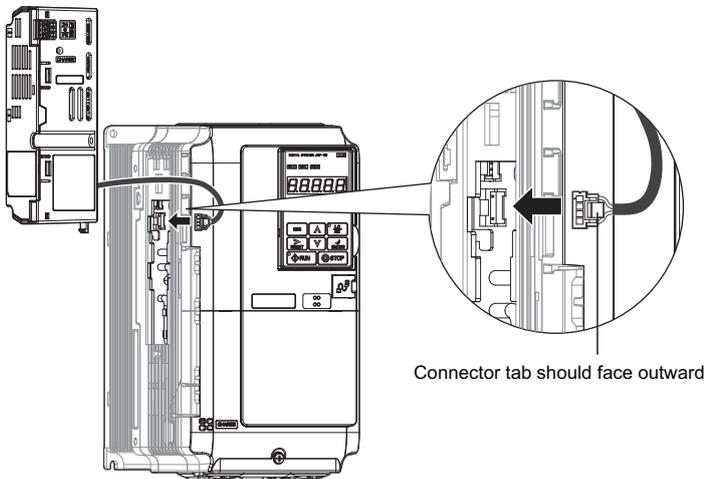


Figure 8 Plugging in the Connector

■ Fastening the 24 V Power Supply Option into Place

1. Align the connector tabs on the 24 V Power Supply Option with the insertion tabs on the drive as shown in **Figure 9**.

NOTICE: Make sure the connector cable does not get caught or pinched between the drive and the 24 V Power Supply when installed. Failure to comply can damage the cable.

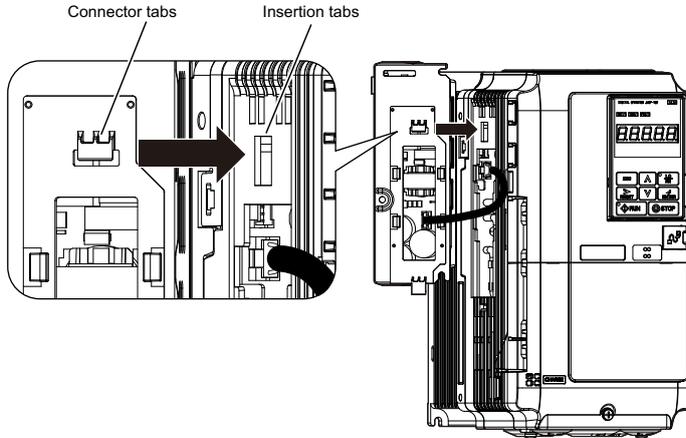


Figure 9 Location of Tabs

5 Installation Procedure

2. Slide the 24 V Power Supply Option as indicated by the arrow in [Figure 10](#) to lock it into place.

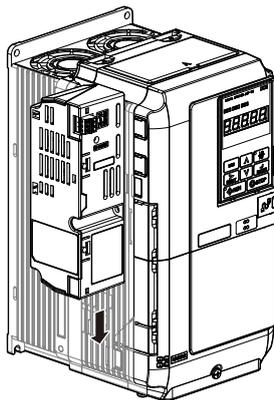


Figure 10 Installing the 24 V Power Supply Option

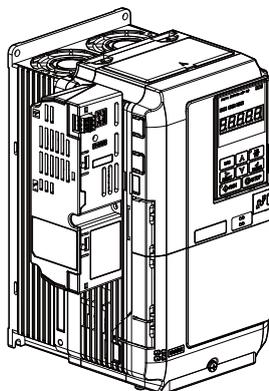


Figure 11 24 V Power Supply Option Properly Installed

◆ Uninstalling the 24 V Power Supply Option A

Follow the instructions below to uninstall the 24 V Power Supply Option from drive models CIMR-A□2A0004 to 0081 and CIMR-A□4A0002 to 0044.

Insert the blade of a straight-edge screwdriver as shown in [Figure 12](#), and gently slide the option in the direction indicated by the arrow.

NOTICE: Do not use excessive force when uninstalling the 24 V Power Supply Option. Failure to comply can damage the cable and connector.

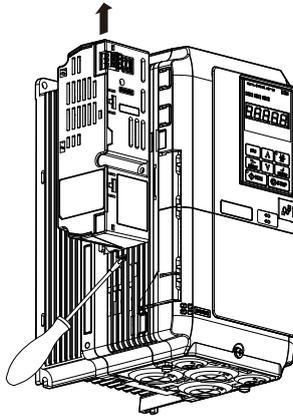


Figure 12 Removing the 24 V Power Supply Option

5 Installation Procedure

◆ Installation Method B

This section explains how to install the 24 V Power Supply Option to the following drive capacities:

CIMR-A□2A0110 to 2A0211, CIMR-A□4A0058 to 4A0165

■ Removing the Connector Cover

The connector cover must be removed from the drive to install the 24 V Power Supply Option.

1. Remove the screw holding the connector cover in place.

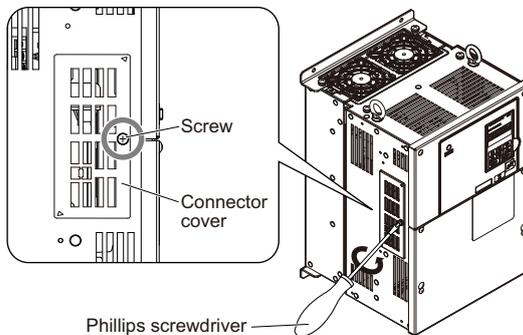


Figure 13 Removing the Connector Cover

- Slide the connector cover as shown in the [Figure 14](#).

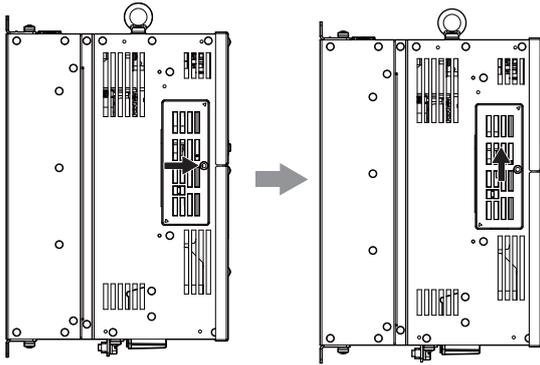


Figure 14 Sliding Connector Cover

- Insert the blade of a straight-edge screwdriver into the opening shown in [Figure 15](#). Pull on the connector cover in the direction indicated by the arrow in [Figure 15](#) and remove it from the drive.

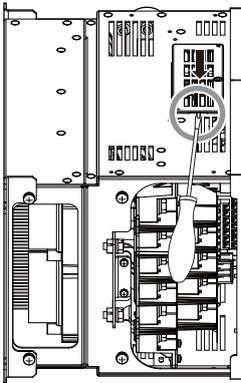


Figure 15 Removing the Connector Cover

NOTICE: Once the 24 V Power Supply Option is installed, the connector cover is no longer needed.

5 Installation Procedure

■ Connecting the 24 V Power Supply Option

1. Pull out the connection cable from the 24 V Power Supply Option.

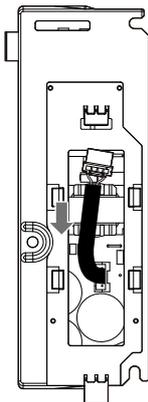


Figure 16 Pulling Out the Connection Cable

2. Firmly plug the connector into the matching port inside the drive.

Note: The location where the connector plugs into the drive differs by the capacity of the drive.

NOTICE: Make sure the connector is facing in the right direction when plugging it into the drive. An improper connection can damage the connector and the drive.

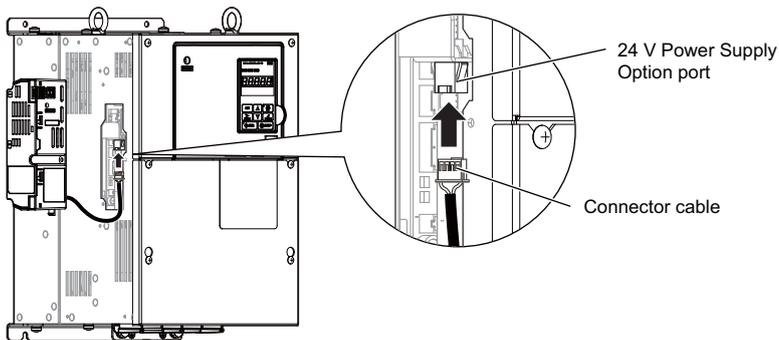


Figure 17 Plugging in the Connector (CIMR-A□2A0110)

■ Installing the 24 V Power Supply Option

1. As shown in [Figure 18](#), align the connector tabs on the 24 V Power Supply Option with the insertion tabs on the drive.

NOTICE: Make sure the connector cable does not get caught or pinched between the drive and the 24 V Power Supply when installed. Failure to comply can damage the cable.

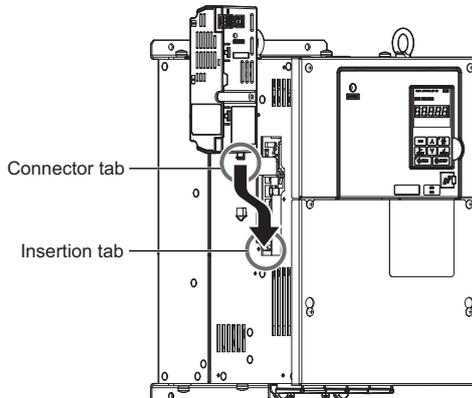


Figure 18 Location of tabs

2. Use a Phillips screwdriver (M4) and the screws included in the package to fasten the 24 V Power Supply Option to the drive in the three locations shown in [Figure 19](#).

NOTICE: Use only the screws packaged with the 24 V Power Supply Option. Other screws may damage drive components.

5 Installation Procedure

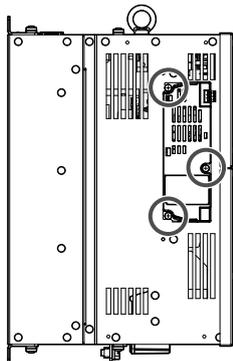


Figure 19 Location of Screws

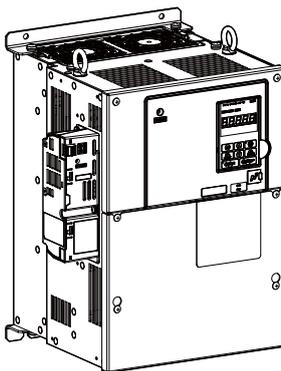


Figure 20 24 V Power Supply Option Properly Installed

◆ Uninstalling the 24 V Power Supply B

For drive models CIMR-A□2A0110 to 2A0211 and CIMR-A□4A0058 to 4A0165, remove the three screws that fastened the 24 V Power Supply Option into place when it was installed.

◆ Power Supply Plug Wiring (PS-A10L, PS-A10H)

Use a flat-blade screwdriver to loosen the screws on the 24 V power supply plug. Connect wiring to the 24 V, 0, and FE terminals, then tighten the terminal screws to hold wiring in place. **Refer to Wire Gauges and Tightening Torque on page 27.**

NOTICE: Properly connect an external 24 V power line to the power supply plug. **Refer to 24 V Power Supply Option Specifications on page 36.** Improper wiring practices could damage the 24 V Power Supply Option due to incorrect terminal connections.

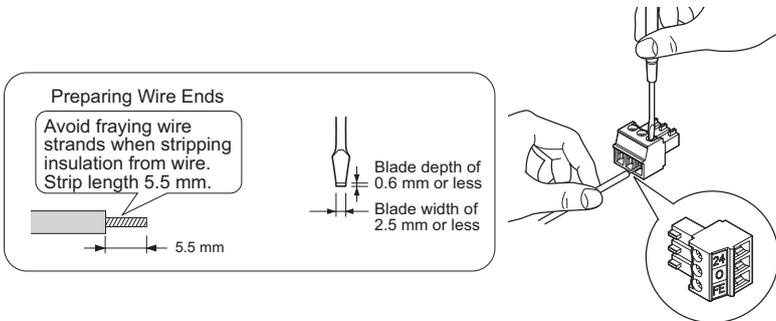


Figure 21 Wiring the 24 V Power Supply Plug

■ Wire Gauges and Tightening Torque

Table 5 Wire Gauges and Tightening Torque

Terminal Number	Screw Size	Tightening Torque (N·m)	Bare Wire		Pluggable Terminals		Wire Type
			Allowable Gauges mm (AWG)	Recommended Gauges mm (AWG)	Allowable Gauges mm (AWG)	Recommended Gauges mm (AWG)	
24, 0, FE	M2	0.22 to 0.25	Stranded wire, 0.25 to 1.0 (24 to 17) Single wire, 0.25 to 1.5 (24 to 16)	0.75 (18)	0.25 to 0.5 (24 to 20)	0.5 (20)	Shielded line, etc.

5 Installation Procedure

■ Wire Gauges for Connecting Multiple Drives

The 24 V Power Supply Option can be wired to three drives in parallel. *Table 6* indicates the proper wire gauges for connecting multiple drives.

Table 6 Wire Gauges for Multiple Drives

Connection	Recommended Gauges mm ² (AWG)
2 to 3 drives wired in parallel	0.5 (20)

6 Verifying Operation

After properly wiring and installing the 24 V Power Supply Option, use the following procedure to check for normal operation.

◆ Procedure

1. Make sure the drive main circuit power is on and 24 V external power is supplied to the 24 V connector plug. Switch off the main power supply to the drive. The 24 V external power supply should provide power to the drive's control circuit.
2. A red LED on the 24 V Power Supply Option indicates proper operation.
3. The operator on the drive should display "Uv" for about 10 seconds to indicate an undervoltage situation.

Note: If "Uv" does not flash on the display screen, check the wiring. If "Uv" fails to appear on the operator after confirming proper wiring, the drive or the 24 V Power Supply Option may be damaged.

◆ Power Supply and the Control Circuit

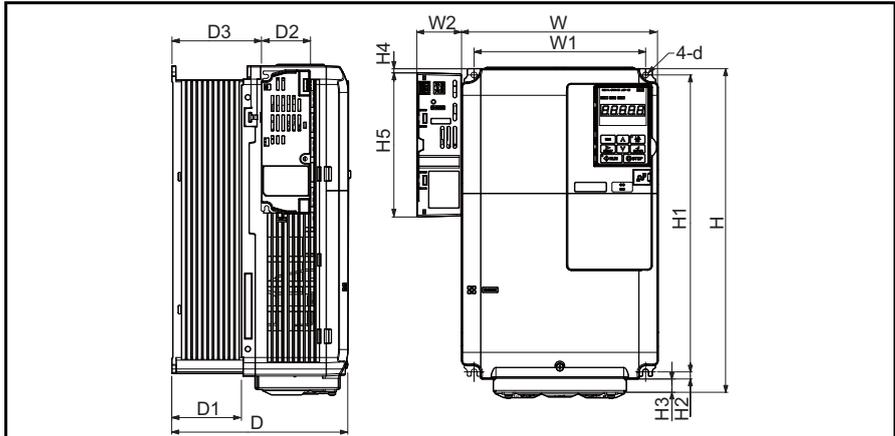
Table 7 outlines the various conditions under which the 24 V Power Supply Option provides power to the control circuit.

Table 7 Power Supply and Control Circuit

Drive Main Circuit Input Power Supply	Power from 24 V Power Supply Option	Control Circuit Operation in Drive	Drive Operation
ON	ON	Normal operation	Possible
ON	OFF		Possible
OFF	ON		Not possible
OFF	OFF	Stop	Not possible

7 Dimensions

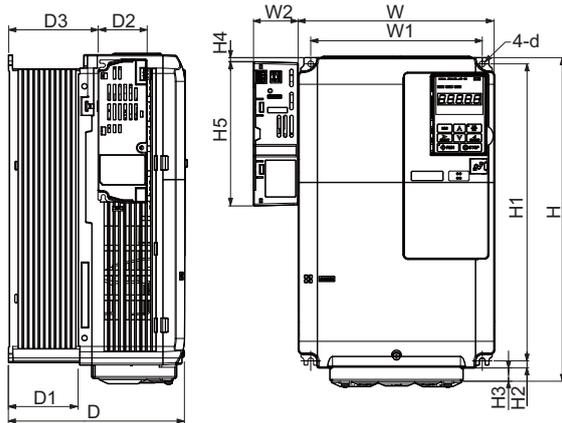
Table 8 Dimensions (metric)



Voltage Class	Model CIMR-A□	Dimensions (mm)														Weight (kg)
		W	H	D	W1	W2	H1	H2	H3	H4	H5	D1	D2	D3	d	
Three-Phase 200 V Class	2A0004A	140	260	147	122	50	248	6	0	3	163	38	55	58	M5	3.3
	2A0006A	140	260	147	122	50	248	6	0	3	163	38	55	58		3.3
	2A0008A	140	260	147	122	50	248	6	0	3	163	38	55	58		3.4
	2A0010A	140	260	147	122	50	248	6	0	3	163	38	55	58		3.4
	2A0012A	140	260	147	122	50	248	6	0	3	163	38	55	58		3.4
	2A0018A	140	260	164	122	50	248	6	0	3	163	55	55	78		3.7
	2A0021A	140	260	164	122	50	248	6	0	3	163	55	55	78		3.7
	2A0030A	140	260	167	122	50	248	6	0	3	163	55	55	78		4.2
	2A0040A	140	260	167	122	50	248	6	0	3	163	55	55	78		4.2
	2A0056A	180	300	187	160	50	284	8	0	5	163	75	55	100		5.8
	2A0069A	220	350	197	192	50	335	8	0	5	163	78	55	100	M6	8.9
2A0081A	220	365	197	192	50	335	8	15	5	163	78	55	100	9.9		

Note: Weights and dimensions listed are for A1000 and the 24 V Power Supply Option together. Contact Yaskawa if you wish to use the 24 V Power Supply Option with another model drive.

Table 9 Dimensions (U.S. units)

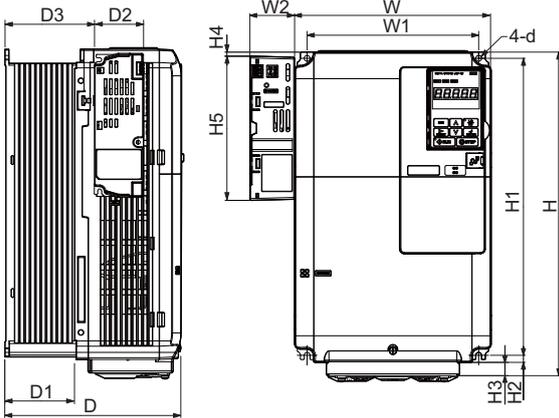


Voltage Class	Model CIMR-A□	Dimensions (in)														Weight (lb)
		W	H	D	W1	W2	H1	H2	H3	H4	H5	D1	D2	D3	d	
Three-Phase 200 V Class	2A0004A	5.5	10.2	5.8	4.8	2.0	9.8	0.2	0	0.1	6.4	1.5	2.2	2.3	M5	7.3
	2A0006A	5.5	10.2	5.8	4.8	2.0	9.8	0.2	0	0.1	6.4	1.5	2.2	2.3		7.3
	2A0008A	5.5	10.2	5.8	4.8	2.0	9.8	0.2	0	0.1	6.4	1.5	2.2	2.3		7.5
	2A0010A	5.5	10.2	5.8	4.8	2.0	9.8	0.2	0	0.1	6.4	1.5	2.2	2.3		7.5
	2A0012A	5.5	10.2	5.8	4.8	2.0	9.8	0.2	0	0.1	6.4	1.5	2.2	2.3		7.5
	2A0018A	5.5	10.2	6.5	4.8	2.0	9.8	0.2	0	0.1	6.4	2.2	2.2	3.1		8.2
	2A0021A	5.5	10.2	6.5	4.8	2.0	9.8	0.2	0	0.1	6.4	2.2	2.2	3.1		8.2
	2A0030A	5.5	10.2	6.6	4.8	2.0	9.8	0.2	0	0.1	6.4	2.2	2.2	3.1		9.3
	2A0040A	5.5	10.2	6.6	4.8	2.0	9.8	0.2	0	0.1	6.4	2.2	2.2	3.1		9.3
	2A0056A	7.1	11.8	7.4	6.3	2.0	11.2	0.3	0	0.2	6.4	3.0	2.2	4.0	12.8	
	2A0069A	8.7	13.8	7.8	7.6	2.0	13.2	0.3	0	0.2	6.4	3.1	2.2	4.0	19.7	
	2A0081A	8.7	14.3	7.8	7.6	2.0	13.2	0.3	0.6	0.2	6.4	3.1	2.2	4.0	M6	21.8

Note: Weights and dimensions listed are for A1000 and the 24 V Power Supply Option together. Contact Yaskawa if you wish to use the 24 V Power Supply Option with another model drive.

7 Dimensions

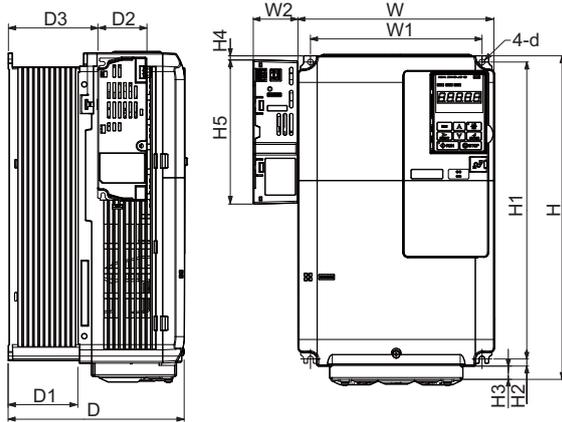
Table 10 Dimensions (metric)



Voltage Class	Model CIMR-A□	Dimensions (mm)															Weight (kg)
		W	H	D	W1	W2	H1	H2	H3	H4	H5	D1	D2	D3	d		
Three-Phase 400 V Class	4A0002A	140	260	147	122	50	248	6	0	3	163	38	55	58	M5	3.4	
	4A0004A	140	260	147	122	50	248	6	0	3	163	38	55	58		3.4	
	4A0005A	140	260	147	122	50	248	6	0	3	163	38	55	58		3.4	
	4A0007A	140	260	164	122	50	248	6	0	3	163	55	55	78		3.6	
	4A0009A	140	260	164	122	50	248	6	0	3	163	55	55	78		3.7	
	4A0011A	140	260	164	122	50	248	6	0	3	163	55	55	78		3.7	
	4A0018A	140	260	167	122	50	248	6	0	3	163	55	55	78		4.1	
	4A0023A	140	260	167	122	50	248	6	0	3	163	55	55	78		4.1	
	4A0031A	180	300	167	160	50	284	8	0	5	163	55	55	78		5.6	
	4A0038A	180	300	187	160	50	284	8	0	5	163	75	55	100		5.9	
	4A0044A	220	350	197	192	50	335	8	0	5	163	78	55	100	M6	8.5	

Note: Weights and dimensions listed are for A1000 and the 24 V Power Supply Option together.
Contact Yaskawa if you wish to use the 24 V Power Supply Option with another model drive.

Table 11 Dimensions (U.S. units)

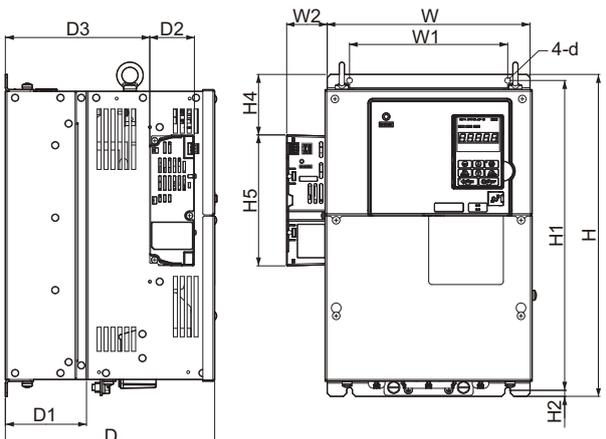


Voltage Class	Model CIMR-A□	Dimensions (in)													Weight (lb)	
		W	H	D	W1	W2	H1	H2	H3	H4	H5	D1	D2	D3		d
Three-Phase 400 V Class	4A0002A	5.5	10.2	5.8	4.8	2.0	9.8	0.2	0	0.1	6.4	1.5	2.2	2.3	M5	7.5
	4A0004A	5.5	10.2	5.8	4.8	2.0	9.8	0.2	0	0.1	6.4	1.5	2.2	2.3		7.5
	4A0005A	5.5	10.2	5.8	4.8	2.0	9.8	0.2	0	0.1	6.4	1.5	2.2	2.3		7.5
	4A0007A	5.5	10.2	6.5	4.8	2.0	9.8	0.2	0	0.1	6.4	2.2	2.2	3.1		7.9
	4A0009A	5.5	10.2	6.5	4.8	2.0	9.8	0.2	0	0.1	6.4	2.2	2.2	3.1		8.2
	4A0011A	5.5	10.2	6.5	4.8	2.0	9.8	0.2	0	0.1	6.4	2.2	2.2	3.1		8.2
	4A0018A	5.5	10.2	6.6	4.8	2.0	9.8	0.2	0	0.1	6.4	2.2	2.2	3.1		9.0
	4A0023A	5.5	10.2	6.6	4.8	2.0	9.8	0.2	0	0.1	6.4	2.2	2.2	3.1		9.0
	4A0031A	7.1	11.8	6.6	6.3	2.0	11.2	0.3	0	0.2	6.4	2.2	2.2	3.1		12.4
	4A0038A	7.1	11.8	7.4	6.3	2.0	11.2	0.3	0	0.2	6.4	3.0	2.2	4.0	13.0	
4A0044A	8.7	13.8	7.8	7.6	2.0	13.2	0.3	0	0.2	6.4	3.1	2.2	4.0	M6	18.7	

Note: Weights and dimensions listed are for A1000 and the 24 V Power Supply Option together. Contact Yaskawa if you wish to use the 24 V Power Supply Option with another model drive.

7 Dimensions

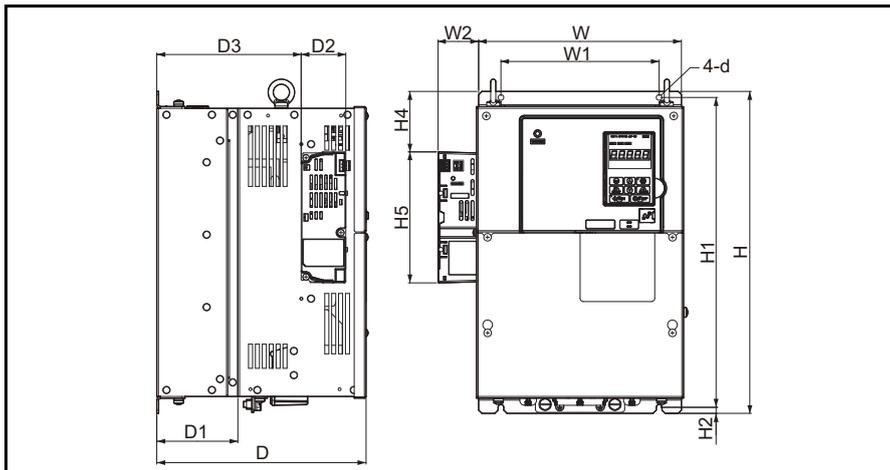
Table 12 Dimension (metric)



Voltage Class	Model CIMR-A□	Dimensions (in)														Weight (kg)
		W	H	D	W1	W2	H1	H2	H4	H5	D1	D2	D3	d		
Three-Phase 200 V Class	2A0110A	254	400	258	195	50	385	7.5	76	163	100	55	178	M6	21.2	
	2A0138A	279	450	258	220	50	435	7.5	83	163	100	55	178		25.2	
	2A0169A	329	550	283	260	50	535	7.5	80	163	110	55	208		37.2	
	2A0211A	329	550	283	260	50	535	7.5	80	163	110	55	208		38.2	
Three-Phase 400 V Class	4A0058A	254	400	258	195	50	385	7.5	76	163	100	55	178	M6	21.2	
	4A0072A	279	450	258	220	50	435	7.5	83	163	100	55	178		25.2	
	4A0088A	329	510	258	260	50	495	7.5	54	163	105	55	188		36.2	
	4A0103A	329	510	258	260	50	495	7.5	54	163	105	55	188		36.2	
	4A0139A	329	550	283	260	50	535	7.5	80	163	110	55	208		41.2	
	4A0165A	329	550	283	260	50	535	7.5	80	163	110	55	208		42.2	

Note: Weights and dimensions listed are for A1000 and the 24 V Power Supply Option together.
Contact Yaskawa if you wish to use the 24 V Power Supply Option with another model drive.

Table 13 Dimension (u.s units)



Voltage Class	Model CIMR-A□	Dimensions (in)														Weight (lb)
		W	H	D	W1	W2	H1	H2	H4	H5	D1	D2	D3	d		
Three-Phase 200 V Class	2A0110A	10.0	15.8	10.2	7.7	2.0	15.2	0.3	3.0	6.4	4.0	2.2	7.0	M6	46.7	
	2A0138A	10.1	17.7	10.2	8.7	2.0	17.1	0.3	3.3	6.4	4.0	2.2	7.0		55.6	
	2A0169A	12.1	21.7	11.1	10.3	2.0	17.1	0.3	3.2	6.4	4.3	2.2	8.2		82.0	
	2A0211A	12.1	21.7	11.1	10.3	2.0	21.1	0.3	3.2	6.4	4.3	2.2	8.2		84.2	
Three-Phase 400 V Class	4A0058A	10.0	15.8	10.2	7.7	2.0	15.2	0.3	3.0	6.4	4.0	2.2	7.0	M6	46.7	
	4A0072A	10.1	17.7	10.2	8.7	2.0	17.1	0.3	3.3	6.4	4.0	2.2	7.0		55.6	
	4A0088A	12.1	20.1	10.2	10.3	2.0	19.5	0.3	2.1	6.4	4.1	2.2	7.4		79.8	
	4A0103A	12.1	20.1	10.2	10.3	2.0	19.5	0.3	2.1	6.4	4.1	2.2	7.4		79.8	
	4A0139A	12.1	21.7	11.1	10.3	2.0	21.1	0.3	3.2	6.4	4.3	2.2	8.2		90.8	
	4A0165A	12.1	21.7	11.1	10.3	2.0	21.1	0.3	3.2	6.4	4.3	2.2	8.2		93.0	

8 Specifications

◆ Specifications

Specifications for PS-A10L and PS-A10H appear in [Table 14](#).

Table 14 24 V Power Supply Option Specifications

Item	Specifications
Option Input Operating Voltage	24 V _{dc} ± 20% (19.2 to 28.8 V)
Option 24 V Input Current	1.9 A
Consumption Power	38 W
Output Voltage	PS-A10L: 140 V PS-A10H: 280 V
Output Power	30 W
Output Ride-Thru time (when power is off)	Over 50 ms
Ambient Temperature	-10 to 50 °C </>
Storage Temperature	-20 to 60 °C
Maximum Possible Drive Connections	3
Weight	0.2 kg
Compliance	UL, CE

<1> The 24 V power supply must be installed in an environment compatible with the drive environmental specifications.

◆ Selecting an External Power Supply

When the 24 V Power Supply Option is first switched on, twice the normal current will flow through the 24 V Power Supply Option for about 0.5 seconds. At least 3 A is required for the 24 V Power Supply Option.

WARNING! *Electrical Shock Hazard. Use a battery or a double-reinforced power supply to provide power to the 24 V Power Supply Option. Using a different type of power supply may result in death or serious injury.*

◆ Revision History

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

MANUAL NO. TOBP C730600 48B

Published in Japan March 2009 08-9 

└─ Date of publication

└─ Date of original publication

└─ Revision number

Date of Publication	Revision Number	Section	Revised Content
September 2008	-	-	First Edition
March 2009		Chapter 1	Revision: Option Label Warnings
		Chapter 3	Revision: Nameplate
		Chapter 5	Revision: UL and CE compliance
		Chapter 8	Revision: Specifications

YASKAWA AC Drive-Option 24 V Power Supply Installation Manual

IRUMA BUSINESS CENTER (SOLUTION CENTER)

480, Kamifujisawa, Iruma, Saitama, 358-8555, Japan
Phone: 81-4-2982-5696 Fax: 81-4-2982-6138

YASKAWA ELECTRIC CORPORATION

New Pier Takeshiba South Tower, 1-16-1, Kaigan, Minatoku, Tokyo, 105-6891, Japan
Phone: 81-3-5402-4511 Fax: 81-3-5402-4580
<http://www.yaskawa.co.jp>

YASKAWA ELECTRIC AMERICA, INC.

2121 Norman Drive South, Waukegan, IL 60085, U.S.A.
Phone: (800) YASKAWA (800-927-5292) or 1-847-887-7000 Fax: 1-847-887-7370
<http://www.yaskawa.com>

YASKAWA ELÉTRICO DO BRASIL COMÉRCIO LTDA.

Avenda Fagundes Filho, 620 Bairro Saude, São Paulo, SP04304-000, Brasil
Phone: 55-11-3385-1100 Fax: 55-11-5581-8795
<http://www.yaskawa.com.br>

YASKAWA ELECTRIC EUROPE GmbH

Hauptstraße 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



YASKAWA ELECTRIC CORPORATION

YASKAWA

In the event that the end user of this product is to be the military and said product is to be employed in any weapons systems or the manufacture thereof, the export will fall under the relevant regulations as stipulated in the Foreign Exchange and Foreign Trade Regulations. Therefore, be sure to follow all procedures and submit all relevant documentation according to any and all rules, regulations and laws that may apply. Specifications are subject to change without notice for ongoing product modifications and improvements.

© 2008-2009 YASKAWA ELECTRIC CORPORATION. All rights reserved.

MANUAL NO. TOBP C730600 48B

Published in Japan March 2009 08-9 ◇-0

09-1