

## YASKAWA AC Drive-V1000 Option 24 V Power Supply Installation Manual

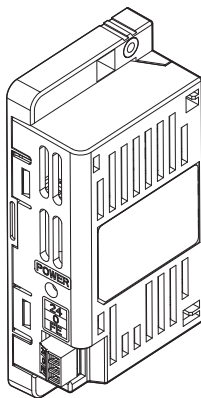
Type: PS-V10S, PS-V10M

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

### V1000オプションユニット 24 V制御電源ユニット 取扱説明書

形式 : PS-V10S, PS-V10M

製品を安全にお使い頂くために、本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。



---

## **Copyright © 2007 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.

# Table of Contents

---

<b>1 PREFACE AND SAFETY .....</b>	<b>4</b>
<b>2 PRODUCT OVERVIEW .....</b>	<b>7</b>
<b>3 RECEIVING .....</b>	<b>8</b>
<b>4 24 V POWER SUPPLY OPTION COMPONENTS .....</b>	<b>11</b>
<b>5 INSTALLATION PROCEDURE .....</b>	<b>12</b>
<b>6 VERIFYING OPERATION .....</b>	<b>29</b>
<b>7 DIMENSIONS .....</b>	<b>30</b>
<b>8 SPECIFICATIONS .....</b>	<b>36</b>

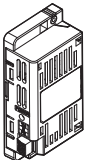
## 1 Preface and Safety

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, EXPRESS 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

	<b>Yaskawa AC Drive-V1000 Option 24 V Power Supply Installation Manual</b> <b>Manual No.: TOBPC73060027</b> <b>(This book)</b>	Read this manual first. The installation manual is packaged with the 24 V Power Supply Option and contains basic installation and wiring required for proper use of this product.
---	--	--

#### Yaskawa Drive

	<b>Yaskawa AC Drive-V1000 Quick Start Guide</b>	To obtain instruction manuals for Yaskawa products access these sites: U.S.: <a href="http://www.yaskawa.com">http://www.yaskawa.com</a> Europe: <a href="http://www.yaskawa.eu.com">http://www.yaskawa.eu.com</a> Japan: <a href="https://www.e-mechatronics.com">https://www.e-mechatronics.com</a> Other areas: contact a Yaskawa representative.  For questions, contact the local Yaskawa sales office or the nearest Yaskawa representative.
	<b>Yaskawa AC Drive-V1000 Technical Manual</b>	

## ◆ Terms

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

**Drive:** Yaskawa AC Drive - V1000 Series

---

## ◆ 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.

# 1 Preface and Safety

## 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.

## 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. The control circuit keeps the network communications and I/O data operational in the event of a power outage. It supplies 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 LED operator or network communications when the drive switches to the 24 V Power Supply Option as a back-up power supply.

### ◆ Applicable Models

The 24 V Power Supply Option can be used with the drive models in [Table 1](#) depending on drive model.

**Table 1 24 V Power Supply Options and Applicable Drive Models**

24 V Power Supply Option Part Number	Applicable Drive Model Number	
PS-V10S	Single-Phase 200 V Class	CIMR-V□BA0001 to 0018
	Three-Phase 200 V Class	CIMR-V□2A0001 to 0020
	Three-Phase 400 V Class	CIMR-V□4A0001 to 0011
PS-V10M	Three-Phase 200 V Class	CIMR-V□2A0030 to 0069
	Three-Phase 400 V Class	CIMR-V□4A0018 to 0038

### 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

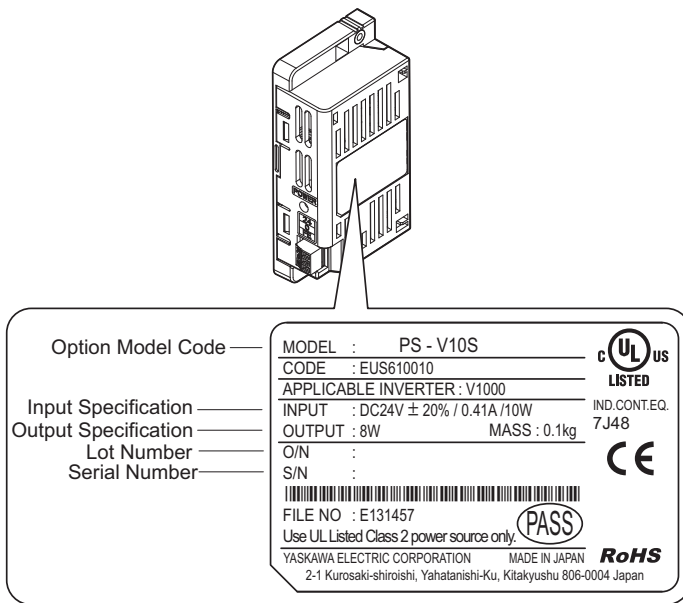
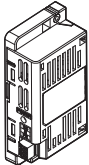
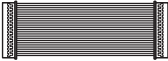
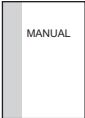


Figure 1 Nameplate (PS-V10S)



## ◆ Contents and Packaging

Table 2 Contents of Package


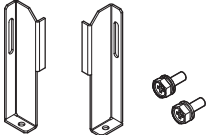
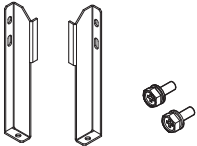
Description:	24 V Power Supply Option	Option Connection Cable <1>	Installation Manual
			
Quantity:	1	1	1

<1> Option Connection Cables differ depending on drive model. Black cable connectors are supplied with the PS-V10S 24 V Power Supply Option. White cable connectors are supplied with the PS-V10M 24 V Power Supply Option.

## ◆ Additional Parts Required for UL and CE Compliance

An additional mounting support bracket is required for UL and CE compliance in some cases. Refer to [Table 3. Refer to UL and CE Compliance on page 15](#) for instructions on installing the mounting support bracket. For questions or ordering information contact your sales representative or Yaskawa.

Table 3 Types of Mounting Support Brackets (not included)

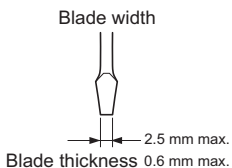
EZZ020639A	EZZ020639B	EZZ020639C
		

### 3 Receiving

---

#### ◆ Tool Requirements

**Screwdriver (flat-tip):** A straight-edge screwdriver with a blade width of 2.5 mm (3/32 in.) and a blade thickness of 0.6 mm (1/64 in.) is required to install the 24 V Power Supply Option.



**Figure 2 Required Screwdriver Dimensions**

# 4 24 V Power Supply Option Components

## ◆ 24 V Power Supply Option

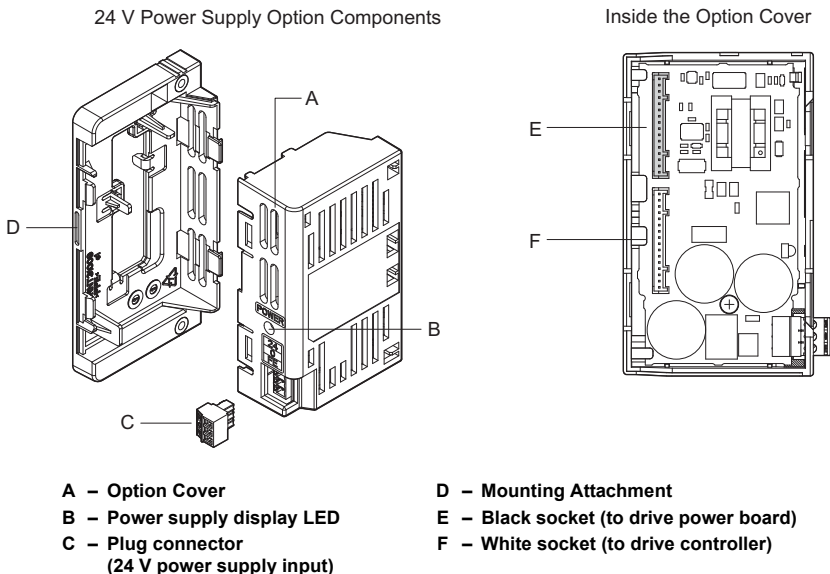
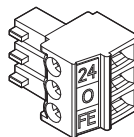


Figure 3 24 V Power Supply Option

## ◆ Power Supply Plug

Table 4 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**

**Do not connect or disconnect wiring while the power is on.**

Failure to comply will result in death or serious injury.

Disconnect all power to the drive, wait at least five minutes after all indicators are off, measure the DC bus voltage to confirm safe level, and check for unsafe voltages before servicing to prevent electric shock. The internal capacitor remains charged even after the 24 V power supply is turned off. The charge indicator LED will extinguish when the DC bus voltage is below 50 Vdc.

#### WARNING

##### **Electrical Shock Hazard**

**Do not remove option board cover while the power is on.**

Failure to comply could result in death or serious injury.

The diagrams in this section may include options and drives without covers or safety shields to show 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.

**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.

### **WARNING**

**Do not use damaged wires, place excessive stress on wiring, 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.

**Never shut the power off while the drive is outputting voltage.**

Failure to comply may cause the application to operate incorrectly or damage the drive.

**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.

**Do not use unshielded cable for control wiring.**

Failure to comply may cause electrical interference resulting in poor system performance.

Use shielded twisted-pair wires and ground the shield to the ground terminal of the drive.

**Properly connect all pins and connectors.**

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

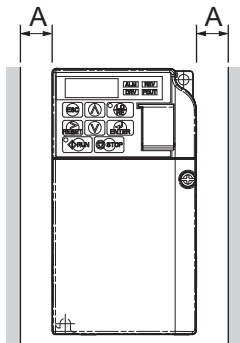
**Check wiring to ensure that all connections are correct after installing the option and connecting any other devices.**

Failure to comply may result in damage to the option.

## 5 Installation Procedure

### ◆ Single Drive Installation

To maintain sufficient space for airflow and wiring with the 24 V Power Supply Option installed, refer to [Figure 4](#).



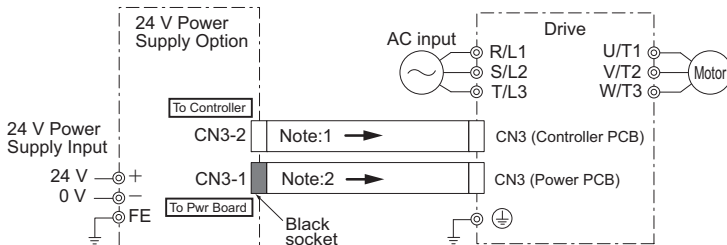
A – 30 mm minimum

**Figure 4 Correct Installation Spacing**

- Note:**
1. IP20/NEMA Type 1 and IP20/Open-Chassis models require the same amount of space above and below the drive for installation.
  2. Yaskawa recommends unmounting the drive to simplify installation of the 24 V Power Supply Option.

### ◆ Wiring Diagram

[Figure 5](#) illustrates the 24 V Power Supply Option and drive interconnections.



Note 1: This cable with “white” connector ends is supplied with the PS-V10M Option

Note 2: This cable with “black” connector ends is supplied with the PS-V10S Option

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

### ◆ UL and CE Compliance

#### ■ Installation Area

**Note:** This product must be used in areas with an environment rating no greater than Pollution Degree 2 according to UL standard.

#### ■ External Power Supply

Use Class 2 power supply as defined by UL standard.

#### ■ Mounting Support Bracket

The mounting support bracket listed below is required for compliance with UL and CE (Type 1) regulations. If these supports are not used, the design is considered “Open Type.”

**Table 5 Applicable Mounting Support Brackets by Drive Model**

Voltage Class	Model CIMR-V□	Power Supply Option	Bracket
<b>Single-Phase 200 V Class</b>	BA0001B□	PS-V10S	EZZ020639A
	BA0002B□		
	BA0003B□		
	BA0006B□		EZZ020639B
	BA0010B□		
	BA0012B□		
BA0018B□			
<b>Three-Phase 200 V Class</b>	2A0001B□	PS-V10S	EZZ020639A
	2A0002B□		
	2A0004B□		
	2A0006B□		EZZ020639B
	2A0008B□		
	2A0010B□		
	2A0012B□		
	2A0018B□		
	2A0020B□		
	2A0030F□	PS-V10M	EZZ020639C
	2A0040F□		
	2A0056F□		
	2A0069F□		

## 5 Installation Procedure

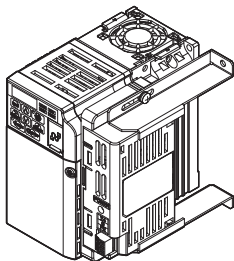
Voltage Class	Model CIMR-V□	Power Supply Option	Bracket
Three-Phase 400 V Class	4A0001B□	PS-V10S	EZZ020639A
	4A0002B□		
	4A0004B□		
	4A0005B□		
	4A0007B□		
	4A0009B□		
	4A0011B□	PS-V10M	EZZ020639B
	4A0018F□		
	4A0023F□		
	4A0031F□		
	4A0038F□		
		EZZ020639C	

### Mounting Support Bracket Installation

After properly installing the option card, fasten the mounting support brackets (not provided) using the screws included in the support bracket packaging as shown in the figure below.

Refer to [Dimensions on page 30](#) for screw hole alignment. Make sure the supports are properly located relative to the height and positioning the drive.

Drive with PS-V10S



Drive with PS-V10M

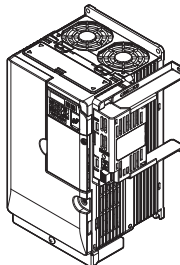


Figure 6 Proper Installation of the Mounting Support Bracket

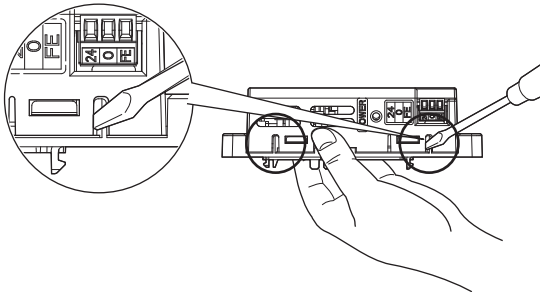


### ◆ Separate the 24 V Power Supply Option Cover and Mounting Attachment

**DANGER!** *Electrical Shock Hazard. Disconnect all power to the drive, before servicing. Failure to comply will result in death or serious injury. Wait at least five minutes after all indicators are off. The drive has internal capacitors that remain charged even after the Power Supply is disconnected. The drive charge LED will extinguish when the DC bus voltage is below 50Vdc. Measure drive DC bus voltage to confirm safe level.*

The 24 V Power Supply Option cover must be separated from its mounting attachment to allow access to option connection sockets prior to installation.

1. Insert a flat-blade screwdriver into two small slots on the side of the 24 V Power Supply Option cover to lift the cover off its mounting attachment as shown on [Figure 7](#).



**Figure 7 Removing the 24 V Power Supply Option Cover to Expose Connection Sockets**

2. Separate the 24 V Power Supply Option cover from its mounting attachment.

## 5 Installation Procedure

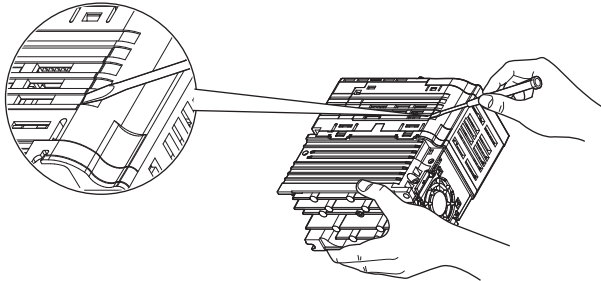
---

### ◆ Remove the Drives Cable Access Cover

The drive cable-access cover must be removed to allow access to drive connection sockets prior to mounting the option to the drive.

1. Insert a flat-blade screwdriver blade into one of the slots on the drives cable-access cover and gently pry up to loosen and remove the cover as shown in [Figure 8](#).

**Note:** The cable access cover piece may be discarded.



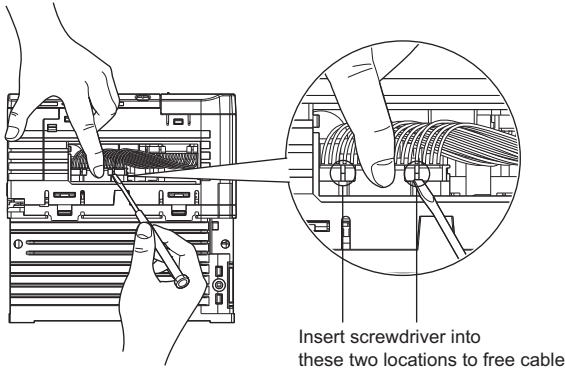
**Figure 8** Removing the Cable-access Cover on the Drive

### ◆ Unplug Drive Cables to Install the 24 V Power Supply Option (PS-V10S)

If you are installing 24 V Power Supply Option (PS-V10M), proceed to *Unplug Drive Cables to Install the 24 V Power Supply Option (PS-V10M)* on page 20.

1. Unplug one end of the existing drive cable from its socket inside the drive as shown in [Figure 9](#). Press inward on the cable release tab in the center of the cable connector and use a flat-blade screwdriver to gently pry up to remove the connector from its socket.

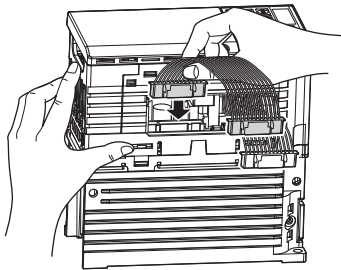
**NOTICE:** Do not use excessive force when using a screwdriver to free the drive cable connection. Failure to comply may damage or break the cable connectors.



**Figure 9 Unplugging the Drive Cable Connection (PS-V10S)**

2. Next, plug the supplied 24 V Power Supply Option connection cable into the drive cable socket and click firmly into position as shown in [Figure 10](#).

**Note:** Refer to [Table 1](#) to verify the correct option part number is used with your drive model. Connection cables and mounting attachments for 24 V Power Supply Options differ depending on drive model.



**Figure 10 Plugging the Option Connection Cable into the Drive (PS-V10S)**

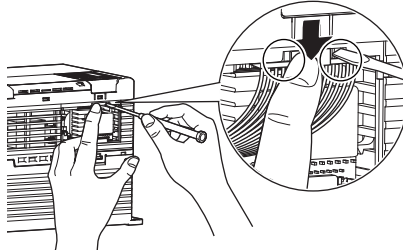
## 5 Installation Procedure

---

### ◆ Unplug Drive Cables to Install the 24 V Power Supply Option (PS-V10M)

1. Unplug one end of the existing drive cable from its socket inside the drive as shown in [Figure 11](#). Press inward on the cable release tab in the center of the cable connector and use a flat-blade screwdriver to gently pry down to remove the connector from its socket.

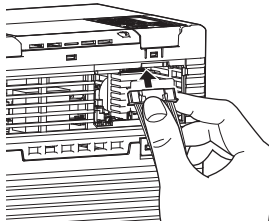
**NOTICE:** Do not use excessive force when using a screwdriver to free the drive cable connection. Failure to comply may damage or break the cable connectors.



**Figure 11 Unplugging the Drive Cable Connection (PS-V10M)**

2. Next, plug the supplied 24 V Power Supply Option connection cable into the drive cable socket and click firmly into position as shown in [Figure 12](#).

**Note:** Refer to [Table 1](#) to verify the correct option part number is used with your drive model. Connection cables and mounting attachments for 24 V Power Supply Options differ depending on drive model.



**Figure 12 Plugging the Option Connection Cable into the Drive (PS-V10M)**

### ◆ Connect the Mounting Attachment (PS-V10S / PS-V10M)

1. The two cables, now connected to the drive, should pass through the center square opening of the 24 V Power Supply mounting attachment.
2. Align the four tabs on the mounting attachment with the inside edges of the cable access opening on the drive and gently press and click the mounting attachment into place as shown in [Figure 13](#).

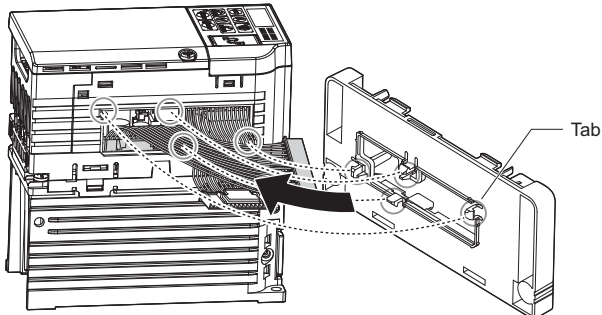


Figure 13 Connecting the Mounting Attachment (PS-V10S)

3. Press firmly on the mounting attachment tabs and make sure it is locked into place on the side of the drive case as shown in [Figure 14](#).

**NOTICE:** Make sure connection cables are not pinched between the drive case and the mounting attachment. Drive damage may occur due to shorted or broken wire connections.

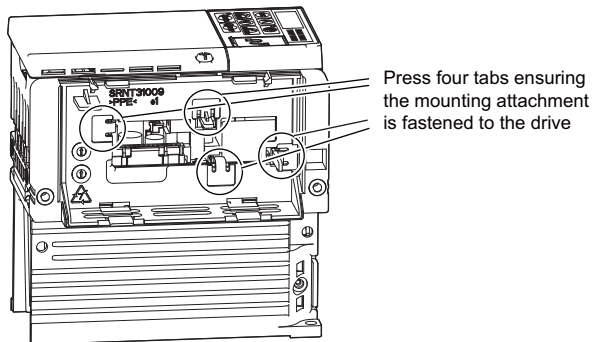


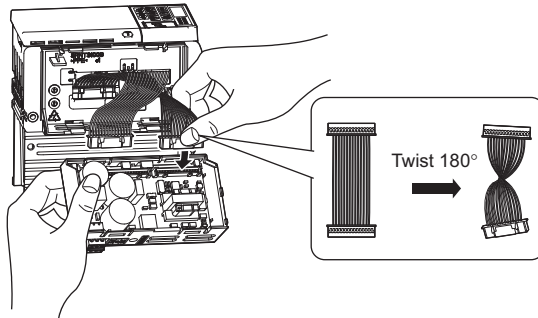
Figure 14 Locking the Mounting Attachment into Place (PS-V10S)

## 5 Installation Procedure

### ◆ Make Cable Connections to the 24 V Power Supply Option (PS-V10S)

If you are installing the PS-V10M 24 V Power Supply Option, proceed to *Make Cable Connections to the 24 V Power Supply Option (PS-V10M) on page 24*

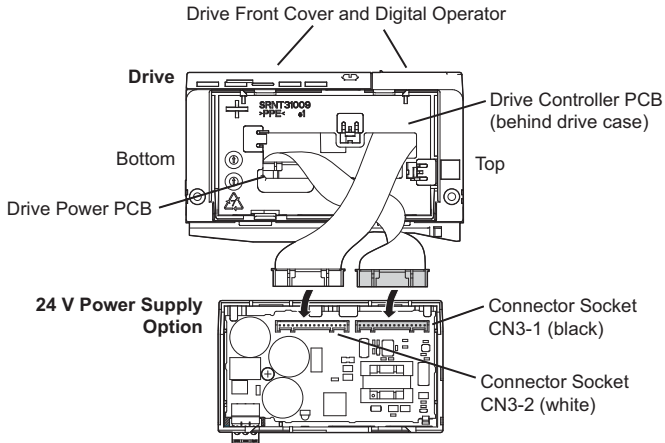
1. Position the drive on its side or its back as shown in *Figure 15*. Twist the cable with black connector ends 180 degrees.
2. Next, plug the unit connection cable into the black connector socket CN3-1 labeled "TO POWER BOARD" on the 24 V Power Supply Option and plug the remaining cable into the white connector socket CN3-2 labeled "TO CONTROLLER" on the 24 V Power Supply Option.



**Figure 15** Plugging the Connector into the 24 V Power Supply Unit (PS-V10S) (connecting the power board)

3. Confirm both cables are plugged in correctly according to **Figure 16**.

**NOTICE:** Connect the cables exactly as shown in **Figure 16**. Reversing the cable connections may damage the 24 V Power Supply Option.



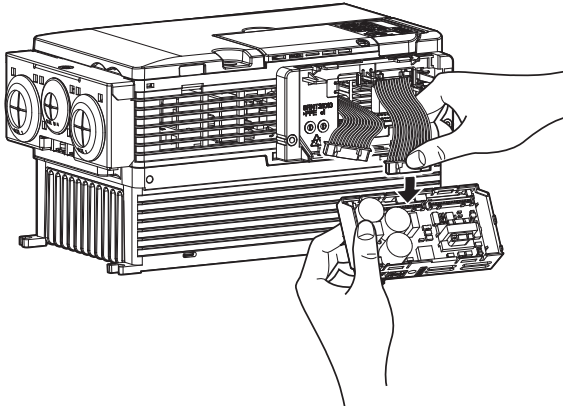
**Figure 16 Cable Positioning (PS-V10S)**

## 5 Installation Procedure

---

### ◆ Make Cable Connections to the 24 V Power Supply Option (PS-V10M)

1. Plug the unit connection cable into the white connector socket CN3-2 labeled "TO CONTROLLER" on the 24 V Power Supply Option and plug the remaining cable into the black connector socket CN3-1 labeled "TO POWER BOARD" on the 24 V Power Supply Option.



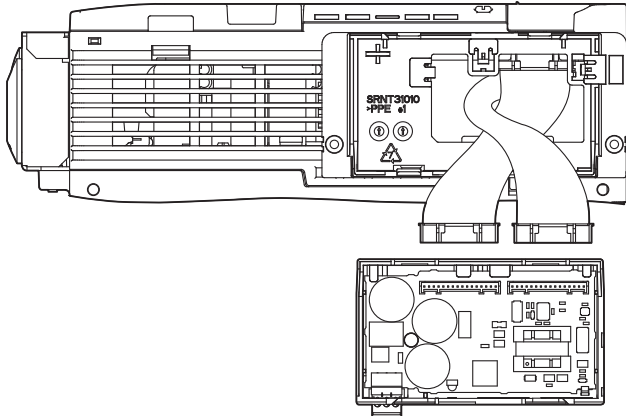
**Figure 17 Plugging the Connector into the 24 V Power Supply Unit (PS-V10M)  
(connecting the control board)**



## 5 Installation Procedure

2. Confirm both cables are plugged in correctly according to **Figure 18**.

**NOTICE:** Connect the cables exactly as shown in **Figure 18**. Reversing the cable connections may damage the 24 V Power Supply Option.



**Figure 18 Cable Positioning (PS-V10M)**

3. Confirm both cables are plugged in correctly according to **Figure 18**.

## 5 Installation Procedure

---

### ◆ Install the Option Cover to the Mounting Attachment (PS-V10S / PS-V10M)

1. Align the two tabs on the inside edge of the 24 V Power Supply Option with the corresponding slots on the mounting attachment and click the option cover into place.

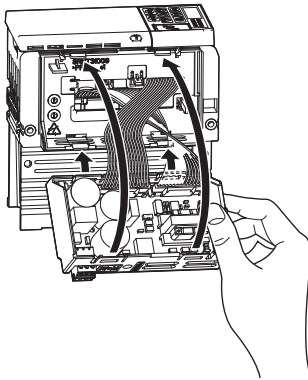


Figure 19 Installing the Option Cover to the Mounting Attachment (PS-V10S)

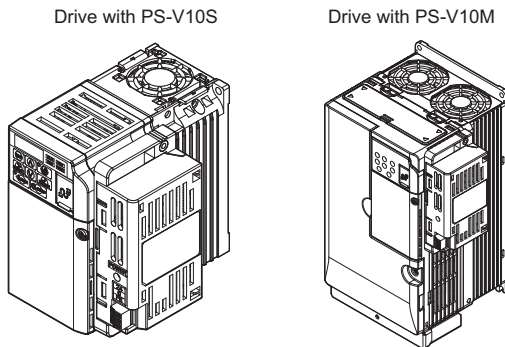


Figure 20 24 V Power Supply Option Properly Installed

### ◆ Power Supply Plug Wiring (PS-V10S / PS-V10M)

1. Disconnect the 24 V power supply plug connected to the 24 V Power Supply Option.

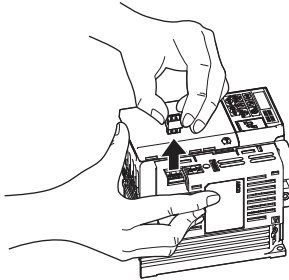


Figure 21 Disconnecting the Power Supply Plug

2. 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, and tighten the terminal screws to hold wiring in place. **Refer to Wire Gauges and Tightening Torque on page 28.**

**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 result in option damage due to incorrect terminal connections.

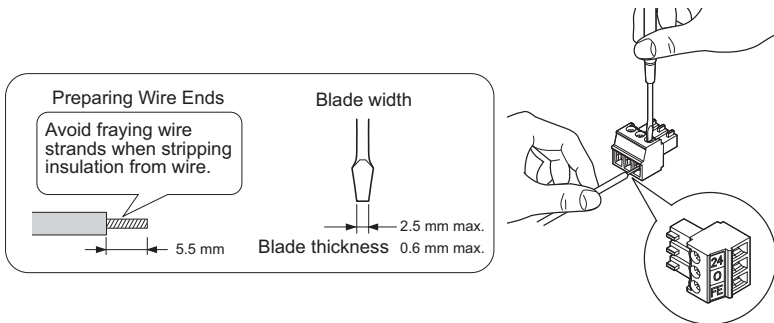


Figure 22 Wiring the 24 V Power Supply Plug

3. Insert the 24 V power supply plug back into its mating connector on the 24 V Power Supply Option.

## 5 Installation Procedure

### ■ Wire Gauges and Tightening Torque

Table 6 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.

### ■ Wire Gauges for Connecting Multiple Drives

The 24 V Power Supply Option can be wired to 10 drives in parallel. [Table 7](#) indicates the proper wire gauges for connecting multiple drives.

Table 7 Wire Gauges for Multiple Drives

Connection	Recommended Gauges mm <sup>2</sup> (AWG)
2 to 5 drives wired in parallel	0.25 to 0.5 (24 to 20)
6 to 10 drives wired in parallel	0.5 (20)

### ◆ Disconnecting the 24 V Power Supply Option (PS-V10S / PS-V10M)

Use this procedure should it become necessary to remove the 24 V Power Supply Option from the drive.

1. Insert a flat-blade screwdriver into the tabs on the option cover and free the option cover. [Refer to Separate the 24 V Power Supply Option Cover and Mounting Attachment on page 17.](#)
2. Remove connection cables by pressing on the connector release tabs at the end of each cable to unplug the cables.
3. Remove the mounting attachment by pressing two tabs in the direction of arrows as shown in [Figure 23](#).

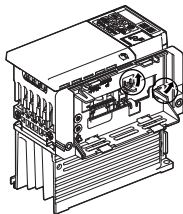


Figure 23 Removing the Mounting Attachment

## 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 drives control circuit.
2. A green LED on the 24 V Power Supply Option indicates proper operation.
3. The LED operator (or the LCD 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 display screen after confirming proper wiring, the drive may be damaged.

### ◆ Power Supply and the Control Circuit

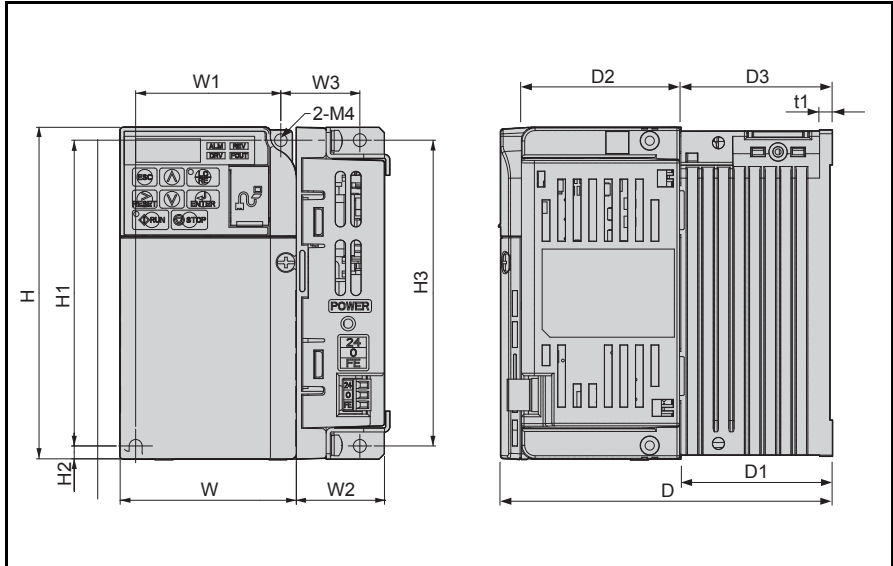
*Table 8* outlines the various conditions under which the 24 V Power Supply Option provides power to the control circuit.

**Table 8 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

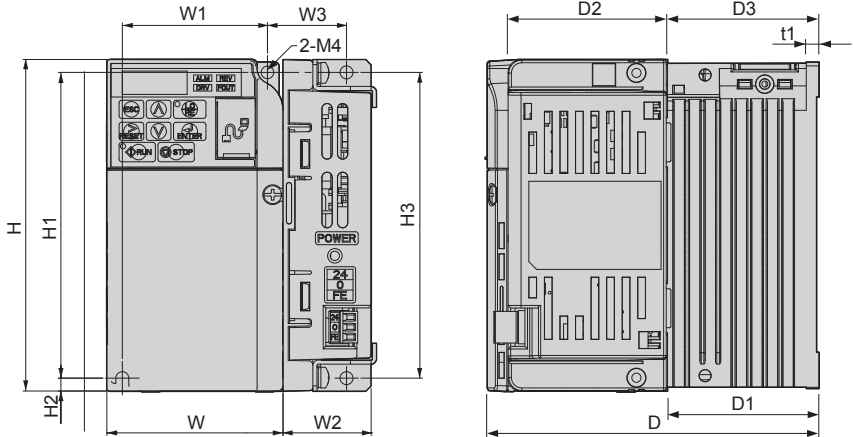
Table 9 Dimensions (metric)



Voltage Class	Model CIMR-V□	Dimensions (mm)													Weight (kg)
		W	H	D	W1	W2	W3	H1	H2	H3	D1	D2	D3	t1	
Single-Phase 200 V Class	BA0001B	68	128	76	56	34	30.5	118	5	118	6.5	61	7	3	0.8
	BA0002B	68	128	76	56	34	30.5	118	5	118	6.5	61	7	3	0.8
	BA0003B	68	128	118	56	34	30.5	118	5	118	38.5	61	39	5	1.2
Three-Phase 200 V Class	2A0001B	68	128	76	56	34	30.5	118	5	118	6.5	61	7	3	0.8
	2A0002B	68	128	76	56	34	30.5	118	5	118	6.5	61	7	3	0.8
	2A0004B	68	128	108	56	34	30.5	118	5	118	38.5	61	39	5	1.1
	2A0006B	68	128	128	56	34	30.5	118	5	118	58.5	61	59	5	1.3

Note: The weight value includes the weight of the 24 V Power Supply Option.

**Table 10 Dimensions (U.S. units)**



Voltage Class	Model CIMR-V□	Dimensions (in)													Weight (lb)
		W	H	D	W1	W2	W3	H1	H2	H3	D1	D2	D3	t1	
Single-Phase 200 V Class	BA0001B	2.7	5.0	3.0	2.2	1.3	1.2	4.6	0.2	4.6	0.3	2.4	0.3	0.1	1.8
	BA0002B	2.7	5.0	3.0	2.2	1.3	1.2	4.6	0.2	4.6	0.3	2.4	0.3	0.1	1.8
	BA0003B	2.7	5.0	4.6	2.2	1.3	1.2	4.6	0.2	4.6	1.5	2.4	1.5	0.2	2.6
Three-Phase 200 V Class	2A0001B	2.7	5.0	3.0	2.2	1.3	1.2	4.6	0.2	4.6	0.3	2.4	0.3	0.1	1.8
	2A0002B	2.7	5.0	3.0	2.2	1.3	1.2	4.6	0.2	4.6	0.3	2.4	0.3	0.1	1.8
	2A0004B	2.7	5.0	4.3	2.2	1.3	1.2	4.6	0.2	4.6	1.5	2.4	0.3	0.2	2.4
	2A0006B	2.7	5.0	5.0	2.2	1.3	1.2	4.6	0.2	4.6	2.3	2.4	2.3	0.2	2.9

**Note:** The weight value includes the weight of the 24 V Power Supply Option.

## 7 Dimensions

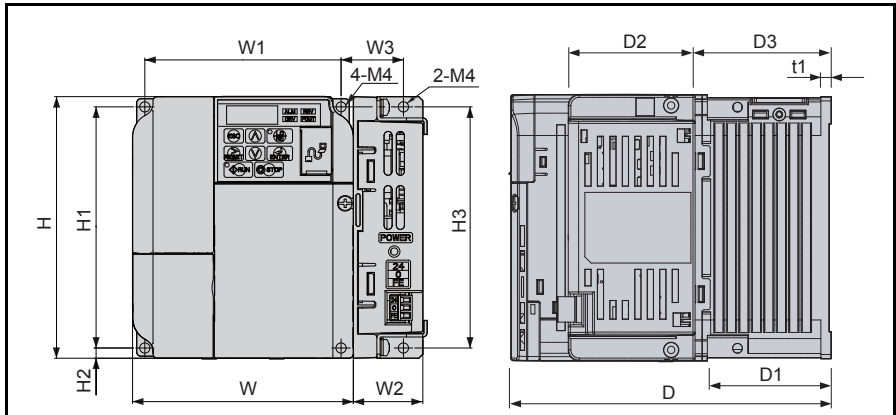
Table 11 Dimensions (metric)

Voltage Class	Model CIMR-V□	Dimensions (mm)													Weight (kg)
		W	H	D	W1	W2	W3	H1	H2	H3	D1	D2	D3	t1	
Single-Phase 200 V Class	BA0006B	108	128	137.5	96	34	30.5	118	5	118	58	61	65.5	5	1.9
	BA0010B	108	128	154	96	34	30.5	118	5	118	58	61	70.5	5	2.0
	BA0012B	140	128	163	128	34	30.5	118	5	118	65	61	74.5	5	2.6
	BA0018B	170	128	180	158	34	30.5	118	5	118	65	61	74.5	5	3.2
Three-Phase 200 V Class	2A0008B	108	128	129	96	34	30.5	118	5	118	58	61	65.5	5	1.9
	2A0010B	108	128	129	96	34	30.5	118	5	118	58	61	65.5	5	1.9
	2A0012B	108	128	137.5	96	34	30.5	118	5	118	58	61	65.5	5	1.9
	2A0018B	140	128	143	128	34	30.5	118	5	118	65	61	74.5	5	2.6
	2A0020B	140	128	143	128	34	30.5	118	5	118	65	61	74.5	5	2.6
Three-Phase 400 V Class	4A0001B	108	128	81	96	34	30.5	118	5	118	10	61	17.5	5	1.2
	4A0002B	108	128	99	96	34	30.5	118	5	118	28	61	35.5	5	1.4
	4A0004B	108	128	137.5	96	34	30.5	118	5	118	58	61	65.5	5	1.9
	4A0005B	108	128	154	96	34	30.5	118	5	118	58	61	65.5	5	1.9
	4A0007B	108	128	154	96	34	30.5	118	5	118	58	61	65.5	5	1.9
	4A0009B	108	128	154	96	34	30.5	118	5	118	58	61	65.5	5	1.9
	4A0011B	140	128	143	128	34	30.5	118	5	118	65	61	74.5	5	2.6

Note: The weight value includes the weight of the 24 V Power Supply Option.



**Table 12 Dimensions (U.S. units)**

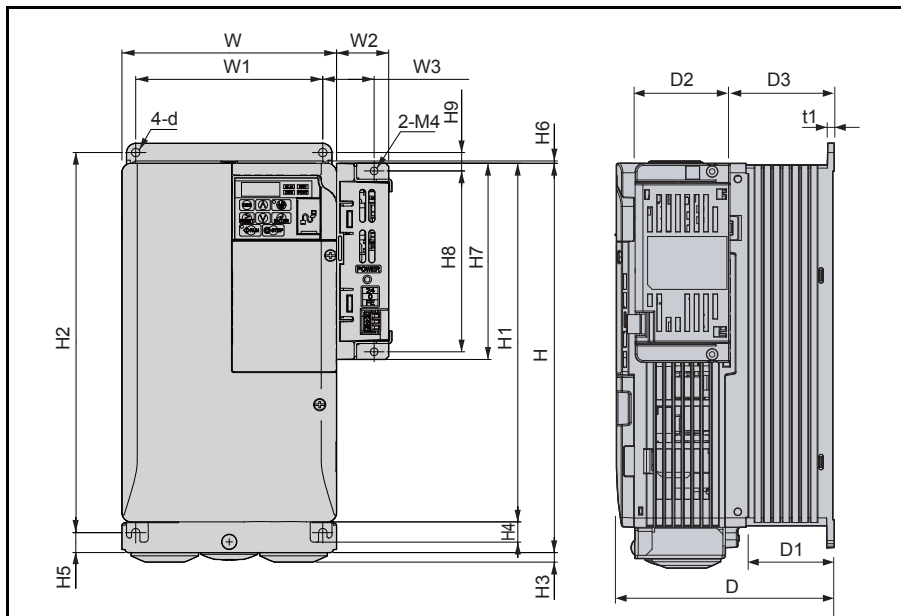


Voltage Class	Model CIMR-V□	Dimensions (in)											Weight (lb)		
		W	H	D	W1	W2	W3	H1	H2	H3	D1	D2		D3	t1
Single-Phase 200 V Class	BA0006B	4.3	5.0	5.4	3.8	1.3	1.2	4.7	0.2	4.6	2.3	2.4	2.6	0.2	4.2
	BA0010B	4.3	5.0	6.1	3.8	1.3	1.2	4.7	0.2	4.6	2.3	2.4	2.8	0.2	4.4
	BA0012B	5.5	5.0	6.4	5.0	1.3	1.2	4.7	0.2	4.6	2.6	2.4	2.9	0.2	5.7
	BA0018B	6.7	5.0	7.1	6.2	1.3	1.2	4.7	0.2	4.6	2.6	2.4	2.9	0.2	7.0
Three-Phase 200 V Class	2A0008B	4.3	5.0	5.1	3.8	1.3	1.2	4.7	0.2	4.6	2.3	2.4	2.6	0.2	4.2
	2A0010B	4.3	5.0	5.1	3.8	1.3	1.2	4.7	0.2	4.6	2.3	2.4	2.6	0.2	4.2
	2A0012B	4.3	5.0	5.4	3.8	1.3	1.2	4.7	0.2	4.6	2.3	2.4	2.6	0.2	4.2
	2A0018B	5.5	5.0	5.6	5.0	1.3	1.2	4.7	0.2	4.6	2.6	2.4	2.9	0.2	5.7
	2A0020B	5.5	5.0	5.6	5.0	1.3	1.2	4.7	0.2	4.6	2.6	2.4	2.9	0.2	5.7
Three-Phase 400 V Class	4A0001B	4.3	5.0	3.2	3.8	1.3	1.2	4.7	0.2	4.6	0.4	2.4	0.7	0.2	2.6
	4A0002B	4.3	5.0	3.9	3.8	1.3	1.2	4.7	0.2	4.6	1.1	2.4	1.4	0.2	3.1
	4A0004B	4.3	5.0	5.4	3.8	1.3	1.2	4.7	0.2	4.6	2.3	2.4	2.6	0.2	4.2
	4A0005B	4.3	5.0	6.1	3.8	1.3	1.2	4.7	0.2	4.6	2.3	2.4	2.6	0.2	4.2
	4A0007B	4.3	5.0	6.1	3.8	1.3	1.2	4.7	0.2	4.6	2.3	2.4	2.6	0.2	4.2
	4A0009B	4.3	5.0	6.1	3.8	1.3	1.2	4.7	0.2	4.6	2.3	2.4	2.6	0.2	4.2
	4A0011B	5.5	5.0	5.6	5.0	1.3	1.2	4.7	0.2	4.6	2.6	2.4	2.9	0.2	5.7

**Note:** The weight value includes the weight of the 24 V Power Supply Option.

## 7 Dimensions

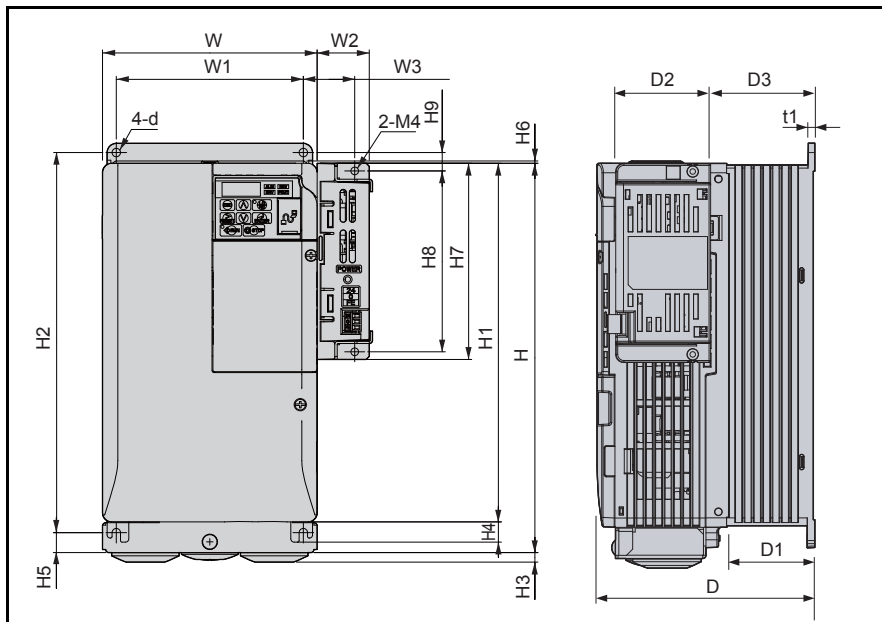
Table 13 Dimensions (metric)



Voltage Class	Model CIMR-V□	Dimensions (mm)																		Weight (kg)
		W	H	D	W1	W2	W3	H1	H2	H3	H4	H5	H6	H7	H8	H9	D1	D2	D3	
Three-Phase 200 V Class	2A0030F	140	254	140	122	34	33.5	234	248	6	13	13	1.5	128	118	12	55	61	67	4.0
	2A0040F	140	254	140	122	34	33.5	234	248	6	13	13	1.5	128	118	12	55	61	67	4.0
	2A0056F	180	290	163	160	34	33.5	270	284	6	15	13	1.5	128	118	12	75	61	87	5.7
	2A0069F	220	350	187	192	34	33.5	320	336	7	15	22	1.5	128	118	12	78	61	114	9.4
Three-Phase 400 V Class	4A0018F	140	254	140	122	34	33.5	234	248	6	13	13	1.5	128	118	12	55	61	67	4.0
	4A0023F	140	254	140	122	34	33.5	234	248	6	13	13	1.5	128	118	12	55	61	67	4.0
	4A0031F	180	290	143	160	34	33.5	270	284	6	15	13	1.5	128	118	12	55	61	67	5.4
	4A0038F	180	290	163	160	34	33.5	270	284	6	15	13	1.5	128	118	13	75	61	87	5.7

**Note:** The weight value includes the weight of the 24 V Power Supply Option.

**Table 14 Dimensions (U.S. units)**



Voltage Class	Model CIMR-V□	Dimensions (in)																			Weight (lb)
		W	H	D	W1	W2	W3	H1	H2	H3	H4	H5	H6	H7	H8	H9	D1	D2	D3		
Three-Phase 200 V Class	2A0030F	5.5	10.0	5.5	4.8	1.3	1.3	1.3	9.2	9.8	0.2	0.5	0.5	0.1	5.0	4.6	0.5	2.2	2.4	2.6	8.8
	2A0040F	5.5	10.0	5.5	4.8	1.3	1.3	1.3	9.2	9.8	0.2	0.5	0.5	0.1	5.0	4.6	0.5	2.2	2.4	2.6	8.8
	2A0056F	7.1	11.4	6.4	6.3	1.3	1.3	1.3	10.6	11.2	0.2	0.6	0.5	0.1	5.0	4.6	0.5	3.0	2.4	3.4	12.6
	2A0069F	8.7	13.7	7.4	7.6	1.3	1.3	1.3	12.6	13.2	0.3	0.6	0.9	0.1	5.0	4.6	0.5	3.1	2.4	4.5	20.7
Three-Phase 400 V Class	4A0018F	5.5	10.0	5.5	4.8	1.3	1.3	1.3	9.2	9.8	0.2	0.5	0.5	0.1	5.0	4.6	0.5	2.2	2.4	2.6	8.8
	4A0023F	5.5	10.0	5.5	4.8	1.3	1.3	1.3	9.2	9.8	0.2	0.5	0.5	0.1	5.0	4.6	0.5	2.2	2.4	2.6	8.8
	4A0031F	7.1	11.4	5.6	6.3	1.3	1.3	1.3	10.6	11.2	0.2	0.6	0.5	0.1	5.0	4.6	0.5	2.2	2.4	2.6	11.9
	4A0038F	7.1	11.4	6.4	6.3	1.3	1.3	1.3	10.6	11.2	0.2	0.6	0.5	0.1	5.0	4.6	0.5	3.0	2.4	3.4	12.6

Note: The weight value includes the weight of the 24 V Power Supply Option.

# 8 Specifications

### ◆ Specifications

Specifications for PS-V10S and PS-V10M appear in [Table 15](#).

**Table 15 24 V Power Supply Option Specifications**

Item	Specifications
Option Input Operating Voltage	24 Vdc $\pm$ 20% (19.2 to 28.8 V)
Option 24 V Input Current	0.41 A
Consumption Power	10 W
Output Power	8 W
Output Ride-thru time (when power is off)	Over 50 ms
Ambient Temperature	-10 to +50°C (+14°F to +122°F)
Storage Temperature	-20 to +60°C (-4°F to +140°F)
Maximum Possible Drive Connections	10
Weight	0.1 kg
Complied Standard	UL, CE

**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 27A <1>

Revision number

Published in Japan April 2008

Date of publication

Date of Publication	Revision Number	Section	Revised Content
May 2015	<6>	Front cover	Revision: Format
		Back cover	Revision: Address, format
February 2014	<5>	Chapter 3	Revision: Nameplate
		Back cover	Revision: Address
February 2013	<4>	Back cover	Revision: Address
November 2010	<3>	Front cover	Revision: Format
		Back cover	Revision: Address, format
February 2009	<2>	Back cover	Revision: Address
April 2008	<1>	Back cover	Revision: Address
September 2007	–	–	First Edition

# YASKAWA AC Drive-V1000 Option 24 V Power Supply Installation Manual

---

## **DRIVE CENTER (INVERTER PLANT)**

2-13-1, Nishimiyachi, Yakuhashi, Fukuoka, 824-8511, Japan  
Phone: 81-930-25-3844 Fax: 81-930-25-4369  
<http://www.yaskawa.co.jp>

## **YASKAWA ELECTRIC CORPORATION**

New Pier Takeshiba South Tower, 1-16-1, Kaigan, Minatoku, Tokyo, 105-6891, Japan  
Phone: 81-3-5402-4502 Fax: 81-3-5402-4580  
<http://www.yaskawa.co.jp>

## **YASKAWA AMERICA, INC.**

2121, Norman Drive South, Waukegan, IL 60085, U.S.A.  
Phone: 1-800-YASKAWA (827-6292) or 1-847-887-7000 Fax: 1-847-887-7310  
<http://www.yaskawa.com>

## **YASKAWA ELÉTRICO DO BRASIL LTDA.**

777, Avenida Piraporinha, Diadema, São Paulo, 09950-000, Brasil  
Phone: 55-11-3585-1100 Fax: 55-11-3585-1187  
<http://www.yaskawa.com.br>

## **YASKAWA EUROPE GmbH**

185, Hauptstraße, Eschborn, 65760, Germany  
Phone: 49-6196-569-300 Fax: 49-6196-569-398  
<http://www.yaskawa.eu.com>

## **YASKAWA ELECTRIC KOREA CORPORATION**

9F, Kyobo Securities Bldg., 26-A, Yeouido-dong, Yeongdeungpo-gu, Seoul, 150-737, Korea  
Phone: 82-2-784-7844 Fax: 82-2-784-8495  
<http://www.yaskawa.co.kr>

## **YASKAWA ELECTRIC (SINGAPORE) PTE. LTD.**

151, Lorong Chuan, #04-02A, New Tech Park, 556741, Singapore  
Phone: 65-6282-3003 Fax: 65-6289-3003  
<http://www.yaskawa.com.sg>

## **YASKAWA ELECTRIC (THAILAND) CO., LTD.**

232/125-126, 27th Floor, Muang Thai-Phatra Tower B, Rachadapisek Road, Huaykwang, Bangkok, 10310, Thailand  
Phone: 66-2693-2200 Fax: 66-2693-4200  
<http://www.yaskawa.co.th>

## **YASKAWA ELECTRIC (CHINA) CO., LTD.**

22F, One Corporate Avenue, No.222, Hubin Road, Shanghai, 200021, China  
Phone: 86-21-5385-2200 Fax: 86-21-5385-3299  
<http://www.yaskawa.com.cn>

## **YASKAWA ELECTRIC (CHINA) CO., LTD. BEIJING OFFICE**

Room 1011, Tower W3 Oriental Plaza, No. 1, East Chang An Ave.,  
Dong Cheng District, Beijing, 100738, China  
Phone: 86-10-8518-4088 Fax: 86-10-8518-4082

## **YASKAWA ELECTRIC TAIWAN CORPORATION**

9F, 16, Nanking E. Rd., Sec. 3, Taipei, 104, Taiwan  
Phone: 886-2-2502-5003 Fax: 886-2-2505-1280

## **YASKAWA INDIA PRIVATE LIMITED**

#17/A, Electronics City, Hosur Road, Bangalore, 560 100 (Karnataka), India  
Phone: 91-80-4244-1900 Fax: 91-80-4244-1901  
<http://www.yaskawaindia.in>

---

# YASKAWA

YASKAWA ELECTRIC CORPORATION

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.

© 2007-2015 YASKAWA ELECTRIC CORPORATION

MANUAL NO.  
TOBP C730600 27B <6>-0  
Published in Japan May 2015  
14-10-12