

## Altivar<sup>®</sup> 61 and 71 Type 1 Conduit Box Kits VW3A9201–VW3A9208 and VW3A9217

Retain for future use.

### INTRODUCTION

This bulletin contains installation instructions for Altivar<sup>®</sup> 61 and Altivar 71 conduit box kits, VW3A9201–VW3A9208 and VW3A9217. The conduit box kits provide a Type 1 enclosure rating. They are for use only on Altivar 61 and Altivar 71 drive controllers rated 230 V or 480 V. See Table 2 on page 2 for the drive controller catalog numbers.

### Before You Begin

## **⚠ DANGER**

### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

- Read and understand this bulletin in its entirety before installing or operating the Altivar 61 and 71 drive controllers. Installation, adjustment, repair, and maintenance must be performed by qualified personnel.
- The user is responsible for conforming to all applicable code requirements with respect to grounding all equipment.
- Many parts in this drive controller, including printed wiring boards, operate at line voltage.
- DO NOT touch unshielded components or terminal strip screw connections with voltage present.
- DO NOT short across terminals PA/+ and PC/- or across the DC bus capacitors.
- Before servicing the drive controller:
  - Disconnect all power, including external control power that may be present.
  - Place a “DO NOT TURN ON” label on all power disconnects.
  - Lock all power disconnects in the open position.
  - WAIT 15 MINUTES to allow the DC bus capacitors to discharge. Then follow the DC bus voltage measurement procedure on page 3 to verify that the DC voltage is less than 45 V. The drive LED is not an indicator of the absence of DC bus voltage.
- Install and close all covers before applying power or starting and stopping the drive controller.

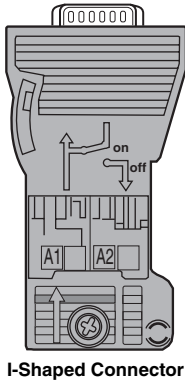
**Failure to follow these instructions will result in death or serious injury.**

**Tools Required**

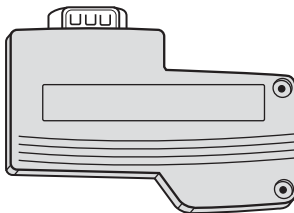
Use the following tools for the procedures in this bulletin:

- #2 Phillips screwdriver
- Voltmeter

**Figure 1: Connector Types**



**I-Shaped Connector**



**L-Shaped Connector**

**Table 1: Conduit Kit Contents**

Kits VW3A9201–VW3A9205 <sup>1</sup>		Kits VW3A9206–VW3A9208, VW3A9217	
Quantity	Description	Quantity	Description
1	Conduit box	1	Conduit box
1	Conduit box cover <sup>2</sup>	1	Conduit box cover
4	M4 screws	1	Conduit support bar
2	M5 screws	6	M4 screws
		2	M5 screws
		4	8-32 screws

<sup>1</sup> When used with Profibus option card VW3A3307 and an I-shaped connector, kits VW3A9201–VW3A9205 require the installation of a Type 1 cover for Profibus Option Card. The ATV61/71 Type 1 Cover for Profibus Option Card kit is packaged and sold separately. Visit [www.Telemecanique.com](http://www.Telemecanique.com) for more information.

<sup>2</sup> **Do not use** in a Profibus option card and an I-shaped connector installation. It may be used in a Profibus option card and an L-shaped connector installation. See Figure 1. Refer to the *Altivar 61 and 71 Type 1 Cover for Profibus Option Card* instruction bulletin, 30072-452-07, for more information.

**Table 2: Altivar 61/71 Conduit Box Kits**

Conduit Kit Catalog Number	230 V Drive Controllers		480 V Drive Controllers	
	ATV61H***** <sup>1</sup>	ATV71H*****	ATV61H*****	ATV71H*****
VW3A9201	075M3 U15M3 —	037M3 075M3 U15M3	075N4 U15N4 U22N4	075N4 U15N4 U22N4
VW3A9202	U22M3 U30M3 U40M3	U22M3 U30M3 U40M3	U30N4 U40N4 —	U30N4 U40N4 —
VW3A9203	U55M3 —	U55M3 —	U55N4 U75N4	U55N4 U75N4
VW3A9204	U75M3	U75M3	D11N4	D11N4
VW3A9205	D11M3X D15M3X	D11M3X D15M3x	D15N4 D18N4	D15N4 D18N4
VW3A9206	D18M3X D22M3X	D18M3X D22M3X	D22N4 —	D22N4 —
VW3A9207	— —	— —	D30N4 D37N4	D30N4 D37N4
VW3A9217	D30M3X D37M3X D45M3X	D30M3X D37M3X D45M3X	— — —	— — —
VW3A9208	— — —	— — —	D45N4 D55N4 D75N4	D45N4 D55N4 D75N4

<sup>1</sup> The symbol "\*" indicates the part of the number that varies with controller size or rating.

Figure 2: Altivar 61/71 Drive Controller with Conduit Kit Mounted

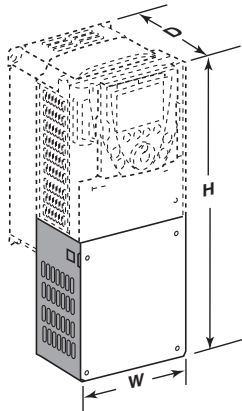


Table 3: Overall Product Dimensions with Conduit Kit Mounted

Conduit Kit Number <sup>1</sup>	Dimensions in. (mm)		
	Depth (D)	Weight (W)	Height (H)
VW3A9201 <sup>2</sup>	8.58 (217.93)	5.12 (130.05)	14.05 (356.87)
VW3A9202	9.06 (230.12)	6.10 (154.94)	15.23 (386.84)
VW3A9203	9.06 (230.12)	6.89 (175.01)	16.61 (421.89)
VW3A9204	10.08 (256.03)	8.27 (210.06)	15.61 (396.49)
VW3A9205	10.08 (256.03)	9.05 (229.87)	19.75 (501.65)
VW3A9206	10.97 (278.64)	9.45 (240.03)	21.54 (547.12)
VW3A9207	11.25 (285.75)	9.45 (240.03)	26.65 (676.91)
VW3A9217	11.25 (285.75)	12.6 (320.04)	29.65 (753.11)
VW3A9208	13.19 (335.03)	12.6 (320.04)	32.80 (833.12)

<sup>1</sup> When conduit kits VW3A9201–VW3A9205 are installed with the Profibus option card, a Type 1 Cover for Profibus Option Card may be required.

<sup>2</sup> Maximum depth with two option cards.

## CAUTION

### IMPROPER DRIVE OPERATION

- If the drive controller is turned off for a long period, the performance of the electrolytic capacitor will be reduced.
- Turn the drive controller on every two years for at least 5 hours to restore the performance of the capacitors, then check its operation.
- During this procedure, do not connect the drive controller directly to the line voltage. Gradually increase the voltage using an adjustable AC source.

**Failure to follow these instructions can result in equipment damage.**

## BUS VOLTAGE MEASUREMENT PROCEDURE

## ⚠ DANGER

### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Read and understand the safety instructions in “Before You Begin” on page 1 before performing this procedure.

**Failure to follow this instruction will result in death or serious injury.**

The DC bus voltage can exceed 1000 Vdc. Use a properly rated voltage sensing device when performing this procedure.

To measure the DC bus voltage:

1. Disconnect the drive controller’s power supply.
2. Wait 15 minutes to allow the DC bus capacitors to discharge.
3. Measure the voltage of the DC bus between the PA/+ and the PC/- terminals to verify that the voltage is less than 45 Vdc.

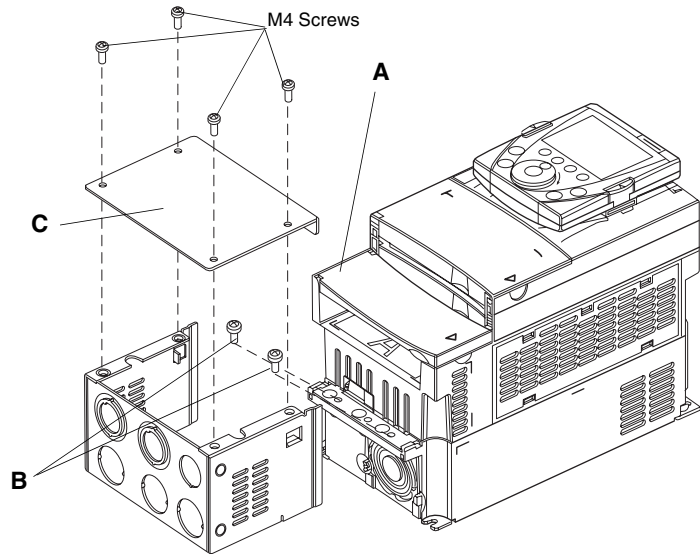
*NOTE: The PA/+ and the PC/- terminals are marked on the power terminal block. For additional information about the location of these terminals, refer to the Altivar 61 or Altivar 71 Installation Manual, 30072-451-57 and atv71e\_installation\_manual\_en\_v3, respectively.*

4. If the DC bus capacitors do not discharge completely, contact your local Schneider Electric representative. **Do not operate the drive controller and do not attempt to replace component parts.**

## INSTALLING CONDUIT KITS VW3A9201–VW3A9205

Before installing the conduit kit, perform the bus voltage measurement procedure described in “Bus Voltage Measurement Procedure” on page 3.

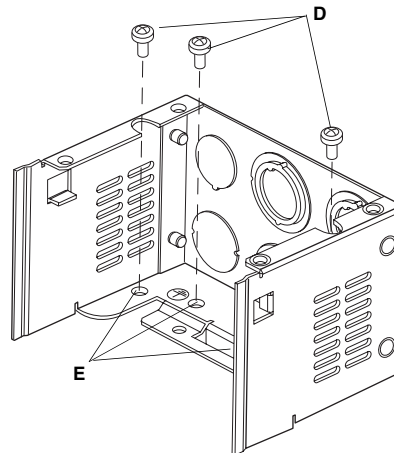
**Figure 3: Installation of Conduit Kits VW3A9201–VW3A9205**



To install conduit kit VW3A9201–VW3A9205:

1. Remove the power terminal protective cover.
  - a. Open the hinged portion of the cover by lifting the right edge (A).
  - b. Turn the gray screw counter-clockwise to the unlocked position.
  - c. Lift the protective cover (A) straight up and remove it from the drive controller.

**Figure 4: Ground Screws**



2. Remove the three green ground screws (D) from the drive controller and install them in the three holes (E) at the base of the conduit box. See Figure 4.
3. Attach the conduit box to the drive controller using the two M5 screws (B).

**Table 4: Recommended Torque Values**

Hardware size	Torque
M4, 8-32	13 lb-in (1.47 N•m)
M5	26 lb-in (2.94 N•m)

4. Make all power and control connections to the drive controller through the knockouts provided.  
*NOTE: Knockouts are provided for the control cables. Use either a hole saw or a punch to cut entries for power conduit passage.*
5. Attach the cover (**C**) to the conduit box using the four M4 screws.  
*NOTE: When installing with a Profibus option card, VW3A9201–VW3A9205 conduit boxes may require the attachment of a Profibus Type 1 cover. Refer to Altivar 61 and 71 Type 1 Cover for Profibus Option Card instruction bulletin, 30072-452-07, for more information.*
6. Torque the hardware to the values specified in Table 4.

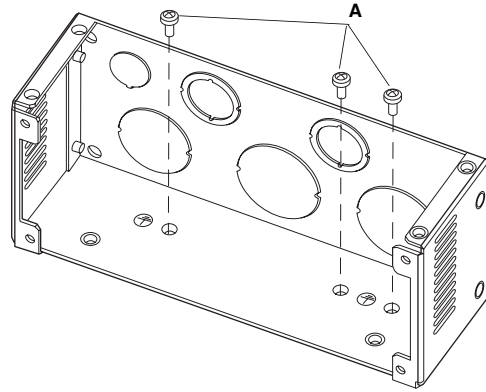
## INSTALLING CONDUIT KITS VW3A9206–VW3A9208, VW3A9217

Before installing the conduit kit, perform the bus voltage measurement procedure described in the “Measuring the DC Bus Voltage” on page 3.

To install the VW3A9206–VW3A9208 and VW3A9217 conduit kits:

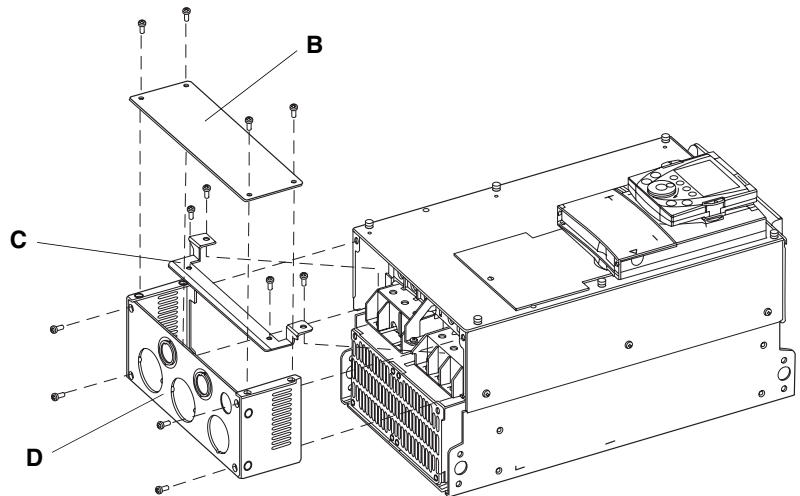
1. Remove the three green ground screws from the drive controller and install them in the base of the conduit box as shown in Figure 5.

**Figure 5: Ground Screws**



2. Using the M5 screws provided, attach the conduit support bar (C) to the holes on either side of the drive controller's power terminal, as shown in Figure 6.

**Figure 6: Installing the Conduit Box Kit**



3. Attach the conduit box (D) to the conduit box support bar (C) using two M4 screws, as shown in Figure 6.
4. Using the four screws 8-32 screws provided, attach the conduit box (D) to the holes on the drive controller's side panel flanges. See Figure 6.
5. Route the input, output, and control wires through the conduit knockouts provided. Attach all necessary connections to the drive controller.
6. Attach the cover (B) to the conduit box using four M4 screws. See Figure 6.
7. Torque the hardware to the values specified in Table 4 on page 5.

## PRODUCT SUPPORT

For assistance with the Altivar 61 and 71 conduit kit installation, contact the Product Support Group. The Product Support Group is staffed from 8:00 am until 6:00 pm Eastern time to assist with product selection, start-up, and diagnosis of product or application problems. Emergency phone support is available 24 hours a day, 365 days year.

Toll free: 888-SquareD (888-778-2733)

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