30072-451-87A
08/2007
Raleigh, NC, USA

Instruction Bulletin

Replaces 30072-451-87 dated 02/2007

Altivar® 61 and 71 Drive Controllers

Supplementary Instructions for Modbus®/Uni-Telway™ Card VW3A3303

Retain for future use.

OVERVIEW

This bulletin contains supplementary instructions and precautions for the Modbus/Uni-Telway Card VW3A3303. Use the information in this bulletin to update the *Altivar® 71 Modbus®/Uni-Telway ™Option Card Modbus Protocol VW3A3303 User's Manual*. The headings in this document reflect the chapter names and headings in the User's Manual.

The Modbus/Uni-Telway option card can be used on both the Altivar 61 and Altivar 71 drive controllers. The *Altivar 71 Modbus/Uni-Telway Option Card Modbus Protocol VW3A3303 User's Manual,* atv71_Modbus_Jbus_EN_V1*,* references procedures in various Altivar 71 drive documents. If you are installing the option card in an Altivar 61 drive controller, consult the documentation supplied with your Altivar 61 drive controller instead.

SAFETY INFORMATION

Note

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, or maintain it. The following special messages may appear throughout this document or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of either symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists, which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

BEFORE YOU BEGIN

Read and understand these instructions before performing any procedure on this drive controller.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Read and understand this manual before installing or operating the Altivar 61/71 drive controller. Installation, adjustment, repair, and maintenance must be performed by qualified personnel.
- The user is responsible for compliance with all international and national electrical code requirements with respect to grounding of all equipment.
- Many parts of this drive controller, including the printed circuit boards, operate at the line voltage. DO NOT TOUCH. Use only electrically insulated tools.
- 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.
- Install and close all covers before applying power or starting and stopping the drive controller.
- 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 provided on page 3, to verify that the DC voltage is less than 45 V. The drive controller 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.

⚠ WARNING

DAMAGED DRIVE CONTROLLER EQUIPMENT

Do not operate or install any drive controller that appears damaged.

Failure to follow this instruction can result in death, serious injury, or additional equipment damage.

⚠ WARNING

LOSS OF CONTROL

- The designer of any control scheme must consider the potential failure modes of control paths and, for certain critical control functions, provide a means to achieve a safe state during and after a path failure. Examples of critical control functions are emergency stop and overtravel stop.
- Separate or redundant control paths must be provided for critical control functions.
- System control paths may include communication links. Consideration must be given to the implications of unanticipated transmission delays or failures of the link.[1]
- Each implementation of an Altivar 61/71 Modbus/Uni-Telway option card must be individually and thoroughly tested for proper operation before being placed into service.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

[1] For additional information, refer to NEMA ICS 1.1 (latest edition), “Safety Guidelines for the Application, Installation, and Maintenance of Solid State Control” and to NEMA ICS 7.1 (latest edition), “Safety Standards for Construction and Guide for Selection, Installation and Operation of Adjustable-Speed Drive Systems.”

HARDWARE SETUP

Electrostatic precautions

⚠ CAUTION

STATIC SENSITIVE COMPONENTS

The Modbus/Uni-Telway option card can be damaged by static electricity. Observe the electrostatic precautions to the right when handling controller circuit boards or testing components.

Failure to follow this instruction can result in injury or equipment damage.

Observe the following precautions for handling static-sensitive components:

- Keep static-producing material such as plastic, upholstery, and carpeting out of the immediate work area.
- Store the Modbus/Uni-Telway card in its protective packaging when it is not installed in the drive controller.
- When handling the Modbus/Uni-Telway card, wear a conductive wrist strap connected to the card through a minimum of 1 megohm resistance.
- Avoid touching exposed conductors and component leads with skin or clothing.

Inspecting the Modbus/Uni-Telway Card

After receiving the Modbus/Uni-Telway card:

- Ensure that the catalog number printed on the Modbus/Uni-Telway card label is the same as that on the packing slip and corresponding purchase order. Contact your Schneider Electric representative if there are any errors.
- Remove the card from its packaging and inspect it for damage. If any damage is found, notify the carrier and your Schneider Electric representative.
- To store the card, replace it in its protective packaging and store it at -25 to +70 °C (-13 to +158 °F).

Switch coding

Coding the address

Refer to the address table in this section for more information about the 8 switch positions for configurable addresses.

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 2 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.
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.**

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 71 Installation Manual, atv71s_installation_manual_en_v1.

CONFIGURATION

Read and understand the following Warning safety message before configuring the drive controller.

⚠ WARNING

LOSS OF CONTROL

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- Separate or redundant control paths must be provided for critical control functions.
- System control paths may include communication links. Consideration must be given to the implications of unanticipated transmission delays or failures of a link.[1]
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Control in Drivecom profile via Modbus and reference switching at the terminals

Table 1 replaces the parameters table.

Table 1: Parameters

Parameter	Value	Comment
Profile	Non-separate profile	The command and the setpoint come from the same channel.
Setpoint 1 configuration	Network card	Setpoint 1 and command 1 come from the Modbus connection.
Setpoint 2 configuration	Analog input 1 on the terminals	Setpoint 2 and command 2 come from the input terminals.
Setpoint switching	Input LI5	Input LI5 switches the setpoint (1↔2) and the command.

Communication scanner

Refer to the *Altivar 71 Communication Parameters User's Manual* (atv71_parameters_en_V2), for a list of possible addresses.

PRODUCT SUPPORT

For information about products and services in your country, visit www.Telemecanique.com.

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