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Subject: **Procedure And/Or Report Material**

The following material resulting from the investigation under the above numbers is enclosed.

Issue

<u>Date</u>	<u>Vol</u>	<u>Sec</u>	<u>Pages</u>	<u>Revised Date</u>
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2016/02/29	2	21	Revised Description Page(s) 1,5,10	2019/06/14
2016/02/29	2	21	New Illustration(s) 13	2019/06/14
2016/02/29	2	21	New Test Record 8	2019/06/14

Please file revised pages and illustrations in place of material of like identity. New material should be filed in its proper numerical order.

NOTE: Follow-Up Service Procedure revisions DO NOT include Cover Pages, Test Records and Conclusion Pages. Report revisions DO NOT include Authorization Pages, Indices, Section General Pages and Appendixes.

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NBK File

Devices	Sec.	Report Date	Telemecanique Factory Code (+)	IC No.
ATV12 followed by H, followed by O or U, followed by 15, 18, 22, 37, 55 or 75, followed by M2, followed by X or blank, may be followed by S followed by three numbers.	19	2015-02-18	8B [8] (Batam) 01 [1] (Mie) 88 [9] (Suzhou)	752 394 521
ATVG60, ATVG80, ATV660...U, ATV680...U, ATV960...U, ATV980...U	20	2015-11-20	AUS or EL [4] (Vienna) 88 [9] (Suzhou)	521
Cat. No. ATV320 followed by one character, followed by two numbers, followed by one character, followed by one number, followed by one character, may be followed by three characters or numbers. Accessory Options for use with ATV320 Series Drives: OPTION ADAPTER - Cat. No.VW3A3600 Bracket for GV2P/ATV320***N4B direct mounting - Cat no. VW3A9921	21	2016-02-29	8B [8] (Batam) 01 [1] (Mie) 88 [9] (Suzhou)	752 394 521
Cat. No. VFS15 may be followed by S; followed by 2 or 4 or 6; followed by 002, 004, 007, 015, 022, 037, 055, 075, 110, or 150; followed by P, may be followed by L or M; may be followed by 1, may be followed by W; may be followed by 1 or 2 numbers.				

CERTIFICATE OF COMPLIANCE

Certificate Number 20190617-E116875
Report Reference E116875-20160229
Issue Date 2019-JUNE-17

Issued to: SCHNEIDER TOSHIBA INVERTER SAS
RUE ANDRE BLANCHET
27120 PACY SUR EURE, FRANCE

This certificate confirms that representative samples of POWER CONVERSION EQUIPMENT
See Addendum.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.


Standard(s) for Safety: UL 61800-5-1, Industrial Control Equipment.
UL 60947-4-1, Low-Voltage Switchgear and Controlgear – Part 4-1: Contactors and Motor-Starters – Electromechanical Contactors and Motor-Starters.

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program
UL LLC

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CERTIFICATE OF COMPLIANCE

Certificate Number 20190617-E116875
Report Reference E116875-20160229
Issue Date 2019-JUNE-17

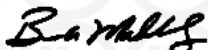
This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Cat. No. ATV320 followed by one character, followed by two numbers, followed by one character, followed by one number, followed by one character, may be followed by three characters or numbers.

Accessory Options for use with ATV320 Series Drives:
OPTION ADAPTER – Cat. No.VW3A3600
Bracket for GV2P/ATV320***N4B direct mounting – Cat no. VW3A9921

Cat. No. VFS15 may be followed by S; followed by 2 or 4 or 6; followed by 002, 004, 007, 015, 022, 037, 055, 075, 110, or 150; followed by P, may be followed by L or M; may be followed by 1, may be followed by W; may be followed by 1 or 2 numbers.

Cat. No. VFMB1 may be followed by S; followed by 2 or 4; followed by 002, 004, 007, 015, 022, 037, 055, 075, 110, or 150; followed by PL; may be followed by any combination of letters and numbers.



Bruce Mahrenholz, Director North American Certification Program
UL LLC

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D E S C R I P T I O N

PRODUCT COVERED:

Cat. No. ATV320 followed by one character, followed by two numbers, followed by one character, followed by one number, followed by one character, may be followed by three characters or numbers.

Accessory Options for use with ATV320 Series Drives:

OPTION ADAPTER - Cat. No.VW3A3600

Bracket for GV2P/ATV320*N4B direct mounting - Cat no. VW3A9921**

Cat. No. VFS15 may be followed by S; followed by 2 or 4 or 6; followed by 002, 004, 007, 015, 022, 037, 055, 075, 110, or 150; followed by P, may be followed by L or M; may be followed by 1, may be followed by W; may be followed by 1 or 2 numbers.

Cat. No. VFMB1 may be followed by S; followed by 2 or 4; followed by 002, 004, 007, 015, 022, 037, 055, 075, 110, or 150; followed by PL; may be followed by any combination of letters and numbers.

GENERAL:

These devices are open-type or enclosed Type 1 with conduit-box in option, three-phase output variable frequency, pulse width modulated inverters intended for use as variable speed motor controllers. A line choke is mandatory with 525-600 Volt versions of the drives.

RATINGS:

All Models with ATV320 prefix:

Ambient temperature 40°C for Enclosed Devices

Surrounding Air Temperature 50°C for open Type Devices

Input - 1 Phase 200 V / 240 V, 50/60 Hz

Output - 3 Phase, 0V to 240 V ac

For models rated up to 2.2kW: 0 - 800 Hz

Input - 3 Phase 200 V / 240V, 50/60 Hz.

Output - 3 Phase 0V to 240V ac

For models rated up to 15kW: 0 - 800 Hz

Input - 3 Phase 380 V / 480V, 50/60 Hz.

Output - 3 Phase 0V to 480 V ac

For models rated up to 15kW: 0 - 800 Hz

Input - 1 Phase 460 V / 480V, 50/60 Hz.

Output - 3 Phase 0V to 480 V ac

For models rated up to 7.5kW: 0 - 800 Hz

Input - 3 Phase 525 V / 600V, 50/60 Hz.

Output - 3 Phase 0V to 600 V ac

For models rated up to 15kW: 0 - 800 Hz

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

USL - Indicates investigation to U.S. National Standard
61800-5-1

Note: USL = United States Standards - Listed.

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

General - These devices are soft variable speed controllers for asynchronous motors.

- There are different chassis types.
- They are intended for use in industrial applications.

All spacings have been evaluated per UL 61800-5-1, AC mains of OVC III, altitude up to 2000m in environment of Pollution Degree 2.

=S= P/N are for drawings or computer engineering information (not for Field Representatives use).

These devices are provided with solid state motor overload protection including thermal memory, memory retention and speed sensitive circuitry for motor overload-temperature protection.

DESCRIPTIVE CONSIDERATIONS

There are five different frame sizes due to height of heat sinks and housing specifications.

The devices VFMB1S are identical to the devices VFS15S.

The descriptive portion of this Report is organized as below:

Part I - One phase line input drives - 200 V ac to 240 V ac
Part II - Three phase line input drives - 200 V ac to 240 V ac
Part III - Three phase line input drives - 380 V ac to 480V ac
Part IV - Three phase line input drives - 525 V ac to 600V ac
PART V - Accessory Options

MARKINGS (CONT'D):

25	<p>Accessories shall be marked with the identification of the equipment on which it is intended to be used.</p> <p>The accessory shall be marked with manufacturer's name and catalog number and provided with installation instructions</p>	G
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Marking Location	
<p>For marking locations identified below, "A" is the highest order of location, and "H" is the lowest order of location.</p> <p>At the option of the manufacturer, a higher order of location category is able to be used. The Locations in parentheses () are for Enclosed devices.</p>	
B	<p>Marking shall be visible</p> <ol style="list-style-type: none"> 1) When the enclosure cover is removed or the door is open; 2) When other devices are mounted nearby as intended; and 3) When devices are installed side by side with intended clearances. <p>The marking shall not be obscured by attachments such as a disconnect switch operating handle.</p>
D	<p>Marking is visible when the device is mounted singularly. The marking is able to be on the side of the device, and need not be visible when the device is mounted next to other devices.</p>
E	<p>Marking is able to be anywhere on the device and is not required to be visible after installation.</p>
G	<p>Marking is on the device or separate sheet provided with the device.</p>
H	<p>Marking is on wiring diagram or instructional manual shipped with the device or provided in electronic read-only digital media format, such as CD ROM, diskette or other media, provided with the device (it does not include web based delivery methods).</p>
<p>A cautionary or warning marking shall be prefixed with the word "CAUTION" or "WARNING" in English or French, respectively, in letters not less than 1/8 inch (3.2 mm) high. The remaining letters of such marking shall not be less than 1/16 inch (1.6 mm) high.</p> <p>Warning/Caution markings shall appear on the device or on a separable, self-adhesive permanent label that is shipped with the device. This should be attached to the device per the above requirements in the end installation.</p>	

Accessory markings:

Accessory VW3A9921 - Bracket for direct mounting GV2/ATV320***N4B

General - This accessory is required for directly mounting the GV2 Listed (NLRV) Manual Motor Controller or Listed (NKJH) GV2P** Type E Manual Self-Protected Combination Motor Controller to the ATV320U04N4B thru U40N4B (Frame 1B and 2B) drives when used with Listed (NKJH) accessory adaptor plate GV2AF5. Note: Upstream Branch Circuit Protection is still required when using the GV2 Listed Manual Motor Controller. Provided with installation instructions in ILL 13.

1. Zinc plated sheet steel - 1 mm thick with overall dimension - 45 mm wide by 120mm tall, with additional tabs and protrusions for securing the bracket to the drive and securing the controller to the bracket. Provided with an extruded threaded opening of 4.0mm diameter to secure controller to bracket with M4 screw and 4.0 mm threaded opening and M5, 12 mm long ground screw.



Altivar 320 / Altivar 32

Mechanical
adaptor for GV2
VW3A9921

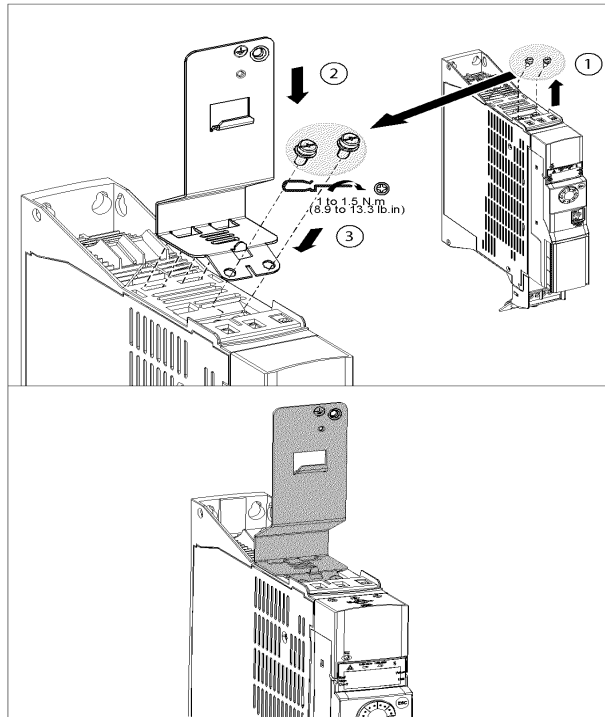
▲ ▲ DANGER

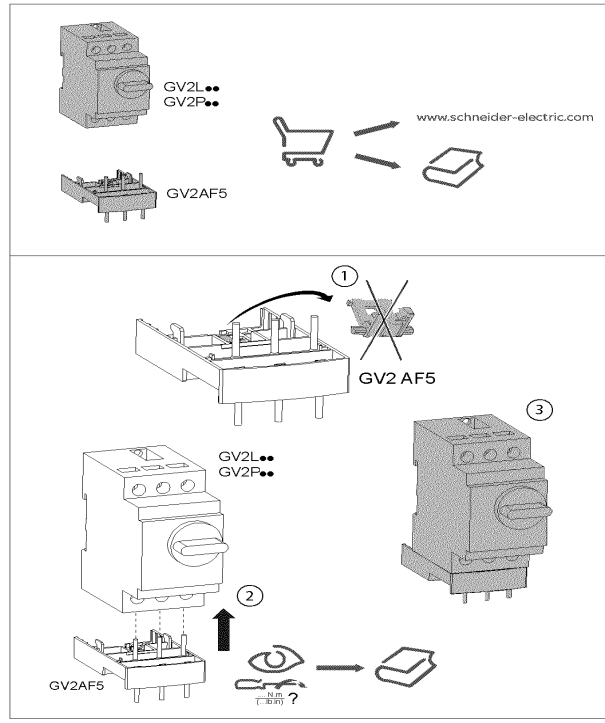
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

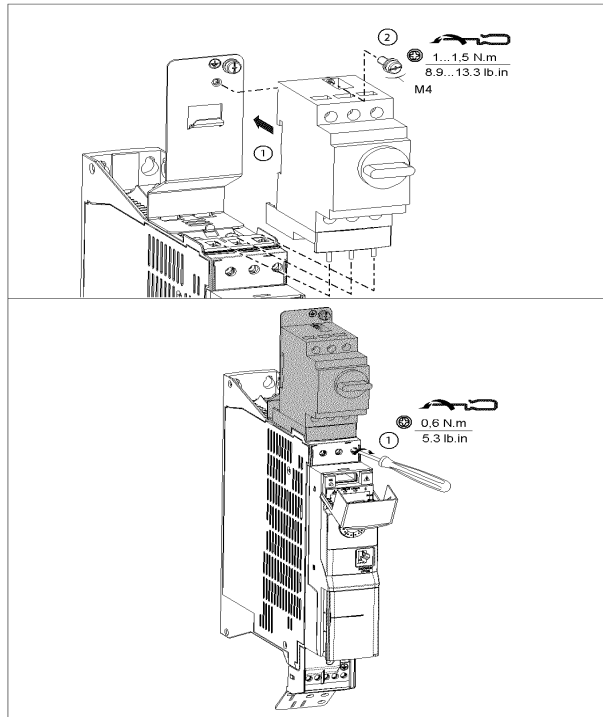
- Only appropriately trained persons who are familiar with and understand the contents of this manual and all other pertinent product documentation and who have received safety training to recognize and avoid hazards involved are authorized to work on and with this drive system. Installation, adjustment, repair, and maintenance must be performed by qualified personnel.
- The system integrator is responsible for compliance with all local and national electrical code requirements as well as all other applicable regulations with respect to grounding of all equipment.
- Many components of the product, including the printed circuit boards, operate with mains voltage. Do not touch. Use only electrically insulated tools.
- Do not touch unshielded components or terminals with voltage present.
- Motors can generate voltage when the shaft is rotated. Prior to performing any type of work on the drive system, block the motor shaft to prevent rotation.
- AC voltage can couple voltage to unused conductors in the motor cable. Insulate both ends of unused conductors of the motor cable.
- Do not short across the DC bus terminals or the DC bus capacitors or the braking resistor terminals.
- Before performing work on the drive system:
 - Disconnect all power, including external control power that may be present.
 - Place a "Do Not Turn On" label on all power switches.
 - Lock all power switches in the open position.
 - Wait 15 minutes to allow the DC bus capacitors to discharge. The DC bus LED is not an indicator of the absence of DC bus voltage that can exceed 800 Vdc.
 - Measure the voltage on the DC bus between the DC bus terminals (PA+ and PC-) using a properly rated voltmeter to verify that the voltage is <42 Vdc.
 - If the DC bus capacitors do not discharge properly, contact your local Schneider Electric representative. Do not repair or operate the product.
- Install and close all covers before applying voltage.

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

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this product.
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TEST RECORD NO. 8

SAMPLES:

Representative samples of the power conversion equipment, as indicated below and constructed as described herein, were submitted by the manufacturer for examination.

Bracket for GV2/ATV320***N4B direct mounting - Cat no. VW3A9921

GENERAL:

Only limited test were considered necessary for the addition of the Listed Accessory VW3A9921 which is used to mount the GV2 (manual motor controller or Type E combination motor controller) directly to the ATV320 Frame 1B and 2B drives with the Listed Accessory GV2-AF5 combination block.

The following tests were conducted.

Ac Or Dc Voltage Test	Cl 5.2.3.2
Breakdown Of Components Test - Standard Fault Current	Cl 5.2.3.6
Temperature Rise Test	Cl 5.2.3.8

The results of the examination have been reviewed and found to comply with the requirements in the Standard for Industrial Control Equipment, UL 61800-5-1. In addition the Temperature and dielectric test were also reviewed and found to comply with the requirements of UL 60947-4-1 Low-Voltage Switchgear and Controlgear - Part 4-1: Contactors and Motor-Starters - Electromechanical Contactors and Motor-Starters, 3rd Edition, revision date 2017-10-17

TEST RECORD SUMMARY:

The results of this investigation indicate that the products evaluated comply with the applicable requirements in UL 61800-5-1, First Edition, revised February 24, 2017, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Test Record by:

Tullio Ruscitti
Staff Engineer

Reviewed by:

Matt Mollen
Senior Staff Engineer

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