

Toshiba CV-1GAU Instruction Manual

Vacuum contactors 1.5kv - 2.5kv voltage class

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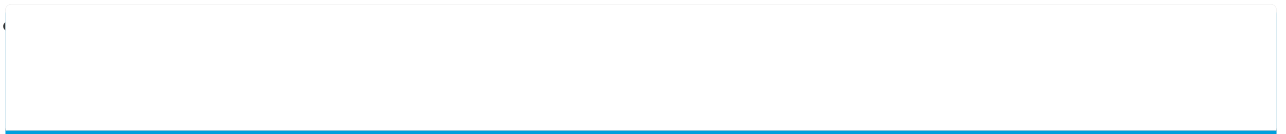
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TOSHIBA

INSTRUCTION MANUAL

INSTALLATION - OPERATION - MAINTENANCE

CV-1GAU and CV-1HAU Vacuum Contactors

1.5kV - 2.5kV Voltage Class

APPLICABLE MODEL NUMBERS

CV-1GAU

CV-1GAU-P2

CV-1GAUMIL

CV-1GAU-C

CV-1HAU

CV-1HAU-P2

CV-1HAUMIL

CV-1HAU-C

Issued:9/01

Manufactured in the USA

VF010H10

Document:

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Related Manuals for Toshiba CV-1GAU

[Industrial Electrical Toshiba CV-10HA Instruction Manual](#)

High-voltage vacuum contractors, motor & transformer application,
12/15kv-320a-5/4ka (20 pages)

[Industrial Electrical Toshiba tosvert VF-SXN Instruction Manual](#)

Three phase 400v 1.5-15 kw compact inverter (115 pages)

[Industrial Electrical Toshiba HCV-7HA Instruction Manual](#)

Vacuum contactor, 7.2kv-400a - 7.2ka (31 pages)

[Industrial Electrical Toshiba HCV-5HA Manual](#)

Instruction manual medium-voltage vacuum contactor (26 pages)

Summary of Contents for Toshiba CV-1GAU

[Page 1](#) VF010H10 Document: TOSHIBA INSTRUCTION MANUAL INSTALLATION - OPERATION - MAINTENANCE CV-1GAU and CV-1HAU Vacuum Contactors 1.5kV - 2.5kV Voltage Class APPLICABLE MODEL NUMBERS CV-1GAU CV-1GAU-P2 CV-1GAUMIL CV-1GAU-C CV-1HAU CV-1HAU-P2 CV-1HAUMIL CV-1HAU-C Issued:9/01 Manufactured in the USA...

[Page 2](#) TOSHIBA INSTRUCTION MANUAL For the Installation, Operation and Maintenance of CV-1GAU Vacuum Contactor, 1.5kV - 2.5kV 160A CV-1HAU Vacuum Contactor, 1.5kV - 2.5kV 320A Never attempt to install, operate, maintain or dispose of this equipment until WARNING you have first read and understood all of the relevant product warnings and user directions that are contained in this Instruction Manual.

[Page 3: Safety](#)

SAFETY Page 1 IMPORTANT MESSAGES Read this manual and follow its instructions. Signal words such as DANGER, WARNING and CAUTION will be followed by important safety information that must be carefully reviewed. Indicates a situation which will result in death, serious injury, and severe DANGER property damage if you do not follow instructions.

[Page 4](#) Be trained in rendering first aid. SAFETY CODES Toshiba CV-1GAU and CV-1HAU vacuum contactors are designed and built in accordance with NEMA ICS 3-2, UL 508, CSA 22.2-14 and IEC 60470. Installations must comply with all applicable state and local codes, adhere to all applicable National...

[Page 5](#) SAFETY Page 3 HAZARDOUS VOLTAGE will cause severe injury, death, fire, explosion and DANGER property damage. • Turn off and lock out Primary and Control Circuit Power before servicing. • Keep all panels and covers securely in place. • Never Defeat, Modify, or Bypass any Safety Interlocks •...

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[Page 7](#) TABLE OF CONTENTS Page 5 Vacuum Check20 - Toshiba Portable
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Lubrication

[Page 8: Introduction](#)

INTRODUCTION Page 6 It is the intent of this manual to provide a guide for safely installing, operating and maintaining Toshiba vacuum contactors. This manual consists of a section of general safety instructions and is marked throughout with warning symbols. Read this manual thoroughly before installation, operation and maintenance of this equipment.

[Page 9: General Description](#)

GENERAL DESCRIPTION Page 7 COMPONENTS The information presented in this manual is common to all models unless otherwise noted. The Toshiba CV-1GAU and CV-1HAU vacuum Refer Ratings Tables contactors described in this manual are suitable SPECIFICATION section of this manual for use on systems of 1.5kV, 160A and 1.5kV,...

[Page 10: Indicators And Controls](#)

GENERAL DESCRIPTION Page 8 INDICATORS AND CONTROLS The following indicator is provided: On-Off Indicator - Indicates if the contactor is OFF (Green) or ON (Red). When the indicator reads OFF, the main contacts of the contactor are open. When the indication is ON, the main contacts are closed.

[Page 11: Receiving, Inspection And Handling](#)

This may cause damage. File a claim with the carrier for any damaged or missing items and immediately notify the nearest Toshiba representative. Do not install or energize WARNING equipment that has been damaged. Damaged...

[Page 12: Installation](#)

SPECIFICATION Section of this manual for equipment failure. information on contactor ratings and typeforms. Toshiba CV-1GAU and CV-1HAU contactors are Do not exceed the ratings intended for use in usual service conditions as specified on the contactor DANGER defined in NEMA ICS 1.

[Page 13: Mounting The Contactor](#)

INSTALLATION Page 11 MOUNTING THE CONTACTOR Use two wrenches to torque CAUTION the connection to prevent The contactor is designed to mount to a flat, applying excessive force to grounded metal, vertical surface. If there are the terminal, which can any noticeable gaps between the contactor and damage the frame.

[Page 14: Pre-Energization Check](#)

PRE-ENERGIZATION CHECK Page 12 GENERAL ELECTRICAL CHECKS BEFORE ENERGIZING THE CONTACTOR for Electrical shock hazard. WARNING the first time, follow the procedure below to verify Do not touch energized that the equipment is properly installed and components during a test functional.

[Page 15: Operation](#)

OPERATION Page 13 MOVING THE CONTACTOR FROM THE OFF TO THE ON POSITION TO MOVE THE CONTACTOR TO THE ON POSITION: 1. Turn ON circuit control power to move the contactor to the ON position 2. Verify that the position indicator reads ON (Red).

[Page 16: Configuration Of The Drive Unit](#)

OPERATION Page 14 AC/DC CONTROL SOURCE 100-240V AC/DC (COMMON) CV-1GAU-C, CV-1HAU-C 460-550 VAC (NO) (NC) (NO) (NC) (NO) (NC) (NO) (NC) AUX: AUXILIARY OPTIONAL CONTACTS TIMER VOLTAGE OSCILLATION POWER DETECTION SWITCHING Figure 11 - Configuration of the Drive Unit...

[Page 17: Maintenance](#)

MAINTENANCE Page 15 MAINTENANCE PROGRAM MAINTENANCE RECORD In order to ensure continued reliable and safe Keep a permanent record of all maintenance operation of the equipment, a program of work. At a minimum, this record should include periodic maintenance must be established. information on: Operating and environmental conditions will usually dictate the frequency of inspection...

[Page 18: Inspection And Maintenance Types](#)

MAINTENANCE Page 16 Table 1 - Tightening Torque RECOMMENDED INSPECTION AND Screw Nominal Tightening Torque MAINTENANCE TYPES Diameter NOTE: Refer to the SAFETY section of this 15-20 kgf-cm (13-17 in-lb) manual for important information. 30-40 kgf-cm (26-34 in-lb) 1. Acceptance Inspection This inspection confirms that the contactor is 50-65 kgf-cm (43-56 in-lb) complete,...

[Page 19](#) Table 3. Vacuum Apply 10kV AC for 1 Check vacuum level If breakdown occurs, level. minute. by withstand voltage contact Toshiba. test. Lubrication See Electrical Service Check grease on Lubricate if Life (Page 22). interrupter shaft and necessary. bearing washer...

[Page 20](#) Wipe with a clean, Frame and matter or dust, foreign matter or dry cloth. If Flanges damage breakage. damaged, contact Toshiba. Control Auxiliary See Electrical Service Contact wear and Replace if wear or Circuits Switch Life (Page 22) and wipe. Make sure there damage is Table 3.

[Page 21](#) Point Dielectric Measure Measure dielectric 10kV AC for 1 minute. If breakdown occurs, Strength main circuit strength between contact Toshiba. phases and between circuits and ground. Open/Close Perform open/close If not normal, check Operation operation by electric and repair. If...

[Page 22: Vacuum Check](#)

TEST EQUIPMENT: checker or AC hi-pot machine. Connect all the load side primary terminals together and Toshiba offers a compact vacuum checker (Type to the ground terminal of the vacuum CI35-1D, Figure 12) which enables a quick and checker or AC hi-pot machine.

[Page 23: Application Of Test Voltage For Vacuum Check](#)

MAINTENANCE Page 21 CRITERIA: 1 minute 1. If a current flow above 5 milliamperes is 10kV AC observed or if breakdown occurs, one or (14kV DC) more of the interrupters has insufficient vacuum and must be replaced. Exception: If the current exceeds 5 Voltage milliamperes the first time the voltage is brought up, reduce the voltage to zero and...

[Page 24: Electrical Service Life](#)

To determine electrode wear, measure the and apply a thin layer of Toshiba B7 grease. distance between the lever and washer in the closed (ON) state, as shown in. This dimension is called the "wipe".

[Page 25: Storage And Disposal](#)

STORAGE AND DISPOSAL Page 23 STORAGE If the circuit breaker is to be stored for any length of time prior to installation, the following precautions should be taken. 1. The original packing should be restored, if possible. 2. Do not subject the equipment to moisture or sunrays.

[Page 26: Specifications](#)

SPECIFICATIONS Page 24 Table 4 - Ratings Type Form CV-1GAU CV1-HAU CV-1GAU-P2 CV1-HAU-P2 Rated Insulation Voltage Rated Operation Voltage 1.5/2.5 1.5/2.5 Rated Current Rated Frequency 50/60 50/60 Rated Insulation Level - A kV Rated Insulation Level - Im kV Rated Making Capacity...

[Page 27](#) SPECIFICATIONS Page 25 Table 4 - Ratings cont. Type Form CV-1GAUMIL CV1-HAUMIL CV-1GAU-C CV1-HAU-C Rated Insulation Voltage Rated Operation Voltage 1.5/2.5 1.5/2.5 Rated Current Rated Frequency 50/60 50/60 Rated Insulation Level - AC Rated Insulation Level - Imp Rated Making Capacity...

[Page 28: Warranty And Limitation Of Liability](#)

WARRANTY AND LIMITATION OF LIABILITY Page 26 Toshiba International Corporation ("Company") warrants that all equipment and parts described herein will be free from defects in materials and workmanship. THIS WARRANTY WILL EXPIRE EIGHTEEN (18) MONTHS AFTER THE DATE ON WHICH SUCH EQUIPMENT AND PARTS (EXCLUDING REPAIRED OR REPLACEMENT...

[Page 29](#) TOSHIBA TOSHIBA INTERNATIONAL CORPORATION 13131 W. Little York Road,

Houston, TX 77041, U.S.A. Tel: (713) 466-0277 Fax: (713) 466-8773...

This manual is also suitable for:

[Cv-1gau-p2Cv-1gaumiCV-1gau-cCv-1hauCv-1hau-p2Cv-1haumi](#) ... [Show all](#)