Toshiba APOGEE FLN APG001Z Function Manual

Option unit for tosvert vf-ps1 series inverter

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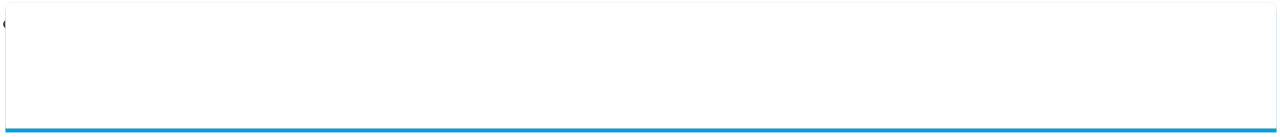

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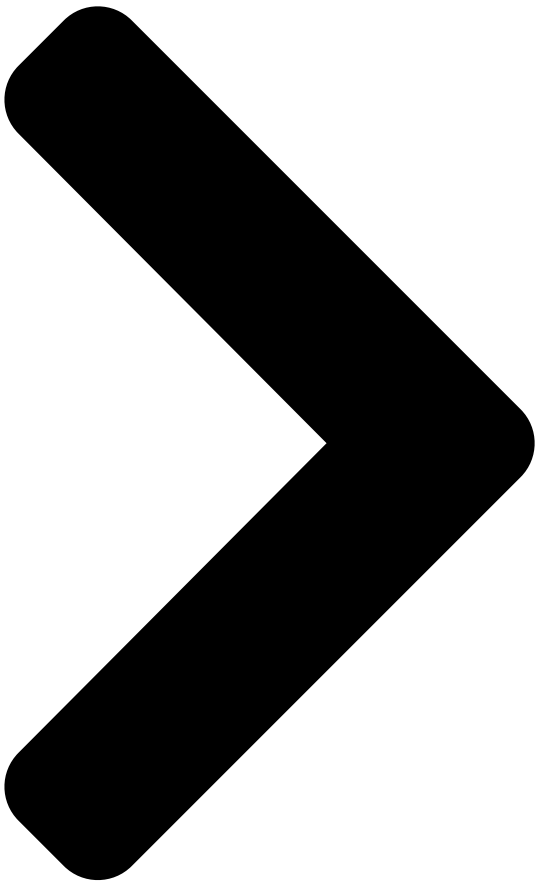

TOSHIBA

TOSVERT VF-PS1 series
APOGEE
FLN option unit Function Manual

®

1. Make sure that this instruction manual is delivered to the end user of APOGEE ® FLN option unit.
2. Read this manual before installing or operating the APOGEE ® FLN option unit. Keep it in a safe place for reference.
3. All information contained in this manual are subject to change without notice. Please confirm the latest information on our web site.

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Related Manuals for Toshiba APOGEE FLN APG001Z

Controller Toshiba APG001Z Installation & Operation Manual

Interface card option addendum (16 pages)

DC Drives Toshiba APG001Z Instruction Manual

Apogee fln option unit (15 pages)

Recording Equipment Toshiba TCB-IFMB641TLE Installation Manual

Modbus interface (12 pages)

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Wireless interface for air to water heat pump (20 pages)

Recording Equipment Toshiba GR 200 Series Instruction Manual

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Recording Equipment Toshiba RAV-DXC010 Installation Manual

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Recording Equipment Toshiba TCS-NET Setting Tool Manual

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General purpose interface (38 pages)

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Multi port flow selector unit (32 pages)

Recording Equipment Toshiba TCB-IFDMX01UP-E Manual

Vrf dx coil interface (58 pages)

Recording Equipment Toshiba W-705 Service Manual

Video cassette recorder (132 pages)

Recording Equipment Toshiba OIS PLUS Series Manual

Operator interface stations (24 pages)

Recording Equipment Toshiba W-602C Service Manual

Video cassette recorder (92 pages)

Recording Equipment Toshiba RBM-Y0384FUL Installation Manual

Single port flow selector unit long piping model (28 pages)

Summary of Contents for Toshiba APOGEE FLN APG001Z

Page 1 E6581542① TOSVERT VF-PS1 series APOGEE FLN option unit Function Manual ® APG001Z NOTICE 1. Make sure that this instruction manual is delivered to the end user of APOGEE ® FLN option unit. 2. Read this manual before installing or operating the APOGEE ® FLN option unit. Keep it in a safe place for reference.

Page 2 E6581542① Introduction ® Thank you for purchasing the APOGEE FLN option unit (APG001Z) for VF-PS1 series inverter. ® Before using APOGEE FLN option unit, carefully read this function manual in order to completely and correctly utilize its excellent performance. After reading this function manual, please keep it handy for future reference. For details of its general

handling, see an instruction manual attached with the option unit.

Page 3: Table Of Contents

E6581542① Table of Contents OVERVIEW .....3 NAMES AND FUNCTIONS .....3 2.1. Outline .....3 ® 2.2. APOGEE FLN Connector .....3 2.3. LED indicator.....4 VF-PS1 PARAMETERS.....5 3.1. Communication parameters.....5 3.2. Network Baudrate (f831) .....6 3.3. Network error detection (f832,f851,f852) .....6 3.4. Reset to factory defaults (f833) .....6 3.5.

Page 4: Overview

E6581542① 1. Overview ® The APOGEE FLN interface (APG001Z) allows the VF-PS1 inverter to be connected into a ® APOGEE FLN network. 2. Names and functions The drawing below shows names and functions of main parts. 2.1. Outline Connector to the inverter Don't use this connecter Don't use this switch Panel mounting tabs...

Page 5: Led Indicator

E6581542① 2.3. LED indicator The LED shows the present status of the network and error. ■Layout of LED The option has two LEDs. Those function are below table. (Green) (Red) State LEDs Comment COM LED: OFF APG001Z failure. ERR LED: Flashing 5 times in 1 second Communication loss detected.

Page 6: Vf-Ps1 Parameters

E6581542① 3. VF-PS1 Parameters 3.1. Communication parameters Set up the inverter parameters as follows. To update, reset of inverter. If these parameters are not set to correct value, this unit can not work normally. Commu Factory Title nication Function Description setting 0: 9600bps,1: 4800bps,2: 9600bps 3: 19200bps,4: 38400bps,...

Page 7: Network Baudrate (F831)

E6581542① 3.2. Network Baudrate (f831) Set the network baud rate to f831. Set the same baud rate data in the network. 3.3. Network error detection (f832,f851,f852) Set the network communication loss action time to f832. The network loss action function starts from receiving the properly frame message. The action of the network communication loss is set by f851.

Page 8: Apg001Z Point Summaries

E6581542① 4. APG001Z Point Summaries This database features 85 logical points: 24 Logical Analog Inputs (LAI), 19 Logical Analog Outputs (LAO), 24 Logical Digital Inputs (LDI) and 18 Logical Digital Outputs (LDO). These points configure, control or monitor the operation of the Drive. (Note)"PointName"...

Page 9 E6581542① Point Point Point Factory Eng. Slope Intercept Number Type Name Default Units Text Test AO 1 COMMAND AO 2 COMMAND (RST RUN TIME) RESET RESET KWH RESET PRC PID GAIN PRC PID ITIM PRC PID DTIM (PRC PID DFIL) LOCK PANEL UNLOCK LOCK...

Page 10: Logical Analog Input (Lai) Summary

E6581542① (Note1) Be careful in use of point number 31 and 32 about the following. Warning This option designs the unit of "Acceleration/deceleration time" in 0.1sec. Please do not set "10:Acceleration/deceleration time setting 0.01 sec.~600.00sec". in Factory default setting (typ=10). A unit of "Acceleration/deceleration time setting"...

Page 11: Lai Point Descriptions

E6581542① 4.1.1. LAI Point Descriptions Table 3 Logical Analog Input (LAI) Point Descriptions Point Point Description Number Name FREQ OUTPUT The output frequency applied to the motor, in Hertz. The ratio of output frequency or speed to the corresponding vl(base PCT OUTPUT frequency).

Page 12: Logical Analog Output (Lao) Summary

E6581542① 4.2. Logical Analog Output (LAO) Summary Logical Analog Output (LAO) points are used for setting and monitoring control points such as the drive's frequency command and configuration parameters. The APG001Z supports 19 different logical analog output points (15 of them are for the VF-PS1's parameters and commands, while other 4 special points are

reserved for maintaining compliance).

Page 13: Lao Point Descriptions

E6581542① 4.2.1. LAO Point Descriptions Table 5 Point Descriptions Logical Analog Output (LAO) Point Point Description Number Name The FLN address of the drive. It can be set from the FLN network and by CTLR ADDRESS the panel. *1:f834 APPLICATION The Application ID for APG001Z.

Page 14: Logical Digital Input (Ldi) Summary

E6581542① 4.3. Logical Digital Input (LDI) Summary Logical Digital Input (LDI) points are used for drive status monitoring such as terminal ON/OFF conditions and fault status. The APG001Z supports 24 different logical digital input points. All LDI points support COV (LDI points are capable of being characterized). LDI points will respond to write point and memorize point commands, but will not change their actual values or indicate override active.

Page 15: Ldi Point Descriptions

E6581542① 4.3.1. LDI Point Descriptions Table 7 Point Descriptions Logical Digital Input (LDI) Point Point Description Number Name FWD.REV Indicates the rotational direction of the motor, regardless of control source. STOP.RUN Indicates the run status of the drive, regardless of control source. EXT1.2 ACT Indicates whether channel 1 or channel 2 is the active control source.

Page 16: Logical Digital Output (Ldo) Summary

E6581542① 4.4. Logical Digital Output (LDO) Summary Logical Digital Output (LDO) points are used for executing drive commands such as RUN/STOP and trip clear. The APG001Z supports 18 different logical digital output points (17 among them are for drive control, one special point is reserved for maintaining compliance).

Page 17: Ldo Point Descriptions

E6581542① 4.4.1. LDO Point Descriptions Table 9 Logical Digital Output (LDO) Point Descriptions Point Point Parameter Number Name Commanded from the FLN network to change the rotational direction of the CMD FWD.REV drive. This command is active only if the drive is configured for control from the FLN network.

Page 18

E6581542① Commanded from the FLN network to temporarily "steal" input setpoint control of the drive from its normal source and place it under the FLN network control. This functionality is analogous to placing the drive in HAND mode at the FLN LOC REF panel, with the setpoint control being taken from the FLN network instead.

Page 19: Fln P1 Error Codes

E6581542① 4.5. FLN P1 Error Codes When an operation as a result of a P1 command fails, an error code is returned with the NAK. Below is a list of all possible error codes that can be returned by a FLN device. Table 10 FLN P1 Error Code Error Code...

Page 20: Mailbox Function Points

E6581542① 5. Mailbox Function Points ® Using below APOGEE FLN points, inverter parameters can be read and written. Table 11 VF-PS1 Parameter Access Point Table Point Point Point Note Number Type Name The communication number (hex.) of the access parameter is set. MBOX PARAM Refer to “5.1”...

Page 21: Parameter Data

E6581542① 5.1. Parameter data It is explanation by the reference method of the list of parameters of the VF-PS1 series as follows. For communication purposes, see the parameter list on inverter's instruction manual regarding the communication number, adjustment range and so forth. <Example of excerpts from the inverter’s instruction manual>...

Page 22: Frame Counter Monitor

E6581542① 6. Frame counter monitor Valid and invalid frame counter can be monitored by the drive monitor function. Please refer to “Monitoring the operation status” of the drive instruction manual about the detail. Press “MODE” key twice. Item display Description operation display

The operation frequency is displayed (Operation at...

Page 23: Vf-Ps1 Alarm Code

E6581542① 7. VF-PS1 Alarm code Table 12 ALARM WORD 1(Pno.88) Table Remarks Specifications (Code displayed on the panel) Over-current alarm Normal Alarming flickering flickering Inverter overload alarm Normal Alarming flickering Motor overload alarm Normal Alarming flickering Overheat alarm Normal Alarming flickering Overvoltage alarm Normal...

Page 24: Vf-Ps1 Fault Code

E6581542① 8. VF-PS1 Fault code Table 14 VF-PS1 Fault Code Table (Pno.90,91,92) Data Data Description Display (Dec) (Hex) 0 No error nerr 1 Over-current during acceleration 2 Over-current during deceleration 3 Over-current during constant speed operation 4 Over-current in load at startup 5 U-phase arm overcurrent ocai 6 V-phase arm overcurrent...

Page 25: Unusual Diagnosis

E6581542① 9. Unusual diagnosis The VF-PS1 is able to install two kind options. The option error message is depended on the position of the option under or panel side. 9.1. Option error The error message is displayed when there is hardware error, software error or lose of connection of wire.

Page 26: Command & Setpoint Selection (Local/Remote)

E6581542① 10. Command & Setpoint selection (Local/Remote) Indication to display Local/Remote mode is on the inverter unit (Refer to the inverter ® instruction manual for details). APOGEE FLN option command and setpoint are activated on Remote mode. Inverters have some switches to select the command and setpoint location. Following figure shows the diagram.

Page 27 E6581542① < Example> The example below shows how to configure the VF-PS1 for local/remote operation. F terminal..... Operating command R terminal ....The APOGEE ® FLN local/remote (Terminal in this example) switching RR/S4 terminal..Operation frequency command <Wiring> VF-PS1 Variable resistor for adjustment 10k ohm RR/S4 Operation command...

Page 28: Specifications

E6581542① 11. Specifications < Environmental specification > Item Specification A P G 0 0 1 Z M o d e l n u m b e r Service environment Conforms to VF-PS1 Conforms to VF-PS1 A m b i e n t t e m p e r a t u r e Storage temperature Conforms to VF-PS1 Relative humidity...