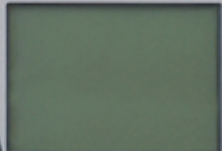




TOSHIBA



F1

F2

F3

F4

STOP
RESET

RUN

ESC

PRG
PCV

VF-AS1

3PH-380/480V
3.7kW/5HP

◆ 危険

- けが、感電、火災の恐れがあります。
- 取扱説明書の注意事項を熟読すること。
 - 必ず安全作業法を厳守し、安全確保を怠らないこと。
 - 修理時、接地をおこなうこと。

▲ DANGER

- Risk of injury, electric shock or fire.
- Read the instruction manual.
 - Do not open the cover while power is applied or 15 minutes after power has been removed.
 - Ensure proper earth connection.

Toshiba TOSVERT VF-AS1 Function Manual

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[1 The Details of an Error Code](#)

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[Download this manual](#)

See also: [Function Manual](#) , [Instruction Manual](#)



1. Make sure that this instruction manual is delivered to the end user of the CC-Link option for the VF-AS1.

2. Read this manual before installing or operating the CC-Link option for the VF-AS1. And keep it in a safe place for reference.

*The data given in this manual are subject to change without notice.

TOSVERT VF-AS1

Option Function Manual

CCL001Z

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Related Manuals for Toshiba TOSVERT VF-AS1

[Inverter Toshiba TOSVERT VF-AS1 Instruction Manual](#)

High-performance inverter (328 pages)

[Inverter Toshiba TOSVERT VF-AS1 Instruction Manual](#)

(326 pages)

[Inverter Toshiba TOSVERT VF-AS1 Instruction Manual](#)

High-performance inverter (319 pages)

[Inverter TOSHIBA TOSVERT VF-AS1 Instruction Manual](#)

The new high-performance inverter tosvert (313 pages)

[Inverter Toshiba Tosvert RS485 Instruction Manual](#)

Rs485 communication function (73 pages)

[Inverter Toshiba TOSVERT VF-AS1 Series Function Manual](#)

Ethernet/ip option unit (49 pages)

[Control Systems Toshiba TOSVERT VF-PS1 Instruction Manual](#)

Pid control (31 pages)

[Inverter Toshiba TOSVERT VF-AS1 Instruction Manual](#)

Cc-link ccl001z1 (22 pages)

[Inverter Toshiba TOSVERT VF-AS1 Instruction Manual](#)

High performance (19 pages)

[Media Converter Toshiba TOSVERT VF-AS1 Instruction Manual](#)

Expansion io card option 2 (19 pages)

[Inverter Toshiba TOSVERT VF-AS1 Instruction Manual](#)

(18 pages)

[Inverter Toshiba TOSVERT VF-AS1 Option Instruction Manual](#)

(18 pages)

[Inverter Toshiba TOSVERT VF-AS1 Instruction Manual](#)

Heatsink outside mounting kit (14 pages)

[Inverter Toshiba TOSVERT VF-AS1 Instruction Manual](#)

Light-load high-speed operation (11 pages)

[Power Supply Toshiba TOSVERT VF-AS1 Instruction Manual](#)

Commercial power supply backup and commercial power supply/inverter switching (10 pages)

[Control Unit Toshiba VFAS1 Instruction Manual](#)

Motor control (9 pages)

Summary of Contents for Toshiba TOSVERT VF-AS1

Page 1 E6581288© TOSVERT VF-AS1 Option Function Manual CCL001Z NOTICE 1. Make sure that this instruction manual is delivered to the end user of the CC- Link option for the VF-AS1.
2. Read this manual before installing or operating the CC-Link option for the VF- ...

Page 3 E6581288© Introduction Thank you for purchasing a "CC-Link Option (CCL001Z)" for TOSVERT VF-AS1 inverter. This option can connect with open field network CC-Link and data communications with the CC-Link master through installing this option in the VF-AS1 and using it. Besides this instruction manual, the "CC-Link option Instruction Manual"...

[Page 4: Table Of Contents](#)

E6581288① – Table of contents – 1. Overview
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4 3.1. Set the station No. and baud rate
4 3.2. About indicator of LED
4 4. Functions
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[Page 5: Overview](#)

E6581288① 1. Overview This option allows the VF-AS1 inverter to be connected into a CC-Link network. CC-Link supports a maximum of 42 nodes, allowing for the Master unit and this option is based on CC-Link Ver.1.10. The CCL001Z is able to operate RUN/STOP, monitor the status of the inverter, set the inverter's parameter and etc.

[Page 6: Name Of Functions Of Main Parts](#)

E6581288① 3. Name of functions of main parts 3.1. Set the station No. and baud rate For the setting station number or communication speed to take effect, power needs to be turned off and then turned back on. x10 x1 BAUD RATE ...

[Page 7](#) E6581288① Layout of LED ■ POWER L.RUN L.ERR Behavior of LED Status of LED Cause L.RUN L.ERR Normal communication is made but CRC error has occurred ● ◎ ◎ ◎ due to noise. ● ◎ ◎ ○ Normal communication Hardware fault ●...

[Page 8: Functions](#)

E6581288① 4. Functions This option is a communication interface unit that allows the PLC program to operate, monitor and set the parameter of the inverter as a remote station of CC-Link. It is able to communicate with a maximum speed of 10Mbps not only transmitting bit data but also by word data.

[Page 9: Inverter Parameter \(Relate To The Cc-Link\)](#)

E6581288① 4.2. Inverter parameter (relate to the CC-Link) Title Function Description f850 Disconnection detection to 100.0 sec. extended time Inverter operation at Stop and Communication release (by cmod , fmod) f851 None (continued operation) disconnection Deceleration stop Coast stop Network error(err8 trip) Preset speed operation (by f852 setting) Preset speed operation...

[Page 10: Basic Functions](#)

E6581288① 4.3. Basic functions This clause shows the basic function of this CC-Link option using by CC-Link communication. 4.3.1. Run and frequency operation command The PLC program can operate the inverter to run, stop, set the operation frequency and change the parameters. If the PLC control these operations, select the command mode and the frequency setting mode.

[Page 11: Communication Specification](#)

E6581288① 4.4. Communication specification This option occupies one station area of the buffer memory of the PLC. There are remote I/O (RX, RY both 32 bits) and the remote register (RWw, RWr both 4 word) in the communication data for one station area. List of remote I/O Inverter (Slave) →...

[Page 12: Input/Output Signal](#)

E6581288① 4.4.1. Input/Output signal *The default value is 0(zero) of RY and RX. (1) Output signal Master unit -> Inverter The output signal from the master unit is shown. (The input signal to the inverter.) Device No. Signal Description OFF: Stop command ON: Forward run command RYn0 Forward run command...

[Page 13](#) E6581288① Input function selection from the CC-Link. ■ The function numbers selection of the RYn2 - RYn8 function valid from the command of the CC-Link are following boldface numbers. Positive Negative Speed Torque Function logic logic control control control

No function is assigned ●/●...

[Page 14](#) E6581288① (2) Input signal Inverter -> Master unit The following shows input signals to the master unit. (The output signals for the inverter.) Device No. Signal name Description
OFF: Other than forward running (during stop or reverse rotation) RXn0 Forward running ON :
Forward running OFF: Other than reverse running (during stop or forward rotation) RXn1...

[Page 15: Remote Register Assignment](#)

E6581288① 4.4.2. Remote Register Assignment Divide the monitor code (RWw n) into half and select the first monitor description (RWr n) from the lower 8 bits and the second monitor description (RWr n) from the higher 8 bits. (Example) When output voltage is selected for the first monitor and output torque is selected for the second monitor.

[Page 16](#) E6581288① (2) Remote register (Inverter -> Master) RWr signal Address Signal name Description When RYnC is on, the monitored value specified to the lower 8 bits of the RWr n First monitor monitor code (RWwn) is set. When "0" is set to the higher 8 bits of the monitor code (RWwn), the current Second monitor output frequency is always set.

[Page 17: Instruction Codes](#)

E6581288① 4.4.3. Instruction Codes Code No. Item Description 0: Terminal input enabled 1003H Command mode selection read 1: Operation panel input enabled (including LED/LCD option input) 2: 2-wire RS485 communication input 2003H Command mode selection write 3: 4-wire RS485 communication input 4: Communication option input 1: VI/II (voltage/current input) 2: RR/S4 (potentiometer/voltage input)

[Page 18: The Details Of An Error Code](#)

E6581288① 4.4.4. The details of an error code The following data are stored as trip history data when the inverter trip occurred. Error code Decimal Hexadecimal Description Trip display No error □□□□ Overcurrent during acceleration □□□□ Overcurrent during deceleration □□□□ Overcurrent during fixed speed operation □□□□...

[Page 19: Description Of Reply Code](#)

E6581288① (Continuation) Error code Decimal Hexadecimal Description Trip display Overcurrent flowing in element during □□□□ acceleration (Overheat) Overcurrent flowing in element during □□□□ deceleration (Overheat) Overcurrent flowing in element during fixed speed □□□□ (Overheat) Tuning error except etn 1 to 3 □□□□...

[Page 20: Description Of Monitor Code](#)

E6581288① 4.4.6. Description of monitor code Divide the monitor code (RWw n) into half and select the first monitor data (RWr n) from the lower 8 bits and the second monitor data (RWr n) from the higher 8 bits. (Example) When output voltage is selected for the first monitor and output torque is selected for the second monitor.

[Page 21: Description Of Input Terminal Information](#)

E6581288① 4.4.7. Description of input terminal information Data composition of input terminal information (Code No. = 0FH) . Terminal name Function (parameter name) Input terminal function selection 1(f111) Input terminal function selection 2(f112) Input terminal function selection 3(f113) Input terminal function selection 4(f114) Input terminal function selection 5(f115) Input terminal function selection 6(f116)

[Page 22: Programming Examples](#)

□ Master unit Mitsubishi Electric Corp. A1SJ61BT11 □ Input module Mitsubishi Electric Corp. A1SX40 □ CC-Link dedicated cable Kuramo Electric Corp. FANC-110SBH □ Inverter TOSHIBA TOSVERT VF-AS1 (2 units) □ CC-Link option TOSHIBA CCL001Z (2 units) □ 20 - - ...

[Page 23: Example Of The Inverter Status Reading](#)

E6581288① 5.1. Example of the inverter status reading The following explains a program to read the inverter status from master unit buffer memory. The following program reads the inverter status of station 2 to M0 - M7 register. X0000 X000F X0001 Reads the remote input data buffer [FROM H0000 H00E2 D0 K1]...

[Page 24: Example Of The Command Mode Setting](#)

E6581288① 5.2. Example of the command mode setting The following explains a program to write various data to the inverter. The following program changes the operation mode of station 1 inverter to CC-Link operation. Operation mode writing code number : 2003H (Hexadecimal number) CC-Link operation set data : 0000H (Hexadecimal number) The reply code at the time of instruction code execution is set to D2.

[Page 25: Example Of The Operation Commands Setting](#)

E6581288① 5.3. Example of the operation commands setting The following explains a program to write a running command for inverter operation to the buffer memory of the master. The inverter is operated in accordance with the operation commands written to the remote outputs (addresses 160H to 1DFH).

[Page 26: Example Of The Output Frequency Monitoring](#)

E6581288① 5.5. Example of the output frequency monitoring The following explains a program to read monitor functions of the inverter. The following program reads the output frequency of station 1 inverter to D1. Example : The output frequency of 50Hz is indicated 1388H (0.01Hz unit). M9036 Reads the remote input (RX00 to RX1F) [FROM H0000 H00E0 K4M100 K2]...

[Page 27: Example Of The Parameter Reading](#)

E6581288① 5.7. Example of the parameter reading The following program reads f311 "Reverse-run prohibition selection" of station 2 inverter to D2. The code of reading "Reverse-run prohibition selection" : 1311H (Hexadecimal number) The reply code at the time of instruction code execution is set to D1. M9036 Reads the remote input (RX20 to RX3F) [FROM H0000 H00E2 K4M100...

[Page 28: Example Of The Trip History Reading](#)

E6581288① 5.8. Example of the trip history reading The following program reads the trip history of station 2 inverter to D1. Trip history No.1, No.2 reading code number : 74H (Hexadecimal number) To reply code at the time of instruction code execution is set to D2. M9036 [FROM H0000 H00E2 K4M100 K2] Reads the remote input (RX20 to RX3F)

[Page 29: Example Of The Inverter Resetting At Inverter Error](#)

E6581288① 5.9. Example of the inverter resetting at inverter error The following program resets the station 1 inverter. M9036 [FORM H0000 H00E0 K4M100 K2] Reads the remote input (RX00 to RX1F) X0000 X000F X0001 M126 X0020 data of buffer memory to M100 - M131. [SET M226] Switches on the error reset request flag (RY1A).

[Page 30: Unusual Diagnosis](#)

E6581288① 6. Unusual diagnosis 6.1. Option error The error message is displayed when there is hardware error, software error or lose of connection of wire. Display of trip information ■ - 23 (Error code : 55) : Add-on option 1 error (This error is displayed at the time the bottom side option has an error or only one option is installed and has an error.) - 24 (Error code : 56) : Add-on option 2 error...

[Page 31: How To Check The Error Using The Leds](#)

E6581288① 6.3. How to check the error using the LEDs The following example explains the causes of fault which may be judged from the LED status of the CC-Link unit (CCL001Z) of the inverter. (1) When two or more inverters are connected The following example explains the causes and corrective actions for fault which may be judged from the LED status of the CC-Link units (CCL001Z) of the inverters under the condition that the SW, M/S and PRM LEDs of the master unit are off (the master unit...

[Page 32](#) E6581288① (2) Communication stops during operation □Check that the CC-Link units and the CC-Link dedicated cable are connected properly. (Check for contact fault, break in the cable, etc.) □Check that the PLC program is executed properly. □Check that data communication has not stopped due to an instantaneous power failure, etc. LED Status Cause Corrective Action...

This manual is also suitable for:

Tosvert vf-as1 cc-link [Ccl001z](#)