

Quick Start Manual



TOSVERT VF-AS3

Safety precautions

The items described in the instruction manual and on the inverter itself are very important so that you can use safely the inverter, prevent injury to yourself and other people around you as well as to prevent damage to property in the area. Thoroughly familiarize yourself with the symbols and indications shown below and then continue to read the manual. Make sure that you observe all warnings given.

* Read the Safety precautions of the instruction manual (CD-ROM) for information not mentioned here.




Explanation of markings

Marking	Meaning of marking
 WARNING	Indicates that errors in operation will lead to death or serious injury.
 CAUTION	Indicates that errors in operation will lead to injury (*1) to people or that these errors will cause damage to physical property (*2).

*1 Such things as injury, burns or electric shock that will not require hospitalization or long periods of outpatient treatment.

*2 Physical property damage refers to wide-ranging damage to assets and materials.

Meanings of symbols

Marking	Meaning of marking
	Indicates an inhibition (Don't do it). Detailed information on the inhibition is described in illustration and text in or near the symbol.
	Indicates a mandatory action that must be followed. Detailed information on the mandatory action is described in illustration and text in or near the symbol.
	Indicates a warning or caution. Detailed information on the warning or caution is described in illustration and text in or near the symbol.

■ Limits in purpose

This inverter is used for controlling speeds of three-phase motors in general industrial use.

The single-phase input inverter performs three-phase output and cannot drive a single-phase motor.

Safety precautions

▼ This product is intended for general purpose uses in industrial application. It cannot be used for application which will cause big impact on public and require special quality control, such as power plant and railway, and equipment in which failure and operational errors of this product can endanger human life or harm a human body, such as equipment for nuclear power control, aviation, space flight control, traffic, medical, safety device, and amusement. However, it is possible to verify the application propriety under the condition that purpose is limited and special quality control is not required. Please contact your Toshiba distributor if you wish to use this product for a specific purpose.

▼ Please use our product for application which will not cause serious accident or damage even if the product has failure, or please use our product in environment where a backup circuit, device is provided as a system outside the product or a safety device functions.

▼ Please do not use our product for any load other than three-phase motors in general industrial use. Use in other than proper three-phase motors can cause an accident. The single-phase input model inverter performs three-phase output and cannot drive a single-phase motor.



■ Handling

WARNING



Disassembly inhibited

- Never disassemble, modify or repair. This can result in electric shock, fire and other injury. Please call your Toshiba distributor for repairs.



⚠ WARNING

 Prohibited	<ul style="list-style-type: none"> • Never remove the front cover when the power is on. The unit contains high voltage parts and contact with them will result in electric shock. • Do not stick your fingers into openings such as cable wiring holes and cooling fan covers. The unit contains high voltage parts and contact with them will result in electric shock. • Do not place or insert any kind of object (electrical wire cuttings, rods, wires etc.) inside the inverter. This will cause a short circuit and result in electric shock or fire. • Do not allow water or any other fluids to come in contact with the inverter. This will cause a short circuit and result in electric shock or fire.
 Mandatory action	<ul style="list-style-type: none"> • Turn the power on only after attaching the front cover. If you turn the power on without attaching the front cover, this will result in electric shock or other injury. • Immediately turn the power off if the inverter begins to emit smoke or an unusual odor, or unusual sounds. Continuous use of the inverter in such a state will cause fire. If the inverter is left to be turned on in that state, it can cause fire. Please call your Toshiba distributor for repairs. • Always turn the power off if the inverter is not used for long time. • The inverter will have failure due to leakage current caused by dust and other material. If the inverter's power is left to be turned on in that state, it can cause fire.


⚠ CAUTION

 Contact inhibited	<ul style="list-style-type: none"> • Do not touch heat radiating fins or discharge resistors. These devices get high temperature, and you will get burned if you touch them.
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■ **Transportation & installation** **⚠ WARNING**

 Prohibited	<ul style="list-style-type: none"> • Do not install and operate the inverter if it is damaged or any of its components is missing. This will result in electric shock or fire. Please call your Toshiba distributor for repairs. • Do not place any inflammable object near the inverter. If flame is emitted due to failure in the inverter, this will lead to fire. • Do not install the inverter in any location where the inverter could come into contact with water or other fluids. • This will result in electric shock or fire.
 Mandatory action	<ul style="list-style-type: none"> • Operate under the environmental conditions prescribed in the instruction manual. Operations under any other conditions will result in failure. • Mount the inverter on a metal plate. The rear panel will get high temperature. Do not mount the inverter on an inflammable object, this will result in fire. • Do not operate the inverter with the front cover removed. The unit contains high voltage parts and contact with them will result in electric shock. • An emergency stop device must be installed that is configured in accordance with the system specifications. If such an emergency stop device that can activate mechanical brake by shutting off power supply is not installed, operation cannot be stopped immediately by the inverter alone, thus resulting in an accident or injury. • All options to be used must be those specified by Toshiba. The use of options other than those specified by Toshiba will result in an accident. • In using a power distribution device and options for the inverter, they must be installed in a cabinet. When they are not installed in the cabinet, this will result in electric shock.

⚠ CAUTION

 Prohibited	<ul style="list-style-type: none"> • For transporting or carrying the inverter, do not hold by the front cover. The cover will come off and the unit will drop, resulting in injury. • Do not install the inverter in any place with large vibration. The unit will fall due to the vibration, resulting in injury.
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⚠ CAUTION

!
Mandatory
action

- Carry the inverter by two people or more when the inverter is the model mass 20kg or more (VFAS3-2110P - 2370P, VFAS3-4220PC - 4750PC). If you carry the inverter alone, this will result in injury.
- Transport a large-capacity inverter (VFAS3-2450P, 2550P, VFAS3-4900PC - 4280KPC) by a crane. If you transport a heavy load by hand, this will result in injury. Please take the utmost care for the operator's safety, and please handle the inverter carefully in order not to damage the product. For lifting the inverter, hang the inverter with wire ropes via hanging bolts (hanging holes) provided at upper part or lower part of the inverter as shown below.
- Please make sure that the inverter is hanged by two wire ropes in a balanced manner, and please be careful that the inverter does not receive excessive force during the hanging operation.
- Do not carry the inverter with the cover attached, hold nor put the hand in the wiring holes during the transportation. You can have your hands pinched and injured.
- Transport the operation panel in accordance with law. Please transport the operation panel by airplane or ship in accordance with law as a lithium battery is used in the operation panel.
- Install the inverter at a place which can support the unit's mass. If you install the inverter at a place which does not support the unit's mass, the unit will fall, resulting in injury.
- Install the mechanical brake when it is necessary to hold a motor shaft. A brake function of the inverter cannot perform mechanical hold, and it results in injury.
- When ambient temperature is above 50°C, use the operation panel by detaching it from the unit. There is a risk that heat can rise up and flame can be emitted in the lithium battery used in the operation panel. When ambient temperature is above 50°C, use the operation panel by detaching the panel from the unit and extending the panel.



EN

■ Wiring

⚠ WARNING

⊘
Prohibited

- Do not connect power supply to the output (motor side) terminals [U/T1], [V/T2] and [W/T3]. Connecting power supply to the output will damage the inverter and result in fire.
- Do not insert a braking resistor between DC terminals [PA+] and [PC/-] or [PO] and [PC/-]. This will result in fire. Please connect the braking resistor in accordance with the instruction manual.
- Do not touch wires of equipment (e.g. MCCB) that is connected to the inverter power side at least 15 minutes after turning off the power. If an electric charge remains in a capacitor in the inverter, touching the wires before the indicated time will result in electric shock.
- Do not touch output terminals [U/T1], [V/T2] and [W/T3] on the PM motor side while the PM motor is rotating even after turning off the power. While the PM motor is rotating even after the power is turned off, as a high voltage is generated in the output terminals [U/T1], [V/T2] and [W/T3] on the PM motor side, touching the output terminals will result in electric shock. Please perform wiring after verifying that the PM motor is stopped.
- When using this 480V class inverter with a power supply system that is grounded in other than the neutral point (e.g. when the power supply has delta connection with single phase grounding), the grounding capacitor should not be grounded (or the capacity of the grounding capacitor should not be increased). Otherwise, it will result in failure or fire.



!
Mandatory
action

- Electrical construction work must be done by a qualified expert. Erroneous connection of power supply by someone who does not have that expert knowledge will result in fire or electric shock.
- Connect output terminals (motor side) correctly. If the phase sequence is incorrect, the motor will operate in reverse and that can result in injury.
- Wiring must be done after installation. If you perform wiring prior to installation, this will result in electric shock or other injury. Verify that the power is turned off and the charge lamp is off before starting wiring. If you perform wiring without verification, this will result in electric shock.
- Tighten the screws on the terminal block to specified torque. If the screws are not tightened sufficiently to the specified torque, this will result in fire.
- Verify that the power supply voltage is within +10% and -15% (±10% when the load is 100% in continuous operation) of the applied power supply voltage written on the name plate. If you do not use the appropriate power supply voltage, this will result in failure or fire.



⏚
Be
grounded

- The grounding wire must be connected securely. If the grounding wire is not securely connected, when the inverter has failure or earth leakage, this will result in electric shock or fire.



⚠ CAUTION

 Prohibited	<ul style="list-style-type: none"> Do not attach devices with built-in capacitors (such as noise reduction filters or surge absorbers) to the output terminals (motor side). Heat rises up and this could cause a fire. Do not switch only one of two grounding capacitor switch screws in the same form. The inverter will have failure due to insufficient switching. Please switch two grounding capacitor switch screws in the same form. Do not detach the operation panel from the unit when the power is ON. This will result in failure. Please detach the operation panel after turning the power off. When you connect a USB cable to the operation panel, do not perform the connection while the operation panel is attached to the unit. This will result in failure. Please connect the USB cable to the operation panel after detaching the operation panel from the unit. Do not connect Ethernet to the RS485 communication connector. Erroneous connection will result in failure. Do not connect RS485 communication to the Ethernet connector. Erroneous connection will result in failure.
 Mandatory action	<ul style="list-style-type: none"> Verify that the power is OFF before detaching the front cover. If you detach the front cover while the power is ON, this will result in electric shock or other injury. Mount the front cover after wiring. If you turn the power on without attaching the front cover, this will result in electric shock or other injury. Please be careful that if you press too hard the front cover by a screwdriver for attachment, it will damage the inverter unit. Mount the attached DC reactor (DCL) for VFAS3-4160KPC - 4280KPC. If you do not mount the attached DC reactor (DCL), it will result in failure. Mount the DC reactor (DCL) between [PA/+] and [PO]. Supply AC power supply to cooling fans if you use VFAS3-4160KPC - 4280KPC with DC input. If you do not supply AC power supply, the cooling fans do not operate, and this will result in overheat trip.

■ Operations ⚠ WARNING

 Prohibited	<ul style="list-style-type: none"> Do not touch terminals when the inverter's power is on even if the motor is stopped. Touching the terminals while voltage is applied will result in electric shock. Do not touch switches when the hands are wet and do not try to clean the inverter with a damp cloth. This will result in electric shock.
 Mandatory action	<ul style="list-style-type: none"> Turn the power on only after mounting the front cover. When you use the inverter housed in the cabinet with the front cover removed, always close the cabinet doors first and then turn the power on. If you turn the power on with the front cover or the cabinet doors open, this will result in electric shock. Make sure to set the setup menu correctly. If you set the setup menu incorrectly, this will damage the inverter or cause the inverter to perform unexpected movement. Make sure to set the parameter correctly. If you set the parameter incorrectly, this will damage the inverter or cause the inverter to perform unexpected movement. When you write the parameter in the inverter via a parameter writer, please transmit correct data. Make sure that operation instructions are off before resetting the inverter after malfunction. If the inverter is reset while the operation instructions are on, the motor will restart suddenly, resulting in injury.

⚠ CAUTION

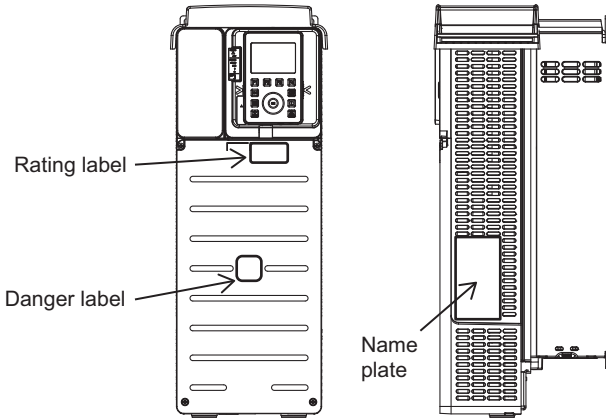
 Prohibited	<ul style="list-style-type: none"> Observe all allowable operating ranges of motors and machines in use. Not observing these ranges will result in damage to motors and machines and injury. Please use motors and machines within their respective allowable operating ranges by referring to their respective instruction manuals.
 Mandatory action	<ul style="list-style-type: none"> Use the inverter that conforms to specifications of the power supply and the three-phase motor to be operated. If you use the inappropriate inverter, not only will the three-phase motor not rotate correctly, but it will cause serious accidents such as overheating and burning out. Take countermeasures against leakage current. The leakage current through the stray capacitance of the input/output power wires of inverter and motor can affect peripheral devices. In that case, please take countermeasures such as reducing the carrier frequency or shortening the length of input/output power wires. When the total wire length (total length between an inverter and motors) is more than 100m, if the trip occurs with the motor no-load current, make enough space between phase wires or insert the filter (MSF: motor-end surge voltage suppression filter).

*Read the Safety precautions of the instruction manual (CD-ROM) for maintenance, inspection and disposal.

1. Check the purchase

Check that the inverter type is the same as your order.

Inverter main unit



Name plate

Inverter type → VFAS3-2004P (1)
 Inverter rated output capacity → 0.4kW-1.3kW(0.75HP)(H2) / 0.75kW-1.8kW(1HP)(ND)
 Rated voltage → 3PH 200/240
 Rated input current → 1.7 max / 3.0 max
 Rated output current → 3.3 / 4.6

IN/OUT	INPUT		OUTPUT	
	HD	ND	HD	ND
UVI	3PH 200/240		3PH 200/240	
AW	50 / 60		0.01599	
F(Hz)	1.7 max / 3.0 max		3.3 / 4.6	
UVW	3PH 200/240		3PH 230	
T(°C)	60		0.01599	
HP	1.8 max	2.7 max	FLA 3.2	FLA 4.2

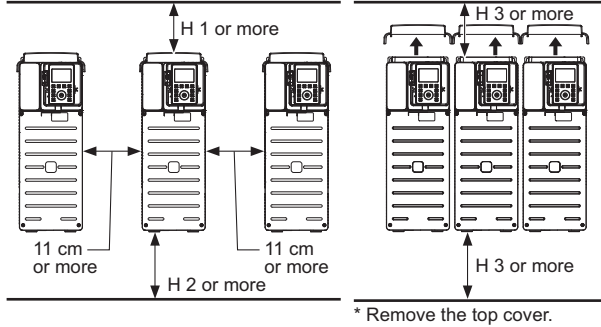
SCCR: for rating and protection refer to User Manual
 Motor Overload Protection: Class 10
 Manufactured in China from foreign and domestic components
 Serial No. 9530 18001303 0001

TOSHIBA INDUSTRIAL PRODUCTS AND SYSTEMS CORPORATION
 TSJ

2. Install the inverter

Basic installation

Side-by-side installation



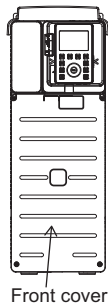
Type-form	H1(cm)	H2(cm)	H3(cm)
VFAS3-2004P - 2370P VFAS3-4004PC - 4750PC	10	10	10
VFAS3-2450P, 2550P VFAS3-4900PC - 4132KPC	25	25	25
VFAS3-4160KPC	15	15	25
VFAS3-4200KPC - 4280KPC	20	15	25

3. Remove the front cover

The following shows how to remove the front cover, e.g. VFAS3-2004P to 2075P. VFAS3-4004PC to 4185PC.

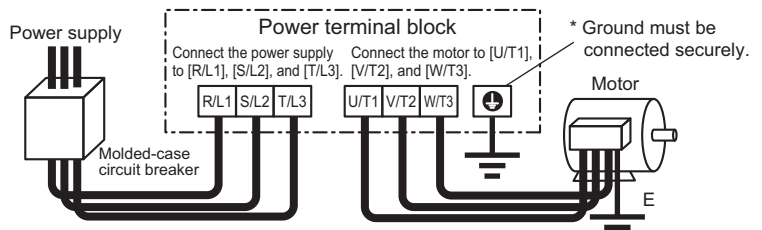
Front cover

- Loosen four screws of the front cover.
- Support both sides of the front cover, and slide down slightly.
- Lift the front cover, and remove it from the unit.
- To mount, perform the procedures in reverse order.



4. Connect to the power supply and the motor (wiring)

- Connect to the terminal R/L1, S/L2 and T/L3 of the power supply.



- Connect to the terminal U/T1, V/T2 and W/T3 of the motor.

Tighten the screws of the power terminal block.
 For wiring, follow the wire sizes for each inverter types and wiring locations shown in the following table.

Wire size for ND rating

Voltage class	Applicable motor (kW)	Power circuit (mm ²)		Grounding wire (mm ²)
		Input	Output	
3-phase 240V	0.75	1.5	1.5	2.5
	1.5	1.5	1.5	2.5
	2.2	1.5	1.5	2.5
	4.0	2.5	4	4
	5.5	4	6	6
	7.5	6	10	10
	11	10	16	16
	15	16	25	16
	18.5	25	35	16
	22	35	50	25
	30	50	70	35
	37	70	95	50
	45	95	120	70
	55	70x2	150	95
75	95x2	95x2	120	

Voltage class	Applicable motor (kW)	Power circuit (mm ²)		Grounding wire (mm ²)
		Input	Output	
3-phase 480V	0.75-4.0	1.5	1.5	2.5
	5.5	1.5	2.5	2.5
	7.5	2.5	4	2.5
	11	4	6	4
	15	6	10	10
	18.5	10	10	10
	22	10	16	16
	30	16	25	16
	37	25	35	16
	45	35	35	16
	55	50	50	25
	75	70	95	50
	90	95	120	70
	110	50x2	50x2	95
	132	70x2	70x2	95
	160	95x2	95x2	120
	220, 250	150x2	150x2	150
	280	150x3	120x3	120x2
	315	150x3	150x3	120x2

Be sure to replace the covers removed during wiring.


5. Turn on the power supply

Set the setup menu (Region setting) after first power on.
The procedures in this section is not necessary for subsequent power on.

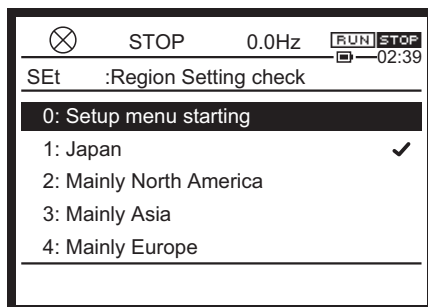


WARNING

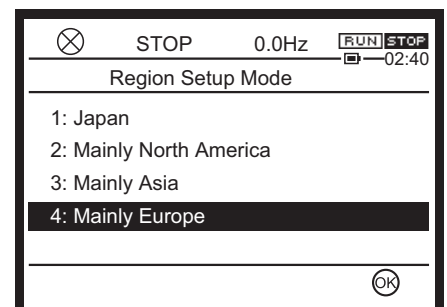
Set a region correctly. If the setting is incorrect, the drive will not work and some damage or unexpected movement will happen.

Main region	Mainly North America	Mainly Asia	Mainly Europe	China	Japan
Motor 	230/460 (V) 60 (Hz)	230/400 (V) 50 (Hz)	230/400 (V) 50 (Hz)	200/380 (V) 50 (Hz)	200/400 (V) 60 (Hz)
Max. frequency (FH)	80 (Hz)	80 (Hz)	80 (Hz)	50 (Hz)	80 (Hz)

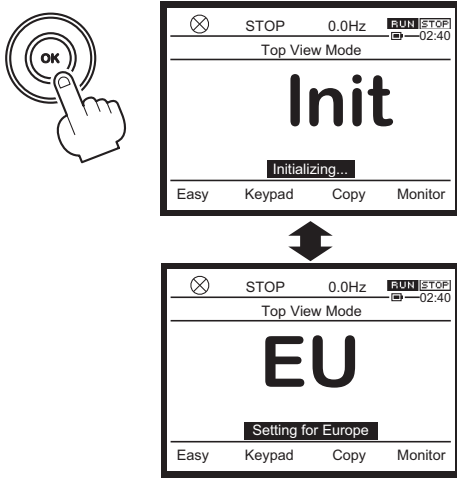
- (1) Turn the power on.
Setup menu is displayed.



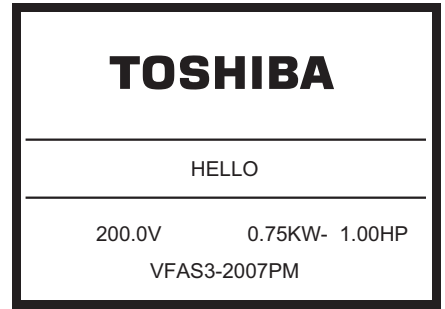
- (2) Rotate the touch wheel to select a region.
1: Japan
2: Mainly North America
3: Mainly Asia
4: Mainly Europe
5: China



- (3) Press [OK] or [F4] key.
The screens below are displayed alternately while setting a region.



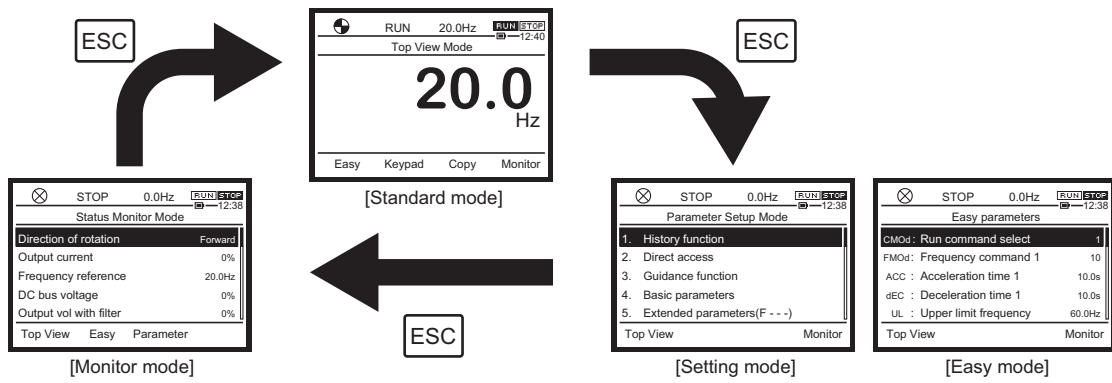
- (4) When setting is complete, the initial screen immediately after power on is displayed for four seconds. Then, [Standard mode] screen is displayed.



- (5) Please set a slide switch SW1 to select sink logic, source logic, or PLC (external power supply). Refer to the instruction manual for details.

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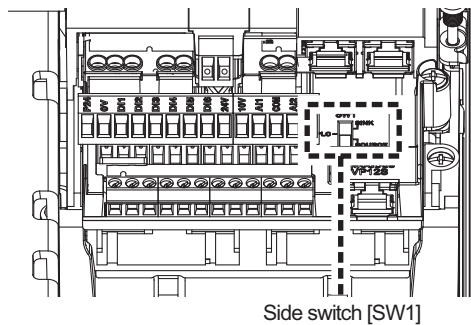
6. Switch the operation panel display



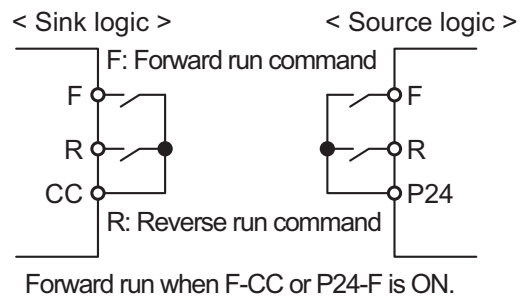
7. Operate the inverter with external signals

Select sink logic or source logic by slide switch [SW1], then connect for external signals. Set the parameters for operation.

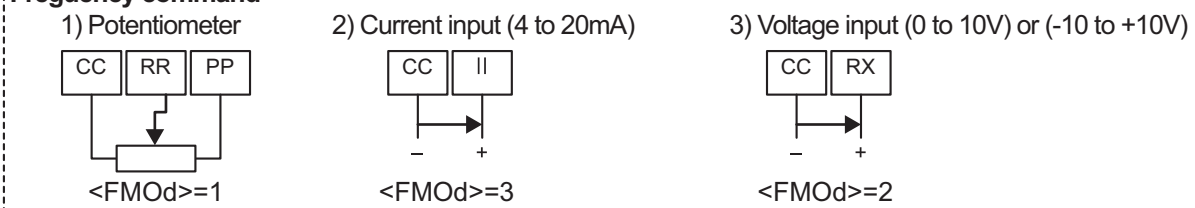
Control terminal block



Run command



Frequency command



Parameter setting

Determine the run command select with <CMOd> and frequency command select with <FMOd>.

Title	Parameter name	Adjustment range	Default setting
CMOd	Run command select	0:Terminal 1:Operation panel, Extension panel 2:Embedded Ethernet 3:RS485 communication (connector 1) 4:RS485 communication (connector 2) 5:Communication option	0
FMOd	Frequency command select 1	0: - 1: Terminal RR 2: Terminal RX 3: Terminal II 4: Terminal AI4 (option) 5: Terminal AI5 (option) 6 to 9: - 10: Touch wheel 1 (power off or press OK to save) 11: Touch wheel 2 (press OK to save) 12: Sr0 13 & 14: - 15:Terminal Up/Down frequency 16: Pulse train 17: High resolution pulse train (option) 18 & 19: - 20: Embedded Ethernet 21: RS485 communication (connector 1) 22: RS485 communication (connector 2) 23: Communication option	1

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8. Basic parameters

Contents	Title	Parameter name	Adjustment range	Default setting
Set Acceleration / Deceleration time to suit the machine. <ACC> & <dEC> values are time that output frequency reach from 0 Hz to <FH> value.	ACC	Acceleration time 1	0.0 - 6000 (600.0) (s)	10.0* ¹
	dEC	Deceleration time 1	0.0 - 6000 (600.0) (s)	10.0* ¹
	FH	Maximum frequency	30.0 - 590.0 (Hz)	80.0* ²
Set the upper and lower limit of the output frequency.	UL	Upper limit frequency	0.5 - FH (Hz)	60.0* ²
	LL	Lower limit frequency	0.0 - UL (Hz)	0.0
Select the V/f control pattern to suit the machine pattern.	Pt	V/f Pattern	0: V/f constant 1: Variable torque 2: Automatic torque boost 3: Vector control 1 4: Energy savings 5: Dynamic energy savings (for fan and pump) 6: PM motor control 7: V/f 5-point setting 8: - 9: Vector control 2 (speed / torque) 10: PG feedback control 11: PG feedback vector control (speed / torque) 12: -	0
Adjust the electronic thermal for the motor protection.	tHrA	Motor overload protection current 1	*1	*1

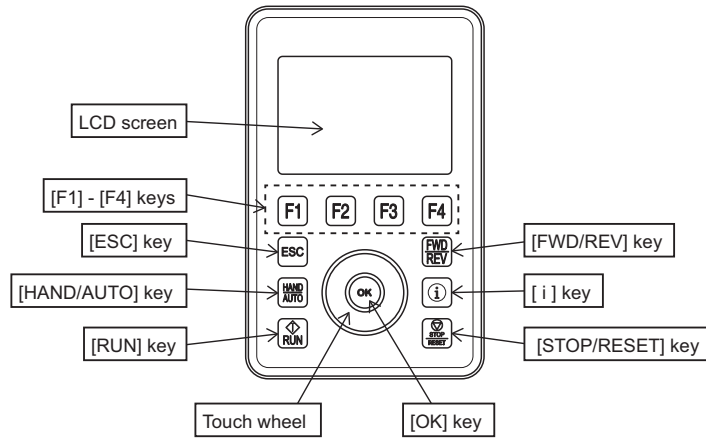
*1 Depending on capacity. *2 Depending on the setup menu setting.

9. Others

Refer to the instruction manual for applied operation or malfunction.

Appendix

LCD screen and operation keys



LCD screen

This screen displays [Standard mode], [Setting mode], [Monitor mode], and [Easy mode] according to the purpose. When an error occurs, an alarm, trip, etc. are displayed.

[F1] - [F4] keys

They are keys to execute functions displayed on the screen.

[ESC] key

This key switches the display mode.

[HAND/AUTO] key

This key switches between hand (operation panel)/remote (remote control).

[RUN] key

This key is used for a run command from the operation panel.

[FWD/REV] key

This key switches between forward run and reverse run of the motor during panel run.

[i] key

This key displays information.

[STOP/RESET] key

This key is used for a stop command from the operation panel. Emergency stop can be applied to the inverter except when it is operated by the operation panel. It is also used as a reset key when a trip occurs.

Touch wheel

Slide your finger in a circular motion to change the menu items and values on the screen.

[OK] key

This key is used to confirm the menu items and values on the screen.

Display mode

[Standard mode]

This is the mode that is displayed first when the power supply is turned on. The operation status (output frequency of the inverter, etc) is always displayed and alarms and trips when they occur.

[Setting mode]

Parameters are set in this mode. All the parameters are displayed.

[Easy mode]

Parameters are set in this mode. In this mode, only the registered parameters are displayed.

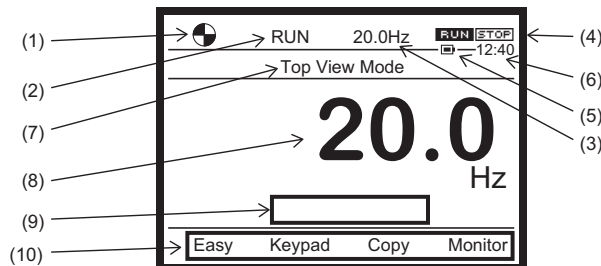
[Monitor mode]

You can check the status such as the operation status of the inverter and terminal information.


Screen display of [Standard mode]


This is the normal display mode of the inverter.

(1) - (6) are display contents common to [Standard mode], [Setting mode], [Easy mode], and [Monitor mode].



(1) The operation status is displayed with the following symbols.

 (Rotating): In operation, the rotation direction is also indicated

 : Stop

E0FF (Blinking): Waiting for execution of operation after emergency stop

(2) The operation status is displayed with the following text.

"RUN": Motor in operation

"STOP": Stopped

"Trip": Trip has occurred

"JOG": In jog run

(3) The output frequency is displayed in Hz.

(4) The run commands are displayed with icons.

  : Run

  : Stop

(5) The remaining capacity of the battery ( yes/  no) is displayed with icons.

(6) The current time ("hour/minute") is displayed.

(7) Current display mode [Standard mode] is displayed.

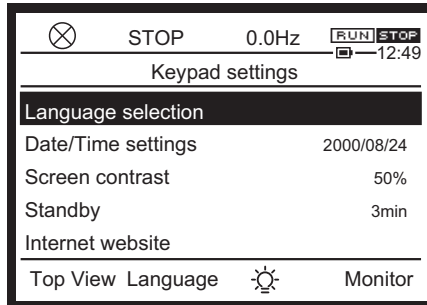
(8) Normally, the output frequency (standard default setting) is displayed.

When an alarm or trip occurs, its contents are displayed.

(9) The functions assigned to the [F1] - [F4] keys are displayed.

Setting of LCD screen

When you press the [F2] key ("LCD screen") in [Standard mode], the LCD setting screen is displayed.



Language selection

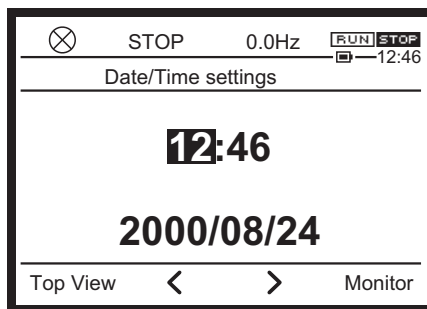
Select a language to be displayed from the list.



Date/time setting

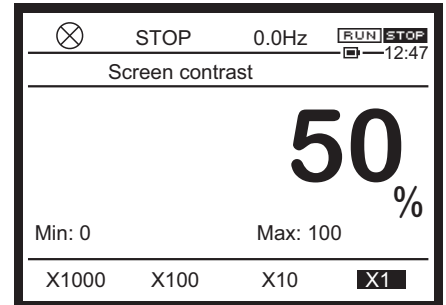
Set the date and the time.

The time is represented in HH:MM and the date in YYYY/MM/DD.



Contrast adjustment

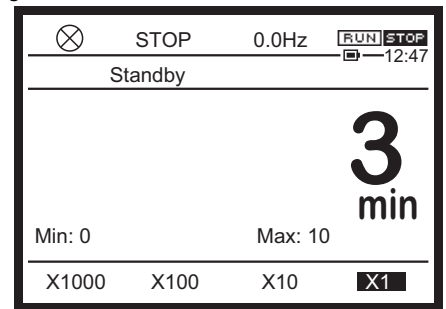
The contrast can be adjusted in the range of 30 -70%. The default setting is 50%.



Automatic off time

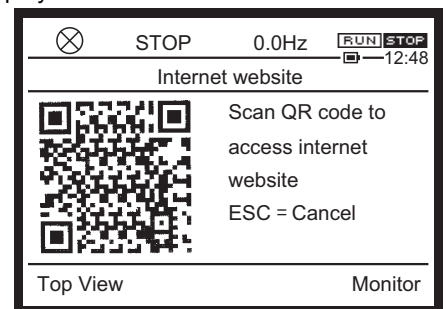
The off time of the backlight can be set in the range of 0 min (always on) - 10 min (off after 10 minutes).

The default setting is 3 min.



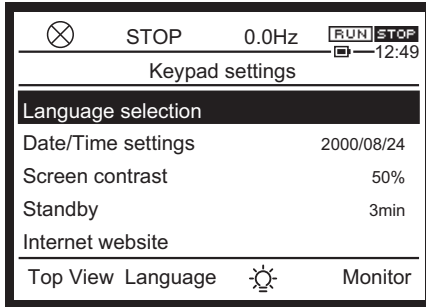
Website

Information is displayed.



Switching of backlight color

When you press the [F3] key (☀️ mark), you can change the color of the backlight to white or red.

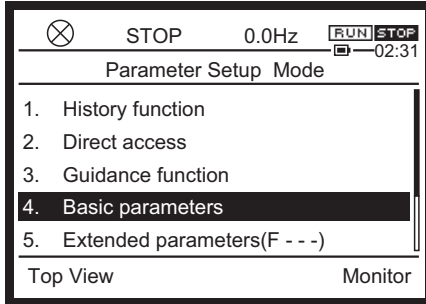


Operate the inverter by keypad

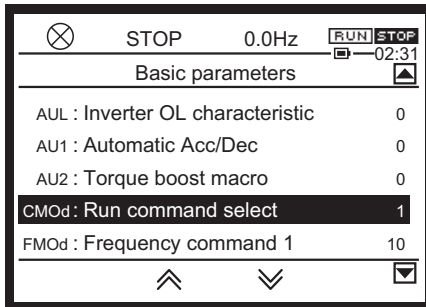
Easy operation (e.g. Panel [RUN] / [STOP] key operation)

It is necessary to set the parameter <CMOd> and <FMOd>.

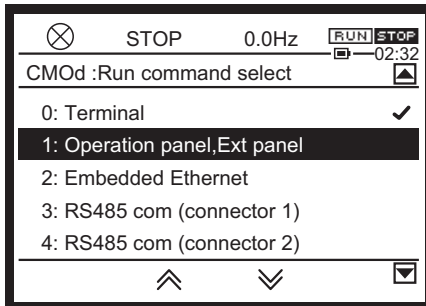
- (1) Press [ESC] key to switch to [Setting mode] from [Standard mode] to set the parameters. Select [Basic parameters] and press [OK] key. Setting screen of [Basic parameters] is displayed.



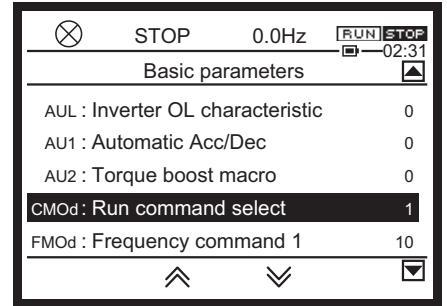
- (2) Select <CMOd> and press [OK] key. Setting screen of <CMOd> is displayed.



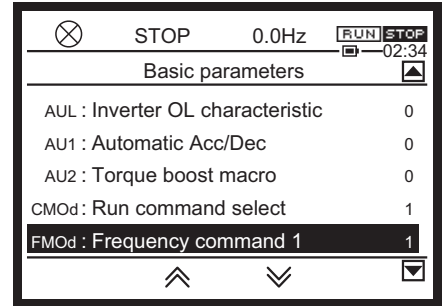
- (3) Select "1: Operation panel,Ext panel" and press [OK] key.



The screen returns to [Basic parameters]. Verify that the <CMOd> setting is "1".

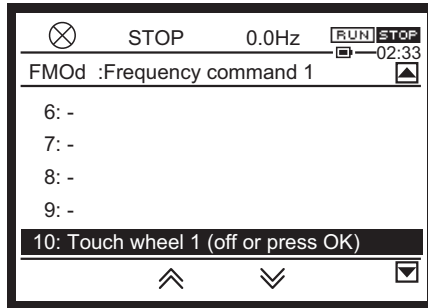


- (4) Select <FMOd> and press [OK] key. Setting screen of <FMOd> is displayed.

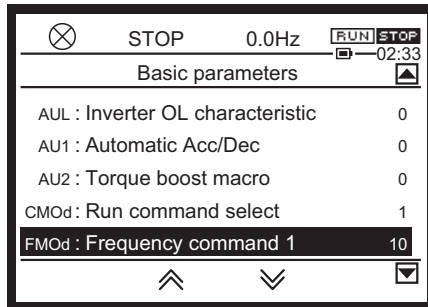


EN

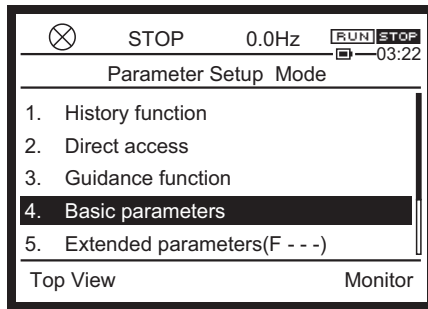
(5) Select "10: Touch wheel 1 (power off or press OK to save)" and press [OK] key.



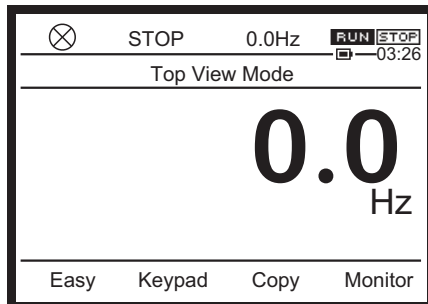
The screen returns to [Basic parameters]. Verify that the <FM0d> setting is "10".



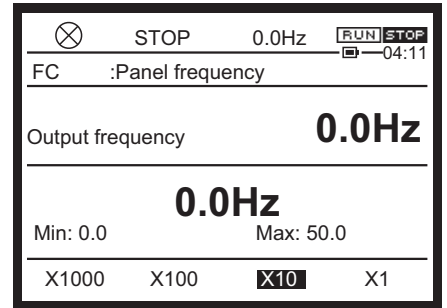
(6) Press [ESC] key.



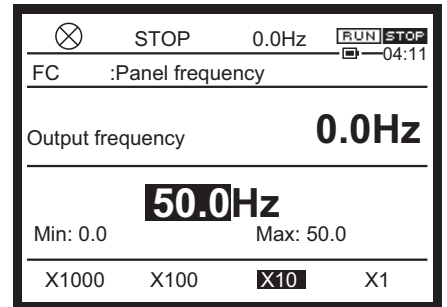
(7) Press [ESC] key several times to return to [Standard mode].



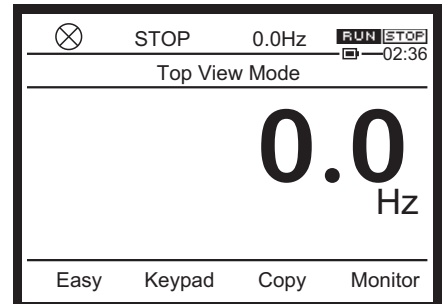
(8) Press [OK] key in [Standard mode]. Setting screen of <FC> is displayed.



(9) Change the output frequency command by touch wheel. Setting value (e.g. 50.0 Hz) is highlighted.



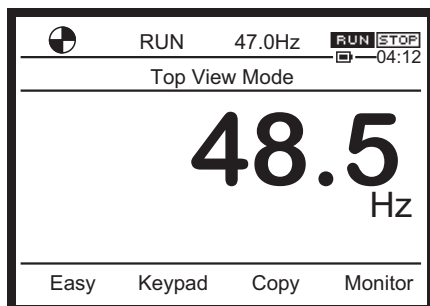
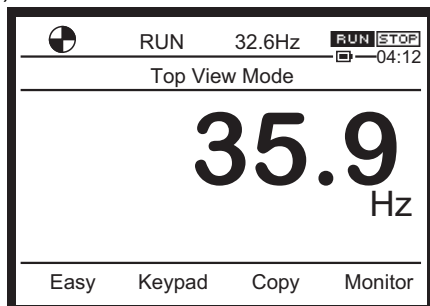
(10) Press [OK] key to return to [Standard mode].



(11) Press [RUN] key.

The motor starts to run, and the output frequency is increased.

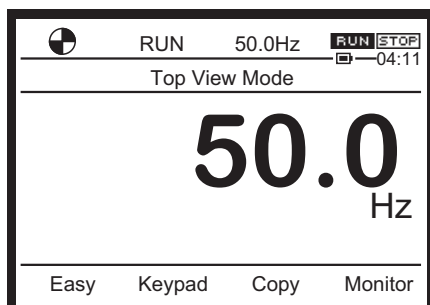
The output frequency reaches to the setting frequency (e.g. 50.0 Hz).



- You can change the output frequency command during run.

Press [OK] key in [Standard mode] to the display setting screen of <FC>.

Then, change the output frequency command by touch wheel.



(12) Press [STOP] key to stop motor.

The motor decelerates and stops.

