

INVT VFD General Quick Start Guide

This guide describes the instructions of operating INVT variable-frequency drive (VFD), including information about the safety precautions, terminal functions, quick startup, common function parameters, keypad, external wiring, and common faults. Please scan the e-manual platform QR code provided in part 8 or marked on the VFD housing for more information.

If the product is ultimately used for military affairs or manufacture of weapon, it will be listed on the export control formulated by Foreign Trade Law of the People's Republic of China. Rigorous review and necessary export formalities are needed when exported.

1 Safety precautions

1.1 Warning symbols

Symbols	Name	Description	Abbreviation
	Danger	Severe personal injury or even death can result if related requirements are not followed.	
	Warning	Personal injury or device damage can result if related requirements are not followed.	
	Electrostatic sensitive	PCBA board damage can result if related requirements are not followed.	
	Hot sides	The VFD base may be hot. Do not touch.	
	Electric shock risk	High voltage may be present in bus capacitors after power off. To prevent electric shock, wait at least 5 or 15 or 25 minutes (depending on the device warning symbol) before operating the device that is just powered off.	
	Read manual	Read the manual before operating.	
Note	Note	Actions to ensure proper running.	Note

1.2 Safety guidelines

	<ul style="list-style-type: none"> Only trained and qualified electricians can operate on the VFD. Do not perform any wiring, inspection, or component changing when power is applied. Ensure all input power supplies are disconnected before wiring or checking, and always wait at least the time designated on the VFD or until the DC bus voltage is less than 36V. The following table lists the waiting time. 																		
	<table border="1"> <thead> <tr> <th>VFD model</th> <th>Minimum waiting time</th> </tr> </thead> <tbody> <tr> <td>1PH 220V 0.2kW - 2.2kW</td> <td>5 minutes</td> </tr> <tr> <td>3PH 220V 0.2kW - 2.2kW</td> <td>5 minutes</td> </tr> <tr> <td>3PH 380V 0.75kW - 110kW</td> <td>5 minutes</td> </tr> <tr> <td>3PH 380V 132kW - 315kW</td> <td>15 minutes</td> </tr> <tr> <td>3PH 380V 355kW and higher</td> <td>25 minutes</td> </tr> <tr> <td>3PH 660V 22kW - 132kW</td> <td>5 minutes</td> </tr> <tr> <td>3PH 660V 160kW - 355kW</td> <td>15 minutes</td> </tr> <tr> <td>3PH 660V 400kW - 630kW</td> <td>25 minutes</td> </tr> </tbody> </table>	VFD model	Minimum waiting time	1PH 220V 0.2kW - 2.2kW	5 minutes	3PH 220V 0.2kW - 2.2kW	5 minutes	3PH 380V 0.75kW - 110kW	5 minutes	3PH 380V 132kW - 315kW	15 minutes	3PH 380V 355kW and higher	25 minutes	3PH 660V 22kW - 132kW	5 minutes	3PH 660V 160kW - 355kW	15 minutes	3PH 660V 400kW - 630kW	25 minutes
VFD model	Minimum waiting time																		
1PH 220V 0.2kW - 2.2kW	5 minutes																		
3PH 220V 0.2kW - 2.2kW	5 minutes																		
3PH 380V 0.75kW - 110kW	5 minutes																		
3PH 380V 132kW - 315kW	15 minutes																		
3PH 380V 355kW and higher	25 minutes																		
3PH 660V 22kW - 132kW	5 minutes																		
3PH 660V 160kW - 355kW	15 minutes																		
3PH 660V 400kW - 630kW	25 minutes																		
	Do not refit the VFD unless authorized; otherwise, fire, electric shock or other injuries may result.																		
	The heat sink base may become hot during running. Do not touch it; otherwise, burns may result.																		
	The electronic components inside the VFD are electrostatic sensitive. Take measurements to avoid electrostatic discharge during related operation.																		

1.3 Environment

Environment	Requirement
Ambient environment	<ul style="list-style-type: none"> -10~+50°C If the ambient temperature exceeds 40°C, derate 1% for every increase of 1°C It is not recommended to use the VFD if the ambient temperature exceeds 50°C In order to improve device reliability, do not use the VFD if the ambient temperature changes sharply at a sudden. Use a cooling fan or air conditioner for cooling if the VFD is used in a closed space such as in the control cabinet. When the temperature is too low, if the VFD needs to restart after a long stop, use an external heating device to increase the internal temperature; otherwise device damage may result.
Humidity	<ul style="list-style-type: none"> RH ≤ 90%. No condensation is allowed. The max. RH cannot exceed 60% in a space with corrosive air.
Running environment condition	<ul style="list-style-type: none"> Install the VFD at a site: <ul style="list-style-type: none"> Away from the electromagnetic radiation source. Without oil mist, corrosive gas, flammable gas, radioactive gas, contaminative air, or contaminative liquid. Without the condition to bring foreign objects, including metal power, dust, oil, and water into the VFD (disallowing installation on flammable materials such as wood). Away from highly salty environments and away from direct sunlight.
Altitude	<ul style="list-style-type: none"> Lower than 1000m When the altitude exceeds 1000m, derate 1% for every increase of 100m. When the altitude exceeds 2000m, configure an isolation transformer at the VFD input end. It is not recommended that the VFD be used at the altitude higher than 5000m.

Environment	Requirement
Vibration	The max. vibration amplitude cannot exceed 5.8m/s ² (0.6g).
Installation direction	Install the VFD vertically to ensure good heat dissipation effect.

2 Terminal functions

The following describes common terminals. Please scan the e-manual platform QR code provided in part 8 or marked on the VFD housing for details.

Table 2.1 Main circuit terminals

Terminal symbol	Terminal name	Terminal function
R (L)	Power input of 3PH (1PH) main circuit	3PH/1PH AC input terminals, connected to the grid.
S (N)		
T		
U		
V	VFD output	3PH AC output terminals, generally connected to the motor.
W		
P1		
(+)		
(-)	DC reactor terminal	<ul style="list-style-type: none"> P1 and (+) connect to external DC reactor terminals. (+) and (-) connect to external brake unit terminals/shared DC bus terminals.
PB	Brake resistor terminal	<ul style="list-style-type: none"> PB and (+) connect to external brake resistor terminals.
	Protective earth (PE) terminal	The PE terminal of each device must be grounded reliably.

The following figure shows the control circuit wiring of INVT Goodrive350 series high-performance multi-function VFD. For details, see the corresponding operation manual.

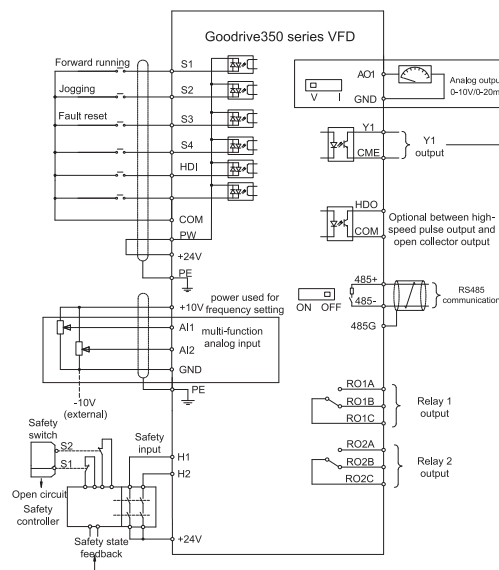


Figure 2.1 Goodrive350 control circuit wiring

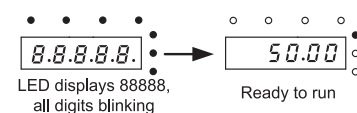
Table 2.2 Control circuit terminals

Terminal symbol	Terminal name	Terminal function
+10V	+10V provided locally.	For details, see the operation manual.
AI1-AIn	AI is analog input. It uses voltage input by default. It can be changed to current input by jumper, dial switch, or parameter setting.	
GND	+10V reference zero potential.	
AO1-AOn	Analog output range: 0-10V voltage or 0-20mA current.	
RO1A-ROnA	Relay output: ROnA is NO, ROnB is NC, ROnC is a common terminal.	
RO1B-ROnB		
RO1C-ROnC	Contact capacity: 3A/AC250V, 1A/DC30V	
HDO	Switch capacity: 200mA/30V Range of output frequency: 0-50kHz	
COM	Common terminal of +24V	
CME	Common terminal of open collector output; short connected to COM by default	
Y1-Yn	Switch capacity: 200mA/30V Range of output frequency: 0-1kHz	
485+	RS485 communication port, RS485 differential signal port. A standard RS485 communication interface must use the shielded twisted pair. The 120ohm terminal matching resistor of RS485 communication can be connected by toggle switch or jumper.	
485-		
PE	Grounding terminal	
PW	Input digital working power is provided from external to internal.	
24V	Power supply provided by the VFD. Max. output current: 200mA	
S1-Sn	Digital input	<ul style="list-style-type: none"> Internal impedance: 3.3kΩ 12-30V voltage input is acceptable Bi-directional input terminal, supporting NPN/PNP connection modes Max. input frequency: 1kHz All are programmable digital input terminals, for which functions can be set through function codes

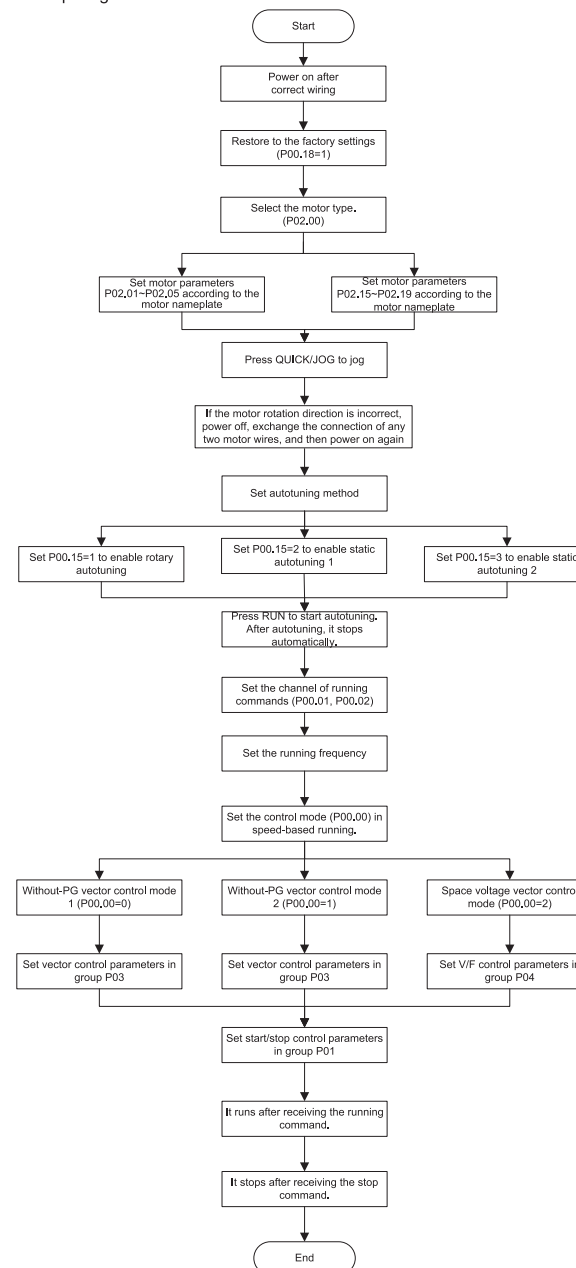
Terminal symbol	Terminal name	Terminal function
HDIA	In addition to digital input functions, the terminals can function as high-frequency pulse input channels. Max. input frequency: 50kHz Duty ratio: 30%-70%	
HDIB	Supporting quadrature encoder input (valid only when both HDIA and HDIB function); with speed-measurement function.	
+24V-H1	STO input 1 <ul style="list-style-type: none"> STO redundant input, connected to external NC contact. When the contact opens, STO acts, and the VFD stops output Safety input signal wire is shielded, with a max. length of 25m 	
+24V-H2	STO input 2 <ul style="list-style-type: none"> Both H1 and H2 are short connected to +24V by default. To enable STO, remove the short-circuit connector from the terminals. 	

3 Quick startup

After confirming the wiring and power are correct, close the air switch of the AC power supply at the VFD input side to power on the VFD. The following uses the VFD with an LED keypad for example. The keypad displays 8.8.8.8.8. and the contactor actuates properly. When the characters displayed on the LED has changed to the set frequency, the VFD is initialized and ready for run. (For details about other types of keypad, see the corresponding operation manual.)



The quick startup diagram is as follows:



4 Common function parameters

The following lists only some common function parameters. For more function parameters, scan the e-manual platform QR code provided in part 8 or marked on the VFD housing to refer to the operation manual.

- : The parameter setting can be modified in both stopped and running states.
- ◎: The parameter setting cannot be modified in running state.
- : The parameter setting is the actually detected value and cannot be modified.

The VFD automatically checks and constrains the modification of parameters, helping prevent incorrect modifications.

Function code	Function name	Description	Default	Modify
P00.00	Speed control mode	0: Sensorless vector control mode 0 1: Sensorless vector control mode 1 2: Space voltage vector control mode 3: Closed-loop vector control mode	Model depended	◎
P00.01	Channel of running commands	0: Keypad 1: Terminal 2: Communication	0	○
P00.03	Max. output frequency	Setting range: P00.04-400.00Hz	50.00Hz	◎
P00.04	Upper limit of the running frequency	Setting range: P00.05-P00.03 (Max. output frequency)	50.00Hz	◎
P00.05	Lower limit of the running frequency	Setting range: 0.00Hz-P00.04 (Upper limit of the running frequency)	0.00Hz	◎
P00.06	A frequency command selection	0: Set through keypad 1: Set through AI1 (corresponding to keypad potentiometer) 2: Set through AI2 (corresponding to terminal AI)	0	○
P00.07	B frequency command selection	3: Set through AI3 4: Set through high speed pulse HDIA 5: Set through simple PLC program 6: Set through multi-step speed running 7: Set through PID control 8: Set through MODBUS communication Note: Scan the QR code to refer to the operation manual for more.	2	○
P00.10	Frequency set through keypad	0.00 Hz-P00.03 (Max. output frequency)	50.00Hz	○
P00.11	ACC time 1	0.0-3600.0s	Model depended	○
P00.12	DEC time 1	0.0-3600.0s	Model depended	○
P00.13	Running direction	0: Run in default direction 1: Run in reverse direction 2: Reverse running is prohibited	0	○
P00.15	Motor parameter autotuning	0: No operation 1: Rotary autotuning 2: Static autotuning 1 3: Static autotuning 2	0	◎
P00.17	VFD type	0: G type, applicable to constant torque loads with specified ratings 1: P type, applicable to variable torque loads (such as fans and water pumps) with specified ratings	0	◎
P00.18	Function parameter restoration	0: No operation 1: Restore to default settings 2: Clear fault history 3: Lock (all) function codes	0	◎
P01.00	Start mode	0: Direct start 1: Start after DC brake	0	◎
P01.08	Stop mode	0: Decelerate to stop 1: Coast to stop	0	○
P01.09	Starting frequency of DC brake after stop	Setting range: 0.00Hz-P00.03 (Max. output frequency)	0.00Hz	○
P01.11	DC brake current of stop	Setting range: 0.0-100.0%	0.00%	○
P01.12	DC brake time of stop	Setting range: 0.00-50.00s	0.00s	○
P01.18	Power-on terminal running protection selection	0: Terminal running command is invalid at power on 1: Terminal running command is valid at power on	0	◎
P02.00	Type of motor 1	0: Asynchronous motor (AM) 1: Synchronous motor (SM)	0	◎
P02.01	Rated power of AM 1	0.1-3000.0kW	Model depended	◎
P02.02	Rated frequency of AM 1	0.01Hz-P00.03 (Max. output frequency)	50.00Hz	◎

Function code	Function name	Description	Default	Modify
P02.03	Rated speed of AM 1	1-3600rpm	Model depended	⊙
P02.04	Rated voltage of AM 1	0-1200V	Model depended	⊙
P02.05	Rated current of AM 1	0.8-6000.0A	Model depended	⊙
P02.15	Rated power of SM 1	0.1-3000.0kW	Model depended	⊙
P02.16	Rated frequency of SM 1	0.01Hz-P00.03 (Max. output frequency)	50.00Hz	⊙
P02.17	Number of pole pairs of SM 1	1-128	2	⊙
P02.18	Rated voltage of SM 1	0-1200V	Model depended	⊙
P02.19	Rated current of SM 1	0.8-6000.0A	Model depended	⊙
P02.23	Counter EMF of SM 1	0-10000	300	○
P04.01	Torque boost of motor 1	Setting range: 0.0% (Auto); 0.1%-10.0%	0	○
P05.01	Function of S1 terminal	0: No function 1: Forward running (FWD)	1	⊙
P05.02	Function of S2 terminal	2: Reverse running (REV) 3: 3-wire control/Sin	4	⊙
P05.03	Function of S3 terminal	4: Forward jogging 5: Reverse jogging 6: Coast to stop	7	⊙
P05.04	Function of S4 terminal	7: Fault reset 8: Running pause 9: External fault input 10: Frequency increase (UP) 11: Frequency decrease (DOWN) Note: Scan the QR code to refer to the operation manual for more.	0	⊙
P06.01	Y output selection	0: Invalid 1: In running	0	○
P06.03	RO1 output selection	2: In forward running 3: In reverse running 4: In jogging 5: VFD fault	1	○
P06.04	RO2 output selection	6: Frequency level detection FDT1 7: Frequency level detection FDT2 8: Frequency reached Note: Scan the QR code to refer to the operation manual for more.	5	○
P06.14	AO1 output selection	0: Running frequency 1: Set frequency	0	○
P06.15	AO2 output selection	3: Running speed (relative to twice the motor synchronous rotational speed) 4: Output current (relative to twice the rated VFD current) 5: Output current (relative to twice the rated motor current) 6: Output voltage (relative to 1.5 times the rated VFD voltage) 7: Output power (relative to twice the rated motor power) Note: Scan the QR code to refer to the operation manual for more.	0	○
P06.16	HDO output selection		0	○
P06.18	Corresponding AO1 output lower limit	Setting range: 0.00-10.00V	0.00V	○
P06.20	Corresponding AO1 output upper limit	Setting range: 0.00-10.00V	10.00V	○
P06.23	Corresponding AO2 output lower limit	Setting range: 0.00-10.00V	0.00V	○
P06.25	Corresponding AO2 output upper limit	Setting range: 0.00-10.00V	10.00V	○
P07.00	User password	0-65535	0	○
P14.00	Local communication address	1-247 Note: The slave address cannot be set to 0.	1	○
P14.01	Communication baud rate setting	0: 1200BPS 1: 2400BPS 2: 4800BPS 3: 9600BPS 4: 19200BPS 5: 38400BPS	4	○

Function code	Function name	Description	Default	Modify
P14.02	Data bit check setting	0: No parity check (N, 8, 1) for RTU 1: Even parity (E, 8, 1) for RTU 2: Odd parity (O, 8, 1) for RTU 3: No parity check (N, 8, 2) for RTU 4: Even parity (E, 8, 2) for RTU 5: Odd parity (O, 8, 2) for RTU	1	○

5 Keypad

Table 5.1 LCD keypad

Item	Description
Status indicator	<p>RUN: VFD running status indicator. LED off: The VFD is stopped. LED blinking: The VFD is autotuning parameters. LED on: The VFD is running.</p> <p>TRIP: Fault indicator. LED on: in fault state. LED off: in normal state. LED blinking: in pre-alarm state</p> <p>QUICK/JOG: Shortcut key indicator, which displays different states under different functions. See the definition of QUICK/JOG for details.</p>
Keys	<p>Function key: The function of a function key varies with the menu and is displayed at the bottom of the display area.</p> <p>Shortcut key: Re-definable. It is defined as JOG function by default, namely jogging. The function of the shortcut key can be set through the ones place of P07.12: 0: No function 1: Jog 2: Reserved 3: Switch between FWD/REV running 4: Clear the Up/Down setting 5: Coast to stop 6: Switch running-command giving modes in order 7: Reserved Note: After restoring to the default setting, the default function of the shortcut key is 1.</p> <p>Confirmation key: The confirmation key function varies with the menu (Example: confirming parameter settings, confirming parameter selection, and entering the next menu)</p> <p>Run key: Under keypad operation mode, the running key is used for running or autotuning.</p> <p>Stop/Reset key: In running state, you can press this key to stop running or autotuning. This key is restricted by P07.04. In fault alarm state, this key can be used for reset in any control modes.</p> <p>Direction key: Up: Its function varies with the interface (Example: shifting up the displayed/selected item and changing digits) Down: Its function varies with the interface (Example: shifting down the displayed/selected item and changing digits) Left: Its function varies with the interface (Example: switching the monitoring interface, shifting the cursor leftward, and returning to the previous menu) Right: Its function varies with the interface (Example: switching the monitoring interface, shifting the cursor rightward, and entering the next menu)</p>
Display area	LCD : Display screen. 240*160 dot-matrix LCD, able to display three monitoring parameters or six sub-menu items simultaneously.
Other	<p>RJ45 interface: RJ45 interface. The RJ45 interface is used to connect to the VFD.</p> <p>Battery cover: Clock battery cover. To replace or mount the clock battery, remove this cover, and then close the cover after the battery is mounted.</p> <p>USB terminal: Mini USB terminal. The mini USB terminal is used to connect to the USB flash drive through an adapter.</p>

Table 5.2 LED keypad

Item	Description
Status indicator	<p>RUN/TUNE: VFD running status indicator. LED off: The VFD is stopped. LED blinking: The VFD is autotuning parameters. LED on: The VFD is running.</p> <p>FWD/REV: Forward or reverse running indicator. LED off: The VFD is running forward. LED on: The VFD is running reversely.</p> <p>LOCAL/REMOTE: Indicates whether the VFD is controlled through the keypad, terminals, or communication. LED off: The VFD is controlled through the keypad. LED blinking: The VFD is controlled through terminals. LED on: The VFD is controlled through remote communication.</p> <p>TRIP: Fault indicator.</p>

Item	Description																																																																		
Unit indicator	<p>LED on: in fault state LED off: in normal state LED blinking: in pre-alarm state</p> <p>Unit displayed currently:</p> <table border="1"> <tr> <td>Hz</td> <td>Frequency unit</td> </tr> <tr> <td>RPM</td> <td>Rotational speed unit</td> </tr> <tr> <td>A</td> <td>Current unit</td> </tr> <tr> <td>%</td> <td>Percentage</td> </tr> <tr> <td>V</td> <td>Voltage unit</td> </tr> </table>	Hz	Frequency unit	RPM	Rotational speed unit	A	Current unit	%	Percentage	V	Voltage unit																																																								
Hz	Frequency unit																																																																		
RPM	Rotational speed unit																																																																		
A	Current unit																																																																		
%	Percentage																																																																		
V	Voltage unit																																																																		
Digital display zone	<p>Five-digit LED displays various monitoring data and alarm codes such as the set frequency and output frequency.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Means</th> <th>Display</th> <th>Means</th> <th>Display</th> <th>Means</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>2</td> <td>2</td> </tr> <tr> <td>3</td> <td>3</td> <td>4</td> <td>4</td> <td>5</td> <td>5</td> </tr> <tr> <td>6</td> <td>6</td> <td>7</td> <td>7</td> <td>8</td> <td>8</td> </tr> <tr> <td>9</td> <td>9</td> <td>A</td> <td>A</td> <td>b</td> <td>B</td> </tr> <tr> <td>C</td> <td>C</td> <td>d</td> <td>d</td> <td>E</td> <td>E</td> </tr> <tr> <td>F</td> <td>F</td> <td>H</td> <td>H</td> <td>i</td> <td>I</td> </tr> <tr> <td>L</td> <td>L</td> <td>n</td> <td>N</td> <td>n</td> <td>n</td> </tr> <tr> <td>g</td> <td>o</td> <td>P</td> <td>P</td> <td>r</td> <td>r</td> </tr> <tr> <td>S</td> <td>S</td> <td>t</td> <td>t</td> <td>U</td> <td>U</td> </tr> <tr> <td>v</td> <td>v</td> <td>.</td> <td>.</td> <td>.</td> <td>.</td> </tr> </tbody> </table>	Display	Means	Display	Means	Display	Means	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	A	A	b	B	C	C	d	d	E	E	F	F	H	H	i	I	L	L	n	N	n	n	g	o	P	P	r	r	S	S	t	t	U	U	v	v
Display	Means	Display	Means	Display	Means																																																														
0	0	1	1	2	2																																																														
3	3	4	4	5	5																																																														
6	6	7	7	8	8																																																														
9	9	A	A	b	B																																																														
C	C	d	d	E	E																																																														
F	F	H	H	i	I																																																														
L	L	n	N	n	n																																																														
g	o	P	P	r	r																																																														
S	S	t	t	U	U																																																														
v	v																																																														
Digital potentiometer	Frequency tuning. For details, see the description of P08.41.																																																																		
Keys	<p>PRO ESC: Programming key. Press it to enter or exit level-1 menus or delete a parameter.</p> <p>DATA ENT: Entry key. Press it to enter menus in cascading mode or confirm the setting of a parameter.</p> <p>UP: UP key. Press it to increase data or move upward.</p> <p>DOWN: DOWN key. Press it to decrease data or move downward.</p> <p>RIGHT: Right-shifting key. Press it to select display parameters rightward in the interface for the device in stopped or running state or to select digits to change during parameter setting.</p> <p>RUN: Run key. Press it to run the device when using the keypad for control.</p> <p>STOP RST: Stop/Reset key. Press it to stop the device that is running. The function of this key is restricted by P07.04. In fault alarm state, this key can be used for reset in any control modes.</p> <p>QUICK JOG: Shortcut multifunction key. The function is determined by P07.02.</p>																																																																		

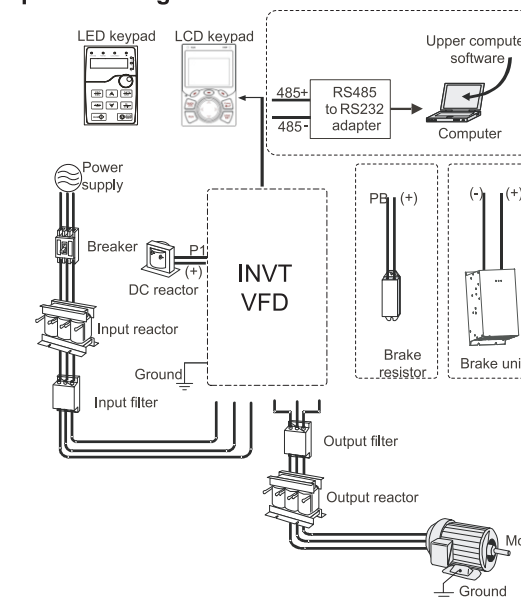
6 VFD faults and solutions

The following lists common VFD faults and the solutions. Please scan the e-manual platform QR code provided in part 8 or marked on the VFD housing for more information.

Fault code	Fault type	Possible cause	Solution
OU1	Phase-U protection of inverting unit	ACC is too fast. IGBT module is damaged.	Increase ACC time. Replace the power unit.
OUI2	Phase-V protection of inverting unit	Misacts are caused by interference.	Check drive wires. Check whether there is strong interference surrounding peripheral equipment.
OU3	Phase-W protection of inverting unit	Drive wires are poorly connected. To-ground short circuit occurred.	Check drive wires. Check whether there is strong interference surrounding peripheral equipment.
OV1	Overvoltage during ACC	DEC time is too short. Input voltage exception occurred.	Check the input power supply. Check whether load DEC time is too short.
OV2	Overvoltage during DEC	Large energy feedback occurred.	Install an energy consumption braking unit.
OV3	Overvoltage during constant speed running	There is no brake unit. Energy consumption braking is disabled.	Check the settings of related function codes.
OC1	Overcurrent during ACC	ACC/DEC is too fast. Grid voltage is too low.	Increase ACC/DEC time. Check the input power supply.
OC2	Overcurrent during DEC	VFD power is too small. Load transient or exception occurred.	Select a VFD with higher power. Check whether the load encounters (to-ground or line-to-line) short circuit or the rotation is blocked.
OC3	Overcurrent during constant speed running	To-ground short circuit or output phase loss occurred. Strong external interference sources exist. Overcurrent stall protection is disabled.	Check the output wiring. Check whether there is strong interference. Check the settings of related function codes.
UV	Bus undervoltage	Grid voltage is too low. Overvoltage stall protection is disabled.	Check the input power supply. Check the settings of related function codes.
OL1	Motor overload	Grid voltage is too low. Rated motor current is set	Check grid voltage. Reset motor rated current.

Fault code	Fault type	Possible cause	Solution
		improperly. Motor stall or load jumps violently.	Check the load and adjust torque boost.
OL2	VFD overload	ACC is too fast. The motor in rotating is restarted. Grid voltage is too low. Load is too large. Power is too small.	Increase ACC time. Avoid restart after stop. Check grid voltage; Select a VFD with higher power. Select a proper motor
SPI	Phase loss on input side	Phase loss or violent fluctuation occurred to R, S and T.	Check the input power supply. Check installation wiring.
SPO	Phase loss on output side	Phase loss occurred to U, V, and W (or the three phases of the load is asymmetrical)	Check output wiring. Check the motor and cable.
OH1	Rectifier module overheat	Air duct is blocked or fan is damaged. Ambient temperature is too high.	Dredge the air duct or replace the fan. Lower the ambient temperature.
OH2	Inverting module overheat	Long-time overload running.	
EF	External fault	SI external fault input terminal acts.	Check external equipment input.
CE	RS485 communication fault	Incorrect baud rate setting. Communication line fault. Incorrect communication address. Communication suffers from strong interference.	Set a proper baud rate. Check communication interface wiring. Set a proper communication address. Replace or change the wiring to enhance anti-interference capacity.

7 Peripheral wiring



8 INVT e-manual platform QR code

Please scan the following e-manual platform QR code to refer to the required operation manual for more information.



9 More information

Please contact us for any information. It is necessary to provide the product model and serial number during consultation. To obtain more information, you can: Contact INVT local office, visit www.invt.com, or scan the following QR code of INVT:

