

Quick Start for WD200 Series Inverters

① Download User Manual

To install and commission the inverter correctly, you need to have a thorough understanding of the relevant information. You can find the necessary details in the *WD200 Series Inverter Manual*. Please scan the QR code on the right to access the electronic version of the user manual. This Quick Start cannot substitute the *WD200 Series Inverter Manual*.



Danger

Electrocution, Explosion, or Electric Shock

Only professionals who are familiar with and fully understand the contents of this manual and all other relevant product documentation, and have received the necessary training to identify and avoid associated risks, are authorized to operate the inverters.

- Only qualified professionals are allowed to carry out installation, commissioning, and maintenance.
- Check compliance with local and national electrical regulations, as well as other applicable regulations related to equipment grounding.
- Use insulated tools and measuring devices with correct ratings only.
- Do not touch exposed components or terminals when the power is on.
- Insulate both ends of the motor cables that are not used with conductors.
- Do not short-circuit DC bus terminals or braking resistor terminals.
- Before performing operations on the inverters:
 - Disconnect all power sources, including external control power.
 - Place "Do Not Energize" labels on all power switches.
 - Lock all power switches in the open position.
 - Wait for 10 minutes to allow the discharge of DC bus capacitors.
 - Confirm the absence of any other voltage in the inverter system.
- Before powering on the inverters:
 - Make sure that all installation and wiring tasks have been completed properly.
 - If there is grounding and short-circuit on the main power input terminals and motor output terminals remove the grounding and short-circuit from these terminals.
 - Confirm that all devices are properly grounded.
 - Confirm that safety devices such as safety doors and barriers are installed and/or closed.

Failure to follow these operating instructions may result in serious injury or fatality.

② Acceptance and inspection of inverters

Take out the inverter from the packaging box. Inspect the inverter for any signs of damage that may have occurred during transit. If you notice any damage, please contact your agent or our customer support.

Danger

Risk of Electric Shock or Unexpected Equipment

Operation:

Do not use damaged products or accessories, as they may cause electric shock or unexpected equipment operation.

Failure to follow these operating instructions may result in serious injury or fatality.

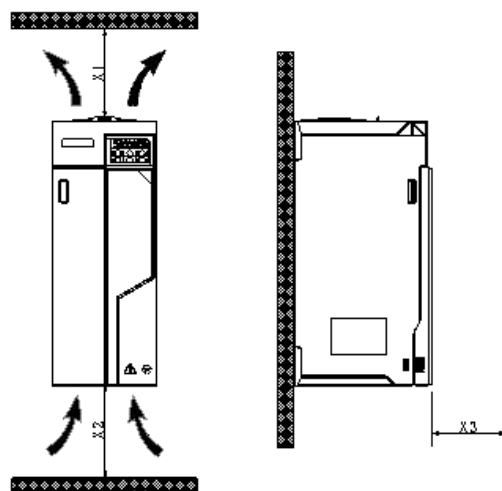
③ Inverter's working environment

The inverter is suitable for operation under the following environmental conditions

- IP rating: IP20
- Ambient temperature: -10°C - 40°C , maximum 50°C (requires derating)
- Working altitude: 0 m - 3000 m (derating required for 1000 m and above)
- Relative humidity: no dripping and no condensation: 5% - 95%

The derating factor can be found in the *WD200 Series Inverter Manual*.

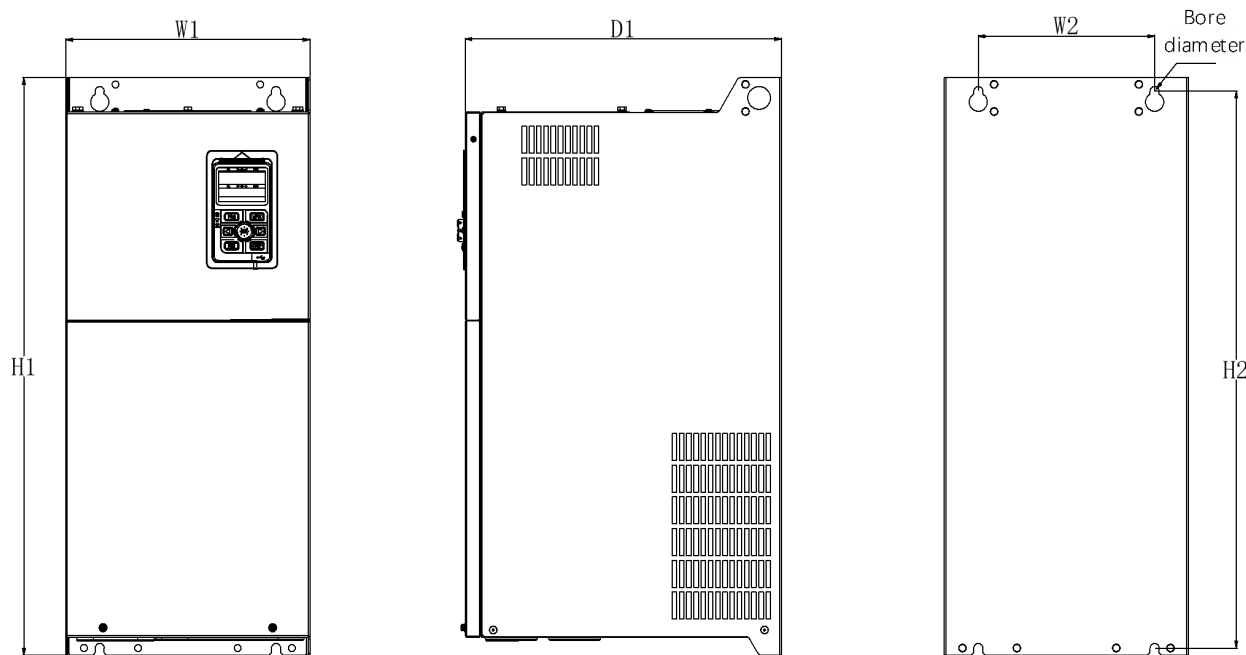
④ Vertically installing the inverter



Rack Size	X1	X2	X3
1...4	$\geq 100\text{ mm}$	$\geq 50\text{ mm}$	$\geq 10\text{ mm}$
5	$\geq 200\text{ mm}$	$\geq 100\text{ mm}$	$\geq 10\text{ mm}$
6...8	$\geq 300\text{ mm}$	$\geq 150\text{ mm}$	$\geq 10\text{ mm}$
9...12	$\geq 250\text{ mm}$	$\geq 120\text{ mm}$	$\geq 10\text{ mm}$

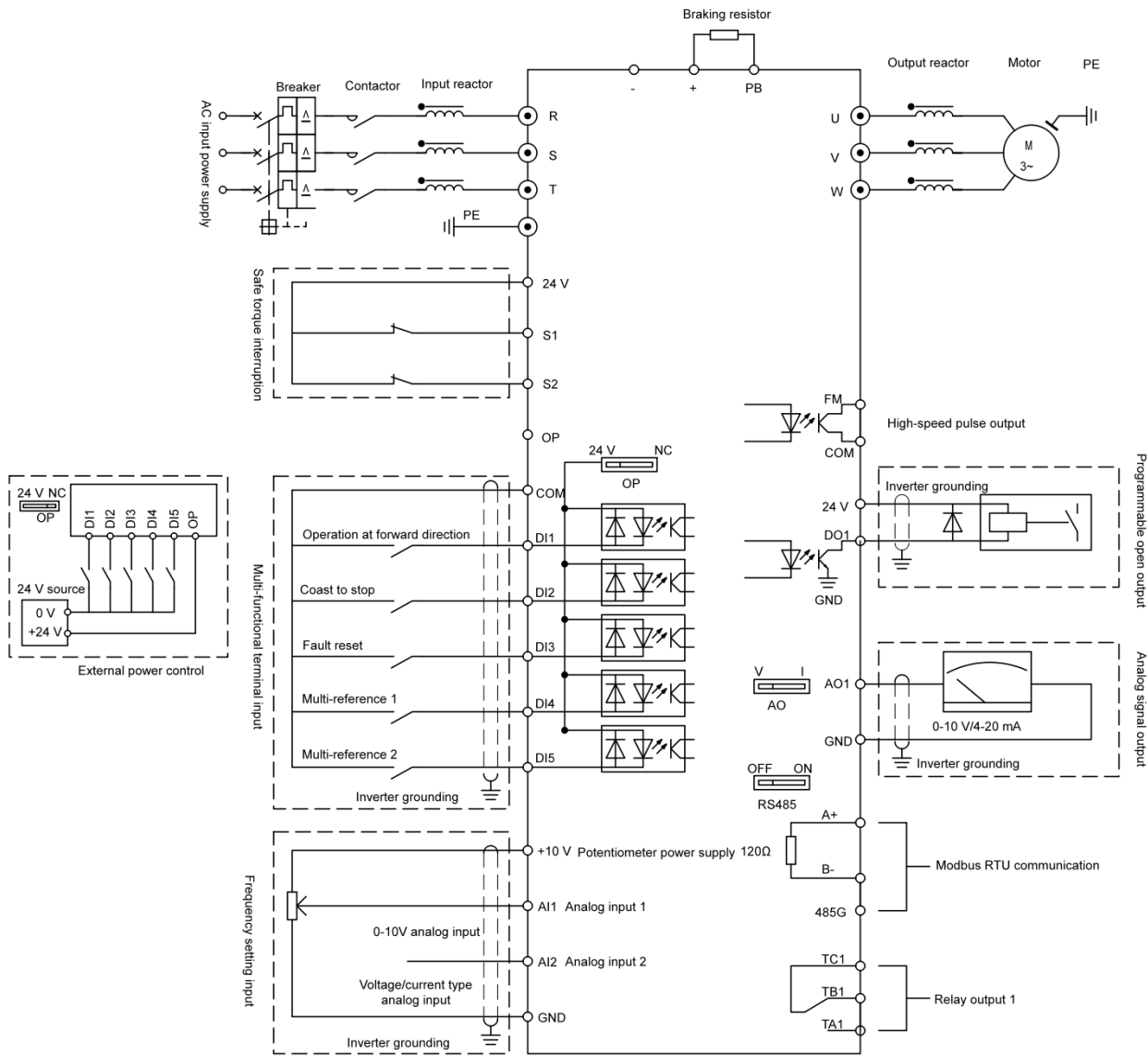
⑤ Dimensions

Model	Dimensions (mm)						Rack size
	W1	D1	H1	W2	H2	Bore diameter	
WD200-T3-R75G-B WD200-T3-1R5G-B WD200-T3-2R2G-B	80	155	200	65	190	3-∅ 5	Rack size 1
WD200-T3-004G/5R5P-B WD200-T3-5R5G/7R5P-B	100	155	242	84	232	4-∅ 5	Rack size 2
WD200-T3-7R5G/011P-B WD200-T3-011G/015P-B	116	175	320	98	308	4-∅ 6	Rack size 3
WD200-T3-015G/018P-B WD200-T3-018G/022P-B WD200-T3-022G/030P-B	142	225	383	120	372	4-∅ 6	Rack size 4
WD200-T3-030G/037P WD200-T3-037G/045P	170	225	430	150	416	4-∅ 6.5	Rack size 5
WD200-T3-045G/055P WD200-T3-055G/075P WD200-T3-075G/090P	240	310	560	176	545	4-∅ 7	Rack size 6
WD200-T3-090G/110P WD200-T3-110G/132P	270	350	638	195	615	4-∅ 10	Rack size 7
WD200-T3-132G/160P WD200-T3-160G/185P	350	390	735	220	715	4-∅ 10	Rack size 8
WD200-T3-185G/200P WD200-T3-200G/220P WD200-T3-220G/250P	360	485	942	200	890	4-∅ 12	Rack size 9
WD200-T3-250G/280P WD200-T3-280G/315P	370	545	1127	200	1075	4-∅ 20	Rack size 10
WD200-T3-315G/355P WD200-T3-355G/400P WD200-T3-400G/450P	400	545	1212	240	1147	4-∅ 20	Rack size 11
WD200-T3-450G/500P WD200-T3-500G/560P WD200-T3-560G/630P	460	545	1400	300	1340	4-∅ 20	Rack size 12

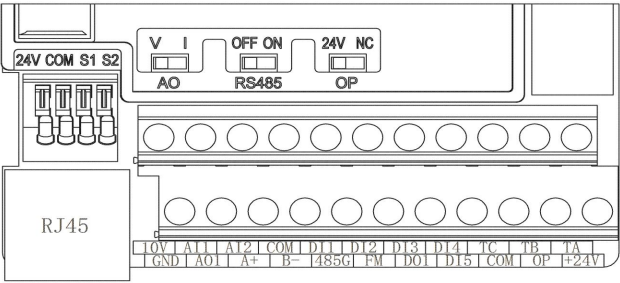


⑥ Electric Wiring Diagram

Suitable for rack sizes 1-5



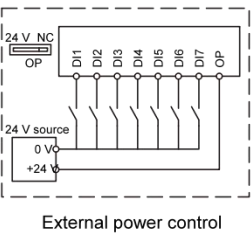
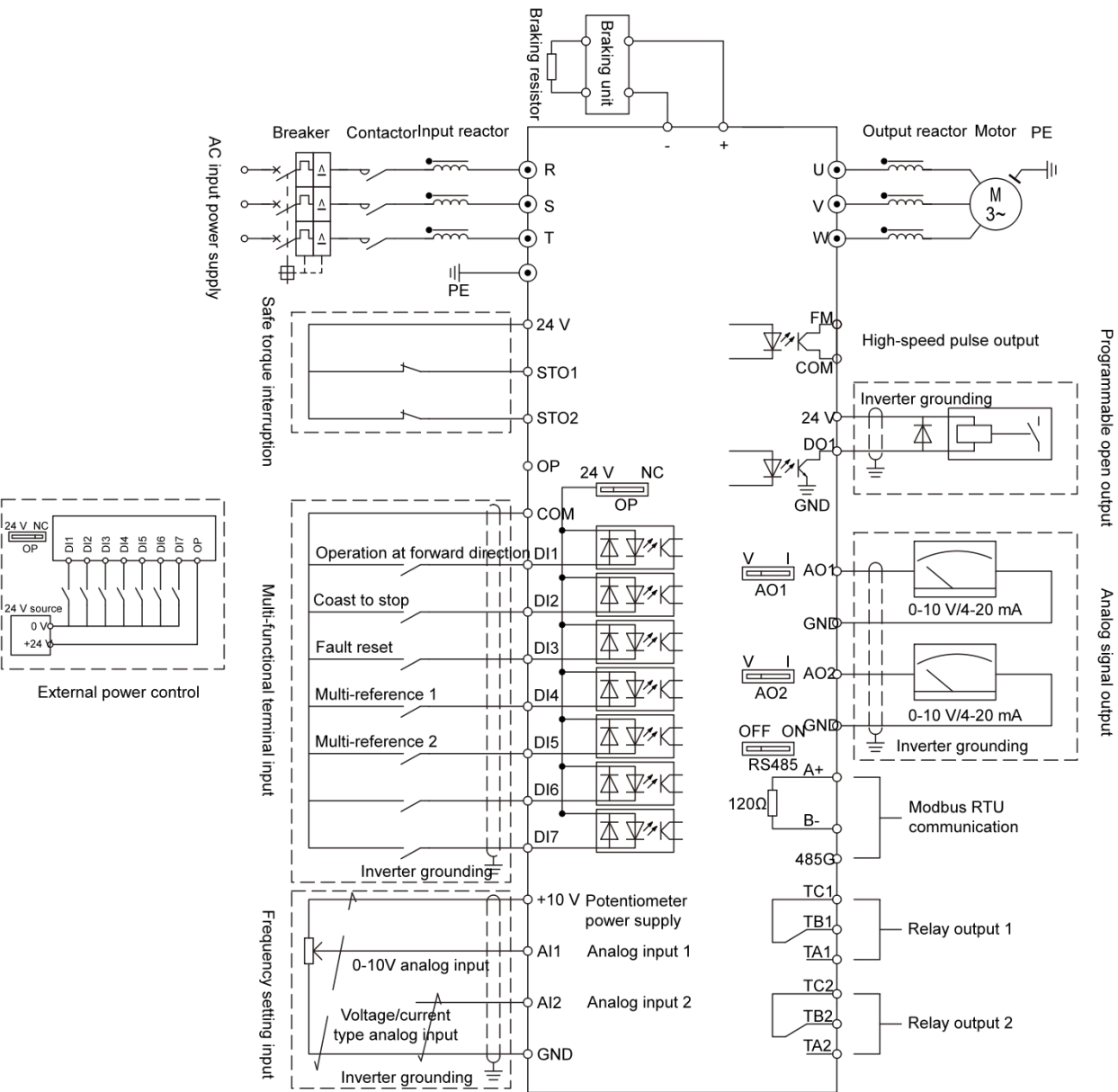
Positions and definitions of the DIP switches:



A0	A0_V: A0 output 0 V - 10 V A0_I: A0 output 0 mA - 20 mA/4 mA - 20 mA
RS485	OFF: RS485 is not connected to a 120 Ω termination resistor ON: RS485 is connected to a 120 Ω termination resistor
OP	24V: internal 24V is active NC: external 24V is active External +24VDC needs to be connected to the OP terminal

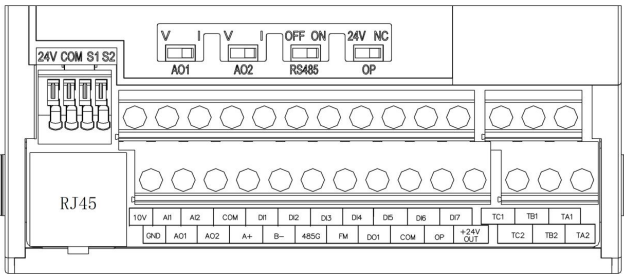
⑥ Electric Wiring Diagram

Suitable for rack sizes 6-14



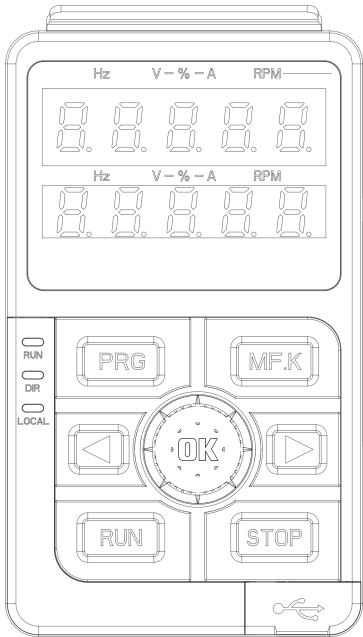
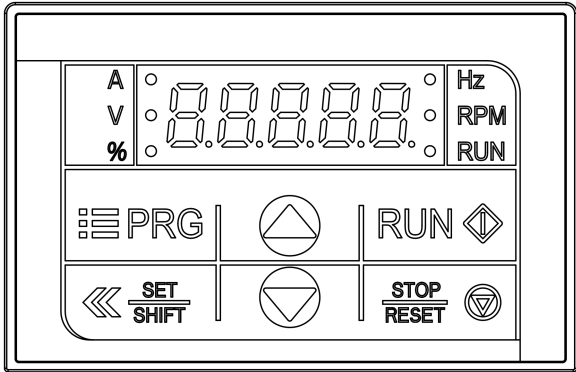
External power control

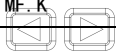
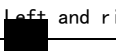
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⑦ Operation Panel



Unit display	Hz: Frequency A: Current V: Voltage RPM: Revolutions per minute %: Percentage
RUN Running indicator	On: Running Off: Stopped/Shut down
DIR Direction indicator	On: Reverse Off: Forward
LOCAL Local control indicator:	On: Local (keyboard) control Off: External control (terminal control, communication control)
PRG 	◆ Enter the function menu interface when in standby or operation mode ◆ Press this key to exit parameter modification ◆ Long press (1 second) when in standby or operation mode to directly enter the status interface
MF. K MF. K 	The function is set by F08.10 [MF.K key on the keyboard]
 Left and right keys	◆ Move left and right during parameter setting ◆ In display mode, switch the content displayed on the upper and lower screens
 Up and down	◆ Increase/decrease value
	◆ Confirm/save value ◆ Move left and right ◆ Switch the content displayed in display mode
	◆ Rotate clockwise to increase the value and rotate counterclockwise to decrease the value ◆ Press the OK key to confirm/save the value
 RUN	Control the inverter to run locally
 STOP	Control the inverter to stop locally/reset fault
USB interface	Connect to the host computer

⑧ Simple Startup

For the first-time use of the inverter, you can follow the simple startup procedure below to perform basic settings and meet the requirements of a simple startup.

Step 1: Motor parameter setting (F04)

Code	Name	Settings	Range
F04.00	Selection of motor type	0: Normal asynchronous motor	0: Normal asynchronous motor 1: Variable frequency asynchronous motor 2: Permanent magnet synchronous motor
F04.01	Motor's rated power	Note: When the motor's rated frequency is greater than 50 Hz, adjust F00.13 (maximum frequency) first. F00.13 has a default value of 50 Hz.	Get the following data from the motor's nameplate: 
F04.02	Motor's rated voltage		
F04.03	Motor's rated current		
F04.04	Motor's rated frequency		
F04.05	Motor's rotational speed		
F04.09	Motor parameter identification	0: No operation	0: No operation 1: Asynchronous motor rotational auto-tuning 2: Asynchronous motor static auto-tuning 3: Asynchronous motor static complete auto-tuning 11: PMSM no-load rotational auto-tuning 12: PMSM static auto-tuning, identifying motor resistance and inductance 14: Asynchronous loaded auto-tuning
Motor parameter identification: 1. Before starting the auto-tuning, all motor parameters must be correctly set. 2. If there are any changes in motor parameters after the auto-tuning, re-execute the motor parameter identification. 3. Rotational auto-tuning is recommended for motors under unloaded conditions, while static auto-tuning is suitable for motors with a load already applied and where the motor shaft cannot easily disengage from the load. 4. The auto-tuning process has the highest priority, and it can be executed through the RUN button on the control panel or the command source set by F00.02.			

Step 2: Start/stop control parameter group (F00)

Code	Name	Settings	Range
F00.01	Motor control mode	2: V/F control	0: Sensorless vector control (SVC) Suitable for general application loads and mechanical loads 1: Flux vector control (FVC) Suitable for mechanical loads with speed feedback 2: V/F control Suitable for general application loads and low-power motors or motorless testing
F00.02	Command source selection	0: Operation panel command channel	0: Control panel command channel – start/stop control through the RUN/STOP button on the control panel. 1: Terminal command channel – start/stop control through a DI terminal 2: Communication command channel – START/STOP control through a communication bus to receive the start/stop signal
F00.05	Frequency setting channel A	0: F00.07 preset frequency (nonretentive at power down)	0: F00.07 preset frequency (nonretentive at power down) 1: F00.07 Preset frequency (retentive at power down) 2: AI1 3: AI2 4: AI3 5: Pulse reference 6: Multi-reference 7: Simple PLC 8: PID 9: Serial comms.

⑨ Simple Startup

Code	Name	Settings	Range
F00.07	Preset frequency	5.00 Hz	F00.05 is active when it is set to 0 or 1 Setting range: 0.00 Hz to F00.13 (max. frequency)
F00.13	Max. frequency	50 Hz	Setting range: 5.00 Hz to 300.00 Hz
F00.15	Max. frequency	50 Hz	Setting range: value of F00.17 to value of F00.13
F00.17	Min. frequency	0 Hz	Setting range: 0.00 Hz to value of F00.15
F00.18	Acceleration/deceleration time base frequency	0: Max. frequency	0: Max. frequency 1: Frequency reference 2: 100 Hz
F00.23	Acceleration time 1	20s	Time required to accelerate from 0 Hz to the frequency selected in F00.18
F00.24	Deceleration time 1	20s	Time required to decelerate from the frequency selected in F00.18 to 0 Hz

Step 3: Start/stop control parameter group (F01)

Code	Name	Settings	Range
F01.10	Stop method	0: Decelerate to stop	0: Decelerate to stop 1: Coast to stop
F01.15	Operating direction	0: default direction	0: default direction 1: opposite to the default direction
F01.16	Reverse control	0: Allow	0: Allow 1: Disallow

Step 4: Input terminal parameter setting (F02)

Code	Name	Settings	Range
F02.00	Selection of function of DI1	1: Forward	For the complete function table, refer to the user manual. This example only showcases the essential parameters required for a basic startup. For more DI terminal settings, refer to the detailed instructions in the user manual.
F02.01	Selection of function of DI2	8: Coast to stop	
F02.02	Selection of function of DI3	9: Fault reset	
F02.17	Terminal I/O control mode	0: Two-wire 1	0: Two-wire 1 1: Two-wire 2 2: Three-wire 1 3: Three-wire 2

Step 5: Fault protection parameter setting (F12)

Code	Name	Settings	Range
F12.06	Motor overload protection selection	1: Allow	0: Disallow 1: Allow
F12.07	Motor overload protection gain	1.00	Inverse time-limit curve for overload protection, with a setting range of 0.20 to 10.00
For more fault protection parameter settings, refer to the user manual.			

Step 6: Startup

Once you have completed the aforementioned settings, you can proceed to start the inverter.

During operation, please observe the stability of the output frequency and output current of the inverter.

For more parameters and detailed information, refer to the complete parameter table in the user manual.

⑩ Parameters

Function code	Parameter
F00.00	Load characteristics
F00.01	Motor control mode
F00.02	Command source selection
F00.03	Reserved
F00.04	Reserved
F00.05	Frequency setting channel A
F00.06	Frequency setting channel B
F00.07	Preset frequency
F00.08	Corresponding selection of frequency setting channel B
F00.09	Range of frequency setting channel B
F00.10	Frequency offset of frequency setting channel B for superposition
F00.11	Selection of frequency setting source
F00.12	Frequency setting accuracy
F00.13	Max. frequency
F00.14	Frequency upper limit source
F00.15	Max. frequency
F00.16	Frequency upper limit offset
F00.17	Min. frequency
F00.18	Acceleration/deceleration time base frequency
F00.19	Acceleration/deceleration time unit
F00.20	Acceleration/deceleration mode
F00.21	Time proportion of S-curve start segment
F00.22	Time proportion of S-curve end segment
F00.23	Acceleration time 1
F00.24	Deceleration time 1
F00.25	Acceleration time 2
F00.26	Deceleration time 2
F00.27	Acceleration time 3
F00.28	Deceleration time 3
F00.29	Acceleration time 4
F00.30	Deceleration time 4
F00.31	Switchover frequency of acceleration time 1 and acceleration time 2
F00.32	Switchover frequency of deceleration time 1 and deceleration time 2

Function code	Parameter
F00.33	Reserved
F00.34	Reserved
F00.35	Reserved
F00.36	Power down retentive selection via UP/DOWN
F00.37	Base frequency for UP/DOWN modification during running
F00.38	Command source + frequency source
F00.39	Serial port communication protocol
F00.40	Reserved
F00.41	User password
F00.42	Function code read-only control
F00.43	Parameter initialization

Function code	Parameter
F01.00	Start mode
F01.01	Method of catching a spinning motor
F01.02	Current of catching a spinning motor

Function code	Parameter
F01.03	Spinning motor catching time
F01.04	Start frequency
F01.05	Start frequency holding time
F01.06	Start pre-excitation current
F01.07	Start pre-excitation time
F01.08	Brake utilization rate
F01.09	Reserved
F01.10	Stop method
F01.11	Starting frequency of DC braking during shutdown
F01.12	Waiting time of DC braking during shutdown
F01.13	DC braking current during shutdown
F01.14	DC braking time during shutdown
F01.15	Operating direction
F01.16	Reverse control
F01.17	Waiting time for switchover between forward rotation and reverse rotation

Function code	Parameter
F01.17	Waiting time for switchover between forward rotation and reverse rotation
F01.18	Jog frequency reference
F01.19	Jog acceleration time
F01.20	Jog deceleration time
F01.21	Jogging first
F01.22	Jump frequency 1
F01.23	Jump frequency 2
F01.24	Jump frequency width
F01.25	Whether jump frequency is effective during acceleration and deceleration process
F01.26	Wakeup frequency
F01.27	Wakeup delay time
F01.28	Hibernating frequency
F01.29	Hibernating delay time
F01.30	Demagnetization time when catching a spinning motor
F01.31	Reserved
F01.32	Reserved
F01.33	Reserved
F01.34	Reserved
F01.35	Power dip ride_x0002_through function selection
F01.36	Threshold of power dip ride_x0002_through function disabled
F01.37	Judging time of bus voltage recovering from power dip
F01.38	Threshold of power dip ride_x0002_through function enabled
F01.39	Power dip ride-through gain Kp
F01.40	Power dip ride-through integral coefficient Ki
F01.41	Deceleration time of power dip ride-through

⑩ Parameters

Function code	Parameter
F02.00	Selection of function of DI1
F02.01	Selection of function of DI2
F02.02	Selection of function of DI3
F02.03	Selection of function of DI4
F02.04	Selection of function of DI5
F02.05	Selection of function of DI6
F02.06	Selection of function of DI7
F02.07	Selection of function of DI8
F02.08	Selection of function of DI9
F02.09	Selection of function of DI10
F02.10	DI filtering time

Function code	Parameter
F02.11	DI1-DI5 active mode selection
F02.12	DI6-DI10 active mode selection
F02.13	DI1 delay time
F02.14	DI2 delay time
F02.15	DI3 delay time
F02.16	Terminal UP/DOWN change rate per second
F02.17	Terminal I/O control mode
F02.18	Reserved
F02.19	Reserved
F02.20	AI curve 1 min. input
F02.21	Corresponding percentage of AI curve 1 min. input
F02.22	AI curve 1 max. input
F02.23	Corresponding percentage of AI curve 1 max. input
F02.24	AI curve 2 minimum input
F02.25	Corresponding percentage of AI curve 2 min. input
F02.26	AI curve 2 max. input
F02.27	Corresponding percentage of AI curve 2 max. input
F02.28	AI curve 3 minimum input

Function code	Parameter
F02.29	Corresponding percentage of AI curve 3 min. input
F02.30	AI curve 3 max. input
F02.31	Corresponding percentage of AI curve 3 max. input
F02.32	AI curve 4 minimum input
F02.33	Corresponding percentage of AI curve 4 min. input
F02.34	AI curve 4 inflexion 1 input
F02.35	Corresponding percentage of AI curve 4 inflexion 1 input
F02.36	AI curve 4 inflexion 2 input
F02.37	Corresponding percentage of AI curve 4 inflexion 2 input
F02.38	AI curve 4 max. input
F02.39	Corresponding percentage of AI curve 4 max. input
F02.40	AI curve 5 minimum input
F02.41	Corresponding percentage of AI curve 5 min. input
F02.42	AI curve 5 inflexion 1 input
F02.43	Corresponding percentage of AI curve 5 inflexion 1 input
F02.44	AI curve 5 inflexion 2 input
F02.45	Corresponding percentage of AI curve 5 inflexion 2 input
F02.46	AI curve 5 max. input
F02.47	Corresponding percentage of AI curve 4 max. input
F02.48	Reserved
F02.49	Reserved
F02.50	AI curve setting selection
F02.51	Setting selection when AI less than min. input
F02.52	AI1 input signal selection

Function code	Parameter
F02.53	AI1 filtering time
F02.54	AI1 setting jump point
F02.55	AI1 setting jump width
F02.56	AI2 input signal selection
F02.57	AI2 filtering time
F02.58	AI2 setting jump point
F02.59	AI2 setting jump width
F02.60	AI3 input signal selection
F02.61	AI3 filtering time
F02.62	AI3 setting jump point
F02.63	AI3 setting jump width
F02.64	Pulse minimum input
F02.65	Pulse minimum input setting
F02.66	Pulse maximum input
F02.67	Pulse maximum input setting
F02.68	Pulse filtering time

Function code	Parameter
F03.00	Selection of FM output signals
F03.01	Selection of output function of FMR
F03.02	Relay output 1
F03.03	Relay output 2
F03.04	Relay output 3
F03.05	DO1 output
F03.06	DO2 output
F03.07	AO1 output
F03.08	AO2 output
F03.09	FMP output
F03.10	AO1 gain
F03.11	AO1 zero offset coefficient
F03.12	Selection of AO1 output signal
F03.13	Reserved
F03.14	AO2 gain
F03.15	AO2 zero offset coefficient
F03.16	Selection of AO2 output signal
F03.17	Reserved
F03.18	Relay output 1 delay time
F03.19	Relay output 2 delay time
F03.20	Relay output 3 delay time
F03.21	FMR output delay time
F03.22	DO1 output delay time
F03.23	DO2 output delay time
F03.24	Logic output terminal inactive status selection
F03.25	Reserved
F03.26	FMP output max. frequency
F03.27	Reserved

⑩ Parameters

Function code	Parameter
F04.00	Selection of motor type
F04.01	Motor's rated power
F04.02	Motor's rated voltage
F04.03	Motor's rated current
F04.04	Motor's rated frequency
F04.05	Motor's rotational speed
F04.06	Reserved
F04.07	Reserved
F04.08	Reserved

Function code	Parameter
F04.09	Motor parameter identification
F04.10	Asynchronous motor stator resistance
F04.11	Asynchronous motor rotor resistance
F04.12	Asynchronous motor leakage inductance
F04.13	Asynchronous motor mutual inductance
F04.14	Asynchronous motor no-load current
F04.15	Asynchronous motor stator inductance
F04.16	Synchronous motor stator resistance
F04.17	Synchronous motor d-axis inductance
F04.18	Synchronous motor q-axis inductance
F04.19	Reserved
F04.20	Counterelectromotive force coefficient of synchronous motor
F04.21	Reserved
F04.22	Reserved
F04.23	Reserved
F04.24	Reserved
F04.25	Encoder type
F04.26	Number of ABZ encoder pulses
F04.27	Reserved
F04.28	ABZ encoder AB phase sequence
F04.29	Installation position angle of ABZ encoder
F04.30	Phase sequence of rotary encoder UVW signal
F04.31	Zero position angle of rotary encoder UVW signal
F04.32	Rotational pole number
F04.33	Encoder disconnection detection time

Function code	Parameter
F05.00	Speed loop proportional gain 1
F05.01	Speed loop integration time 1
F05.02	Switching frequency 1
F05.03	Speed loop proportional gain 2
F05.04	Speed loop integration time 2
F05.05	Switching frequency 2
F05.06	Vector control slip gain
F05.07	Speed feedback filtering time
F05.08	Vector control overexcitation gain
F05.09	Speed control electric torque upper limit source
F05.10	Speed control electric torque upper limit numeric setting
F05.11	Speed control braking torque upper limit source
F05.12	Speed control braking torque upper limit numeric setting
F05.13	Excitation regulation proportional gain
F05.14	Excitation regulation integral gain
F05.15	Torque regulation proportional gain
F05.16	Torque regulation proportional gain
F05.17	Speed loop integral attribute
F05.18	Synchronous motor weak magnetic mode
F05.19	Synchronous motor weak magnetic coefficient
F05.20	Reserved
F05.21	Reserved
F05.22	Reserved
F05.23	Reserved
F05.24	Synchronous motor initial position detection current

Function code	Parameter
F05.25	Reserved
F05.26	Initial position identification fault enabling
F05.27	Synchronous motor saliency adjustment gain
F05.28	Maximum torque current ratio control
F05.29	Power generation torque upper limit enabling
F05.30	Reserved
F05.31	Reserved
F05.32	Reserved
F05.33	Low-speed excitation current
F05.34	Low-speed carrier frequency

Function code	Parameter
F05.35	Reserved
F05.36	Reserved
F05.37	Reserved
F05.38	Reserved
F05.39	Synchronous motor inductance detection current
F05.40	Reserved
F05.41	Reserved
F05.42	Reserved
F05.43	Current loop kp during tuning
F05.44	Current loop ki during tuning
F05.49	Speed loop mode selection
F05.50	Z signal correction
F05.51	Zero servo enabling
F05.52	Zero servo switching frequency
F05.53	Zero servo speed loop proportional gain
F05.54	Zero servo speed loop integration time

Function code	Parameter
F06.00	V/F curve setting
F06.01	Torque increase
F06.02	Torque increase cutoff frequency
F06.03	Automatic torque boost compensation gain
F06.04	V/F overexcitation gain
F06.05	Shift compensation coefficient
F06.06	Shift compensation filtering time
F06.07	Multi point V/F frequency point 1
F06.08	Multi point V/F voltage point 1
F06.09	Multi point V/F frequency point 2
F06.10	Multi point V/F voltage point 2
F06.11	Multi point V/F frequency point 3
F06.12	Multi point V/F voltage point 3
F06.13	V/F separation voltage source
F06.14	Digital setting of V/F separation voltage source
F06.15	Voltage acceleration time for VF separation
F06.16	Voltage deceleration time for VF separation
F06.17	Selection of V/F separation shutdown mode
F06.18	Oscillation suppression gain mode
F06.19	Oscillation suppression gain
F06.20	Reserved
F06.21	Enable over-current stall suppression
F06.22	Enable over-current action suppression

⑩ Parameters

Function code	Parameter
F06.23	Overcurrent stall suppression gain
F06.24	Compensation factor of speed multiplying current limit level
F06.25	Over-voltage stall enable
F06.26	Over-voltage stall action voltage
F06.27	Over-voltage stall suppression frequency gain
F06.28	Over-voltage stall suppression voltage gain
F06.29	Max. rise frequency limit for over-voltage stall

Function code	Parameter
F07.00	Carrier frequency
F07.01	Carrier frequency adjusted with temperature
F07.02	PWM modulation method
F07.03	Random PWM
F07.04	DPWM switching upper limit frequency
F07.05	Dead-zone compensation mode selection
F07.06	Dead-zone time adjustment
F07.07	Over-current fast prevention
F07.08	Voltage over modulation coefficient

Function code	Parameter
F09.00	Frequency detection value (FDT1)
F09.01	Frequency detection delay (FDT1)
F09.02	Detection width of target frequency reached
F09.03	Frequency detection value (FDT2)
F09.04	Frequency detection delay (FDT2)
F09.05	Frequency detection value 1 of random frequency reached
F09.06	Width detection value 1 of random frequency reached
F09.07	Frequency detection value 2 of random frequency reached
F09.08	Width detection value 2 of random frequency reached
F09.09	Zero current detection level
F09.10	Zero current detection delay
F09.11	Output over-current threshold

Function code	Parameter
F09.12	Output over-current detection delay
F09.13	Detection level of current 1
F09.14	Detection width of current 1
F09.15	Detection level of current 2
F09.16	Detection width of current 2
F09.17	Timing function
F09.18	Running time setting channel
F09.19	Running time
F09.20	Accumulative power-on time threshold
F09.21	Accumulative running time threshold
F09.22	Accumulative power-on time arrival action
F09.23	Accumulative running time arrival action
F09.24	Action when frequency reference lower than frequency lower limit
F09.25	Running time threshold this time
F09.26	AI1 input voltage protection value lower limit
F09.27	AI1 input voltage protection value upper limit
F09.28	Reserved
F09.29	Cooling fan control

Function code	Parameter
F10.00	PID reference setting channel
F10.01	PID digital setting
F10.02	PID feedback setting channel
F10.03	PID reference and feedback range
F10.04	PID operation direction
F10.05	Proportional gain
F10.06	Integral time
F10.07	Differential time
F10.08	PID initial value
F10.09	PID initial value active time
F10.10	PID integral property
F10.11	PID differential limit
F10.12	PID output limit in reverse direction
F10.13	PID error limit
F10.14	Max. positive deviation between two outputs
F10.15	Max. negative deviation between two outputs
F10.16	PID reference change time
F10.17	PID feedback filter time

Function code	Parameter
F10.18	PID output filter time
F10.19	Reserved
F10.20	Proportional gain 2
F10.21	Integral time 2
F10.22	Differential time 2
F10.23	PID parameter switchover condition
F10.24	PID error 1 for auto switchover
F10.25	PID error 2 for auto switchover
F10.26	Selection of PID operation at stop
F10.27	Detection level of PID feedback loss
F10.28	Detection time of PID feedback loss

Function code	Parameter
F11.00	Reserved
F11.01	Modbus communication address
F11.02	Modbus baud rate
F11.03	Modbus data format symbol
F11.04	Modbus response delay
F11.05	Modbus communication timeout time
F11.06	Reserved
F11.07	CANopen communication address
F11.08	CANopen baud rate
F11.09	CANopen communication timeout time
F11.10	Reserved
F11.11	Reserved
F11.12	CANopen communication timeout time
F11.13	Reserved
F11.14	Profibus-DP slave address
F11.18	Reserved

⑩ Parameters

Function code	Parameter
F12.00	Reserved
F12.01	Reserved
F12.02	Reserved
F12.03	Reserved
F12.04	Under-voltage threshold
F12.05	Over-voltage threshold
F12.06	Motor overload protection selection
F12.07	Motor overload protection gain
F12.08	Motor overload pre-warning coefficient
F12.09	Underload protection selection
F12.10	Underload detection level
F12.11	Underload detection time
F12.12	Temperature protection selection
F12.13	Reserved
F12.14	Reserved
F12.15	Overspeed detection level
F12.16	Overspeed detection time
F12.17	Detection level of speed error
F12.18	Detection time of speed error
F12.19	Startup protection selection
F12.20	Detection of short-circuit to ground upon power-on
F12.21	Input phase loss/contact protection selection
F12.22	Output phase loss protection
F12.23	Auto reset times
F12.24	Delay of auto reset
F12.25	Selection of DO action during auto reset
F12.26	Fault protection action selection 1
F12.27	Fault protection action selection 2
F12.28	Fault protection action selection 3
F12.29	Fault protection action selection 4
F12.30	Reserved
F12.31	Frequency selection for continuing to run upon fault
F12.32	Backup frequency upon fault
F12.33	Braking start voltage
F12.34	Reserved
F12.35	UVW encoder malfunction enable
Function code	Parameter
F12.36	Parameter auto-tuning fault enabling
F12.37	Reserved
F12.38	Reserved
F12.39	Reserved

Function code	Parameter (read-only)
F13.00	Types of the first four faults
F13.01	Types of the first three faults
F13.02	Types of the first two faults
F13.03	Type of the first fault
F13.04	Type of this fault
F13.05	Frequency during this fault
F13.06	Current during this fault
F13.07	Bus voltage during this fault
F13.08	Module temperature during this fault
F13.09	Reserved
F13.10	Frequency during the previous fault
F13.11	Current during the previous fault
F13.12	Bus voltage during the previous fault
F13.13	Module temperature during the previous fault
F13.14	Reserved
F13.15	Frequency during the previous two faults
F13.16	Current during the previous two faults
F13.17	Bus voltage during the previous two faults
F13.18	Module temperature during the previous two faults
F13.19	Reserved
F13.20	Frequency during the previous three faults
F13.21	Current during the previous three faults
F13.22	Bus voltage during the previous three faults
F13.23	Module temperature during the previous three faults
F13.24	Reserved
F13.25	Frequency during the previous four faults
F13.26	Current during the previous four faults
F13.27	Bus voltage during the previous four faults
F13.28	Module temperature during the previous four faults
F13.29	Reserved
Function code	Parameter (read-only)
F15.00	Product model
F15.01	Rate power of inverter
F15.02	Rated voltage of inverter
F15.03	Rate current of inverter
F15.04	Accumulative power-on time
F15.05	Accumulative running time
F15.07	Functional software version No.
F15.08	Performance software version No.

Function code	Parameter
F16.00	AI1 measured voltage 1
F16.01	AI1 displayed voltage 1
F16.02	AI1 measured voltage 2
F16.03	AI1 displayed voltage 2
F16.10	AI2 measured voltage 1
F16.11	AI2 displayed voltage 1
F16.12	AI2 measured voltage 2
F16.13	AI2 displayed voltage 2
F16.20	AI3 measured voltage 1
F16.21	AI3 displayed voltage 1
F16.22	AI3 measured voltage 2
F16.23	AI3 displayed voltage 2
F16.30	AO1 target voltage 1
F16.31	AO1 measured voltage 1
F16.32	AO1 target voltage 1
F16.32	AO1 target voltage 1
F16.33	AO1 measured voltage 1
F16.40	AO2 target voltage 1
F16.41	AO2 measured voltage 1
F16.42	AO2 target voltage 1
F16.43	AO1 measured voltage 1
Function code	Parameter
F18.00	Frequency reference 1
F18.01	Frequency reference 2
F18.02	Frequency reference 3
F18.03	Frequency reference 4
F18.04	Frequency reference 5
F18.05	Frequency reference 6
F18.06	Frequency reference 7
F18.07	Frequency reference 8
F18.08	Frequency reference 9
F18.09	Frequency reference 10
F18.10	Frequency reference 11
F18.11	Frequency reference 12
F18.12	Frequency reference 13
F18.13	Frequency reference 14
F18.14	Frequency reference 15
F18.15	Frequency reference 16
F18.20	Simple PLC running mode
F18.21	Simple PLC power down retentive selection
F18.22	Running time of PLC reference 1
F18.23	Acceleration/deceleration time of PLC reference 1
F18.24	Running time of PLC reference 2
F18.25	Acceleration/deceleration time of PLC reference 2
F18.26	Running time of PLC reference 3

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Function code	Parameter
F18.27	Acceleration/deceleration time of PLC reference 3
F18.28	Running time of PLC reference 4
F18.29	Acceleration/deceleration time of PLC reference 4
F18.30	Running time of PLC reference 5
F18.31	Acceleration/deceleration time of PLC reference 5
F18.32	Running time of PLC reference 6
F18.33	Acceleration/deceleration time of PLC reference 6
F18.34	Running time of PLC reference 7

Function code	Parameter
F18.35	Acceleration/deceleration time of PLC reference 7
F18.36	Running time of PLC reference 8
F18.37	Acceleration/deceleration time of PLC reference 8
F18.38	Running time of PLC reference 9
F18.39	Acceleration/deceleration time of PLC reference 9
F18.40	Running time of PLC reference 10
F18.41	Acceleration/deceleration time of PLC reference 10
F18.42	Running time of PLC reference 11
F18.43	Acceleration/deceleration time of PLC reference 11
F18.44	Running time of PLC reference 12
F18.45	Acceleration/deceleration time of PLC reference 12
F18.46	Running time of PLC reference 13
F18.47	Acceleration/deceleration time of PLC reference 13
F18.48	Running time of PLC reference 14
F18.49	Acceleration/deceleration time of PLC reference 14
F18.50	Running time of PLC reference 15
F18.51	Acceleration/deceleration time of PLC reference 15
F18.52	Running time of PLC reference 16
F18.53	Acceleration/deceleration time of PLC reference 16
F18.54	PLC running time unit
F18.55	Reference 1 source

Function code	Parameter
F20.00	Speed/torque control mode selection
F20.01	Torque reference selection
F20.02	Torque digital setting
F20.03	Reserved
F20.04	Reserved
F20.05	Forward max. frequency in torque control
F20.06	Reverse max. frequency in torque control
F20.07	Torque acceleration time
F20.08	Torque deceleration time

Function code	Parameter
F21.00	Swing setting method
F21.01	Swing amplitude
F21.02	Hopping frequency amplitude
F21.03	Swing period
F21.04	Rise time of triangle waveform of swing
F21.05	Set length
F21.06	Actual length
F21.07	Pulses per meter
F21.08	Set count
F21.09	Specified count

Function code	Parameter (read-only)
U47.00	Running frequency
U47.01	Set frequency
U47.02	Bus voltage
U47.03	Output voltage
U47.04	Output current
U47.05	Output power
U47.06	Output torque
U47.07	DI input status
U47.08	DO output status
U47.09	AI1 physical value
U47.10	AI2 physical value
U47.11	AI3 physical value
U47.12	Count
U47.13	Length
U47.14	Load speed display
U47.15	PID reference
U47.16	PID feedback
U47.17	PLC stage
U47.18	Input pulse frequency
U47.19	Feedback speed
U47.20	Remaining run time
U47.21	Physical value before AI1 correction
U47.22	Physical value before AI2 correction
U47.23	Physical value before AI3 correction

Fault code	Fault name
ERR01	IGBT fault
ERR02	Acceleration overcurrent
ERR03	Deceleration overcurrent
ERR04	Overcurrent during operation
ERR05	Acceleration overvoltage
ERR06	Deceleration overvoltage
ERR07	Overvoltage during operation
ERR08	Under-voltage
ERR09	Inverter overload
ERR10	Module overheating
ERR12	Input phase loss
ERR13	Output phase loss
ERR17	Current detection fault
ERR18	Precharging fault
ERR19	EEPROM fault
ERR20	Encoder fault
ERR23	Parameter auto-tuning fault
ERR30	Motor overload

Function code	Parameter (read-only)
U47.24	Fixed length control of linear speed
U47.25	Current power-on time
U47.26	Current run time
U47.27	Input pulse frequency
U47.28	Communication reference
U47.29	Encoder feedback speed
U47.30	Main frequency display
U47.31	Auxiliary frequency display
U47.32	Reserved
U47.33	Synchronous motor rotor position
U47.34	Motor temperature
U47.35	Target torque
U47.36	Position of rotary transformer
U47.37	Power factor angle
U47.38	Reserved
U47.39	V/F separation target voltage
U47.40	V/F separation output voltage
U47.41	Reserved
U47.42	Reserved
U47.43	Reserved
U47.44	Reserved
U47.45	Reserved
U47.46	Reserved
U47.49	Motor speed

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Fault code	Fault name	Function code	Parameter (read-only)
ERR31	Motor overheating	U47.51	AO1 actual output voltage
ERR32	Short to ground	U47.52	AO2 actual output voltage
ERR33	Charging resistor overload	U47.58	Reserved
ERR34	External fault	U47.59	Reserved
ERR37	Running time arrival	U47.60	Reserved
ERR38	Power-on time arrival	U47.61	Inverter status
ERR39	Underload	U47.62	Current fault code
ERR40	Communication fault	U47.76	Accumulative of inverter overload
ERR41	PID feedback loss	U49.00	Inverter status
ERR42	Speed error too large	U49.01	Current fault
ERR43	User-defined fault 1	U49.02	Running frequency
ERR44	User-defined fault 2	U49.03	Set frequency
ERR45	Sequential current limiting fault	U49.04	Reserved
ERR47	Motor overspeed	U49.05	Output current
ERR48	Magnetic pole position detection failure	U49.06	Reserved
ERR52	Short circuit of braking resistor	U49.07	Output voltage
ERR54	Abnormal back electromotive force	U49.08	Motor speed
		U49.09	Output power
		U49.10	Target torque
		U49.11	Output torque
		U49.12	Bus voltage
		U49.13	IGBT temperature
		U49.14	Reserved
		U49.15	Motor temperature

⑩ Appendix: Modbus Communication Table

Address	Name/Description	R/W
6000	Communication control command 0001: Forward running 0002: Reverse running 0003: Forward jogging 0004: Reverse jogging 0005: Coast to stop 0006: Decelerate to stop 0007: Reset	W
6001	Communication frequency reference Unit: 0.01 Hz	W
6003	FM output setting 0-10000, corresponds to 0-100.00%	W
6004	AO1 output setting 0-10000, corresponds to 0-100.00%	W
6005	AO2 output setting 0-10000, corresponds to 0-100.00%	W
6007	PID reference 0-10000, corresponds to 0-100.00%	W
6008	PID feedback 0-10000, corresponds to 0-100.00%	W
6009	Torque reference 1000, corresponds to 100.0% of the rated motor torque	W
6010	V/F separation voltage reference Unit: 1 V	W
6011	Frequency upper limit source Unit: 0.01 Hz	W
7000	Inverter status 0001: Forward 0002: Reverse 0003: Stop	R
7100	Set frequency Unit: 0.01 Hz	R
7101	Running frequency Unit: 0.01 Hz	R

Address	Name/Description	R/W
7102	Bus voltage Unit 0.1 V	R
7103	Output voltage Unit: 1 V	R
7104	Output current Unit: 0.1 A	R
7105	Output power Unit: 0.1 kW	R
7106	Output torque Unit: 0.1%	R
7107	Running speed Unit: 0.01 Hz	R
7108	DI input status	R
7109	DO output status	R
7110	AI1 voltage Unit: 0.01 V	R
7111	AI2 voltage Unit: 0.01 V	R
7112	AI3 voltage Unit: 0.01 V	R
7113	Count input	R
7114	Length input Unit: 1 m	R
7115	Load speed Unit: 0.01 Hz	R
7116	PID settings Unit: 0.1%	R

Address	Name/Description	R/W
7117	PID feedback Unit: 0.1%	R
7118	PLC step	R
7119	Pulse input frequency Unit: 0.01 kHz	R
7120	Feedback speed Unit: 0.1 Hz	R
7121	Remaining running time Unit: 0.1 min	R
7122	Voltage before AI1 correction Unit: 0.01 V	R
7123	Voltage before AI2 correction Unit: 0.01 V	R
7124	Voltage before AI3 correction Unit: 0.01 V	R
7125	Linear velocity Unit: 1 m/s	R
7126	Current power on time Unit: 1 min	R
7127	Current running time Unit: 0.1 min	R
7128	PULSE input pulse frequency Unit: 1 Hz	R
7129	Communication settings Unit: 0.01 Hz	R
7130	Actual feedback speed Unit: 0.01 Hz	R
7131	Main frequency X display Unit: 0.01 Hz	R
7132	Auxiliary frequency Y display Unit: 0.01 Hz	R
8000	Inverter fault code 0: No fault 1-99: Fault codes Refer to the fault code information table for details	R

For more communication information, refer to the user manual.