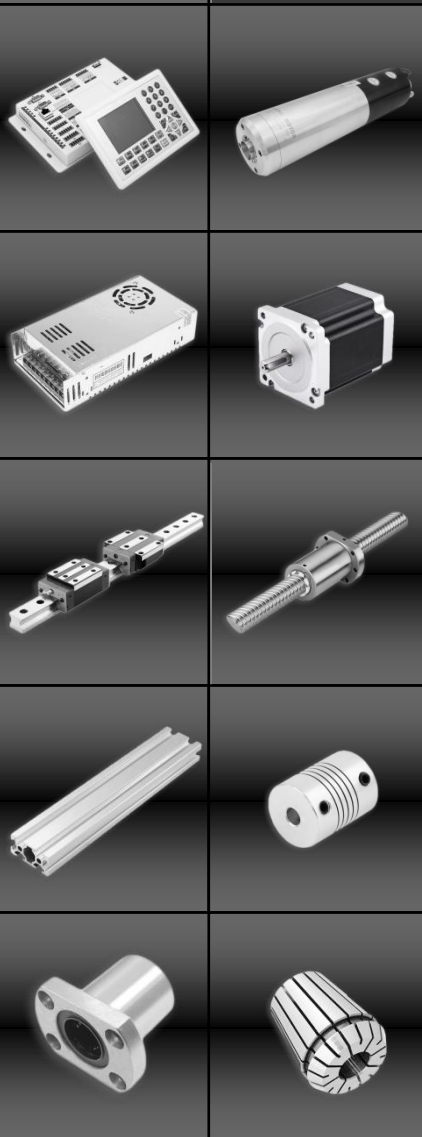




CNC PROM



Інтернет – магазин комплектуючих для верстатів з ЧПУ



Інвертор HY04D043B



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Catalogue

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* The manual is subject to change without notice.



1. Introduction

Thank you for purchasing and using the general-purpose inverter of HY series of multi-functions and high performance.

Please read carefully the operation manual before putting the inverter to use so as to correctly install and operate the inverter, give full play to its functions and ensure the safety. Please keep the operation manual handy for future reference, maintenance, inspection and repair.

Due to the inverter of a kind of electrical and electronic product it must be installed, tested and adjusted with parameters by specialized engineering persons of motors.

The marks of  **Danger** and  **Caution** and other symbols in the manual remind you of the safety and prevention cautions during the handling, installation, running and inspection. Please follow these instructions to make sure the safe use of the inverter. In case of any doubt please contact our local agent for consultation. Our professional persons are willing and ready to serve you.

The manual is subject to change without notice.

 **Danger** indicates wrong use may kill or injure people.

 **Caution** indicates wrong use may damage the inverter or mechanical system.



- Be sure to turn off the input power supply before wiring.
- Do not touch any internal electrical circuit or component when the charging lamp is still on after the AC power supply is disconnected, which means the inverter still has high voltage inside and it is very dangerous.
- Do not check components and signals on the circuit boards during the operation.
- Do not disassemble or modify any internal connecting cord, wiring or component of the inverter by yourself.
- Be sure to make correct ground connection of the earth terminal of the inverter.
- Never remodel it or exchange control boards and components by yourself. It may expose you to an electrical shock or explosion, etc.



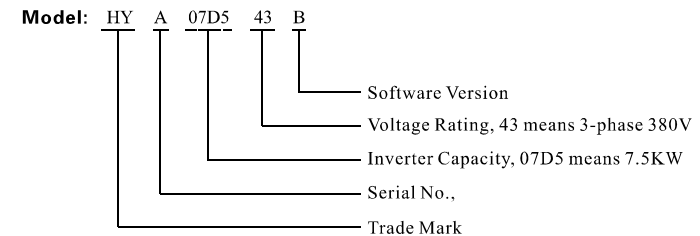
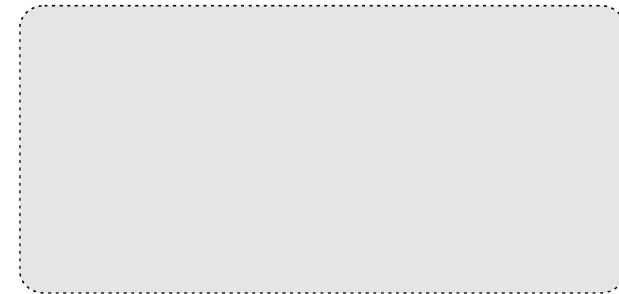
- Do not make any voltage-withstanding test with any component inside the inverter. These semi-conductor parts are subject to the damage of high voltage.
- Never connect the AC main circuit power supply to the output terminals U,V,W of the inverter.
- The main electric circuit boards of CMOS and IC of the inverter are subject to the effect and damage of static electricity. Don't touch the main circuit boards.
- Installation, testing and maintenance must be performed by qualified professional personnel.
- The inverter should be discarded as industrial waste. It is forbidden to burn it.

1. Checks upon Delivery

The inverter has been strictly and well packed before ex-work. In consideration of various factors during the transportation special attention should be paid to the following points before the assembly and installation. If there is anything abnormal please notify the dealer or the relevant people of our company.

- Check if the inverter has got any damage or deformation during the transportation and handling.
- Check if there is one piece of HY series inverter and one copy of the instruction manual available when unpacking it.
- Check the information on the nameplate to see if the specifications meet your order (Operating voltage and KVA value).
- Check if there is something wrong with the inner parts, wiring and circuit board.
- Check if each terminal is tightly locked and if there is any foreign article inside the inverter.
- Check if the operator buttons are all right.
- Check if the optional components you ordered are contained.

2. Nameplate Description of HY Series Inverter





II . Safety Precautions

1. Before the Power-up

⚠ Caution

- Check to be sure that the voltage of the main circuit AC power supply matches the input voltage of the inverter.
- The symbol, , represents ground terminals. Be sure to make correct ground connection of the earth terminals of the motor and the inverter for safety.
- No contactor should be installed between the power supply and the inverter to be used for starting or stopping of the inverter. Otherwise it will affect the service life of the inverter.

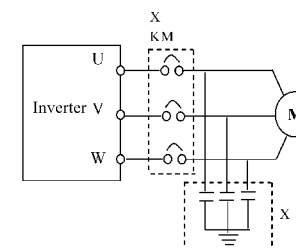
⚡ Danger

- R.S.T terminals are power input terminals, never mixed with U.V.W terminals. Be sure that the wiring of the main circuit is correct. Otherwise it will cause damages of the inverter when the power is applied to it.

⚠ Caution

- Do not carry the front cover of the inverter directly when handling. It should be handled with the base to prevent the fall-off of the front cover and avoid the dropping of the inverter, which may possibly cause the injuries to people and the damages to the inverter.
- Mount the inverter on a metal or other noncombustible material to avoid the risk of fire.
- Install the inverter in a safe location, avoiding high temperature, direct sunlight, humid air or water.
- Keep the inverter from the reach of children or persons not concerned.
- The inverter can only be used at the places accredited by our company. Any unauthorized working environment may have the risks of fire, gas explosion, electric shock and other incidents.
- Install a heat sink or other cooling device when installing more than one inverter in the same enclosure so that the temperature inside the enclosure be kept below 40°C to avoid overheat or the risk of fire.
- Be sure to turn off the power supply before disassembling or assembling the operation keypad and fixing the front cover to avoid bad contact causing faults or non-display of the operator.

- Do not install the inverter in a space with explosive gas to avoid the risk of explosion.
- If the inverter is used at or above 1000m above seal level, the cooling efficiency will be worse, so please run it by de-rating.
- Do not install any contactor and other components of capacitor or varistor on the output side of the inverter. Otherwise it will cause malfunctions and damages of components of the inverter. Do not install any switch component like air circuit breaker or contactor at the output of the inverter. If any of such components must be installed because of the requirements of process and others, it must be ensured that the inverter has no output when the switch acts. In addition, it is forbidden to install any capacitor for improvement of power factor or any varistor against thunder at the output. Otherwise it will cause malfunctions, tripping protection and damages of components of the inverter. Please remove them as shown in the below diagram.
- It will affect the service life of the inverter if a contact is connected to the front end of input of the inverter to control its starts and stops. Generally it is required to control it through FOR or REV terminals. Special attention should be paid to its use in the case of frequent starts and stops.
- Please use an independent power supply for the inverter. Do avoid using the common power supply with an electrical welder and other equipment with strong disturbance. Otherwise it will cause the protection or even damage of the inverter.



2. During the Power-up

⚡ Danger

- Do not plug the connectors of the inverter during the power up to avoid any surge into the main control board due to plugging, which might cause the damage of the inverter.
- Always have the protective cover in place before the power up to avoid electrical shock injury.

3. During the Operation

⚡ Danger

- Never connect or disconnect the motor set while the inverter is in running. Otherwise it will cause over-current trip and even burn up the main circuit of the inverter.

⚡ Danger

- Never remove the front cover of the inverter while the inverter is powered up to avoid any injury of electric shock.
- Do not come close to the machine when the fault restart function is used to avoid anything unexpected. The motor may automatically restart after its stop.
- The function of STOP Switch is only valid after setting, which is different with the use of emergent stop switch. Please pay attention to it when using it.



THE USE OF MANUAL

⚠ Caution

- Do not touch the heat sink, braking resistor, or other heat elements to avoid being scald.
- Be sure that the motor and machine is within the applicable speed ranges before starting operation because the inverter is quite easy to run from lower speed to higher speed.
- Do not check the signals on circuit boards while the inverter is running to avoid danger.
- Be careful when changing the inverter settings. The inverter has been adjusted and set before ex-work. Do not adjust it wantonly. Please make proper adjustments according to the required functions.
- Do consider the vibration, noise and the speed limit of the motor bearings and the mechanical devices when the inverter is running at or above the frequency of 50Hz.

III . Standards and Specifications

1. Particular Specifications

Type	Input Voltage	Power (KW)	Inverter Capacity (KVA)	Output Current (A)	Suitable Motor (KW)
HY00D423B	Single & Three Phase 220V 50Hz	0.4	1.0	2.5	0.4
HY0D7523B	Single & Three Phase 220V 50Hz	0.75	2.0	5.0	0.75
HY01D523B	Single & Three Phase 220V 50Hz	1.5	2.8	7.0	1.5
HY02D223B	Single & Three Phase 220V 50Hz	2.2	4.0	10	2.2
HY0D7543B	3Φ 380V 50Hz	0.75	2.2	2.7	0.75
HY01D543B	3Φ 380V 50Hz	1.5	3.2	4.0	1.5
HY02D243B	3Φ 380V 50Hz	2.2	4.0	5.0	2.2
HY03D743B	3Φ 380V 50Hz	3.7	6.8	8.5	3.7
HY05D543B	3Φ 380V 50Hz	5.5	10	12.5	5.5
HY07D543B	3Φ 380V 50Hz	7.5	14	17.5	7.5
HY001143B	3Φ 380V 50Hz	11	19	24	11
HY001543B	3Φ 380V 50Hz	15	26	33	15
HY18D543B	3Φ 380V 50Hz	18.5	32	40	18.5
HY22D243B	3Φ 380V 50Hz	22	37	47	22
HY30D043B	3Φ 380V 50Hz	30	52	65	30
HY37D043B	3Φ 380V 50Hz	37	64	80	37
HY45D043B	3Φ 380V 50Hz	45	72	91	45
HY55D043B	3Φ 380V 50Hz	55	84	110	55
HY75D043B	3Φ 380V 50Hz	75	116	152	75

HY90D043B	3Φ 380V 50Hz	90	134	176	90
HY110D43B	3Φ 380V 50Hz	110	160	210	110
HY132D43B	3Φ 380V 50Hz	132	193	253	132
HY160D43B	3Φ 380V 50Hz	160	230	304	160
HY200D43B	3Φ 380V 50Hz	200	290	380	200
HY220D43B	3Φ 380V 50Hz	220	325	426	220
HY250D43B	3Φ 380V 50Hz	250	381	500	250
HY280D43B	3Φ 380V 50Hz	280	427	560	280
HY315D43B	3Φ 380V 50Hz	315	460	605	315

Mini Specifications

Type	Input Voltage	Power (KW)	Inverter Capacity (KVA)	Output Current (A)	Suitable Motor (KW)
HY-M0D4A	Single Phase 220V 50Hz	0.4	1.0	2.5	0.4
HY-M0D75A	Single Phase 220V 50Hz	0.75	2.0	5.0	0.75
HY-M1D5A	Single Phase 220V 50Hz	1.5	2.8	7.0	1.5
HY-M0D4B	Three Phase 380V 50Hz	0.4	1.0	1.5	0.4
HY-M0D75B	Three Phase 380V 50Hz	0.75	2.2	2.7	0.75
HY-M1D5B	Three Phase 380V 50Hz	1.5	3.2	4.0	1.5

2. General Specifications

Inverter Series	HY-□□	
Control Mode	SPWM	
Input Power	330~440Vfor 380V power; 170~250for 220V power; 50Hz/60Hz	
5-Digits Display & Status Indicator Lamp	Displaying frequency, current, revolution, voltage, counter, temperature, forward or reserve running, and fault, etc.	
Communication Control	RS-485	
Operation Temperature	-10~40℃	
Humidity	0~95% Relative Humidity (without dew)	
Vibration	Below 0.5G	
Frequency Control	Range	0.10~400.00Hz
	Accuracy	Digital: 0.01% (-10~40℃) , Analog: 0.1% (25±10℃)
	Setting Resolution	Digital: 0.01Hz, Analog: 1‰ of Max. Operating Frequency
	Output Resolution	0.01Hz
	Operator Setting Method	Press directly →   to set
	Analog Setting Method	External Voltage 0~5V, 0~10V, 4~20mA, 0~20mA.
	Other Functions	Frequency lower limit, starting frequency, stopping frequency, three skip frequencies can be respectively set.



General Control	Ramp Control	Selectable 4-speed steps ramp-up and -down time (0.1–6500s).
	V/F Curve	Set V/F curve at will
	Torque Control	Torque increase is settable by max. 10.0%. The starting torque can reach 150% at 1.0Hz.
	Multi-Inputs	6 multi-function input terminals for 8-speed steps control, program operation, switching of 4-speed Ramp, UP、DOWN function, counter, external emergency stop and other functions.
	Multi-Outputs	5 multi-function output terminals for displaying of running, zero speed, counter, external abnormality, program operation and other information and warnings.
	Other Functions	AVR (auto voltage regulation), Deceleration stop or free-stop, DC brake, auto reset and restart, frequency track, PLC control, traverse function, drawing control, auto energy-savings, carrier adjustable by max. 20KHz, etc.
Protection Functions	Overload Protection	Electronic relay protection motor Drive (for constant torque 150%/1 min. For the kinds of fan 120%/1min.)
	FUSE Protection	FUSE broken, Motor stops.
	Over-voltage	DC Voltage > 400V for 220V class DC Voltage > 800V for 380V class
	Low Voltage	DC Voltage < 200V for 220V class DC Voltage < 400V for 380V class
	Instant Stop and Restart	Restarted by frequency track after instantaneous stop.
	Stall Prevention	Anti-stall during Acc/Dec run
	Output End Shorts	Electronic circuit protecting
	Other Functions	Fin over-heat protection, restriction of reverse running, direct start after power on, fault reset, parameter lock PID, one-drive-more, etc.

IV. Storage and Installation

1. Storage

The inverter must be kept in its original package box before installation. Pay attention to the followings when keeping it in storage if the inverter is not used for the time being:

- It must be stored in a dry place without rubbish or dust.
- The suitable temperature for storage is between -20℃ and +65℃.
- The relative humidity required is 0-95% without condensation.
- There is no corrosive gas or liquid in the storage ambience.
- It's better to lay the inverter on a rack and keep it in a proper package.

- It is better not to store the inverter for long time. Long time storage of the inverter will lead to the deterioration of electrolytic capacity. If it needs to be stored for a long time make sure to power it up one time within a year and the power-up time should be at least above five hours. When powered up the voltage must be increased slowly with a voltage regulator to the rated voltage value.

2. Installation Site and Environment

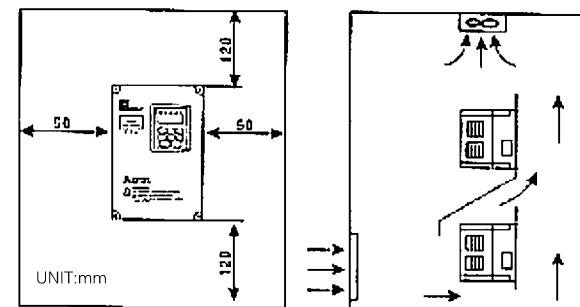
The inverter should be installed at the following location:

- Ambient temperature -5℃ to 40℃ with good ventilation.
- No water drop and low moisture.
- Free from direct sunshine, high temperature and heavy dust fall.
- Free from corrosive gas or liquid.
- Less dust, oil gas and metallic particles
- Free from vibration and easy for service and inspection.
- Free from the interference of electromagnetic noise.

Attention: The ambient conditions of the inverter will affect its service life.

3. Installation and Direction

- There must be enough space left around the inverter for easy maintenance and cooling. See Diagram .
- The inverter must be installed vertically with the smooth ventilation for effective cooling.
- If there is any instability when installing the inverter, please put a flat board under the inverter bottom base and install it again. If the inverter is installed on a loose surface, stress may cause damage of parts in the main circuit so as to damage the inverter.
- The inverter should be installed on non-combustible materials, such as iron plate.
- If several inverters are installed, upper and lower, together in one cabinet, please add heat dissipation plates and leave enough space between the inverters. See Diagram.





V. Wiring

1. Main Circuit Wiring Schematic Diagram



Power supply: Verify that the inverter's rated voltage coincides with the power supply voltage to avoid a damage of the inverter.



No fuse breaker: Refer to the related list.
Ground fault circuit interrupter: Use one of anti-high harmonic.



Electromagnetic contactor:
Note: Do not use the electromagnetic contactor as the on/off button of power supply for the inverter.



AC reactor: It is recommended to install an AC reactor for power factor improvement if the input capacity is more than 1000KVA.



Inverter:
• Be sure to make correct connections of the main circuit wires and control signal wires of the inverter.
• Be sure to make correct setting of parameters for the inverter.



2. Description of Terminal Block

1) Arrangement of Main circuit Terminals

HY0D4043B~HY02D243B HY0D4023B~HY03D4023B

R	S	T	P	Pr	U	V	W	E

HY04D043B~HY05D043B HY04D023B

E	R	S	T	P	Pr	U	V	W

HY11D043B~HY30D043B

R	S	T			E		U	V	W

Mini Specifications: HY-M□A HY-M□B

The power source is put into through the R.S.T terminals and put out of the U.V.W terminals. The 220v can connect willfully two phase of R.S.T.

(2) Arrangement of Control Circuit Terminals

UPF	DRV	DCM	SPL	SPM	SPH	RST	REV	FOR	ACM	VO	10V				J1
	FA	FC	FB	+24V	DCM		+5V	ACM	AI	VI	RS+	RS-	1	2	3

Notes: Please short circuit the 2-3 foot of J1 terminal when using the board potentiometer.

Like chart:

Please short circuit the 2-3 foot of J1 terminal when using the external connection potentiometer or the external power supply.

Like chart:

Mini inverter terminals

MB	MA	MA	DRV	COM	SPL	SPM	SPH	RST	REV	FOR	RS+	RS-	AI	GND	VO	+5V
----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----	-----	----	-----

Note: AI is the exterior analogue voltage or current input end, joint the parameter menu of Pd070.

3) Function Description of Main circuit Terminals

Symbol	Function Description
R.S.T	Input terminal of AC line power. (220V class, for both single/three phase, single phase connected to any two phases)
U.V.W	Output terminal of the inverter
P.Pr	Connector for braking resistor.
P1P	Connector for DC reactor (When using a DC reactor the jumper shall be removed.
E	Ground terminal: the third method of grounding for 220V and special grounding for 380 V of Electrical Engineering Regulations.

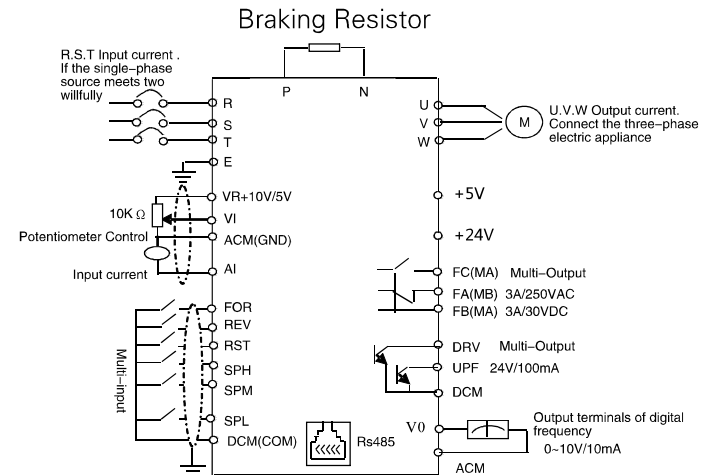


4) Function Description of Control Circuit Terminals

Symbol	Function Description	Factory setting
FOR	Multi-Input 1	Forward run
REV	Multi-Input 2	Reverse run
RST	Multi-Input 3	Reset
SPH	Multi-Input 4	High speed
SPM	Multi-Input 5	Middle Speed
SPL	Multi-Input 6	Low Speed
DCM (COM)	Common Terminal of Digital and Control Signals	
+10	Power Supply for Speed Setting	+10V
VI	Analog Voltage Frequency Reference Input	0~+10V corresponding to the highest operating frequency
AI	Analog Current Frequency Reference Input	4~20mA corresponding to the highest operating frequency
ACM (GND)	Common Terminal of Analog and Control Signals	
DRV	Multi-Output 1 (Optical couple output)	DC24V/100mA
UPF	Multi-Output 2 (Optical couple output)	
FA(MB) FB(MA) FC(MA)	Multi-Output 3 (N/O or N/C)	3A/250V
VO	Output terminals of digital frequency	0~10V
RS+ RS-	RS485 Communication port	

3. Basic Connection Diagram

The wiring of the inverter is divided into two parts, main circuit terminal connections and control circuit terminal connections. The user can see the main circuit terminals, and the control circuit terminals after removing the cover of enclosure. The terminals must be connected correctly as the following wiring circuit diagrams.



Note: The above wiring diagram explained that only supplies the reference, take the actual product as the standard. The diagram is subject to change without notice.

4. Precautions on Wiring

1) For the main circuit wiring:

- While wiring the sizes and specifications of wires should be selected and the wiring should be executed according to the electrical engineering regulations to ensure the safety.
 - It is better to use shielded wire or wire and conduit for power cord and ground the shielded layer or two ends of wire conduit.
 - Be sure to install a Non Fuse Breaker (NFB) between the power supply and the input terminals (R.S.T.). (If using ground fault circuit interrupter, please choose one corresponding to high frequency)
 - Never connect AC power to the output terminal (U.V.W) of the inverter.
 - Output wires mustn't be in touch of the metal part of the inverter enclosure, or it will result in earth short-circuit.
 - Phase-shifting capacitors, LC, RC noise filters, etc, can never be connected to the output terminals of the inverter.
 - The main circuit wire must be enough far away from other control equipments.
- When the wiring between the inverter and the motor exceeds 15 meters for 220V class or 30 meters for 380V class, much higher dV/dT will be produced inside the coil of the motor, which will cause the destruction to the interlay or insulation of the motor. Please use a dedicated AC motor for the inverter or add a reactor at the inverter.



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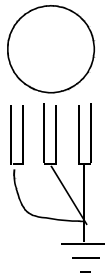
- Please lower the carrier frequency when there is a longer distance between the inverter and the motor. Because the higher the carrier frequency is the bigger the leakage current of high-order harmonics in the cables will be. The leakage current will have unfavorable effect on the inverter and other equipment.

2) For control circuit wiring (signal line)

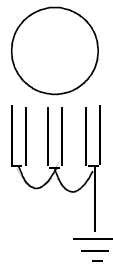
- The signal line should be separately laid in a different conduit with the main circuit wire to avoid any possible interference.
- Please use the shielded cable with the size of 0.52mm² for signal lines.
- Use the control terminals on the control panel correctly according to your needs.

3) Grounding

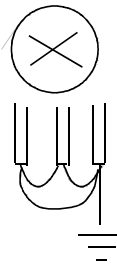
- Grounding terminal E. Be sure to make correct grounding
220V class: The third grounding method (Grounding resistance should be 100Ω or lower.)
380V class: The special third grounding method (Grounding resistance should be 10Ω or lower.)
- Choose grounding wires according to the basic length and size of the technical requirements of the electric equipment.
- Do avoid sharing grounding wire with other large power equipment such as electric welder, power machine, etc. The grounding wire should be kept away from the power supply wires for large equipment.
- The grounding method for several inverters together should be done as the first and second diagrams below. Avoid the third loop.
- The grounding wire must be be as shorter as possible.



(1) Good



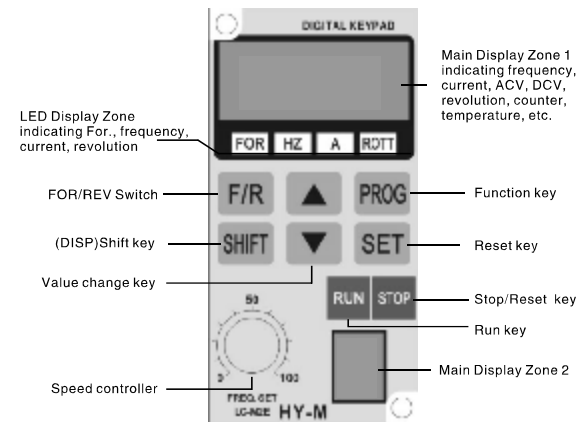
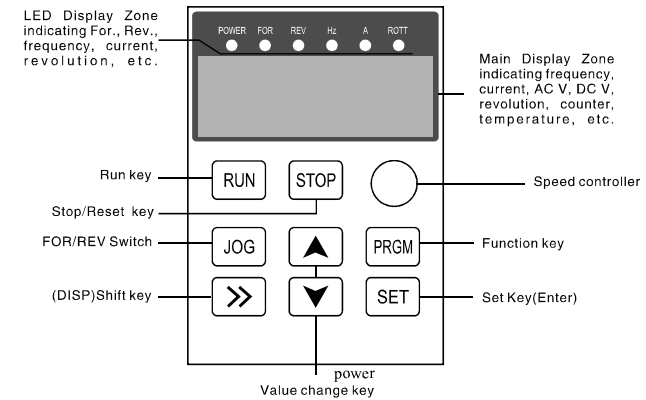
(2) Good



(3) Not good

VI. Instruction of the Digital Operator

1. Description of the Digital Operator



NOTE: The LED main display zone demonstrates by 5 nixietubes, the main display zone 2 demonstrates the 5th digit.

Example: 12345, 1234 digit in the main display zone 1, digit 5 in the main display zone 2.



2. Description of Indicator Lamp Status

1) Description of Indicator Lamp Status

Indicator lamp	Status	Description
FOR	on	The motor is in forward rotation.
REV	on	The motor is in reverse rotation.
HZ	on	Displaying set frequency or output frequency.
A	on	Displaying output current.
ROTT	on	Displaying rated motor revolution
HZ A	on	Displaying DC voltage.
A ROTT	on	Displaying AC voltage.
HZ ROTT	on	Displaying counting value.
HZ A ROTT	on	Displaying internal temperature of the inverter.

2) Description of Display Items

Display	Indic.lamp  on	Meaning
F50.00	HZ A R/min   	Present output frequency is 50.00HZ
F50.00	HZ A R/min   	Present set frequency is 50.00HZ
R003.0	HZ A R/min   	Present set frequency is 50.00HZ 3.0A
01440	HZ A R/min   	Present output revolution is 1440r/min
510.1	HZ A R/min   	Present DC voltage is 510.1V
380.0	HZ A R/min   	Present AC voltage is 380.0V
6035.0	HZ A R/min   	Present inverter's temperature is 35.0°C

00105	HZ A R/min   	Present counter's value is 105
50.0	HZ A R/min   	Present target value of PID is 50.0%
48.0	HZ A R/min   	Present feedback value of PID is 48.0%
00012	HZ A R/min   	Present time of power-on is 12 hours
00108	HZ A R/min   	Total run time of inverter is 108 hours

3. Description of Operation Examples

Procedures	Display	Indicator Lamp	Explanation
Power up, Operation of power ↓	Dsp2.0 Flash →Vr2.00 →000.00	FOR HZ  	Self detect when power-up, display version no. (Flashing) and finally set frequency.
PRGM ↓	Pd000	FOR HZ  	Enter programming Display the function of Pd000
ENYER (SET)	000.0 	FOR HZ  	Display the contents of Pd003
▲ ↓ ← ENYER ↓ PRGM	50.00 END→50.00 Pd00  050.0 	FOR HZ   FOR HZ  	Change the content of PD003 Confirm changed value. Display END 50.00 Pd004 Back from programming
↓ RUN	F50.00	FOR HZ  	Display running and operating frequency
↓ DISP (▶) SHIFT	50.00 F0.00→F50.00	FOR HZ  	Monitor screen switching, display output current
↓ PRGM	F50.00	FOR HZ  	Monitor screen switching, display output current



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↓ DISP	01440	FOR A □ □	Monitor screen switching, display revolution
↓ PROG	F 50.00	FOR ROTT □ □	Switch back to main screen, display set frequency
↓ JOG	F 50.00	FOR HZ □ □	Switch of For.Rev. rotation, display the status of Rev rotation
↓ ▲	050.00	FOR HZ □ □	Switch to adjustable frequency
← ↓ ▲	030.00	FOR HZ □ □	Adjust set frequency, i.e. the value of Pd003
↓ ENTER	030.00	FOR HZ □ □	Confirm changed value, write to Pd003 as value
↓ STOP	F 30.00	FOR HZ ∅ □	Stop

Note:

- ① ∅ means flashing. □ means bright.
- ② For monitoring AC, DC, T and other items they can be only switched and displayed after the parameter setting.
- ③ When it is powered up again after a power breakdown the inverter will display the screen previous to the power breakdown after its self detection.

VII. Commissioning

1. Important Checks before the Commissioning

If there is any wrong connected wires? Pay special attention to the terminal of U.V.W; Make sure the power supply wires are connected to R.S.T, not U.V.W.

If there is any metal powder or wires left on the base plate of the inverter or the terminal block, which may cause short circuit.

If screws are tightly locked and if the connecting parts are loose.

If there is any short circuit or earth fault at outputs.

2. Commissioning Methods

The procedure of the operator is factory set up for the control mode of HY series. The commissioning can be carried out through the digital operator. Generally, the commissioning can be conducted at 5.00 Hz.

Procedures	Display	Indicator Lamp	Explanation
Power up ↓	disp1.1→Vr2.0 000.00	FOR HZ ∅ □	Self detect when power up, display version no. and finally set frequency
△	000.00	FOR HZ ∅ □	Switch to adjustable frequency on the panel
← ↓ △	030.00	FOR HZ ∅ □	Change set frequency, i.e. The value of Pd003
↓ ENTER	F 50.00	FOR HZ ∅ □	Confirm changed value
↓ RUN	F 50.00	FOR HZ □ □	Run at 50Hz
↓ STOP	F 30.00	FOR HZ ∅ □	Stop

Note: □ means indicator lamps is on; ∅ means indicator lamps flash;



VII. Function List

Parameters Function List 1

Category	Code	Function	Set Range & Function Explanation	Factory Setting
Basic Parameters	PD000	Parameter Lock	0: Invalid 1: Valid	0
	PD001	Source of Run Commands	0: Operator 1: External terminal 2: Communication port	0
	Pd002	Source of Operating Frequency	0: Operator board 1: Simulation amount set(board potentiometer and external potentiometer) 2: Communication port	0
	PD003	Main Frequency	0.00~400.00 Hz	*
	PD004	Base Frequency	0.01~400.00 Hz	50.00
	PD005	Max Operating Frequency	50.00~400.00 Hz	50.00
	PD006	Intermediate Frequency	0.01~400.00 Hz	2.50/3.0
	PD007	Min. Frequency	0.01~20.00 Hz	0.50
	PD008	Max. Voltage	0.1V---*	220/380
	PD009	Intermediate Voltage	0.1V---*	*
	PD010	Min. Voltage	0.1~50.0V	*
	PD011	Frequency Lower Limit	0.00~400.00 Hz	0
	PD012	Reserved		
	PD013	Parameter Reset	1: Restore the factory setting. No other function.	00
	PD014	Accel. Time 1	0.1~6500.0S	*
	PD015	Decel. Time 1	0.1~6500.0S	*
	PD016	Accel. Time 2	0.1~6500.0S	*
	PD017	Decel. Time 2	0.1~6500.0S	*
	PD018	Accel. Time 3	0.1~6500.0S	*
	PD019	Decel. Time 3	0.1~6500.0S	*
	PD020	Accel. Time 4	0.1~6500.0S	*
	PD021	Decel. Time 4	0.1~6500.0S	*
	PD022	Reserved		
	PD023	Rev. Rotation Select	0: Rev Run forbidden; 1: Rev Run Enable	0
	PD024	STOP key select	0: STOP Invalid 1: STOP Valid	1
Application parameter	PD025	Starting Mode	0: Start from Starting Frequency 1: Frequency track start	0
	PD026	Stopping Mode	0: Decelerating stop 1: Coasting stop	0
	PD027	Starting Frequency	0.1~10.0 Hz	0.5
	PD028	Stopping Frequency	0.1~10.0 Hz	0.5

	PD029	Braking time at start	0~25.0	0.0
	PD030	Braking time at stop	0~25.0	0.0
	PD031	DC Braking level	0.0~20.0%	2.0
	PD032	Frequency track time	0.1~20.0S	5.0
	PD033	Current level for frequency track	0.0~200.0S	150.0
	PD034	Voltage rise time during frequency track	0.1~10S	0.5
	PD035~PD040	Reserved		
	PD041	Carrier frequency	0~15	*
	PD042	Jogging Frequency	0.00~400.00Hz	5.00
	PD043	S-Curve Time	0~6500S	0

Parameters Function List 2

Category	Code	Function	Set Range & Function Explanation	Factory Setting
Terminals of Input/Output	PD044	FOR (D1)	0: Invalid; 1:Run; 2: For rotation; 3: Rev rotation; 4: Stop; 5: FOR/REV.; 6: Jog; 7: Jog For rotation; 8: Jog Rev Rotation; 9:Timer1; 10:Timer2; 11:Reserved; 12: Overheat of heat sink or motor; 13:Emergent stop; 14:Reset; 15~16: Reserved ;17: Ramp select 1;18 :Ramp select2;19: Multi-speed1 ; 20: Multi-speed 2; 21: Multi-speed 3; 22: High speed; 23: Middle speed;24: Low speed; 25: PID Start; 26: Reserved; 27: UP function Counter 28: DOWN function; 29: Drawing;30: Reserved;31: Counter; 32: Counter reset	02
	PD045	REV(D2)		03
	PD046	RST(D3)		04
	PD047	SPH(D4)		07
	PD048	SPL(D5)		19
	PD049	SPM(D6)		20
	PD050	Y1 Output	0: Invalid; 1: Run; 2: Zero Speed; 3: Fault indication; 4: Braking indication; 5: Set Frequency reach; 6: In Accel.; 7: In Decel.; 8: Arbitrary Frequency 1 reach; 9:Arbitrary Frequency 2 reach;	01
	PD051	Y2 Output		03
	PD052	Terminals of FA,FB,FC		01



Input and Output Terminals	Pd053	Terminals of KA, KB	10: Motor Overload alarm; 11: Over torque alarm; 12: Inverter Overload alarm; 13: Counter reach; 14~16: Reserved; 17: Low voltage alarm; 18: Single stage end indication; 19: Process end indication; 20~26: Reserved; 27: Drawing reach; 28: PID lower limit alarm; 29: PID upper limit alarm; 30: Reserved; 31: Braking resistor act; 32: Fan act.	03
	PD054	VO Output	Output of digital frequency signals 0~7	0
	PD055	VO Analog output Gain	0.0~100.0%	100
	PD056	Skip Frequency 1	0.00~400.00 Hz	0.00
	PD057	Skip Frequency 2	0.00~400.00	0.00
	PD058	Skip Frequency 3	0.00~400.00	0.00
	PD059	Skip Frequency Range	0.10~10.00	0.50
	PD060	Uniform Frequency 1	0.00~400.00 Hz	0.00
	PD061	Uniform Frequency 2	0.00~400.00 Hz	0.00
	PD062	Uniform Frequency Range	0.10~10.00 Hz	0.50
	PD063	Timer 1 time	0~10.0	0.1
	PD064	Timer 2 time	0~100	1
	PD065	Counting value set	00~65500	00
	PD066	Intermediate Counter	0~65500	0
	PD067~PD069	Reserved		

Parameters Function List 3

Category	Code	Function	Set Range & Function Explanation	Factory Setting
	PD070	Analog Input	0.0~10V 1.0~5V 2.0~20mA 3.4~20mA 4.0~10V, stacked 4~20mA Exterior pulse of input	0
	PD071	Analog Filtering Constant	0~50	20
	PD072 PD073	Lower Analog Frequency Higher Analog Frequency	0.00~400.00 Hz 0.00~400.00 Hz	50.00 0
	PD074	Bias Direction at Higher Frequency	0: Positive direction 1: Negative direction	0
	PD075	Bias Direction at Lower Frequency	0: Positive direction 1: Negative direction	0
	PD076	Analog Negative Bias Reverse	0: Not allowable. 1: Allowable.	0
	PD077	Up/Down Function	0: Not memorized 1: Memorized	0
	PD078	Up/Down Speed	0: 0.01HZ 1: 0.1HZ	0
	PD079	Reserved		
Category	Code	Function	Set Range & Function Explanation	Factory Setting
Multi-speeds Operation	PD080	PLC Operation	0: Normal run; 1: Internal control 16-speed; 2: External control 4-speed; 3: External control 8-speed 4: Drawing 5: Disturbance;	0
	PD081	Internal Control Multi-speeds Operation	0: Stop after running for one cycle; 1: Cycling run; 2: Auto stop after running for one cycle (STOP for intervention); 3: Auto Run and Cycling (STOP for intervention)	0



Multi-speeds Operation	PD082	PLC Before 8 speeds Running Direction	0~255 (0: For 1: Rev)	0
	PD083	PLC After 8 speeds Running Direction	0~255 (0: For 1: Rev)	0
	PD084	Before 8 speeds PLC Ramp Time	0~65535	0
	PD085	After 8 speeds PLC Ramp Time	0~65535	0
	PD086	Frequency 2	0.00~400.00 Hz	15.00
	PD087	Frequency 3	0.00~400.00 Hz	20.00
	PD088	Frequency 4	0.00~400.00 Hz	25.00
	PD089	Frequency 5	0.00~400.00 Hz	30.00
	PD090	Frequency 6	0.00~400.00 Hz	35.00
	PD091	Frequency 7	0.00~400.00 Hz	40.00
	PD092	Frequency 8	0.00~400.00 Hz	0.50
	PD093	Frequency 9	0.00~400.00 Hz	10.00
	PD094	Frequency 10	0.00~400.00 Hz	15.00
	PD095	Frequency 11	0.00~400.00 Hz	20.00
	PD096	Frequency 12	0.00~400.00 Hz	25.00
	PD097	Frequency 13	0.00~400.00 Hz	30.00
	PD098	Frequency 14	0.00~400.00 Hz	35.00
	PD099	Frequency 15	0.00~400.00 Hz	40.00
	PD100	Frequency 16	0.00~400.00 Hz	45.00
	PD101	Timer 1	0.0~6500.0S	10.0
	PD102	Timer 2	0.0~6500.0S	10.0
	PD103	Timer 3	0.0~6500.0S	0.0
	PD104	Timer 4	0.0~6500.0S	0.0
	PD105	Timer 5	0.0~6500.0S	0.0
	PD106	Timer 6	0.0~6500.0S	0.0
	PD107	Timer 7	0.0~6500.0S	0.0
	PD108	Timer 8	0.0~6500.0S	0.0
	PD109	Timer 9*	0.0~6500.0S	0.0
	PD110	Timer 10	0.0~6500.0S	0.0
	PD111	Timer 11	0.0~6500.0S	0.0
	PD112	Timer 12	0.0~6500.0S	0.0
	PD113	Timer 13	0.0~6500.0S	0.0
	PD114	Timer 14	0.0~6500.0S	0.0
	PD115	Timer 15	0.0~6500.0S	0.0
	PD116	Timer 16	0.0~6500.0S	0.0

Parameters Function List 4

Category	Code	Function	Set Range & Function Explanation	Factory Setting
Water Supply with Constant Pressure	PD117	AutoPLC Memory Function	0~1	0
	PD118	Over-voltage Stall Prevention	0~1	1
	PD119	Stall Prevention Level at Accel.	0~200	150
	PD120	Stall Prevention Level at Constant Speed	0~200	0
	PD121	The Decel Time of Stall Prevention Level at Constant Speed	0.1~25.5	5
	PD122	Stall Prevention Level at Decel.	0~200	150
	PD123	Over-torque Detect Mode	0~3	0
	PD124	Over-torque Detect Level	0~200	0
	PD125	Over-torque Detect Time	0.1~20.0	1.0
	PD126	Pulse Counter Memory	0~1	0
	PD127~PD129	Reserved		
	PD130	Number of Auxiliary Pump	0~2	0
	PD131	Continuous Operating Time of Aux. Pumps	1~9000min	60
	PD132	Interlocking Time of Aux. Pumps	1~250s	5s
	PD133	High Speed Running Time	1~250s	60s
	PD134	Low Speed Running Time	1~250s	60s
	PD135	Stopping Voltage Level	1~150%	95%
	PD136	Lasting Time of Stopping Voltage Level	1~250s	30s
	PD137	Wakeup Level	1~150%	80%
Motor Function Parameters	PD138	Sleep Frequency	0.00~400.0	20.00
	PD139	Lasting Time of Sleep Frequency	1~250s	20s
	PD140	Reserved		
	PD141	Rated Motor Voltage	Set according to Motor nameplate	*
	PD142	Rated Motor Current	Set according to Motor nameplate	*
	PD143	Motor pole number.	0210	04
	PD144	Rated Motor Revolution	24000	1440



PD145	Auto Torque Compensation	2.0~10.0	2.0
PD146	Motor no-load current	0100	40
PD147	Motor slip compensation	0.0~100	20
PD148~ PD149	Reserved		
PD150	Auto Voltage Regulation	0~1	1
PD151	Auto Energy Saving	0~20	0
PD152	Fault Restart Time	0.2~25	1
PD153	Restart after Instantaneous Stop	0: Invalid 1: Frequency track	0
PD154	Allowable Power-Breakdown Time	0.1~5.0S	0.5
PD155	Number of Abnormal Restart	0~10	00

Parameters Function List 5

Category	Code	Function	Set Range & Function Explanation	Factory Setting
PID Parameters	PD156	Proportional Constant (P)	0.0~1000.00%	100%
	PD157	Integral Time (I)	0.1~3600.00S	5.0
	PD158	Differential Time (D)	0.01~10.00S	0
	Pd159	Target value	0.0~100.0%	0
	Pd160	Target value select	0: set by the operator 1: set by external terminals (0~10V) preset	0
	PD161	PID upper limit	0~100%	100%
	PD162	PID lower limit	0~100%	0%
Communication Function	PD163	Communication Addresses	0~250	0
	PD164	Communication Baud Rate	0~3	0
	PD165	Communication Data Method	0~5	0
	Pd166~ Pd169	Reserved		

Monitor Function	PD170	Display Items	0~5	7
	PD171	Display Items Open	0~15	7
	PD172	Fault Clear	00 10(01 for Fault Clear)	*
	PD173	Voltage Rating of Inverter	Set according to the model	*
	PD174	Rated Current of Inverter	Set according to the model	
	PD175	Inverter Model		
	PD176	Inverter Frequency Standard	0: 50Hz 1: 60Hz	0
	PD177	Fault Record 1	Note: Means no fault record.	*
	PD178	Fault Record 2		—
	PD179	Fault Record 3		—
	PD180	Fault Record 4		—
	PD181	Software Version		—
	PD182	Manufacture Date	Year: Month: Week:	*
	PD183	Serial No.		*
	Pd184~ Pd250	Reserved		

IX. Descriptions of Functions

PD000 Parameter Lock

Set Range: 0~1

Unit: 1

Factory Setting: 0

0: Invalid.

1: Valid, i.e. the parameters are locked. Except this parameter other parameters can not be changed. This parameter is set to prevent non-maintenance personnel from setting other parameters by mistake. After the parameters are locked the operating frequency can be changed by pressing Δ or $\square$.

PD001 Source of Operation Commands

Set Range: 0~2

Unit: 1

Factory Setting: 0

0: Set by the Operator

Operation commands are given via the digital operator.

1: Set by external terminals.

Operation commands are given via external terminals, i.e. multi-input terminals



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- 2: Set by communication ports.
Operation commands are given via communication ports.

PD002 Source of Operating Frequency
Set Range: 0-3 Unit: 1 Factory Setting: 0

- 0: Set by the operator. The operating frequency which given via the digital operator is Pd003.
1: Set by external terminals. Operating frequency is controlled by analog signals input via external terminals. The signal type is determined by PD070. For the related parameters refer to PD070-PD076.
2: The MODBUS is given. Operating frequency is given via the serial communication.

PD003 Main Frequency **
Set Range: 0.00-400.00 Hz Unit: 0.01 Hz Factory Setting: 0.00

In the digital operator mode, the inverter will run at the set value of PD003. During running, the operating frequency can be changed by pressing ▲ or ▼. During multi-speed running, the main frequency is taken as the frequency of Speed 1.

In the external control multi-speed mode, if PD002 is set to 1, i.e. given by an external terminal, Speed 1 will be given by the analog of the external terminal.

The setting of main frequency is limited by the maximum operating frequency.

The related parameters of PD002, PD080 are adjustable during operation.

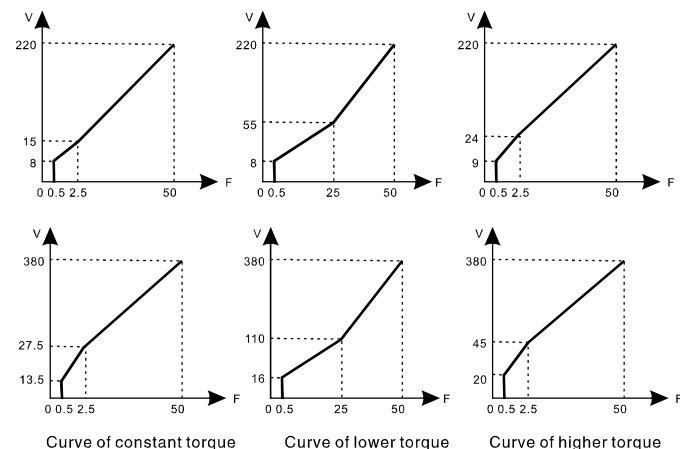
PD004 Base Frequency
Set Range: 0.01-400.00 Hz Unit: 0.1Hz Factory Setting: 50.00

This parameter must be set according to the rated frequency of operating voltage on the motor's nameplate. Under normal conditions do not change the set value of base frequency at will. If it is equipped with a special motor this value should be set properly according to the characteristics of the motor's parameters. Otherwise it may cause the damage to the equipment.

PD005 Max. Operating Frequency
Set Range: 10.00-400.00 Hz Unit: 0.01 Hz Factory Setting: 50.00

This parameter is set for the maximum operating frequency of the inverter.

The following are several curves and set values often used for reference. Specific curves must be set according to concrete characteristics of mechanical load.



PD006 Intermediate Frequency
Set Range: 0.01-400.00 Hz Unit: 0.01 Hz Factory Setting: 2.50

Note: ** means this parameter is adjustable during operation.

This parameter is set for intermediate frequency of arbitrary V/F curve. If it is set improperly, it will cause over-current or under-torque of the motor, or even tripping of the inverter.

This set value of intermediate frequency is limited by the set value of base frequency.

PD007 Min. Frequency
Set Range: 0.12-0.00 Hz Unit: 0.01 Hz Factory Setting: 0.50

This parameter is set for the min. starting frequency of V/F curve.

The following table has specific factory settings of V/F curve, accel./decel., time and carrier for the inverter of AA-, AB-, AM series:

Code Model	Pd009	Pd010	Pd014	Pd015	Pd041	Code Model	Pd019	Pd010	Pd014	Pd015	Pd041
HY00D423B	15.0	7.5	5	5	9	003043A	17	8.5	30	30	4
HY0D7523B	14.0	7	8	8	9	003743A	16	8	35	35	4
HY01D523B	14.0	7	10	10	8	004543A	16	8	40	40	4
HY02D223B	13.0	6.5	10	10	8	005543A	15	7.5	45	45	3
HY03D723B	13.0	6.5	15	15	7	007543A	15	7.5	50	50	3
HY0D7543B	22	11	8	8	9	022043A	11	5.5	250	250	2
HY01D543B	22	11	10	10	8	025043A	11	5.5	250	250	2



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Code Model	Pd009	Pd010	Pd014	Pd015	Pd041	Code Model	Pd019	Pd010	Pd014	Pd015	Pd041
HY02D243B	21	10.5	15	15	8	028043A	11	5.5	250	250	2
HY03D743B	21	10.5	15	15	7	030043A	10	5	250	250	2
HY05D543B	20	10	15	15	6	031543A	10	5	250	250	2
HY07D543B	20	10	20	20	6	034543A	10	5	250	250	2
HY11D043B	19	9.5	20	20	5	037543A	10	5	250	250	2
HY15D043B	19	9.5	20	20	5	040043A	10	5	250	250	2
HY18D543B	18	9	25	25	5	041543A	10	5	250	250	2
HY22D043B	18	9	25	25	5						

Note: ① Ramp Time 2 = Ramp Time 1 x 2
 ② Ramp Time 3 = Ramp Time 2 x 2
 ③ Ramp Time 4 = Ramp Time 3 x 2
 ④ Min. Voltage Value = Intermediate Voltage Value/2
 ⑤ The intermediate frequency is 2.5 for the system of 50Hz.
 ⑥ The intermediate frequency is 3.0 for the system of 60Hz.

PD008 Max. Voltage

Set Range: 0.1~* Unit: 0.1V Factory Setting: 220/380V

This parameter should be set according to the rated value of the motor's nameplate. The factory setting is 380V for 380V class motor and 220V for 220V class motor. The setting range of this parameter is restricted by the voltage rating of the inverter. In case of the motor relatively far away from the inverter this set value can be increased properly.

PD009 Intermediate voltage

Set Range: 0.15~10.0V Unit: 0.1V Factory Setting: *

This parameter is set for an intermediate voltage value of arbitrary V/F curve. If it is set improperly, it will cause over-current or under-torque of the motor, or even tripping of the inverter.

When the intermediate frequency is increased the voltage will increase the output torque and at the same time also the output current. When changing this parameter please pay attention to monitoring the output current to avoid the inverter's tripping due to over-current.

The factory setting of intermediate voltage for 220V class inverter is 15, while the factory setting of intermediate voltage of 380V class inverter is 27.5.

This set value of intermediate voltage is limited by the set value of max voltage. When the voltage is increasing to a certain value at intermediate frequency the torque compensation will lose its function.

When adjusting this parameter the output current of the inverter should be increased from low to high slowly according to the load of machines until it meets the starting requirement. Do not be quick to increase it by large amplitude. Otherwise it might cause the tripping of the inverter or the damage of the machines.

PD010 Min. Voltage

Set Range: 0.1~50.0V Unit: 0.1V Factory Setting: *

This parameter is set for the min. starting voltage of V/F curve.
 The factory setting of min. voltage for 220V class inverters is 8, and the factory setting of min. voltage for 380V class inverters is 13.5.
 This set value is limited by the voltage at the max. Frequency.

PD011 Frequency Lower Limit

Set Range: 0.00~400.00 Unit: 0.01 Hz Factory Setting: 0.00

This is set for preventing workers from false operation to avoid over-heat or some other mechanical faults, which might be caused due to too low operating frequency.
 The setting of Frequency Lower Limit must be less than the set value of Frequency Upper Limit.

PD012 Reserved

PD013 Parameter Reset

When the value for a parameter is set improper or is abnormal for some reasons this parameter can be set to 01 to restore it to the factory setting and then reset. After the parameters are locked (in case of PD000=1) the parameters can't be reset. They can only be reset after unlock. For related parameters refer to Pd000.

PD014 Accel. Time 1 **

Set Range: 0.16~500.0S Unit: 0.1S Factory Setting: *

PD015 Decel. Time 1 **

Set Range: 0.16~500.0S Unit: 0.1S Factory Setting: *

PD016 Accel. Time 2 **

Set Range: 0.16~500.0S Unit: 0.1S Factory Setting: *

PD017 Decel. Time 2 **

Set Range: 0.16~500.0S Unit: 0.1S Factory Setting: *

PD018 Accel. Time 3 **

Set Range: 0.16~500.0S Unit: 0.1S Factory Setting: *

PD019 Decel. Time 3 **

Set Range: 0.16~500.0S Unit: 0.1S Factory Setting: *

PD020 Accel. Time 4 **

Set Range: 0.16~500.0S Unit: 0.1S Factory Setting: *

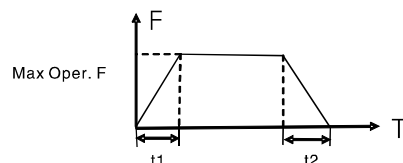
PD021 Decel. Time 4 **

Set Range: 0.16~500.0S Unit: 0.1S Factory Setting: *



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Ramp-up time means the time needed for the inverter to increase the frequency from 0Hz to the maximum operating frequency (See t1 in the diagram). Ramp-down Time means the time needed for the inverter to decrease the frequency from the maximum operating frequency to 0Hz (See t2 in the diagram).



Note:

The versions previous to Vr2.0 took 50Hz as the base of ramp time.

HY-A Series inverter have altogether 4 Ramp Times. For Ramp Time 2,3,4 the user can select the different ramp up or down time through the external terminals or switching of ramp time according to the actual needs. In the internal control multi-speed operation, different ramp time can be selected through easy PLC.

Generally the default of the inverter is Ramp Time 1, which is factory set depending on the model. Ramp Time 4 is for the jogging ramp time. For the factory setting of parameters refer to the table in Pd007.

The related parameters: PD044~PD049 and PD084,PD085

PD022	Factory Reserved
-------	------------------

PD023	Rev Rotation Select
-------	---------------------

Set Range: 0-1

Unit: 1

Factory Setting: 0

0: Rev Rotation disable

1: Rev Rotation Enable

This function is suitable for the motor, which is not allowed to rotate reversely, to prevent workers from false operation. When the reverse rotation is disabled, the motor can only rotate forward, not reverse.

PD024	STOP key
-------	----------

Set Range: 0-1

Unit: 1

Factory Setting: 1

0: STOP invalid.

1: STOP valid.

This parameter set is only valid when PD001 is set to 1 or 2.

When the control mode is set for external terminals or communication control, STOP key on the panel can be chosen to be valid or invalid. When choosing it as valid, STOP key can stop the inverter in running. When it needs to restart, the former running signal must be released before restarting the inverter.

PD025	Starting Mode
-------	---------------

Set Range: 0-1

Unit: 1

Factory Setting: 0

Two starting modes are available for the needs of different equipment.

0: Start from the starting frequency.

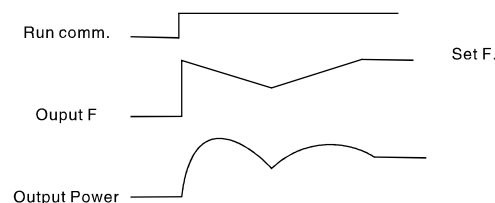
When PD029 is set to 0, i.e. DC braking is invalid at start, it starts running from the starting frequency. When PD029 is set to any non-zero value, i.e. DC braking is valid at start, it first performs a DC braking at start, and then starts from the starting frequency.

For the Related parameters refer to PD027, PD029 and PD031.

1: Start by frequency track

This setting can be used for the restarting of large inertia load. When restarting, the inverter will trace the former frequency from the set frequency downward. In case of large inertia equipment, when restarting, it can implement the running command and track the former frequency right away without waiting for the complete stop of the equipment to save time.

Note: When the inverter is restarted by frequency track, it will start tracking the frequency from its set frequency downward, and search it at the highest speed. When restarting, the current becomes higher, and over-current or stall may occur. So attention must be paid to the adjustment of current level of frequency track. Generally, PD033 is adjusted around 100. The concrete value can be set according to the characteristics of mechanical load.



PD026	Stopping Mode
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Set Range: 0-1

Unit: 1

Factory Setting: 0

0: Decelerating Stop

When PD030 is set to 0, DC braking is invalid. When DC braking is invalid, the inverter will decelerate to the stopping frequency, and then stop outputs, and the motor will coast to stop. When PD030 is set to any non-zero value, DC braking is valid, and the inverter will first decelerate to the stopping frequency, and then stop by DC braking.

DC braking at stop is usually used for high position stop or for positioning control. It must be noticed that frequent uses of DC braking will cause over-heat of the motor.

For the related parameters refer to PD028, PD030 and Pd031.

1: Coasting Stop

When the inverter receives a STOP command, it will immediately stop output and the motor will coast to stop. When the coasting stop mode is selected, DC braking is invalid.

PD027	Starting Frequency
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Set Range: 0.1-10.0 Hz

Unit: 0.1Hz

Factory Setting: 0.5